



Fish Passage Center

Weekly Report #11 - 27

September 16, 2011

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Summary of Events:

NOTE: This is the last weekly report of the season; bi-weekly reports begin September 30th through the end of October.

Water Supply: Precipitation throughout the Columbia Basin has varied between 0% and 15% of average at individual sub-basins over September. Precipitation above The Dalles has been 9% of average over September. Over the 2011 water year, precipitation has ranged between 102% and 120% of average.

Table 1. Summary of September 1-12 precipitation and cumulative October through September 12 precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.

| Location | Water Year 2011 September 1-12, 2011 | | Water Year 2011 October 1, 2010 to September 12, 2011 | |
|-----------------------------------|--|--------------|---|--------------|
| | Observed (inches) | % Average | Observed (inches) | % Average |
| Columbia Above Coulee | 0.08 | 12 | 26.41 | 107 |
| Snake River Above Ice Harbor | 0.05 | 12 | 20.57 | 119 |
| Columbia Above The Dalles | 0.04 | 9 | 25.66 | 113 |
| Kootenai | 0.08 | 13 | 25.82 | 102 |
| Clark Fork | 0.01 | 2 | 19.14 | 111 |
| Flathead | 0.05 | 8 | 25.83 | 114 |
| Pend Oreille/ Spokane | 0.01 | 2 | 33.40 | 110 |
| Central Washington | 0.00 | 0 | 9.32 | 105 |
| Snake River Plain | 0.05 | 15 | 12.97 | 117 |
| Salmon/Boise/ Payette | 0.02 | 6 | 20.69 | 106 |
| Clearwater | 0.00 | 1 | 36.00 | 120 |
| SW Washington Cascades/Cowlitz | 0.00 | 0 | 72.74 | 104 |
| Willamette Valley | 0.00 | 0 | 62.33 | 106 |

Table 2 displays the June Final and July Final runoff volume forecasts for multiple reservoirs. The July Final forecast at The Dalles between January and July is 142000 Kaf (132% 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) | 131 | 141000 | 132 | 142000 |
| Grand Coulee (Jan-July) | 124 | 78300 | 126 | 79500 |
| Libby Res. Inflow, MT (Apr-Aug) | 127 | 7930 8099* | 129 | 8090 |
| Hungry Horse Res. Inflow, MT (Jan-July) | 153 | 3410 | 154 | 3430 |
| Lower Granite Res. Inflow (Apr- July) | 156 | 33700 | 159 | 34200 |
| Brownlee Res. Inflow (Apr-July) | 177 | 11200 | 173 | 10900 |
| Dworshak Res. Inflow (Apr-July) | 143 | 3770 3813* | 149 | 3940 |

* Denotes COE Forecast

The flow objective at Lower Granite over the summer period (June 21st to August 31st) was 55 Kcfs; over the entire summer period flows at Lower Granite averaged 81.2 Kcfs.

The summer flow objective period began at McNary Dam on July 1st and ended on August 31st with a flow objective of 200 Kcfs. Over the entire summer flow period, flows at McNary averaged 261.2 Kcfs.

Grand Coulee Reservoir is currently at 1282.6 feet (9-15-11) and refilled 1.3 feet over the last week. Outflows at Grand Coulee have ranged between 65.0 and 80.6 Kcfs.

The Libby Reservoir is currently at elevation 2447.4 feet (9-15-11) and has held steady last week. Outflows at Libby Dam have been 6.0 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3552.7 feet (9-15-11) and has drafted 1.1 feet last week. Outflows at Hungry Horse have been 3.0-3.5 Kcfs last week. The BOR plans to target elevation 3550 feet by the end of September.

Dworshak is currently at an elevation of 1521.8 feet on September 15th, 2011 and drafted 5.6 feet over the last week. Outflows from Dworshak have been reduced from 10.5 Kcfs to 4.8 Kcfs over the last week. The COE plans reduce outflows at Dworshak to the 1.5 Kcfs minimum once elevation 1520 feet is reached.

The Brownlee Reservoir was at an elevation of 2040.5 feet on September 15th, 2011, drafting 10.8 feet last week. Over the last week, outflows at Brownlee have ranged between 15.2-26.4 Kcfs.

Smolt Monitoring:

Sampling continued at all SMP monitoring sites at dams except John Day Dam. Sampling at John Day and Bonneville dams has been altered due to river temperatures exceeding 70 degrees Fahrenheit, although temperatures have dropped rapidly over the past week. The transport sites have transitioned to truck transport with the last barges leaving on August 15. Subyearling Chinook continued to predominate in the collections at all dams over the past week. Subyearling Chinook passage indices were similar to last week with relatively low numbers at the Snake River and at Rock Island dams and the highest numbers in the McNary Dam to Bonneville Dam reach.

Subyearling Chinook juvenile salmon numbers increased over the past week at Lower Granite Dam where the passage index averaged nearly 400 per day over the past week compared 90 per day the previous week. Small numbers of all spring migrants continue

to be collected sporadically. Little Goose and Lower Monumental dams also had subyearling Chinook predominating in the indices, followed by small but steady numbers of juvenile coho salmon.

McNary Dam went to full flow bypass over the past week as the COE tried to move large areas of debris away from the powerhouse. Debris jammed up the bypass system on September 13 forcing the COE to shut it down temporarily while the jam was removed. The COE has been unsuccessful in spilling the debris so far. The last attempt was on September 15. No samples were taken over the past week so no data are available. However, PIT-tag detections were ongoing and it appears based on that data that subyearling summer Chinook from the Upper Columbia are passing in good numbers as well as small numbers of surrogate PIT-tagged fish from the Snake River.

At John Day Dam sampling was modified due to temperatures exceeding 70 degrees Fahrenheit on September 8. During high temperature periods sampling at John Day consists of condition sampling every third day. John Day Dam returned to every day sampling September 12 in time to sample three final days before the scheduled end of sampling on September 15.

At Bonneville Dam normal sampling has been ongoing since September 1. Sampling during high temperatures at Bonneville consists of every-other-day condition monitoring. The average index for subyearling Chinook at Bonneville Dam decreased this week to 1,200 per day compared to 1,600.

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 scheduled releases to this zone this week. In addition, there are no new releases of juvenile salmonids scheduled for 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 scheduled releases to this zone this week. In addition, there are no new releases of juvenile salmonids scheduled for 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 scheduled releases to this zone this week. Also, there are no new releases of juvenile

salmonids scheduled for this zone over the next two weeks.

Adult Passage:

Fall Chinook counting began at Bonneville Dam on August 1st. Daily counts of fall Chinook adults at Bonneville Dam have ranged between 12,455 to 17,068 over the last week. The 2011 adult fall Chinook count of 262,251 is about 86% of the 2010 count and 90% of the 10 year average count. The 2011 Bonneville Dam fall Chinook jack count of 40,662 is about 122% of the 2010 count and 134% of the 10 year average. The 2011 McNary Dam adult fall Chinook count of 62,593 is about 78% of the 2010 count and about 104% the 10 year average. The 2011 McNary Dam fall Chinook jack count of 12,883 is about 129% of the 2010 count and about 109% of the 10 year average.

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 2011 B-run adult steelhead count at Bonneville of 67,438 is about 95% of the 2010 count of 71,166.

The Bonneville Dam 2011 total steelhead count of 329,880 is about 88% of the 2010 count of 375,268 and about 93% of the 10 year average count of 356,249. In the Snake River, this year's Lower Granite steelhead count of 74,307 is about 102% of the 2010 count and 162% of the 10 year average count. The 2011 LGR wild steelhead count as of September 15th was 24,876. The 2011 Rock Island Dam adult steelhead count of 13,376 is about 79% of the 2010 count and 107% of the 10 year average. At Willamette Falls Dam, the 2011 count for steelhead was 27,518, as of September 14th. This year's steelhead count is about 86% of the 2010 count and about 97% of the 10 year average.

The 2011 adult sockeye count at Bonneville Dam of 185,796 is about 48% of the 2010 count, while being about 150% of the 10 year average. The 2011

adult sockeye count at McNary Dam of 113,947 is about 41% of the 2010 count and 124% of 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 Ice Harbor Dam, the 2011 adult sockeye count of 1,141 is about 88% of the 2010 count of 1,302, and 408% of the 10 year average count of 280. The Lower Granite Dam 2011 adult sockeye count of 1,501 is about 68% of the 2010 count of 2,195 and 352% of the 10 year average of 427.

The 2011 Bonneville Dam adult coho salmon count of 78,286 is about 221% of the 2010 count of 35,479 and 125% of the 10 year average count of 62,419. The 2011 Bonneville Dam coho jack count of 2,076 is about 87% of the 2010 count, while being 70% of the 10 year average count.

Hatchery Releases Last Two Weeks

No releases to report.

Hatchery Releases Next Two Weeks

No releases to report.

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> | | | | |
| 9/2 | 105.5 | 105.9 | 106.7 | 24 | 107.7 | 108.2 | 108.7 | 23 | 107.7 | 107.9 | 108.4 | 24 | 107.4 | 108.0 | 109.7 | 23 | 106.5 | 106.8 | 107.1 | 24 |
| 9/3 | 104.7 | 105.0 | 105.2 | 23 | 106.9 | 107.5 | 108.4 | 21 | 107.3 | 107.7 | 107.9 | 24 | 106.8 | 107.6 | 108.9 | 21 | 106.2 | 106.7 | 107.0 | 23 |
| 9/4 | 104.8 | 105.4 | 106.0 | 22 | 107.8 | 108.3 | 109.0 | 21 | 107.8 | 108.1 | 108.3 | 24 | 106.8 | 107.3 | 108.0 | 21 | 107.0 | 107.7 | 108.0 | 24 |
| 9/5 | 105.0 | 105.5 | 105.9 | 24 | 108.1 | 108.4 | 109.0 | 21 | 107.9 | 108.1 | 108.4 | 24 | 107.4 | 107.9 | 109.2 | 21 | 107.7 | 108.1 | 108.5 | 24 |
| 9/6 | 104.2 | 104.5 | 104.8 | 23 | 107.6 | 108.0 | 108.4 | 22 | 107.1 | 107.5 | 107.7 | 24 | 108.1 | 108.8 | 110.0 | 22 | 107.5 | 107.7 | 108.0 | 24 |
| 9/7 | 103.7 | 104.0 | 104.4 | 24 | 107.6 | 108.0 | 108.5 | 21 | 106.8 | 107.2 | 107.4 | 24 | 107.9 | 108.2 | 108.8 | 21 | 107.8 | 108.2 | 108.5 | 24 |
| 9/8 | 103.4 | 103.6 | 103.8 | 23 | 107.7 | 108.1 | 108.4 | 20 | 106.5 | 106.8 | 107.0 | 24 | 107.8 | 108.3 | 108.9 | 20 | 107.9 | 108.4 | 108.8 | 24 |
| 9/9 | 103.3 | 103.9 | 104.2 | 24 | 107.9 | 108.2 | 108.8 | 20 | 106.7 | 107.0 | 107.7 | 24 | 108.0 | 108.4 | 109.3 | 20 | 107.0 | 107.2 | 107.5 | 24 |
| 9/10 | 103.6 | 104.1 | 104.2 | 24 | 108.1 | 108.5 | 109.0 | 22 | 106.0 | 106.2 | 106.6 | 24 | 108.0 | 108.5 | 109.1 | 22 | 106.9 | 107.4 | 107.7 | 24 |
| 9/11 | 103.9 | 104.4 | 105.0 | 22 | 107.2 | 107.7 | 108.3 | 20 | 105.9 | 106.3 | 106.9 | 24 | 107.4 | 108.2 | 109.0 | 20 | 107.0 | 107.7 | 108.3 | 24 |
| 9/12 | 103.9 | 104.2 | 104.5 | 24 | 106.5 | 107.0 | 107.6 | 21 | 106.1 | 106.4 | 106.8 | 24 | 108.1 | 108.4 | 108.9 | 21 | 107.4 | 107.8 | 108.3 | 24 |
| 9/13 | 103.6 | 103.8 | 104.1 | 23 | 106.3 | 106.7 | 107.4 | 21 | 105.4 | 105.6 | 106.1 | 24 | 107.9 | 108.3 | 109.8 | 21 | 107.0 | 107.4 | 107.5 | 24 |
| 9/14 | 103.5 | 103.7 | 103.8 | 23 | 106.7 | 107.3 | 108.0 | 19 | 105.9 | 106.3 | 106.6 | 24 | 108.3 | 108.7 | 109.3 | 19 | 107.5 | 107.9 | 108.2 | 24 |
| 9/15 | 103.6 | 103.9 | 104.3 | 24 | 106.8 | 107.3 | 107.9 | 21 | 105.5 | 105.7 | 106.4 | 24 | 108.1 | 108.6 | 109.6 | 21 | 107.6 | 108.3 | 117.3 | 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> | | | | |
| 9/2 | 107.2 | 107.8 | 108.7 | 24 | 106.1 | 106.6 | 107.0 | 24 | 105.7 | 106.4 | 107.0 | 24 | 105.7 | 105.8 | 106.1 | 24 | 102.6 | 103.1 | 103.8 | 24 |
| 9/3 | 107.3 | 108.5 | 110.5 | 23 | 105.9 | 106.8 | 107.5 | 23 | 105.6 | 106.4 | 106.9 | 23 | 105.4 | 105.7 | 106.3 | 24 | 102.2 | 102.7 | 103.0 | 24 |
| 9/4 | 108.2 | 109.9 | 111.7 | 24 | 106.9 | 107.9 | 108.5 | 24 | 106.8 | 107.8 | 108.5 | 24 | 105.7 | 106.3 | 106.8 | 24 | 102.6 | 102.9 | 103.4 | 24 |
| 9/5 | 108.9 | 109.7 | 111.8 | 24 | 107.9 | 108.6 | 109.1 | 24 | 107.6 | 108.8 | 109.3 | 24 | 106.3 | 106.7 | 107.5 | 24 | 102.5 | 102.8 | 103.3 | 24 |
| 9/6 | 107.5 | 108.2 | 108.7 | 24 | 107.3 | 108.0 | 108.7 | 24 | 107.1 | 108.0 | 108.7 | 24 | 105.5 | 105.5 | 106.1 | 10 | 102.1 | 102.1 | 102.7 | 10 |
| 9/7 | 108.1 | 108.8 | 109.3 | 24 | 107.5 | 108.3 | 108.7 | 24 | 107.4 | 108.3 | 108.9 | 24 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 9/8 | 108.4 | 109.0 | 109.5 | 24 | 107.5 | 108.4 | 108.8 | 24 | 107.6 | 108.4 | 108.8 | 24 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 9/9 | 107.9 | 108.8 | 109.8 | 24 | 107.9 | 109.1 | 109.7 | 23 | 108.2 | 109.1 | 109.8 | 23 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 9/10 | 107.6 | 108.3 | 109.4 | 24 | 108.8 | 109.9 | 110.7 | 23 | 108.9 | 109.8 | 110.7 | 23 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 9/11 | 108.2 | 109.2 | 110.2 | 24 | 108.5 | 109.2 | 109.8 | 23 | 108.5 | 109.2 | 110.0 | 23 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 9/12 | 107.7 | 108.3 | 108.9 | 24 | 107.9 | 108.3 | 109.0 | 23 | 107.5 | 108.2 | 109.0 | 23 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 9/13 | 107.4 | 108.1 | 109.0 | 24 | 107.5 | 108.0 | 108.3 | 23 | 107.3 | 107.9 | 108.3 | 23 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 9/14 | 108.0 | 108.7 | 109.7 | 24 | 108.0 | 108.6 | 109.1 | 22 | 107.7 | 108.5 | 109.2 | 22 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 9/15 | 108.0 | 108.5 | 109.4 | 24 | 107.4 | 107.4 | 107.9 | 9 | 106.9 | 106.9 | 107.8 | 9 | --- | --- | --- | 0 | --- | --- | --- | 0 |

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> | | | | |
| 9/2 | 105.0 | 105.4 | 105.9 | 24 | 104.0 | 105.4 | 106.3 | 24 | 103.2 | 104.1 | 104.9 | 24 | 103.8 | 104.1 | 104.5 | 24 | 103.0 | 103.5 | 104.3 | 21 |
| 9/3 | 105.0 | 105.3 | 105.7 | 24 | 105.3 | 105.6 | 105.9 | 24 | 100.9 | 104.3 | 105.5 | 24 | 104.5 | 105.4 | 105.7 | 24 | 101.6 | 101.7 | 103.7 | 13 |
| 9/4 | 105.3 | 105.6 | 105.7 | 24 | 105.7 | 105.9 | 106.1 | 24 | 102.2 | 106.3 | 107.3 | 24 | 106.0 | 106.4 | 106.6 | 24 | --- | --- | --- | 0 |
| 9/5 | 105.4 | 105.6 | 105.9 | 24 | 105.6 | 105.8 | 105.9 | 24 | 104.2 | 106.0 | 107.9 | 24 | 106.2 | 106.4 | 106.6 | 24 | --- | --- | --- | 0 |
| 9/6 | 104.9 | 104.9 | 105.1 | 10 | 105.0 | 105.0 | 105.2 | 10 | 103.2 | 105.3 | 106.2 | 24 | 104.9 | 105.1 | 105.3 | 24 | 105.3 | 105.6 | 106.5 | 16 |
| 9/7 | --- | --- | --- | 0 | --- | --- | --- | 0 | 105.3 | 106.4 | 107.9 | 24 | 105.5 | 106.0 | 106.5 | 24 | 104.8 | 105.3 | 105.6 | 24 |
| 9/8 | --- | --- | --- | 0 | --- | --- | --- | 0 | 105.1 | 105.6 | 106.5 | 24 | 105.2 | 105.4 | 105.5 | 24 | 105.2 | 105.5 | 105.8 | 24 |
| 9/9 | --- | --- | --- | 0 | --- | --- | --- | 0 | 104.3 | 105.6 | 107.1 | 24 | 105.3 | 105.8 | 106.0 | 24 | 105.1 | 105.7 | 106.2 | 24 |
| 9/10 | --- | --- | --- | 0 | --- | --- | --- | 0 | 104.4 | 106.8 | 107.7 | 24 | 106.1 | 106.6 | 106.8 | 24 | 105.9 | 106.5 | 106.8 | 24 |
| 9/11 | --- | --- | --- | 0 | --- | --- | --- | 0 | 105.0 | 106.5 | 107.3 | 24 | 106.6 | 107.0 | 107.3 | 24 | 105.8 | 106.6 | 107.9 | 24 |
| 9/12 | --- | --- | --- | 0 | --- | --- | --- | 0 | 104.0 | 105.2 | 106.0 | 24 | 106.3 | 106.7 | 107.5 | 24 | 103.8 | 104.2 | 105.2 | 24 |
| 9/13 | --- | --- | --- | 0 | --- | --- | --- | 0 | 103.0 | 104.3 | 104.9 | 24 | 105.5 | 105.7 | 106.5 | 24 | 102.8 | 103.4 | 104.8 | 24 |
| 9/14 | --- | --- | --- | 0 | --- | --- | --- | 0 | 105.0 | 106.1 | 107.0 | 24 | 106.9 | 108.2 | 118.9 | 24 | 102.7 | 103.6 | 104.9 | 24 |
| 9/15 | --- | --- | --- | 0 | --- | --- | --- | 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 Lower Columbia and Snake River Sites

| Date | <u>Priest R. Dnst</u> | | | # | <u>Pasco</u> | | | # | <u>Dworshak</u> | | | # | <u>Clrwtr-Peck</u> | | | # | <u>Anatone</u> | | | # |
|------|-----------------------|-------------|-------------|----|--------------|-------------|-------------|----|-----------------|-------------|-------------|----|--------------------|-------------|-------------|----|----------------|-------------|-------------|----|
| | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | <u>24 h</u> | <u>12 h</u> | <u>High</u> | |
| | Avg | Avg | hr | | Avg | Avg | hr | | Avg | Avg | hr | | Avg | Avg | hr | | Avg | Avg | hr | |
| 9/2 | 103.8 | 104.1 | 104.4 | 24 | 103.5 | 103.6 | 104.1 | 24 | 108.7 | 109.2 | 109.6 | 24 | 106.6 | 107.1 | 107.6 | 24 | 101.7 | 103.3 | 105.1 | 24 |
| 9/3 | 103.9 | 104.4 | 105.0 | 24 | 102.8 | 103.4 | 103.8 | 24 | 109.0 | 109.4 | 110.0 | 24 | 106.8 | 107.4 | 107.7 | 24 | 101.9 | 103.8 | 105.7 | 24 |
| 9/4 | 104.9 | 105.3 | 105.8 | 24 | 103.2 | 104.1 | 104.5 | 24 | 103.0 | 104.5 | 108.8 | 24 | 105.3 | 107.0 | 107.9 | 24 | 102.4 | 104.3 | 106.5 | 24 |
| 9/5 | 106.0 | 106.5 | 106.9 | 24 | 103.6 | 104.2 | 104.7 | 24 | 101.3 | 101.8 | 102.1 | 24 | 101.9 | 102.9 | 103.8 | 24 | 102.3 | 104.1 | 106.5 | 24 |
| 9/6 | 105.1 | 105.6 | 105.9 | 24 | 103.3 | 104.2 | 104.8 | 24 | 100.8 | 101.1 | 101.4 | 24 | 101.5 | 102.4 | 103.3 | 24 | 101.8 | 103.4 | 105.3 | 24 |
| 9/7 | 105.1 | 105.6 | 105.8 | 24 | 103.4 | 104.1 | 104.4 | 24 | 100.8 | 101.0 | 101.4 | 24 | 101.4 | 102.4 | 103.3 | 23 | 102.3 | 104.0 | 106.3 | 24 |
| 9/8 | 105.4 | 105.8 | 106.0 | 24 | 103.5 | 104.2 | 104.6 | 24 | 100.8 | 101.1 | 101.4 | 24 | 101.4 | 102.3 | 103.2 | 23 | 102.0 | 103.0 | 104.3 | 24 |
| 9/9 | 105.3 | 105.7 | 105.9 | 24 | 103.8 | 104.8 | 105.3 | 24 | 101.0 | 101.2 | 101.5 | 24 | 101.5 | 102.4 | 103.3 | 22 | 102.1 | 103.1 | 104.2 | 24 |
| 9/10 | 105.7 | 106.1 | 106.5 | 24 | 104.4 | 105.1 | 105.6 | 24 | 101.5 | 101.7 | 102.1 | 24 | 101.7 | 102.8 | 103.9 | 24 | 102.3 | 103.4 | 104.5 | 24 |
| 9/11 | 106.2 | 106.8 | 107.3 | 24 | 104.1 | 104.6 | 104.8 | 24 | 101.5 | 101.8 | 102.2 | 24 | 101.8 | 102.8 | 103.9 | 24 | 114.5 | 122.8 | 123.0 | 24 |
| 9/12 | 106.1 | 106.6 | 107.0 | 24 | 104.0 | 104.6 | 105.0 | 24 | 101.1 | 101.5 | 101.9 | 24 | 101.5 | 102.6 | 103.7 | 24 | 121.8 | 122.7 | 122.9 | 24 |
| 9/13 | 105.1 | 105.4 | 105.6 | 24 | 103.9 | 104.6 | 104.9 | 24 | 101.2 | 101.5 | 101.9 | 24 | 101.8 | 103.0 | 104.4 | 22 | 122.1 | 122.8 | 123.2 | 24 |
| 9/14 | 105.4 | 106.2 | 109.5 | 24 | 104.2 | 104.7 | 105.2 | 24 | 101.8 | 102.1 | 102.6 | 24 | 102.0 | 103.3 | 104.5 | 24 | 122.0 | 122.5 | 123.0 | 24 |
| 9/15 | --- | --- | --- | 0 | 102.8 | 103.4 | 104.0 | 24 | 101.5 | 101.8 | 102.2 | 24 | 101.8 | 102.7 | 103.9 | 24 | 121.5 | 121.5 | 121.7 | 10 |

Total Dissolved Gas Saturation Data at Snake River Sites

| Date | <u>Clrwtr-Lewiston</u> | | | # | <u>Lower Granite</u> | | | # | <u>L. Granite Tlwr</u> | | | # | <u>Little Goose</u> | | | # | <u>L. Goose Tlwr</u> | | | # |
|------|------------------------|-------------|-------------|----|----------------------|-------------|-------------|----|------------------------|-------------|-------------|----|---------------------|-------------|-------------|----|----------------------|-------------|-------------|----|
| | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | <u>24 h</u> | <u>12 h</u> | <u>High</u> | |
| | Avg | Avg | hr | | Avg | Avg | hr | | Avg | Avg | hr | | Avg | Avg | hr | | Avg | Avg | hr | |
| 9/2 | 103.9 | 105.5 | 106.9 | 24 | 100.9 | 101.2 | 101.7 | 24 | 100.8 | 101.0 | 101.5 | 24 | 106.4 | 106.8 | 107.2 | 24 | 104.1 | 104.6 | 104.8 | 24 |
| 9/3 | 103.8 | 105.9 | 107.4 | 24 | 100.4 | 100.6 | 100.8 | 24 | 100.2 | 100.6 | 100.9 | 24 | 105.5 | 105.8 | 105.9 | 24 | 103.5 | 104.3 | 104.7 | 24 |
| 9/4 | 104.2 | 106.1 | 107.6 | 24 | 100.9 | 101.2 | 101.4 | 24 | 101.0 | 101.5 | 102.0 | 24 | 106.1 | 106.4 | 107.1 | 24 | 104.5 | 105.2 | 105.8 | 24 |
| 9/5 | 102.3 | 104.0 | 105.2 | 24 | 101.2 | 101.5 | 101.7 | 24 | 101.1 | 101.3 | 101.7 | 24 | 105.6 | 105.7 | 105.9 | 24 | 104.5 | 105.1 | 105.8 | 24 |
| 9/6 | 101.8 | 103.6 | 104.9 | 24 | 100.9 | 101.2 | 101.8 | 24 | 100.7 | 101.0 | 101.1 | 24 | 104.6 | 104.8 | 105.2 | 24 | 103.4 | 103.8 | 104.1 | 24 |
| 9/7 | 102.2 | 103.8 | 105.1 | 22 | 101.6 | 101.8 | 102.2 | 24 | 101.2 | 101.6 | 102.0 | 24 | 103.7 | 103.9 | 104.4 | 24 | 101.3 | 101.8 | 102.2 | 24 |
| 9/8 | 102.0 | 103.5 | 104.8 | 24 | 102.4 | 102.9 | 103.8 | 24 | 101.4 | 101.7 | 102.1 | 24 | 102.9 | 103.2 | 103.4 | 24 | 100.6 | 101.7 | 104.4 | 24 |
| 9/9 | 102.0 | 103.6 | 104.9 | 23 | 102.7 | 102.9 | 103.1 | 24 | 101.6 | 102.0 | 102.4 | 24 | 102.0 | 102.5 | 103.3 | 24 | 98.7 | 99.3 | 99.7 | 24 |
| 9/10 | 102.2 | 103.8 | 105.2 | 23 | 102.9 | 103.3 | 103.7 | 24 | 101.9 | 102.4 | 102.6 | 24 | 100.9 | 101.2 | 101.3 | 24 | 98.7 | 99.2 | 99.4 | 24 |
| 9/11 | 102.2 | 103.7 | 105.1 | 23 | 103.5 | 103.9 | 104.2 | 24 | 102.4 | 102.6 | 102.9 | 24 | 100.1 | 100.5 | 101.2 | 24 | 98.1 | 98.8 | 99.1 | 24 |
| 9/12 | 101.9 | 103.5 | 104.9 | 23 | 102.8 | 103.0 | 103.3 | 24 | 101.8 | 102.0 | 102.3 | 24 | 100.0 | 100.3 | 100.6 | 24 | 99.1 | 99.8 | 100.2 | 24 |
| 9/13 | 102.0 | 103.6 | 104.9 | 23 | 102.4 | 102.8 | 103.5 | 24 | 101.4 | 101.7 | 102.1 | 24 | 100.3 | 100.3 | 100.6 | 11 | 99.5 | 100.6 | 101.2 | 24 |
| 9/14 | 102.4 | 104.1 | 105.4 | 23 | 103.2 | 103.9 | 104.2 | 24 | 102.2 | 102.8 | 103.3 | 24 | --- | --- | --- | 0 | 101.5 | 102.1 | 102.5 | 24 |
| 9/15 | 101.6 | 102.3 | 103.5 | 21 | 102.1 | 102.8 | 103.5 | 24 | 101.1 | 101.7 | 102.5 | 24 | --- | --- | --- | 0 | 100.9 | 101.3 | 101.9 | 24 |

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

| Date | <u>Lower Mon.</u> | | | # | <u>L. Mon. Tlwr</u> | | | # | <u>Ice Harbor</u> | | | # | <u>Ice Harbor Tlwr</u> | | | # | <u>McNary-Oregon</u> | | | # |
|------|-------------------|-------------|-------------|----|---------------------|-------------|-------------|----|-------------------|-------------|-------------|----|------------------------|-------------|-------------|----|----------------------|-------------|-------------|---|
| | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | <u>24 h</u> | <u>12 h</u> | <u>High</u> | |
| | Avg | Avg | hr | | Avg | Avg | hr | | Avg | Avg | hr | | Avg | Avg | hr | | Avg | Avg | hr | |
| 9/2 | 107.1 | 107.5 | 108.0 | 24 | 105.9 | 106.2 | 106.9 | 24 | 107.6 | 107.9 | 108.3 | 24 | 107.5 | 108.0 | 108.6 | 24 | --- | --- | --- | 0 |
| 9/3 | 106.0 | 106.2 | 106.3 | 24 | 105.5 | 106.2 | 107.1 | 24 | 107.5 | 107.8 | 108.0 | 24 | 107.2 | 107.8 | 108.2 | 24 | --- | --- | --- | 0 |
| 9/4 | 106.0 | 106.3 | 106.5 | 24 | 129.2 | 141.8 | 143.1 | 24 | 107.9 | 108.1 | 108.3 | 24 | 107.6 | 108.2 | 108.6 | 24 | --- | --- | --- | 0 |
| 9/5 | 107.2 | 107.3 | 107.4 | 24 | 139.8 | 140.4 | 141.0 | 24 | 108.1 | 108.3 | 108.6 | 24 | 107.9 | 108.4 | 108.8 | 24 | --- | --- | --- | 0 |
| 9/6 | 106.3 | 106.6 | 106.9 | 24 | 123.1 | 138.1 | 138.6 | 24 | 106.2 | 106.8 | 107.5 | 24 | 129.5 | 144.9 | 146.1 | 24 | --- | --- | --- | 0 |
| 9/7 | 105.0 | 105.2 | 105.4 | 24 | 105.2 | 105.9 | 108.2 | 24 | 104.6 | 104.8 | 105.2 | 24 | 105.3 | 105.8 | 106.5 | 24 | --- | --- | --- | 0 |
| 9/8 | 104.7 | 105.0 | 105.1 | 24 | 104.9 | 105.7 | 106.6 | 24 | 104.4 | 104.5 | 104.7 | 24 | 104.8 | 105.1 | 105.5 | 24 | --- | --- | --- | 0 |
| 9/9 | 104.3 | 104.6 | 104.8 | 24 | 105.6 | 106.6 | 110.1 | 24 | 104.8 | 105.1 | 105.4 | 24 | 104.9 | 105.3 | 105.8 | 24 | --- | --- | --- | 0 |
| 9/10 | 105.0 | 105.2 | 105.3 | 24 | 105.4 | 106.0 | 106.5 | 24 | 105.0 | 105.3 | 105.6 | 24 | 105.2 | 105.5 | 106.2 | 24 | --- | --- | --- | 0 |
| 9/11 | 104.3 | 104.6 | 105.0 | 24 | 104.3 | 104.9 | 105.8 | 24 | 104.8 | 105.1 | 105.5 | 24 | 105.2 | 105.8 | 106.2 | 24 | --- | --- | --- | 0 |
| 9/12 | 103.1 | 103.4 | 103.7 | 24 | 103.2 | 103.7 | 104.2 | 24 | 104.3 | 104.5 | 104.7 | 24 | 104.8 | 105.2 | 105.4 | 24 | --- | --- | --- | 0 |
| 9/13 | 101.4 | 101.5 | 102.1 | 15 | 101.4 | 101.9 | 103.6 | 24 | 104.1 | 104.4 | 104.8 | 24 | 105.3 | 106.2 | 108.9 | 24 | --- | --- | --- | 0 |
| 9/14 | --- | --- | --- | 0 | 101.7 | 102.7 | 106.6 | 24 | 104.4 | 104.4 | 105.0 | 10 | 105.6 | 106.4 | 107.9 | 24 | --- | --- | --- | 0 |
| 9/15 | --- | --- | --- | 0 | 100.8 | 101.0 | 101.2 | 24 | --- | --- | --- | 0 | 104.7 | 105.2 | 106.5 | 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 | <u>McNary-Wash</u> | | | | <u>McNary Tlwr</u> | | | | <u>John Day</u> | | | | <u>John Day Tlwr</u> | | | | <u>The Dalles</u> | | | |
|------|--------------------|-------------|-------------|-----------|--------------------|-------------|-------------|-----------|-----------------|------------|-------------|-----------|----------------------|------------|-------------|-----------|-------------------|------------|-------------|-----------|
| | <u>24 h</u> | <u>12 h</u> | | <u>#</u> | <u>24 h</u> | <u>12 h</u> | | <u>#</u> | <u>24h</u> | <u>12h</u> | | <u>#</u> | <u>24h</u> | <u>12h</u> | | <u>#</u> | <u>24h</u> | <u>12h</u> | | <u>#</u> |
| | <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> | <u>Avg</u> | <u>AVG</u> | <u>High</u> | <u>hr</u> |
| 9/2 | 103.1 | 103.3 | 104.0 | 24 | 102.7 | 102.8 | 102.9 | 24 | 102.8 | 103.2 | 104.0 | 24 | 103.5 | 104.0 | 104.7 | 24 | 102.9 | 103.6 | 105.3 | 24 |
| 9/3 | 102.7 | 103.0 | 103.7 | 24 | 102.4 | 102.8 | 103.1 | 24 | 103.0 | 104.0 | 104.6 | 24 | 103.4 | 103.9 | 104.7 | 24 | 102.1 | 102.7 | 103.0 | 24 |
| 9/4 | 102.9 | 103.2 | 103.6 | 24 | 102.9 | 103.4 | 103.7 | 24 | 103.3 | 104.1 | 105.1 | 24 | 104.2 | 104.6 | 105.8 | 24 | 102.6 | 103.1 | 103.5 | 24 |
| 9/5 | 103.8 | 104.3 | 105.0 | 24 | 103.3 | 103.8 | 104.1 | 24 | 101.9 | 102.3 | 103.6 | 24 | 103.6 | 104.4 | 105.0 | 24 | 103.0 | 103.4 | 104.0 | 24 |
| 9/6 | 103.8 | 104.4 | 105.0 | 24 | 104.7 | 106.4 | 126.1 | 24 | 101.1 | 101.5 | 101.9 | 24 | 102.4 | 102.6 | 102.9 | 24 | 101.7 | 102.0 | 102.5 | 24 |
| 9/7 | 104.6 | 105.3 | 105.6 | 24 | 104.9 | 106.2 | 118.1 | 24 | 102.5 | 103.6 | 107.0 | 24 | 102.7 | 103.1 | 103.4 | 24 | 101.5 | 102.0 | 102.4 | 24 |
| 9/8 | 103.7 | 104.0 | 104.3 | 24 | 103.3 | 103.4 | 103.6 | 24 | 105.1 | 105.8 | 106.9 | 24 | 103.9 | 104.3 | 104.8 | 24 | 102.1 | 102.6 | 102.9 | 24 |
| 9/9 | 103.7 | 104.0 | 104.4 | 24 | 103.5 | 103.9 | 104.2 | 24 | 105.1 | 105.5 | 105.7 | 24 | 104.3 | 104.6 | 104.8 | 24 | 103.2 | 104.2 | 104.4 | 24 |
| 9/10 | 104.3 | 104.6 | 105.0 | 24 | 104.0 | 104.4 | 104.7 | 24 | 104.8 | 105.0 | 105.9 | 24 | 104.4 | 104.8 | 105.0 | 24 | 104.7 | 105.2 | 105.7 | 24 |
| 9/11 | 104.1 | 104.5 | 104.9 | 24 | 104.0 | 104.3 | 104.6 | 24 | 104.0 | 104.1 | 104.4 | 24 | 104.5 | 105.0 | 105.4 | 24 | 104.4 | 104.7 | 105.2 | 24 |
| 9/12 | 104.4 | 104.8 | 105.3 | 24 | 103.9 | 104.2 | 104.6 | 24 | 102.9 | 103.1 | 103.3 | 24 | 103.0 | 103.4 | 103.6 | 24 | 102.9 | 103.2 | 103.9 | 24 |
| 9/13 | 104.3 | 104.8 | 105.1 | 24 | 104.4 | 105.3 | 109.5 | 24 | 102.0 | 102.0 | 102.3 | 13 | 102.4 | 103.0 | 103.6 | 24 | 101.8 | 102.0 | 102.3 | 24 |
| 9/14 | 104.8 | 104.8 | 105.3 | 13 | 104.5 | 105.1 | 105.4 | 24 | --- | --- | --- | 0 | 103.2 | 103.4 | 103.7 | 24 | 101.1 | 101.1 | 101.2 | 8 |
| 9/15 | --- | --- | --- | 0 | 106.6 | 110.0 | 124.8 | 24 | --- | --- | --- | 0 | 102.5 | 102.9 | 103.2 | 24 | --- | --- | --- | 0 |

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

| Date | <u>The Dalles Dnst</u> | | | | <u>Bonneville</u> | | | | <u>Warrendale</u> | | | | <u>Camas\Washougal</u> | | | | <u>Cascade Island</u> | | | |
|------|------------------------|-------------|-------------|-----------|-------------------|-------------|-------------|-----------|-------------------|------------|-------------|-----------|------------------------|------------|-------------|-----------|-----------------------|------------|-------------|-----------|
| | <u>24 h</u> | <u>12 h</u> | | <u>#</u> | <u>24 h</u> | <u>12 h</u> | | <u>#</u> | <u>24h</u> | <u>12h</u> | | <u>#</u> | <u>24h</u> | <u>12h</u> | | <u>#</u> | <u>24h</u> | <u>12h</u> | | <u>#</u> |
| | <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> | <u>Avg</u> | <u>Avg</u> | <u>High</u> | <u>hr</u> |
| 9/2 | 104.7 | 105.4 | 106.1 | 24 | 104.6 | 105.0 | 105.4 | 24 | 105.8 | 106.5 | 106.9 | 24 | 104.5 | 105.6 | 106.3 | 24 | --- | --- | --- | 0 |
| 9/3 | 103.2 | 103.8 | 104.2 | 24 | 104.6 | 105.3 | 105.6 | 24 | 105.8 | 106.2 | 106.9 | 24 | 104.6 | 104.8 | 105.2 | 24 | --- | --- | --- | 0 |
| 9/4 | 104.2 | 104.5 | 104.6 | 24 | 102.3 | 102.7 | 102.8 | 24 | 104.1 | 104.1 | 105.0 | 11 | 103.4 | 104.2 | 104.5 | 24 | --- | --- | --- | 0 |
| 9/5 | 104.2 | 104.5 | 104.9 | 24 | 103.2 | 103.5 | 103.8 | 24 | 105.2 | 105.8 | 106.9 | 20 | 104.3 | 105.2 | 105.7 | 24 | --- | --- | --- | 0 |
| 9/6 | 103.0 | 103.3 | 103.7 | 24 | 102.6 | 103.0 | 103.3 | 24 | 104.4 | 105.0 | 105.9 | 24 | 104.7 | 105.5 | 106.0 | 24 | --- | --- | --- | 0 |
| 9/7 | 102.6 | 103.1 | 103.6 | 24 | 102.5 | 102.7 | 103.0 | 24 | 104.1 | 104.5 | 105.0 | 24 | 104.6 | 105.3 | 105.8 | 24 | --- | --- | --- | 0 |
| 9/8 | 103.0 | 103.4 | 103.7 | 24 | 102.3 | 102.6 | 102.9 | 24 | 104.0 | 104.4 | 104.7 | 24 | 103.8 | 104.6 | 105.1 | 24 | --- | --- | --- | 0 |
| 9/9 | 103.7 | 104.5 | 104.9 | 24 | 102.4 | 102.6 | 102.9 | 24 | 104.2 | 104.6 | 104.9 | 24 | 104.2 | 105.4 | 106.1 | 24 | --- | --- | --- | 0 |
| 9/10 | 105.3 | 105.9 | 106.4 | 24 | 102.7 | 103.2 | 103.6 | 24 | 104.7 | 105.1 | 105.7 | 24 | 104.5 | 105.5 | 106.1 | 24 | --- | --- | --- | 0 |
| 9/11 | 105.0 | 105.5 | 105.9 | 24 | 103.1 | 103.3 | 103.5 | 24 | 104.5 | 104.8 | 105.2 | 24 | 104.2 | 104.8 | 105.3 | 24 | --- | --- | --- | 0 |
| 9/12 | 103.5 | 103.9 | 104.4 | 24 | 102.1 | 102.3 | 102.5 | 24 | 103.6 | 104.0 | 104.2 | 24 | 103.3 | 104.1 | 104.6 | 24 | --- | --- | --- | 0 |
| 9/13 | 102.8 | 103.2 | 103.3 | 24 | 101.1 | 101.4 | 101.7 | 24 | 102.7 | 102.9 | 103.4 | 24 | 102.1 | 102.6 | 103.3 | 24 | --- | --- | --- | 0 |
| 9/14 | 102.3 | 102.7 | 103.0 | 24 | 100.5 | 100.5 | 100.8 | 11 | 102.3 | 102.5 | 102.8 | 23 | 101.2 | 101.4 | 102.4 | 13 | --- | --- | --- | 0 |
| 9/15 | 101.6 | 101.9 | 102.5 | 24 | --- | --- | --- | 0 | 101.5 | 101.8 | 102.1 | 24 | --- | --- | --- | 0 | --- | --- | --- | 0 |

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 |
| 09/02/2011 | 83.7 | 0.1 | 79.6 | 0.0 | 75.6 | 0.0 | 81.8 | 0.0 | 82.3 | 0.0 | 85.5 | 1.4 | 81.7 | 0.8 |
| 09/03/2011 | 70.8 | 0.1 | 73.2 | 0.0 | 69.7 | 0.0 | 69.3 | 0.0 | 73.0 | 0.0 | 67.2 | 1.8 | 63.2 | 0.8 |
| 09/04/2011 | 65.6 | 0.1 | 65.7 | 0.0 | 64.9 | 0.0 | 65.6 | 0.0 | 67.6 | 0.0 | 67.9 | 2.0 | 64.9 | 0.9 |
| 09/05/2011 | 58.3 | 0.1 | 61.0 | 0.0 | 59.4 | 0.0 | 58.1 | 0.0 | 61.8 | 0.0 | 71.9 | 2.0 | 68.7 | 1.2 |
| 09/06/2011 | 100.3 | 0.1 | 94.5 | 0.0 | 95.8 | 0.0 | 94.5 | 0.0 | 94.7 | 0.0 | 97.3 | 1.8 | 94.5 | 0.9 |
| 09/07/2011 | 97.4 | 0.1 | 96.3 | 0.0 | 97.1 | 0.0 | 98.6 | 0.0 | 100.0 | 0.0 | 106.2 | 1.9 | 99.2 | 1.2 |
| 09/08/2011 | 78.8 | 0.1 | 74.0 | 0.0 | 82.3 | 0.0 | 86.7 | 0.0 | 88.0 | 0.0 | 107.4 | 1.7 | 108.0 | 1.1 |
| 09/09/2011 | 80.6 | 0.1 | 79.1 | 0.0 | 78.4 | 0.0 | 80.7 | 0.0 | 81.8 | 0.0 | 84.3 | 1.5 | 81.8 | 0.7 |
| 09/10/2011 | 69.3 | 0.1 | 71.6 | 0.0 | 74.3 | 0.0 | 75.1 | 0.0 | 79.2 | 0.0 | 85.4 | 1.7 | 83.9 | 0.7 |
| 09/11/2011 | 72.0 | 0.1 | 71.3 | 0.0 | 71.8 | 0.0 | 73.9 | 0.0 | 77.4 | 0.0 | 77.7 | 1.7 | 74.3 | 0.8 |
| 09/12/2011 | 70.9 | 0.1 | 72.0 | 0.0 | 68.4 | 0.0 | 67.5 | 0.0 | 69.6 | 0.0 | 71.6 | 1.7 | 71.5 | 1.1 |
| 09/13/2011 | 76.5 | 0.1 | 78.7 | 0.0 | 78.5 | 0.0 | 80.8 | 0.8 | 79.0 | 0.0 | 73.4 | 3.6 | 67.4 | 0.7 |
| 09/14/2011 | 75.5 | 0.1 | 75.6 | 0.0 | 76.3 | 0.0 | 79.0 | 0.1 | 81.8 | 0.0 | 88.7 | 3.5 | 82.3 | 5.1 |
| 09/15/2011 | 65.0 | 0.1 | 60.6 | 0.0 | 63.9 | 0.0 | 66.6 | 0.0 | 68.7 | 0.0 | 76.2 | 2.6 | 75.8 | 1.0 |

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

| Date | Dworshak | | Brownlee Canyon | | Hells Granite | | Lower Granite | | Little Goose | | Lower Monumental | | Ice Harbor | |
|------------|----------|-------|-----------------|---------|---------------|-------|---------------|-------|--------------|-------|------------------|-------|------------|-------|
| | Flow | Spill | Inflow | Outflow | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill |
| 09/02/2011 | 13.8 | 3.4 | 14.0 | 12.9 | 35.0 | 0.0 | 28.2 | 0.0 | 28.0 | 0.0 | 25.3 | 0.0 | | |
| 09/03/2011 | 14.0 | 3.5 | 13.7 | 13.6 | 36.4 | 0.1 | 29.5 | 0.0 | 28.0 | 0.0 | 27.4 | 0.0 | | |
| 09/04/2011 | 12.5 | 2.0 | 14.2 | 13.8 | 36.9 | 0.0 | 32.9 | 0.0 | 34.6 | 0.0 | 33.6 | 0.0 | | |
| 09/05/2011 | 10.4 | 0.0 | 14.5 | 14.4 | 33.1 | 0.0 | 33.1 | 0.0 | 35.9 | 0.0 | 38.8 | 0.0 | | |
| 09/06/2011 | 10.5 | 0.0 | 15.7 | 18.4 | 34.2 | 0.0 | 35.7 | 0.0 | 37.1 | 0.0 | 36.8 | 0.0 | | |
| 09/07/2011 | 10.5 | 0.0 | 15.1 | 19.7 | 36.8 | 0.0 | 28.9 | 0.0 | 28.4 | 0.0 | 27.4 | 0.0 | | |
| 09/08/2011 | 10.5 | 0.0 | 14.8 | 26.0 | 40.8 | 0.0 | 39.7 | 0.0 | 39.4 | 0.0 | 38.4 | 0.0 | | |
| 09/09/2011 | 10.5 | 0.0 | 15.4 | --- | 45.1 | 0.0 | 40.5 | 0.0 | 43.6 | 0.0 | 43.3 | 0.0 | | |
| 09/10/2011 | 8.2 | 0.0 | 15.3 | 25.1 | 41.5 | 0.0 | 40.1 | 0.0 | 40.4 | 0.0 | 38.7 | 0.0 | | |
| 09/11/2011 | 8.2 | 0.0 | 15.9 | 26.6 | 38.8 | 0.0 | 29.9 | 0.0 | 28.0 | 0.0 | 27.1 | 0.0 | | |
| 09/12/2011 | 8.4 | 0.0 | 17.8 | --- | 42.0 | 0.0 | 42.0 | 0.0 | 43.4 | 0.0 | 39.3 | 0.0 | | |
| 09/13/2011 | 6.7 | 0.0 | --- | 26.9 | 38.6 | 0.0 | 35.8 | 0.0 | 37.3 | 0.2 | 41.0 | 0.0 | | |
| 09/14/2011 | 5.9 | 0.0 | --- | 26.9 | 40.8 | 0.0 | 40.9 | 0.0 | 41.6 | 0.1 | 41.0 | 0.0 | | |
| 09/15/2011 | 4.8 | 0.0 | --- | --- | 35.2 | 0.0 | 38.9 | 0.0 | 40.5 | 0.0 | 41.4 | 0.0 | | |

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

| Date | McNary | | John Day | | The Dalles | | Bonneville | | | |
|------------|--------|-------|----------|-------|------------|-------|------------|-------|------|------|
| | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill | PH1 | PH2 |
| 09/02/2011 | 132.1 | 0.0 | 122.1 | 0.9 | 123.2 | 0.0 | 116.8 | 1.3 | 24.6 | 83.5 |
| 09/03/2011 | 104.2 | 0.0 | 100.0 | 0.9 | 101.6 | 0.0 | 113.4 | 1.4 | 24.3 | 80.3 |
| 09/04/2011 | 101.4 | 0.0 | 96.7 | 0.8 | 97.7 | 0.0 | 102.4 | 1.3 | 21.9 | 71.8 |
| 09/05/2011 | 118.3 | 0.0 | 115.0 | 0.9 | 116.3 | 0.0 | 121.6 | 1.3 | 51.8 | 61.1 |
| 09/06/2011 | 113.5 | 3.8 | 116.1 | 0.9 | 117.9 | 0.0 | 128.7 | 1.4 | 61.3 | 58.6 |
| 09/07/2011 | 128.7 | 0.0 | 124.0 | 0.8 | 124.3 | 0.0 | 131.2 | 1.4 | 64.2 | 58.2 |
| 09/08/2011 | 129.9 | 0.1 | 120.4 | 0.8 | 123.5 | 0.0 | 129.4 | 1.5 | 61.3 | 59.2 |
| 09/09/2011 | 136.3 | 0.0 | 139.1 | 0.9 | 139.5 | 0.0 | 145.8 | 1.4 | 74.0 | 63.0 |
| 09/10/2011 | 123.0 | 0.0 | 117.6 | 0.9 | 120.9 | 0.0 | 133.5 | 1.3 | 67.4 | 57.4 |
| 09/11/2011 | 110.2 | 0.0 | 107.0 | 0.9 | 110.2 | 0.0 | 118.3 | 1.3 | 53.8 | 55.8 |
| 09/12/2011 | 126.7 | 0.0 | 129.2 | 0.9 | 128.4 | 0.0 | 136.0 | 2.0 | 65.9 | 60.7 |
| 09/13/2011 | 107.3 | 0.6 | 102.7 | 1.0 | 108.4 | 0.0 | 118.4 | 1.3 | 53.0 | 56.7 |
| 09/14/2011 | 114.3 | 0.0 | 104.3 | 1.2 | 104.6 | 0.0 | 111.3 | 1.3 | 48.9 | 53.7 |
| 09/15/2011 | 122.2 | 5.6 | 111.3 | 1.2 | 109.7 | 0.0 | 112.8 | 1.4 | 48.1 | 56.0 |

Two-Week Summary of Passage Indices

| COMBINED YEARLING CHINOOK | | | | | | | | | | | | |
|---------------------------|---------------|---------------|---------------|---------------|----------------|------------------|------------------|------------------|----------------|------------------|------------------|------------------|
| Date | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR (INDEX) | LGS (INDEX) | LMN (INDEX) | RIS (INDEX) | MCN (INDEX) | JDA (INDEX) | BO2 (INDEX) | |
| 09/02/2011 | * | --- | --- | --- | --- | 2 | 0 | 1 | --- | 0 | 0 | 0 |
| 09/03/2011 | * | --- | --- | --- | --- | 0 | 0 | 0 | --- | 0 | --- | 13 |
| 09/04/2011 | * | --- | --- | --- | --- | 2 | 1 | 3 | --- | 0 | --- | 0 |
| 09/05/2011 | * | --- | --- | --- | --- | 0 | 0 | 0 | --- | 0 | --- | 0 |
| 09/06/2011 | * | --- | --- | --- | --- | 0 | 0 | 0 | --- | 0 | 0 | 0 |
| 09/07/2011 | * | --- | --- | --- | --- | 0 | 1 | 0 | --- | 0 | --- | 0 |
| 09/08/2011 | * | --- | --- | --- | --- | 0 | 1 | 2 | --- | 0 | 0 | 0 |
| 09/09/2011 | * | --- | --- | --- | --- | 0 | 0 | 2 | --- | 0 | --- | 0 |
| 09/10/2011 | * | --- | --- | --- | --- | 0 | 0 | 3 | --- | --- | 0 | 0 |
| 09/11/2011 | * | --- | --- | --- | --- | 1 | 1 | 0 | --- | --- | --- | 0 |
| 09/12/2011 | * | --- | --- | --- | --- | 0 | 0 | 0 | --- | --- | --- | 0 |
| 09/13/2011 | * | --- | --- | --- | --- | 0 | 1 | 1 | --- | --- | 0 | 0 |
| 09/14/2011 | * | --- | --- | --- | --- | 1 | 0 | 1 | --- | --- | 0 | 0 |
| 09/15/2011 | * | --- | --- | --- | --- | --- | 1 | --- | --- | --- | 0 | 0 |
| 09/16/2011 | * | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | | 0 | 0 | 0 | 0 | 6 | 6 | 13 | 0 | 0 | 0 | 13 |
| # Days: | | 0 | 0 | 0 | 0 | 13 | 14 | 13 | 0 | 8 | 7 | 14 |
| Average: | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| YTD | | 31,090 | 30,210 | 12,492 | 18,836 | 3,831,090 | 2,528,603 | 1,236,925 | 26,463 | 1,979,496 | 2,936,420 | 1,322,317 |

| COMBINED SUBYEARLING CHINOOK | | | | | | | | | | | | |
|------------------------------|---------------|---------------|---------------|---------------|----------------|------------------|------------------|----------------|----------------|------------------|------------------|------------------|
| Date | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR (INDEX) | LGS (INDEX) | LMN (INDEX) | RIS (INDEX) | MCN (INDEX) | JDA (INDEX) | BO2 (INDEX) | |
| 09/02/2011 | * | --- | --- | --- | --- | 76 | 37 | 25 | --- | 25,725 | 660 | 3,592 |
| 09/03/2011 | * | --- | --- | --- | --- | 73 | 26 | 20 | --- | 19,750 | --- | 1,651 |
| 09/04/2011 | * | --- | --- | --- | --- | 74 | 40 | 20 | --- | 14,000 | --- | 1,782 |
| 09/05/2011 | * | --- | --- | --- | --- | 71 | 48 | 151 | --- | 2,950 | --- | 1,089 |
| 09/06/2011 | * | --- | --- | --- | --- | 59 | 104 | 182 | --- | 5,800 | 396 | 1,109 |
| 09/07/2011 | * | --- | --- | --- | --- | 96 | 216 | 298 | --- | 9,623 | --- | 857 |
| 09/08/2011 | * | --- | --- | --- | --- | 161 | 170 | 345 | --- | 8,740 | 1,217 | 1,054 |
| 09/09/2011 | * | --- | --- | --- | --- | 210 | 256 | 599 | --- | 3,940 | --- | 830 |
| 09/10/2011 | * | --- | --- | --- | --- | 222 | 313 | 293 | --- | --- | 167 | 537 |
| 09/11/2011 | * | --- | --- | --- | --- | 363 | 208 | 193 | --- | --- | --- | 414 |
| 09/12/2011 | * | --- | --- | --- | --- | 573 | 81 | 166 | --- | --- | --- | 347 |
| 09/13/2011 | * | --- | --- | --- | --- | 585 | 122 | 160 | --- | --- | 158 | 301 |
| 09/14/2011 | * | --- | --- | --- | --- | 465 | 85 | 99 | --- | --- | 1,537 | 256 |
| 09/15/2011 | * | --- | --- | --- | --- | --- | 129 | --- | --- | --- | 3,460 | 238 |
| 09/16/2011 | * | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | | 0 | 0 | 0 | 0 | 3,028 | 1,835 | 2,551 | 0 | 90,528 | 7,595 | 14,057 |
| # Days: | | 0 | 0 | 0 | 0 | 13 | 14 | 13 | 0 | 8 | 7 | 14 |
| Average: | | 0 | 0 | 0 | 0 | 233 | 131 | 196 | 0 | 11,316 | 1,085 | 1,004 |
| YTD | | 9 | 38 | 12 | 163 | 1,160,575 | 1,361,407 | 371,865 | 31,133 | 5,773,500 | 3,296,722 | 5,201,601 |

Two-Week Summary of Passage Indices

| Date | COMBINED COHO | | | | | | | | | | | |
|-----------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR (INDEX) | LGS (INDEX) | LMN (INDEX) | RIS (INDEX) | MCN (INDEX) | JDA (INDEX) | BO2 (INDEX) | |
| 09/02/2011 | * | --- | --- | --- | --- | 0 | 4 | 2 | --- | 0 | 0 | 0 |
| 09/03/2011 | * | --- | --- | --- | --- | 1 | 5 | 0 | --- | 0 | --- | 0 |
| 09/04/2011 | * | --- | --- | --- | --- | 3 | 4 | 1 | --- | 0 | --- | 0 |
| 09/05/2011 | * | --- | --- | --- | --- | 1 | 6 | 3 | --- | 0 | --- | 0 |
| 09/06/2011 | * | --- | --- | --- | --- | 1 | 5 | 4 | --- | 0 | 0 | 0 |
| 09/07/2011 | * | --- | --- | --- | --- | 1 | 5 | 1 | --- | 0 | --- | 0 |
| 09/08/2011 | * | --- | --- | --- | --- | 2 | 5 | 0 | --- | 20 | 0 | 0 |
| 09/09/2011 | * | --- | --- | --- | --- | 1 | 12 | 2 | --- | 0 | --- | 0 |
| 09/10/2011 | * | --- | --- | --- | --- | 2 | 4 | 2 | --- | --- | 0 | 0 |
| 09/11/2011 | * | --- | --- | --- | --- | 1 | 3 | 0 | --- | --- | --- | 0 |
| 09/12/2011 | * | --- | --- | --- | --- | 1 | 3 | 2 | --- | --- | --- | 8 |
| 09/13/2011 | * | --- | --- | --- | --- | 5 | 3 | 2 | --- | --- | 0 | 0 |
| 09/14/2011 | * | --- | --- | --- | --- | 11 | 4 | 0 | --- | --- | 0 | 0 |
| 09/15/2011 | * | --- | --- | --- | --- | --- | 5 | --- | --- | --- | 0 | 0 |
| 09/16/2011 | * | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | | 0 | 0 | 0 | 0 | 30 | 68 | 19 | 0 | 20 | 0 | 8 |
| # Days: | | 0 | 0 | 0 | 0 | 13 | 14 | 13 | 0 | 8 | 7 | 14 |
| Average: | | 0 | 0 | 0 | 0 | 2 | 5 | 1 | 0 | 3 | 0 | 1 |
| YTD | | 0 | 0 | 0 | 218 | 83,885 | 81,836 | 19,958 | 46,400 | 188,209 | 477,004 | 439,939 |

| Date | COMBINED STEELHEAD | | | | | | | | | | | |
|-----------------|--------------------|---------------|---------------|---------------|----------------|------------------|------------------|----------------|----------------|----------------|------------------|----------------|
| | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR (INDEX) | LGS (INDEX) | LMN (INDEX) | RIS (INDEX) | MCN (INDEX) | JDA (INDEX) | BO2 (INDEX) | |
| 09/02/2011 | * | --- | --- | --- | --- | 0 | 0 | 0 | --- | 0 | 0 | 0 |
| 09/03/2011 | * | --- | --- | --- | --- | 0 | 1 | 0 | --- | 0 | --- | 0 |
| 09/04/2011 | * | --- | --- | --- | --- | 0 | 0 | 0 | --- | 0 | --- | 0 |
| 09/05/2011 | * | --- | --- | --- | --- | 2 | 1 | 0 | --- | 0 | --- | 0 |
| 09/06/2011 | * | --- | --- | --- | --- | 1 | 1 | 0 | --- | 0 | 0 | 0 |
| 09/07/2011 | * | --- | --- | --- | --- | 0 | 1 | 1 | --- | 0 | --- | 0 |
| 09/08/2011 | * | --- | --- | --- | --- | 0 | 3 | 1 | --- | 0 | 0 | 0 |
| 09/09/2011 | * | --- | --- | --- | --- | 0 | 1 | 0 | --- | 0 | --- | 0 |
| 09/10/2011 | * | --- | --- | --- | --- | 1 | 2 | 0 | --- | --- | 0 | 11 |
| 09/11/2011 | * | --- | --- | --- | --- | 1 | 1 | 1 | --- | --- | --- | 0 |
| 09/12/2011 | * | --- | --- | --- | --- | 0 | 0 | 1 | --- | --- | --- | 0 |
| 09/13/2011 | * | --- | --- | --- | --- | 0 | 1 | 0 | --- | --- | 0 | 0 |
| 09/14/2011 | * | --- | --- | --- | --- | 0 | 0 | 1 | --- | --- | 0 | 0 |
| 09/15/2011 | * | --- | --- | --- | --- | --- | 1 | --- | --- | --- | 0 | 0 |
| 09/16/2011 | * | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | | 0 | 0 | 0 | 0 | 5 | 13 | 5 | 0 | 0 | 0 | 11 |
| # Days: | | 0 | 0 | 0 | 0 | 13 | 14 | 13 | 0 | 8 | 7 | 14 |
| Average: | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| YTD | | 1,080 | 13,882 | 4,071 | 2,934 | 4,118,589 | 2,033,109 | 838,182 | 28,473 | 608,082 | 2,620,215 | 246,508 |

Two-Week Summary of Passage Indices

| COMBINED SOCKEYE | | | | | | | | | | | |
|-------------------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Date | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR (INDEX) | LGS (INDEX) | LMN (INDEX) | RIS (INDEX) | MCN (INDEX) | JDA (INDEX) | BO2 (INDEX) |
| 09/02/2011 * | --- | --- | --- | --- | 1 | 3 | 0 | --- | 0 | 11 | 8 |
| 09/03/2011 * | --- | --- | --- | --- | 0 | 0 | 0 | --- | 50 | --- | 13 |
| 09/04/2011 * | --- | --- | --- | --- | 0 | 0 | 0 | --- | 50 | --- | 0 |
| 09/05/2011 * | --- | --- | --- | --- | 2 | 0 | 0 | --- | 0 | --- | 14 |
| 09/06/2011 * | --- | --- | --- | --- | 2 | 2 | 0 | --- | 0 | 0 | 0 |
| 09/07/2011 * | --- | --- | --- | --- | 1 | 0 | 0 | --- | 41 | --- | 0 |
| 09/08/2011 | --- | --- | --- | --- | 2 | 2 | 0 | --- | 20 | 14 | 10 |
| 09/09/2011 * | --- | --- | --- | --- | 2 | 1 | 0 | --- | 0 | --- | 0 |
| 09/10/2011 * | --- | --- | --- | --- | 1 | 0 | 0 | --- | --- | 0 | 0 |
| 09/11/2011 * | --- | --- | --- | --- | 0 | 0 | 0 | --- | --- | --- | 0 |
| 09/12/2011 * | --- | --- | --- | --- | 1 | 0 | 0 | --- | --- | --- | 0 |
| 09/13/2011 * | --- | --- | --- | --- | 2 | 0 | 0 | --- | --- | 0 | 0 |
| 09/14/2011 * | --- | --- | --- | --- | 1 | 0 | 0 | --- | --- | 0 | 0 |
| 09/15/2011 * | --- | --- | --- | --- | --- | 0 | --- | --- | --- | 0 | 0 |
| 09/16/2011 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | 0 | 0 | 0 | 0 | 15 | 8 | 0 | 0 | 161 | 25 | 45 |
| # Days: | 0 | 0 | 0 | 0 | 13 | 14 | 13 | 0 | 8 | 7 | 14 |
| Average: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 20 | 4 | 3 |
| YTD | 0 | 0 | 1 | 0 | 119,362 | 44,449 | 31,325 | 18,763 | 325,841 | 364,035 | 114,157 |

| COMBINED LAMPREY JUVENILES | | | | | | | | | | | |
|-----------------------------------|---------------|---------------|---------------|---------------|----------------------------|---------------|---------------|---------------|----------------|----------------|---------------|
| Date | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR [†] (Coll) | LGS (Coll) | LMN (Coll) | RIS (Coll) | MCN (Coll) | JDA (Coll) | BO2 (Coll) |
| 09/02/2011 * | --- | --- | --- | --- | 4 | 0 | 0 | --- | 104 | 4 | 0 |
| 09/03/2011 * | --- | --- | --- | --- | 3 | 0 | 0 | --- | 50 | --- | 0 |
| 09/04/2011 * | --- | --- | --- | --- | 1 | 0 | 0 | --- | 50 | --- | 0 |
| 09/05/2011 * | --- | --- | --- | --- | 1 | 1 | 0 | --- | 0 | --- | 0 |
| 09/06/2011 * | --- | --- | --- | --- | 0 | 1 | 0 | --- | 20 | 3 | 5 |
| 09/07/2011 * | --- | --- | --- | --- | 0 | 0 | 0 | --- | 20 | --- | 0 |
| 09/08/2011 | --- | --- | --- | --- | 2 | 0 | 0 | --- | 0 | 0 | 0 |
| 09/09/2011 * | --- | --- | --- | --- | 0 | 2 | 0 | --- | 0 | --- | 0 |
| 09/10/2011 * | --- | --- | --- | --- | 0 | 4 | 0 | --- | --- | 0 | 0 |
| 09/11/2011 * | --- | --- | --- | --- | 0 | 1 | 0 | --- | --- | --- | 0 |
| 09/12/2011 * | --- | --- | --- | --- | 0 | 0 | 0 | --- | --- | --- | 0 |
| 09/13/2011 * | --- | --- | --- | --- | 1 | 0 | 0 | --- | --- | 0 | 4 |
| 09/14/2011 * | --- | --- | --- | --- | 0 | 1 | 0 | --- | --- | 0 | 0 |
| 09/15/2011 * | --- | --- | --- | --- | --- | 0 | --- | --- | --- | 0 | 0 |
| 09/16/2011 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | 0 | 0 | 0 | 0 | 12 | 10 | 0 | 0 | 244 | 7 | 9 |
| # Days: | 0 | 0 | 0 | 0 | 13 | 14 | 13 | 0 | 8 | 7 | 14 |
| Average: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 31 | 1 | 1 |
| YTD | 0 | 0 | 0 | 0 | 10,562 | 17,637 | 748 | 327 | 164,356 | 494,478 | 26,086 |

Two-Week Summary of Passage Indices

* 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, sockeye, and lamprey juveniles. Two classes of fish counts are shown in these tables:
Two classes of fish counts are shown in these tables:

Collection counts (Coll), which account for sample rates but are not adjusted for flow;

Passage indices (INDEX), 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.

Combined lamprey juvenile collection counts are provided for all sites. Combined lamprey juveniles is a combination of pacific lamprey ammocoetes, brook lamprey ammocoetes, unknown lamprey ammocoetes, and pacific lamprey macrophthalmia.

† Caution should be used with interpreting lamprey juvenile collection counts at LGR because of the possibility that lamprey may escape the sample tank before being sampled

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 = $\text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$

LGS (Index) = Little Goose Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$

LMN (Index) = Lower Monumental Dam Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$

RIS (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{ \text{Powerhouse 2 Flow} / (\text{Powerhouse 1 \& 2 Flow} + \text{Spill}) \}$

MCN (Index) = McNary Dam Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$

JDA (Index) = John Day Dam Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$

BO2 (Index) = Bonneville Dam Second Powerhouse Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{ \text{Powerhouse 2 Flow} / (\text{Powerhouse 1 \& 2 Flow} + \text{Spill}) \}$

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:

9/16/11 9:38 AM

| | | 09/02/11 TO 09/16/11 | | | | | |
|--------------------------------|--------------------------|----------------------|-----|-----|----|-----|-------------|
| | | Species | | | | | |
| Site | Data | CH0 | CH1 | CO | ST | SO | Grand Total |
| LGR | Sum of NumberCollected | 3,028 | 6 | 30 | 5 | 15 | 3,084 |
| | Sum of NumberBarged | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of NumberBypassed | 1,090 | 0 | 0 | 2 | 0 | 1,092 |
| | Sum of Numbertrucked | 1,906 | 6 | 31 | 2 | 15 | 1,960 |
| | Sum of SampleMorts | 93 | 0 | 0 | 1 | 0 | 94 |
| | Sum of FacilityMorts | 2 | 0 | 0 | 0 | 0 | 2 |
| | Sum of ResearchMorts | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMorts | 95 | 0 | 0 | 1 | 0 | 96 |
| LGS | Sum of NumberCollected | 1,834 | 6 | 68 | 13 | 8 | 1,929 |
| | Sum of NumberBarged | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of NumberBypassed | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of Numbertrucked | 1,730 | 4 | 65 | 11 | 8 | 1,818 |
| | Sum of SampleMorts | 24 | 0 | 2 | 1 | 0 | 27 |
| | Sum of FacilityMorts | 12 | 1 | 0 | 0 | 0 | 13 |
| | Sum of ResearchMorts | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMorts | 36 | 1 | 2 | 1 | 0 | 40 |
| LMN | Sum of NumberCollected | 2,550 | 13 | 19 | 5 | | 2,587 |
| | Sum of NumberBarged | 0 | 0 | 0 | 0 | | 0 |
| | Sum of NumberBypassed | 0 | 0 | 0 | 3 | | 3 |
| | Sum of Numbertrucked | 2,337 | 13 | 20 | 2 | | 2,372 |
| | Sum of SampleMorts | 285 | 0 | 0 | 0 | | 285 |
| | Sum of FacilityMorts | 0 | 0 | 0 | 0 | | 0 |
| | Sum of ResearchMorts | 0 | 0 | 0 | 0 | | 0 |
| | Sum of TotalProjectMorts | 285 | 0 | 0 | 0 | | 285 |
| MCN | Sum of NumberCollected | 89,806 | | 20 | | 160 | 89,986 |
| | Sum of NumberBarged | 0 | | 0 | | 0 | 0 |
| | Sum of NumberBypassed | 0 | | 0 | | 0 | 0 |
| | Sum of Numbertrucked | 98,029 | | 20 | | 160 | 98,209 |
| | Sum of SampleMorts | 13 | | 0 | | 0 | 13 |
| | Sum of FacilityMorts | 496 | | 0 | | 0 | 496 |
| | Sum of ResearchMorts | 0 | | 0 | | 0 | 0 |
| | Sum of TotalProjectMorts | 509 | | 0 | | 0 | 509 |
| Total Sum of NumberCollected | | 97,218 | 25 | 137 | 23 | 183 | 97,586 |
| Total Sum of NumberBarged | | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Sum of NumberBypassed | | 1,090 | 0 | 0 | 5 | 0 | 1,095 |
| Total Sum of Numbertrucked | | 104,002 | 23 | 136 | 15 | 183 | 104,359 |
| Total Sum of SampleMorts | | 415 | 0 | 2 | 2 | 0 | 419 |
| Total Sum of FacilityMorts | | 510 | 1 | 0 | 0 | 0 | 511 |
| Total Sum of ResearchMorts | | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Sum of TotalProjectMorts | | 925 | 1 | 2 | 2 | 0 | 930 |

YTD Transportation Summary

Source: Fish Passage Center

Updated:

9/16/11 9:38 AM

TO: 09/16/11

| | | Species | | | | | |
|--------------------------------|--------------------------|-----------|-----------|---------|---------|-----------|-------------|
| Site | Data | CH0 | CH1 | CO | SO | ST | Grand Total |
| LGR | Sum of NumberCollected | 730,681 | 2,716,912 | 54,653 | 78,064 | 2,713,306 | 6,293,616 |
| | Sum of NumberBarged | 641,690 | 1,705,111 | 40,040 | 35,412 | 1,437,012 | 3,859,265 |
| | Sum of NumberBypassed | 82,979 | 1,009,672 | 14,509 | 42,055 | 1,275,913 | 2,425,128 |
| | Sum of NumberTrucked | 3,541 | 6 | 81 | 20 | 4 | 3,652 |
| | Sum of SampleMorts | 390 | 101 | 2 | 73 | 42 | 608 |
| | Sum of FacilityMorts | 2,051 | 1,781 | 21 | 504 | 272 | 4,629 |
| | Sum of ResearchMorts | 30 | 241 | 0 | 0 | 58 | 329 |
| | Sum of TotalProjectMorts | 2,471 | 2,123 | 23 | 577 | 372 | 5,566 |
| LGS | Sum of NumberCollected | 734,873 | 1,449,333 | 41,558 | 24,293 | 1,132,421 | 3,382,478 |
| | Sum of NumberBarged | 725,531 | 1,344,369 | 40,943 | 18,896 | 893,351 | 3,023,090 |
| | Sum of NumberBypassed | 93 | 103,168 | 401 | 5,227 | 238,633 | 347,522 |
| | Sum of NumberTrucked | 5,377 | 7 | 204 | 23 | 22 | 5,633 |
| | Sum of SampleMorts | 409 | 52 | 3 | 14 | 11 | 489 |
| | Sum of FacilityMorts | 3,336 | 1,736 | 2 | 133 | 403 | 5,610 |
| | Sum of ResearchMorts | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMorts | 3,745 | 1,788 | 5 | 147 | 414 | 6,099 |
| LMN | Sum of NumberCollected | 251,173 | 854,197 | 13,234 | 21,051 | 565,782 | 1,705,437 |
| | Sum of NumberBarged | 236,788 | 636,755 | 12,003 | 18,832 | 459,659 | 1,364,037 |
| | Sum of NumberBypassed | 8,578 | 215,901 | 1,254 | 1,964 | 103,442 | 331,139 |
| | Sum of NumberTrucked | 4,049 | 36 | 60 | 2 | 2 | 4,149 |
| | Sum of SampleMorts | 380 | 3 | 6 | 0 | 5 | 394 |
| | Sum of FacilityMorts | 1,378 | 1,499 | 13 | 253 | 872 | 4,015 |
| | Sum of ResearchMorts | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMorts | 1,758 | 1,502 | 19 | 253 | 877 | 4,409 |
| MCN | Sum of NumberCollected | 2,434,283 | 952,682 | 71,810 | 136,704 | 295,989 | 3,891,468 |
| | Sum of NumberBarged | 1,060,689 | 24 | 260 | 2,793 | 108 | 1,063,874 |
| | Sum of NumberBypassed | 975,593 | 949,771 | 71,277 | 132,464 | 295,663 | 2,424,768 |
| | Sum of NumberTrucked | 355,553 | 9 | 95 | 1,032 | 0 | 356,689 |
| | Sum of SampleMorts | 820 | 187 | 8 | 41 | 13 | 1,069 |
| | Sum of FacilityMorts | 41,628 | 2,691 | 170 | 374 | 205 | 45,068 |
| | Sum of ResearchMorts | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMorts | 42,448 | 2,878 | 178 | 415 | 218 | 46,137 |
| Total Sum of NumberCollected | | 4,151,010 | 5,973,124 | 181,255 | 260,112 | 4,707,498 | 15,272,999 |
| Total Sum of NumberBarged | | 2,664,698 | 3,686,259 | 93,246 | 75,933 | 2,790,130 | 9,310,266 |
| Total Sum of NumberBypassed | | 1,067,243 | 2,278,512 | 87,441 | 181,710 | 1,913,651 | 5,528,557 |
| Total Sum of NumberTrucked | | 368,520 | 58 | 440 | 1,077 | 28 | 370,123 |
| Total Sum of SampleMorts | | 1,999 | 343 | 19 | 128 | 71 | 2,560 |
| Total Sum of FacilityMorts | | 48,393 | 7,707 | 206 | 1,264 | 1,752 | 59,322 |
| Total Sum of ResearchMorts | | 30 | 241 | 0 | 0 | 58 | 329 |
| Total Sum of TotalProjectMorts | | 50,422 | 8,291 | 225 | 1,392 | 1,881 | 62,211 |

Cumulative Adult Passage at Mainstem Dams Through: 09/15

| DAM | EndDate | Spring Chinook | | | | | | Summer Chinook | | | | | | Fall Chinook | | | | | |
|-----|---------|----------------|-------|--------|-------|------------|-------|----------------|-------|-------|-------|------------|-------|--------------|-------|--------|-------|------------|-------|
| | | 2011 | | 2010 | | 10-Yr Avg. | | 2011 | | 2010 | | 10-Yr Avg. | | 2011 | | 2010 | | 10-Yr Avg. | |
| | | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack |
| BON | 09/14 | 167097 | 50945 | 244384 | 12612 | 174444 | 16431 | 108279 | 51451 | 97604 | 15603 | 89217 | 13568 | 262251 | 40662 | 305002 | 33432 | 291891 | 30425 |
| TDA | 09/14 | 124164 | 40146 | 189839 | 11546 | 130174 | 13470 | 81127 | 39844 | 81292 | 12528 | 78252 | 10628 | 120756 | 27149 | 145717 | 21436 | 129407 | 20688 |
| JDA | 09/15 | 103401 | 39823 | 179446 | 11794 | 110572 | 12004 | 74073 | 34571 | 70955 | 12475 | 71151 | 11642 | 89238 | 23689 | 100777 | 17774 | 88421 | 17549 |
| MCN | 09/15 | 101245 | 31750 | 153500 | 9185 | 102003 | 11175 | 74621 | 28165 | 66526 | 8063 | 67398 | 9237 | 62593 | 12883 | 80404 | 10002 | 60071 | 11866 |
| IHR | 09/15 | 69306 | 18161 | 101188 | 6047 | 70295 | 6879 | 26758 | 12378 | 29583 | 3503 | 17776 | 3412 | 15374 | 6157 | 24995 | 4609 | 11066 | 4911 |
| LMN | 09/15 | 69832 | 18094 | 97334 | 5898 | 69566 | 5561 | 31176 | 13730 | 35097 | 4362 | 18759 | 3055 | 12830 | 4031 | 19729 | 5955 | 9246 | 4172 |
| LGS | 09/15 | 67321 | 23492 | 92985 | 5461 | 64800 | 6145 | 42211 | 18214 | 32410 | 3968 | 15770 | 3504 | 10746 | 3239 | 17614 | 3145 | 7524 | 2735 |
| LGR | 09/15 | 59342 | 22063 | 94203 | 6409 | 65342 | 7745 | 36764 | 16425 | 28778 | 5294 | 14778 | 4385 | 9042 | 2986 | 15805 | 3791 | 6001 | 3073 |
| PRD | 09/14 | 15246 | 6030 | 30539 | 932 | 20141 | 818 | 50865 | 4223 | 49265 | 1217 | 58614 | 2426 | 11296 | 2383 | 8651 | 1426 | 12632 | 2399 |
| RIS | 09/14 | 13089 | 8394 | 29684 | 1513 | 17327 | 1572 | 44432 | 14299 | 47220 | 4018 | 55301 | 5331 | 4085 | 2667 | 3030 | 1412 | 4781 | 1300 |
| RRH | 09/14 | 6989 | 3491 | 8660 | 523 | 6536 | 525 | 38861 | 8131 | 34173 | 1724 | 42074 | 4056 | 3639 | 1800 | 2517 | 831 | 3511 | 954 |
| WEL | 09/14 | 4153 | 3969 | 7596 | 661 | 5414 | 510 | 29491 | 8443 | 27052 | 1898 | 31529 | 2157 | 1289 | 883 | 1407 | 570 | 1949 | 672 |
| WFA | 09/14 | 43748 | 1399 | 65293 | 1758 | 51657 | 1104 | - | - | - | - | - | - | 438 | 131 | 444 | 50 | 441 | 35 |

| DAM | Coho | | | | | | Sockeye | | | Steelhead | | | |
|-----|-------|------|-------|------|------------|------|---------|--------|------------|-----------|--------|------------|-----------|
| | 2011 | | 2010 | | 10-Yr Avg. | | 2011 | 2010 | 10-Yr Avg. | 2011 | 2010 | 10-Yr Avg. | Wild 2011 |
| | Adult | Jack | Adult | Jack | Adult | Jack | | | | | | | |
| BON | 78286 | 2076 | 35479 | 2397 | 62419 | 2965 | 185796 | 386524 | 123898 | 329880 | 375268 | 356249 | 118756 |
| TDA | 22406 | 2282 | 13017 | 1255 | 11433 | 1480 | 138289 | 325131 | 105743 | 226115 | 252204 | 204270 | 84687 |
| JDA | 14800 | 1431 | 6752 | 676 | 8631 | 1385 | 143137 | 324124 | 110255 | 164835 | 188289 | 170562 | 62203 |
| MCN | 8191 | 904 | 3955 | 336 | 3255 | 451 | 113947 | 278800 | 91599 | 147727 | 158610 | 119576 | 51745 |
| IHR | 738 | 153 | 279 | 20 | 245 | 14 | 1141 | 1302 | 280 | 100480 | 107139 | 74593 | 27297 |
| LMN | 294 | 42 | 262 | 41 | 144 | 10 | 1395 | 1655 | 349 | 88248 | 97394 | 64603 | 25535 |
| LGS | 229 | 97 | 226 | 35 | 96 | 14 | 1436 | 1659 | 335 | 73425 | 73321 | 48158 | 23339 |
| LGR | 84 | 16 | 40 | 20 | 27 | 4 | 1501 | 2195 | 427 | 74307 | 73047 | 45912 | 24876 |
| PRD | 795 | 186 | 150 | 13 | 433 | 76 | 145070 | 357058 | 115345 | 15692 | 21517 | 14720 | 0 |
| RIS | 348 | 86 | 98 | 21 | 213 | 55 | 146110 | 338302 | 111637 | 13376 | 16922 | 12534 | 6518 |
| RRH | 48 | 12 | 21 | 10 | 15 | 3 | 132096 | 295625 | 88146 | 9497 | 12800 | 9124 | 4407 |
| WEL | 11 | 0 | 2 | 0 | 0 | 0 | 111507 | 291747 | 88339 | 6382 | 7977 | 6146 | 2712 |
| WFA | 195 | 319 | 3185 | 365 | 777 | 124 | - | - | - | 27518 | 32049 | 28501 | - |

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: 09/16/11

BON counts from January 1, 2011 to March 14, 2011 (historical counts begin March 15):

| Year | Chinook Adult | Chinook Jack | Steelhead | Wild Steelhead |
|------|---------------|--------------|-----------|----------------|
| 2011 | 49 | 1 | 1,419 | 600 |
| 2010 | 39 | 0 | 2,318 | 657 |