



Fish Passage Center

Weekly Report #16-10

May 20, 2016

Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 41% and 82% of average at individual sub-basins over May. Precipitation above The Dalles has been 63% of average over May. Over the 2016 water year, precipitation has ranged between 89% and 109% of average.

Table 1. Summary of May precipitation and cumulative October through May 18 precipitation with respect to average (1981–2010) at select locations within the Columbia and Snake River Basins.

| Location | Water Year 2016 | | Water Year 2016 | |
|---|-------------------|-----------|---------------------------------|-----------|
| | May 1–18, 2016 | | October 1, 2015 to May 18, 2016 | |
| | Observed (inches) | % Average | Observed (inches) | % Average |
| Columbia above Coulee | 1.03 | 58 | 27.1 | 99 |
| Snake River above Ice Harbor | 0.91 | 66 | 17.1 | 99 |
| Columbia above The Dalles | 0.89 | 63 | 21.1 | 101 |
| Kootenai | 1.10 | 62 | 26.9 | 100 |
| Clark Fork | 0.79 | 45 | 17.5 | 90 |
| Flathead | 1.19 | 59 | 26.6 | 103 |
| Pend Oreille River Basin above Waneta Dam | 0.96 | 52 | 23.4 | 98 |
| Salmon River Basin | 0.96 | 56 | 21.4 | 98 |
| Upper Snake Tributaries | 1.42 | 82 | 17.5 | 89 |
| Clearwater | 1.60 | 71 | 32.6 | 103 |
| Willamette River above Portland | 0.97 | 41 | 63.2 | 109 |

Snowpack within the Columbia Basin has been declining. Snowpack in the Columbia River for basins above the Snake River confluence is 39% of average. For Snake River Basins the snowpack is 51% of average. For lower Columbia Basins between McNary and Bonneville Dam snowpack is 29% of average.

Table 2 displays the May 19th ESP runoff volume forecasts for multiple reservoirs along with the May COE forecasts at Libby and Dworshak. The May 19th ESP forecast at The Dalles between April and August is 84,879 Kaf (97% of average).

Table 2. May ESP Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.

| Location | May 19, 2016 | |
|--|-----------------------|---------------------|
| | % Average (1981–2010) | Runoff Volume (Kaf) |
| The Dalles (Apr–Aug) | 97 | 84,879 |
| Grand Coulee (Apr–Aug) | 99 | 56,230 |
| Libby Res. Inflow, MT (Apr–Aug) | 93 99* | 5,463 5,831* |
| Hungry Horse Res. Inflow, MT (Apr–Aug) | 99 | 1,912 |
| Lower Granite Res. Inflow (Apr–July) | 89 | 17,735 |
| Brownlee Res. Inflow (Apr–July) | 76 | 4,166 |
| Dworshak Res. Inflow (Apr–July) | 95 86* | 2,308 2,090* |

* Denotes COE May Forecast

Grand Coulee Reservoir is at 1,260.6 feet (5-19-16) and has refilled 5.6 feet over the last week. Outflows at Grand Coulee have ranged between 74.0 and 137.6 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2,415.2 feet (5-19-16) and has drafted 0.9 feet over the previous week. Daily average outflows at Libby Dam have been increased from 18.6 to 26.5 Kcfs over the last week for the sturgeon pulse operation.

Hungry Horse is currently at an elevation of 3,542.9 feet (5-19-16) and has refilled 1.7 feet over the last week. Outflows at Hungry Horse have been 4.0 Kcfs over the last week.

Dworshak is currently at an elevation of 1,580.8 feet (5-19-16) and has refilled 2.2 feet over the last week. Outflows have been decreased from 9.7 Kcfs to 5.4 Kcfs over the last week.

The Brownlee Reservoir was at an elevation of 2,068.3 feet on May 19, 2016, and has refilled 3.8 feet over the last week. Inflows at Brownlee have ranged between 21.8 and 22.9 Kcfs over the last week.

The Biological Opinion flow period began on April 3rd in the lower Snake River (Lower Granite). According to the April Final Water Supply Forecast (April 7, 2016), the flow objective this spring will be 96 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 93.5 Kcfs last week and 94.7 Kcfs between April 3 and May 19, 2016.

Based on the April Final Water Supply Forecast, the Spring Biological Opinion Flow Objectives (which began April 10th) will be 243 Kcfs at McNary Dam and 135 Kcfs at Priest Rapids Dam. Over the last week, flows have averaged 260.4 Kcfs at McNary and 152.0 Kcfs at Priest Rapids. Between April 10 and May 19, 2016, flows at McNary Dam averaged 288.3 Kcfs. Priest Rapids Dam flows were 176.1 Kcfs.

Spill and River Temperature

No spill occurred at Dworshak Dam over the past week.

Spill for fish passage began on April 3rd at the Snake River projects. Spill for fish passage at the Snake River projects is to occur at the following amounts described in the 2016 FOP.

| Project | Spill Level Day/Night |
|------------------|--|
| Lower Granite | 20 Kcfs/20 Kcfs |
| Little Goose | 30%/30% |
| Lower Monumental | Gas Cap/Gas Cap |
| Ice Harbor | April 3–April 28: 45 Kcfs/Gas Cap April 28–June 20: 30%/30% vs. 45 Kcfs/Gas Cap |

This past week all Lower Snake River projects (Lower Granite, Little Goose, Lower Monumental and Ice Harbor dams) have spilled at, or above, the 2016 Fish Operations Plan (FOP) levels. On Friday, May 13th, members of the Fish Passage Advisory Committee submitted System Operational Requests (SOR 2016_1) that called for a change in the spill pattern at Lower Monumental from bulk spill to uniform spill, which would increase spill at this project. In response to this request, the Action Agencies switched to the bulk spill pattern at Lower Monumental at about 21:00, Friday, May 13th. Therefore, spill at Lower Monumental Dam has varied between 27 and 42 Kcfs this week.

Spill for fish passage began on April 10th at the middle Columbia River projects. Spill for fish passage at the middle Columbia River projects is to occur at the following amounts described in the 2016 FOP.

| Project | Spill Level Day/Night |
|------------|--|
| McNary | 40%/40% |
| John Day | April 10-April 28: 30%/30% April 28-June 15: 30%/30% and 40%/40% |
| The Dalles | 40%/40% |
| Bonneville | 100 Kcfs/100 Kcfs |

This past week all Middle Columbia River projects (McNary, John Day, The Dalles, and Bonneville dams) have spilled at the 2016 Fish Operations Plan (FOP) levels.

At times over this past week, the TDG readings were in excess of the waiver limits at some projects. The increased TDG was related to several factors including: increasing flow and spill amounts, changes in environmental conditions, and uncontrolled spill.

Note: The State of Oregon TDG waiver requires compliance only with 120% TDG in the tailrace, while the State of Washington requires compliance with both a 115% TDG forebay requirement and a 120% tailrace TDG requirement. The State of Oregon and the State of Washington also use different methodologies to estimate the 12-hour average TDG. For Oregon, the 12-hour average is based on the 12 highest hourly TDG measurements in a single calendar day (not necessarily

consecutive). For Washington, the 12-hour average is based on 12-hour rolling averages. The highest of the rolling averages is what is reported as the 12-hour average for a given day. The location of a TDG monitor will dictate which of these methodologies is used for compliance monitoring. The Washington methodology will apply to all the lower Snake River projects, as well as the middle Columbia River forebay monitors. On any given day the compliance of the tailrace monitors at the middle Columbia River projects will be determined using either the Washington or Oregon methodology, whichever is the most restrictive, and spill will be decreased if needed.

Monitoring for signs of gas bubble trauma (GBT) occurred at Lower Granite, Little Goose, Lower Monumental, Rock Island, McNary, and Bonneville dams over the past week. Signs of GBT were observed at two sites this week. At Bonneville Dam, 2% of the May 14th sample was observed with minor signs of GBT. However, the next sample at Bonneville Dam (May 17th) revealed no signs of GBT. At Rock Island Dam, 4% and 2% of the May 17th and May 19th samples, respectively, were observed with minor signs of GBT.

Temperature: At Lower Granite and Ice Harbor dams, the forebay temperatures have decreased over the past few days to levels near the 10-year average. However, at McNary and Bonneville dams the forebay temperatures have been very similar to what was observed in 2015, and are several degrees above the 10-year average.

Smolt Monitoring

Smolt Monitoring Program (SMP) sampling is ongoing at all SMP traps and bypass facilities, except the Salmon River Trap at Whitebird.

This week's samples at Bonneville Dam (BON) were dominated by sockeye. However, sockeye passage at BON actually decreased this week when compared to the previous week. This week's daily average passage index for sockeye at BON was about 37,700 per day, whereas for last week it was about 48,700 per day. Passage of yearling Chinook and steelhead also decreased this week. This week's daily average passage indices for these two species were about 29,700 and 9,000 per day, respectively. Last week's daily average

passage indices were about 91,000 for yearling Chinook and 20,200 for steelhead. Coho passage also decreased this week, although less substantially than yearling Chinook and steelhead. This week's daily average passage index for coho was about 15,300 per day, whereas that for last week was about 18,500 per day. With the Spring Creek NFH release mostly passing BON by Friday, May 13th, subyearling Chinook passage decreased substantially this week. This week's daily average passage index for subyearling Chinook at BON was about 4,300 per day, whereas that for last week was nearly 72,000 per day. No Pacific lamprey ammocoetes were sampled at BON this week. Pacific lamprey macrophthalmia were encountered in only two of this week's samples (May 13th and May 15th).

Sampling at John Day Dam (JDA) in 2016 is every-other-day for the entire SMP season. This is the first time every-other-day sampling has occurred at this site over the entire season. Yearling Chinook and sockeye dominated the collections at JDA this week, with daily average passage indices of about 22,250 and 18,600 fish per day, respectively. Both of these daily average passage indices represent decreases from the previous week, which were 63,460 for yearling Chinook and 30,200 for sockeye. Steelhead passage also decreased this week when compared to the previous week. This week's daily average passage index for steelhead at JDA was about 5,400 per day. Last week's daily average passage index was about 20,900 per day. Coho and subyearling Chinook passage both increased this week when compared to the previous week. This week's daily average passage indices for these two species were 3,700 and 3,100 per day. Last week's daily average passage indices were about 2,700 for coho and 1,400 for subyearling Chinook. Only about 6% of the subyearling Chinook juveniles that were sampled this week were fry. No Pacific lamprey ammocoetes were encountered in this week's samples but Pacific lamprey macrophthalmia were collected in all three of this week's samples. This week's daily average collection for Pacific macrophthalmia at JDA was about 830 per day.

As in recent years, sampling at McNary Dam (MCN) in 2016 will be every-other-day for the entire SMP season. Yearling Chinook and sockeye dominated the samples at MCN this week, with daily average passage indices of about 59,000 and 67,500 per day, respectively. These daily average passage indices were both decreases from last week's daily average passage

indices, which were about 130,000 for yearling Chinook and 89,000 for sockeye. Steelhead passage decreased this week when compared to the previous week. This week's daily average passage index for steelhead at MCN was about 20,500 per day, whereas that for last week was about 24,700 per day. Passage of coho and subyearling Chinook both increased this week when compared to the previous week. This week's daily average passage indices for these two species were about 14,700 each per day. Last week's daily average passage indices were about 10,000 for coho and 8,200 for subyearling Chinook. Only about 17% of the subyearling Chinook juveniles that were collected at MCN this week were fry. Finally, Pacific lamprey macropthalmia were collected in all four of this week's samples, with a daily average collection of about 1,700 per day. No Pacific ammocoetes have been collected at MCN so far this year.

This week's samples at Lower Granite Dam (LGR) were dominated by steelhead, with a daily average passage index of about 40,600 per day. This is a decrease over last week's daily average passage index of about 103,000 per day. Yearling Chinook were the second most abundant salmonid this week, with a daily average passage index of about 12,100 per day. This is a substantial decrease over last week's daily average passage index, which was about 175,000 per day. Coho passage also decreased this week when compared to the previous week. This week's daily average passage index for coho was 2,000 per day, whereas that for last week was about 14,100 per day. This week's daily average passage index for sockeye at LGR was about 880 per day, which is an increase over last week's daily average passage index of about 380 per day. Subyearling Chinook passage also increased this week. This week's daily average passage index for subyearling Chinook at LGR was about 1,150 per day, whereas that for last week was about 700 per day. So far, no known hatchery origin subyearling Chinook have been collected at LGR. Approximately 32% of the subyearling Chinook juveniles that were sampled this week were fry. Finally, Pacific lamprey ammocoetes were encountered in four of this week's samples and Pacific lamprey macropthalmia were encountered in only three of this week's samples.

Sampling at Little Goose Dam (LGS) was limited to a 24-hour sample every-other-day until transportation began, at which time sampling switched to daily.

Steelhead dominated this week's collections at LGS. This week's daily average passage index for steelhead at LGS was about 22,650 fish per day. This is a decrease from last week's daily average passage index of about 66,740 per day. Yearling Chinook, coho, and sockeye passage also decreased this week, when compared to last week. This week's daily average passage indices for these three species were 18,600, 3,275, and 160 per day, respectively. Last week's daily average passage indices were 93,600 for yearling Chinook, 11,150 for coho, and 321 for sockeye. Subyearling Chinook passage decreased this week when compared to the previous week. This week's daily average passage index for subyearling Chinook at LGS was about 960 per day, whereas that for last week was about 1,450 per day. Approximately 28% of the subyearling Chinook juveniles that were collected at LGS this week were fry. Finally, Pacific lamprey ammocoetes were encountered in four of this week's samples. This week's daily average collection for Pacific lamprey ammocoetes at LGS was 100 fish per day. Pacific lamprey macropthalmia were encountered in all seven of this week's samples, with a daily average collection of 1,200 per day.

Sampling at Lower Monumental Dam (LMN) was limited to a 24-hour sample every-third-day through the April 14th, every-other-day from April 16th to April 30th, and every day with the initiation of transportation. As with last week, this week's samples at LMN were dominated by yearling Chinook. The daily average passage index for yearling Chinook this week was about 41,500 fish per day. This represents a substantial decrease in passage over last week's daily average passage index of nearly 285,000 yearling Chinook per day. Steelhead were the second most abundant salmonid species in this week's samples. This week's daily average passage index for steelhead was about 23,000 fish per day, which is also a decrease from last week's daily average passage index of about 56,500 per day. Passage of coho, sockeye, and subyearling Chinook also decreased this week when compared to last week. This week's daily average passage indices for these three species were 1,800, 30, and nearly 500 per day, respectively. Last week's daily average passage indices were 3,800 for coho, 75 for sockeye, and 1,250 for subyearling Chinook. Approximately 10% of the subyearling Chinook juveniles that were collected this week were fry. Finally, Pacific lamprey macropthalmia

were collected in all of this week's samples, with a daily average collection of 3,250 per day. No Pacific lamprey ammocoetes have been collected at LMN so far this year.

Coho dominated this week's samples at Rock Island Dam (RIS), with a daily average passage index of about 1,700 per day. This week's daily average passage index for coho represents a decrease over the previous week, which was about 2,660 per day. Passage of yearling Chinook, steelhead, and sockeye also decreased this week when compared to last week. This week's daily average passage indices for these three species were about 250, 400, and 280 per day, respectively. Last week's daily average passage indices were 980 for yearling Chinook, 880 for steelhead, and about 2,570 for sockeye. Subyearling Chinook were encountered in all seven samples this week but in relatively low numbers. Finally, no lamprey juveniles were encountered in this week's samples at RIS.

The Grande Ronde Trap (GRN) is operated by the Oregon Department of Fish and Wildlife and is located at river kilometer 2 in the Grande Ronde River. This week's daily average collection for yearling Chinook was about 30 per day, which is a large decrease from last week's daily average collection of nearly 200 per day. Steelhead collections also decreased this week, when compared to the previous week. This week's daily average collection for steelhead was about 40 fish per day, whereas for last week it was about 100 fish per day. The only other salmonids that were encountered in this week's samples were subyearling Chinook, with a daily average collection of about 15 fish per day. Of the subyearling Chinook juveniles that were collected this week, about 44% were fry.

The Salmon River Trap at Whitebird (WTB) is located at river kilometer 103 and operated by Idaho Department of Fish and Game. Similar to 2015, sampling at the Salmon River Trap in 2016 is five days per week. Sampling at WTB has been suspended since the April 21 sample due to unsafe river conditions associated with high flows. Sampling at WTB will resume if and when conditions are deemed safe.

The Snake River Trap at Lewiston (LEW) is located at river kilometer 225 and is operated by Idaho Department of Fish and Game. With the exception of the May 13 sample, all samples this week were based on a 24-hour sampling period. The May 13

sample is based on a 17-hour sample. This reduced effort was necessary to reduce handling of subyearling fall Chinook juveniles. Furthermore, the duration of sampling over the last couple of weeks has been variable and, therefore, it is not appropriate to compare collections from this week to those from previous weeks. With that said, subyearling Chinook dominated this week's collections at LEW. This week's daily average collection for subyearling Chinook was about 110 per day. Based on the collection data, it appears that subyearling Chinook from the hatchery release just below Hells Canyon Dam (1.0 million released) first arrived at LEW on May 17th or 18th. Collections for clipped subyearling Chinook increased substantially for the May 19th sample, with a total of 234 collected. Collections of all other salmonids were relatively low this week. This week's daily average collections for yearling Chinook, coho, and sockeye were all less than 10 fish per day. For steelhead, the daily average collection for this week was 35 fish per day. More releases of hatchery subyearling Chinook to the Snake River are scheduled to occur over the next week. Due to these releases, and due to decreasing yearling Chinook and steelhead numbers, sampling at the Snake River Trap is scheduled to be suspended for the May 21st and 22nd samples. Sampling will resume for May 23rd through May 25th, after which time sampling will be terminated for the season.

The Imnaha River Trap (IMN) is located at river kilometer seven and is operated by the Nez Perce Tribe. Sampling at the Imnaha River Trap is year-round and, for 2016, the Fish Passage Center has been receiving data since the January 1, 2016, sample. However, due to the remote nature of the trap, the Nez Perce Tribe is able to send collection data to the FPC only periodically. Currently, the FPC has data from IMN through the sample on May 11th. Due to high flows and debris, sampling at IMN was suspended from May 1st through May 3rd and May 5th through May 9th. However, there were limited samples on May 4th, 5th, 10th, and 11th. Steelhead were the dominant species over these four days, with a daily average collection of about 475 fish per day. The daily average collection for yearling Chinook over these four days was about 20 per day. The only other species of salmonid that was encountered during these four days of sampling was subyearling Chinook. One subyearling Chinook was collected in the sample from May 5th.

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. Approximately 630,000 sockeye juveniles were scheduled to be released into this zone this year. These releases were scheduled to begin on or around May 9th and run through May 16th. The only other new releases that were scheduled for this zone this week were of subyearling fall Chinook juveniles. In all, about 1.4 million subyearling fall Chinook were scheduled to be released into this zone this week. Of these, about 1.0 million were scheduled to be released into the Snake River just below Hells Canyon Dam while the remaining 400,000 were scheduled to be released into the Snake River from the Pittsburg Landing Acclimation Facility. About 50% of the fall Chinook juveniles that were scheduled to be released from Pittsburg Landing are unmarked.

Approximately 1.9 million subyearling fall Chinook juveniles are scheduled for release to this zone over the next two weeks. Of these, approximately 200,000 (10%) are scheduled to be released directly from Lyons Ferry Hatchery, which is located in the Lower Monumental pool. Nearly 820,000 (43%) are scheduled to be released into the Clearwater River and its tributaries. About 500,000 (26%) are scheduled to be released from the Captain John Rapids Acclimation Facility on the Snake River. Finally, about 400,000 (21%) are scheduled to be released into the Grande Ronde River on or around May 31st. A large proportion of the subyearling fall Chinook that are scheduled for release over the next two weeks are going to be unmarked and, therefore, difficult to distinguish from wild/natural fish. These are the only new releases that are 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. No new releases of juvenile salmonids were scheduled for this zone this week. However, a few volitional releases of yearling spring Chinook, yearling summer Chinook, and summer steelhead that began several weeks ago were scheduled to end this week. Several more volitional releases from previous weeks are scheduled to end over the next two weeks. In addition, three releases of subyearling summer Chinook are scheduled

for this zone over the next two weeks. In all, these releases are expected to total approximately 946,000 summer Chinook juveniles. Of these, about 23% are scheduled to be released into the Okanogan River, 25% are scheduled to be released from Chief Joseph Hatchery just below Chief Joseph Dam, and 51% are scheduled to be released from Wells Hatchery just below Wells Dam.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Approximately 545,360 subyearling fall Chinook were released into the Umatilla River this week. This was the only new release that was scheduled for this zone this week. There is only one new release scheduled for this zone over the next two weeks. On or around June 1st, the Yakama Tribe is scheduled to release approximately 4.0 million subyearling fall Chinook from Klickitat Hatchery into the Klickitat River. Marking information on this release is unknown at this time. Based on past year's marking information, a large portion of this release is likely to be unmarked.

Adult Passage

Adult counts at Bonneville Dam have been updated through 5/19/16. The 2016 adult spring Chinook count at Bonneville Dam of 119,929 is about 63% of the 2015 count of 191,844 and 92% of the 10-year average count of 129,971. The 2016 spring Chinook jack count of 8,986 has 7 more fish than the 2015 count of 8,979, while being 46% of the 10-year average count of 19,461. At Willamette Falls, 12,485 adult spring Chinook have been counted so far this year (5/17/16). In 2015, 35,772 adult spring Chinook were counted at Willamette Falls. This year's count is about 35% of the 2015 count and 71% of the 10-year average count of 17,700. As of May 19th, a total of 84,884 adult spring Chinook have been counted at The Dalles Dam and 58,008 have been counted at McNary Dam. The Dalles Dam 2016 adult spring Chinook count is about 51% of the 2015 count and 89% of the 10-year average count. The 2016 McNary Dam adult spring Chinook count is about 45% of the 2015 count and 87% of the 10-year average count. A total of 34,924 spring chinook have been counted at Lower Granite Dam as of May 19th. The 2016 Lower Granite Dam adult spring Chinook count is about 43% of the 2015 count, while

being about 1.1 times greater than the 10-year average count.

The 2016 Bonneville Dam adult steelhead count of 4,525 has 136 fewer fish than the 2015 count of 4,661 and 163 fewer fish than the 10-year average count of 4,688. The 2016 Bonneville Dam adult wild steelhead count of 1,758 is about 74% of the 2015 count of 2,391, while having 358 more fish than the 10-year average count of 1,400. At upriver sites, adult steelhead continue to move through the hydrosystem to reach their tributaries and spawning sites. Daily adult steelhead counts at Lower Granite Dam ranged from 1 to 6 adults per day last week. This year's Lower Granite steelhead count of 5,462 is 60% of the 2015 count of 9,152 and 59% of the 10-year average count of 9,216. The 2016 Lower Granite Dam adult wild steelhead count of 3,107 is 72% of the 2015 count of 4,319 and is about 89% of the 10-year average count of 3,487. At Willamette Falls, the 2016 count for steelhead was 10,036 as of May 17th. This year's steelhead count is about 1.9 times greater than the 2015 count of 5,351, while having 171 more fish than the 10-year average count of 9,865.

Hatchery Releases Last Two Weeks

| Hatchery Release Summary | | | | | | | | | |
|--|--------------------------|---------|----------|-------|------------------|----------|----------|--|-------------------|
| | | From: | 5/7/2016 | to | 05/20/16 | | | | |
| Agency | Hatchery | Species | Race | MigYr | NumRel | RelStart | RelEnd | RelSite | RelRiver |
| Idaho Dept. of Fish and Game | Oxbow-Oregon | SO | UN | 2016 | 90,000 | 05-10-16 | 05-10-16 | Redfish Lake Creek | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Springfield Hatchery | SO | UN | 2016 | 540,000 | 05-09-16 | 05-16-16 | Redfish Lake Creek | Salmon River (ID) |
| Idaho Dept. of Fish and Game Total | | | | | 630,000 | | | | |
| Nez Perce Tribe | Lyons Ferry Hatchery | CH0 | FA | 2016 | 400,000 | 05-20-16 | 05-20-16 | Pittsburg Landing Acclim Pond | Snake River |
| Nez Perce Tribe Total | | | | | 400,000 | | | | |
| Oregon Dept. of Fish and Wildlife | Irrigon Hatchery Complex | CH0 | FA | 2016 | 1,000,000 | 05-16-16 | 05-20-16 | Hells Canyon Dam | Snake River |
| Oregon Dept. of Fish and Wildlife | Irrigon Hatchery Complex | ST | SU | 2016 | 160,000 | 05-08-16 | 05-08-16 | Big Canyon Acclim.Pd (Grande Ronde) | Wallowa River |
| Oregon Dept. of Fish and Wildlife Total | | | | | 1,160,000 | | | | |
| U.S. Fish and Wildlife Service | Spring Creek NFH | CH0 | FA | 2016 | 3,818,576 | 05-09-16 | 05-09-16 | Spring Creek Hatchery | Bonneville Pool |
| U.S. Fish and Wildlife Service | Winthrop NFH | ST | SU | 2016 | 130,700 | 04-15-16 | 05-15-16 | Winthrop Hatchery | Methow River |
| U.S. Fish and Wildlife Service Total | | | | | 3,949,276 | | | | |
| Umatilla Tribe | Umatilla Hatchery | CH0 | FA | 2016 | 545,360 | 05-16-16 | 05-16-16 | Reith Bridge | Umatilla River |
| Umatilla Tribe Total | | | | | 545,360 | | | | |
| WA Dept. of Fish and Wildlife | Chiwawa Hatchery | ST | SU | 2016 | 199,000 | 04-25-16 | 05-07-16 | Chiwawa Hatchery | Wenatchee River |
| WA Dept. of Fish and Wildlife | Methow Hatchery | CH1 | SU | 2016 | 171,500 | 05-01-16 | 05-15-16 | Carlton Acclim Pond | Methow River |
| WA Dept. of Fish and Wildlife | Methow Hatchery | ST | SU | 2016 | 100,000 | 04-30-16 | 05-07-16 | Methow Hatchery | Methow River |
| WA Dept. of Fish and Wildlife | Skamania Hatchery | ST | WI | 2016 | 15,500 | 04-15-16 | 05-15-16 | Rock Cr (Stevenson) | Bonneville Pool |
| WA Dept. of Fish and Wildlife | Wells Hatchery | CH1 | SU | 2016 | 320,000 | 04-15-16 | 05-07-16 | Wells Hatchery | Rocky Reach Pool |
| Washington Dept. of Fish and Wildlife Total | | | | | 806,000 | | | | |
| Yakama Tribe | Cle Elem Hatchery | CH1 | SP | 2016 | 220,000 | 03-15-16 | 05-15-16 | Clark Flat Acclim Pond | Yakima River |
| Yakama Tribe | Cle Elem Hatchery | CH1 | SP | 2016 | 220,000 | 03-15-16 | 05-15-16 | Easton Pond | Yakima River |
| Yakama Tribe | Cle Elem Hatchery | CH1 | SP | 2016 | 220,000 | 03-15-16 | 05-15-16 | Jack Creek Acclim Pond | Yakima River |
| Yakama Tribe Total | | | | | 660,000 | | | | |
| Grand Total | | | | | 8,150,636 | | | | |

Hatchery Releases Next Two Weeks

| Hatchery Release Summary | | | | | | | | | |
|--|---------------------------|-----------|------|-------|------------------|----------|----------|----------------------------------|----------------------|
| From: | | 5/21/2016 | | to | | 6/3/2016 | | | |
| Agency | Hatchery | Species | Race | MigYr | NumRel | RelStart | RelEnd | RelSite | RelRiver |
| Colville Tribe | Chief Joseph Hatchery | CH0 | SU | 2016 | 222,000 | 05-25-16 | 05-29-16 | | Okanogan River |
| Colville Tribe | Chief Joseph Hatchery | CH0 | SU | 2016 | 240,000 | 05-25-16 | 05-29-16 | Chief Joseph Hatchery | Wells Pool |
| Colville Tribe Total | | | | | 462,000 | | | | |
| Nez Perce Tribe | Lyons Ferry Hatchery | CH0 | FA | 2016 | 500,000 | 05-24-16 | 05-24-16 | Cpt John Acclim Pond | Snake River |
| Nez Perce Tribe | Lyons Ferry Hatchery | CH0 | FA | 2016 | 500,000 | 05-26-16 | 05-26-16 | Big Canyon (Clearwater River) | Clearwater River M F |
| Nez Perce Tribe | Nez Perce Tribal Hatchery | CH0 | FA | 2016 | 319,580 | 05-31-16 | 05-31-16 | Lapwai Creek | Clearwater River M F |
| Nez Perce Tribe Total | | | | | 1,319,580 | | | | |
| Oregon Dept. of Fish and Wildlife | Irrigon Hatchery Complex | CH0 | FA | 2016 | 400,000 | 05-31-16 | 05-31-16 | Grande Ronde River | Grande Ronde River |
| Oregon Dept. of Fish and Wildlife | Round Butte Hatchery | CH1 | SP | 2016 | 240,000 | 04-15-16 | 05-31-16 | Deschutes River | Deschutes River |
| Oregon Dept. of Fish and Wildlife Total | | | | | 640,000 | | | | |
| WA Dept. of Fish and Wildlife | COOP | CH0 | FA | 2016 | 175 | 05-01-16 | 05-31-16 | Wenatchee River | Wenatchee River |
| WA Dept. of Fish and Wildlife | COOP | CH0 | FA | 2016 | 1,025 | 05-01-16 | 05-31-16 | Above McNary Dam | McNary Pool |
| WA Dept. of Fish and Wildlife | COOP | CH0 | FA | 2016 | 3,850 | 05-01-16 | 05-31-16 | Above McNary Dam | McNary Pool |
| WA Dept. of Fish and Wildlife | COOP | CH0 | FA | 2016 | 3,975 | 05-01-16 | 05-31-16 | Above McNary Dam | McNary Pool |
| WA Dept. of Fish and Wildlife | COOP | CH0 | FA | 2016 | 13,600 | 05-01-16 | 05-31-16 | Yakama River | Yakama River |
| WA Dept. of Fish and Wildlife | COOP | CH0 | SU | 2017 | 225 | 05-01-16 | 05-31-16 | Methow River | Methow River |
| WA Dept. of Fish and Wildlife | Eastbank Hatchery | CH1 | SU | 2016 | 535,000 | 04-25-16 | 05-30-16 | Dryden Acclim Pond | Wenatchee River |
| WA Dept. of Fish and Wildlife | Eastbank Hatchery | ST | SU | 2016 | 24,000 | 04-20-16 | 05-31-16 | Blackbird Island Acc Pond | Wenatchee River |
| WA Dept. of Fish and Wildlife | Lyons Ferry Hatchery | CH0 | FA | 2016 | 200,000 | 05-30-16 | 05-30-16 | Lyons Ferry Hatchery | Snake River |
| WA Dept. of Fish and Wildlife | Wells Hatchery | CH0 | SU | 2016 | 484,000 | 05-25-16 | 06-07-16 | Wells Hatchery | Rocky Reach Pool |
| WA Dept. of Fish and Wildlife | Wells Hatchery | ST | SU | 2016 | 160,000 | 04-20-16 | 05-31-16 | Wells Hatchery | Rocky Reach Pool |
| Washington Dept. of Fish and Wildlife Total | | | | | 1,425,850 | | | | |
| Yakama Tribe | Cascade Hatchery | CO | UN | 2016 | 68,020 | 05-01-16 | 05-31-16 | Twisp Acclim Pond | Methow River |
| Yakama Tribe | Cascade Hatchery | CO | UN | 2016 | 79,496 | 05-01-16 | 05-31-16 | Coulter Creek | Wenatchee River |
| Yakama Tribe | Cascade Hatchery | CO | UN | 2016 | 135,272 | 05-01-16 | 05-31-16 | Butcher Creek Acclim. Pond | Wenatchee River |
| Yakama Tribe | Eagle Creek NFH | CO | UN | 2016 | 95,939 | 04-15-16 | 06-01-16 | Stiles Pond | Yakima River |
| Yakama Tribe | Eagle Creek NFH | CO | UN | 2016 | 193,067 | 04-15-16 | 06-01-16 | Holmes Pond | Yakima River |
| Yakama Tribe | Eagle Creek NFH | CO | UN | 2016 | 215,045 | 04-15-16 | 06-01-16 | Easton Pond | Yakima River |
| Yakama Tribe | Klickitat Hatchery | CH0 | FA | 2016 | 4,000,000 | 06-01-16 | 06-01-16 | Klickitat Hatchery | Klickitat River |
| Yakama Tribe | Prosser Acclim. Pond | CO | UN | 2016 | 74,227 | 04-15-16 | 06-01-16 | Lost Creek Acclim Pond | Yakima River |
| Yakama Tribe | Prosser Acclim. Pond | CO | UN | 2016 | 74,951 | 04-15-16 | 06-01-16 | Stiles Pond | Yakima River |
| Yakama Tribe | Prosser Acclim. Pond | CO | UN | 2016 | 76,167 | 04-15-16 | 06-01-16 | Yakama River | Yakima River |
| Yakama Tribe | Prosser Acclim. Pond | CO | UN | 2016 | 299,959 | 04-15-16 | 06-01-16 | Prosser Acclim Pond | Yakima River |
| Yakama Tribe | Willard Hatchery | CO | UN | 2016 | 121,443 | 05-01-16 | 05-31-16 | Rolfings Acclim Pond | Wenatchee River |
| Yakama Tribe Total | | | | | 5,433,586 | | | | |
| Grand Total | | | | | 9,281,016 | | | | |

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

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 |
| 05/06/2016 | 114.0 | 0.0 | 114.3 | 0.0 | 141.8 | 19.2 | 147.9 | 2.7 | 166.7 | 20.7 | 171.6 | 41.7 | 171.2 | 48.5 |
| 05/07/2016 | 104.6 | 0.0 | 104.4 | 0.0 | 131.7 | 12.5 | 139.9 | 0.0 | 159.0 | 16.7 | 164.4 | 34.2 | 164.0 | 43.8 |
| 05/08/2016 | 92.6 | 0.0 | 94.8 | 0.0 | 119.4 | 19.7 | 124.1 | 1.8 | 143.8 | 15.6 | 148.5 | 40.8 | 148.3 | 49.0 |
| 05/09/2016 | 99.9 | 0.0 | 99.4 | 0.0 | 125.8 | 15.8 | 133.7 | 7.4 | 152.7 | 18.2 | 157.1 | 33.5 | 159.3 | 42.1 |
| 05/10/2016 | 128.9 | 0.0 | 128.7 | 0.0 | 152.7 | 14.4 | 156.1 | 7.4 | 171.8 | 23.6 | 176.5 | 40.6 | 174.1 | 56.8 |
| 05/11/2016 | 142.7 | 0.0 | 143.2 | 0.0 | 145.9 | 13.3 | 154.6 | 6.9 | 170.1 | 23.3 | 172.0 | 33.6 | 171.8 | 50.6 |
| 05/12/2016 | 131.0 | 0.0 | 134.9 | 0.0 | 156.5 | 20.0 | 160.7 | 11.7 | 173.7 | 23.7 | 180.2 | 46.7 | 178.6 | 62.4 |
| 05/13/2016 | 137.4 | 0.0 | 138.6 | 0.0 | 149.1 | 13.2 | 155.6 | 5.0 | 170.7 | 21.4 | 176.0 | 39.9 | 175.8 | 56.8 |
| 05/14/2016 | 109.2 | 0.0 | 112.1 | 0.0 | 129.7 | 13.2 | 131.1 | 0.0 | 147.0 | 14.4 | 155.0 | 20.3 | 156.0 | 27.4 |
| 05/15/2016 | 95.7 | 0.0 | 95.4 | 0.0 | 117.3 | 12.7 | 119.5 | 0.0 | 137.6 | 13.3 | 151.6 | 19.7 | 148.6 | 27.4 |
| 05/16/2016 | 111.5 | 0.0 | 116.8 | 0.0 | 131.1 | 13.2 | 132.7 | 0.0 | 145.6 | 15.6 | 151.1 | 19.1 | 153.2 | 26.2 |
| 05/17/2016 | 125.1 | 0.0 | 122.2 | 0.0 | 139.6 | 14.4 | 140.7 | 4.8 | 150.7 | 16.0 | 151.0 | 19.4 | 142.2 | 27.3 |
| 05/18/2016 | 96.6 | 0.0 | 99.5 | 0.0 | 124.1 | 11.4 | 135.0 | 3.8 | 146.8 | 14.5 | 152.3 | 20.2 | 150.3 | 28.4 |
| 05/19/2016 | 74.0 | 0.0 | 73.3 | 0.0 | 98.8 | 8.1 | 102.3 | 0.0 | 117.2 | 13.2 | 137.9 | 19.1 | 138.1 | 27.4 |

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

| Date | Dworshak | | Brownlee Inflow | Hells Canyon Outflow | Lower Granite | | Little Goose | | Lower Monumental | | Ice Harbor | |
|------------|----------|-------|-----------------|----------------------|---------------|-------|--------------|-------|------------------|-------|------------|-------|
| | Flow | Spill | | | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill |
| 05/06/2016 | 5.5 | 0.0 | --- | 15.9 | 103.0 | 25.5 | 97.4 | 29.1 | 96.3 | 24.9 | 100.2 | 55.5 |
| 05/07/2016 | 5.5 | 0.0 | --- | 16.3 | 110.5 | 22.0 | 106.0 | 31.8 | 103.7 | 25.3 | 108.6 | 71.3 |
| 05/08/2016 | 5.5 | 0.0 | --- | 15.2 | 117.1 | 27.8 | 112.8 | 31.1 | 111.0 | 24.4 | 119.3 | 69.1 |
| 05/09/2016 | 5.4 | 0.0 | --- | 16.3 | 120.7 | 31.5 | 117.3 | 29.0 | 115.0 | 25.0 | 120.5 | 65.2 |
| 05/10/2016 | 5.4 | 0.0 | --- | 12.4 | 115.8 | 28.3 | 110.8 | 29.5 | 110.5 | 25.3 | 118.2 | 62.8 |
| 05/11/2016 | 7.1 | 0.0 | --- | 12.8 | 97.3 | 20.5 | 93.8 | 28.1 | 91.4 | 25.6 | 94.6 | 40.2 |
| 05/12/2016 | 9.7 | 0.0 | --- | 14.9 | 91.5 | 20.4 | 89.6 | 26.8 | 88.5 | 26.3 | 93.1 | 49.8 |
| 05/13/2016 | 9.7 | 0.0 | --- | 18.2 | 86.9 | 20.4 | 82.8 | 24.8 | 80.6 | 28.5 | 85.0 | 58.3 |
| 05/14/2016 | 9.7 | 0.0 | --- | 19.9 | 91.8 | 20.3 | 86.6 | 26.0 | 85.2 | 35.8 | 89.8 | 44.1 |
| 05/15/2016 | 9.7 | 0.0 | --- | 19.3 | 96.0 | 20.5 | 93.8 | 28.1 | 92.3 | 37.3 | 96.3 | 41.0 |
| 05/16/2016 | 9.6 | 0.0 | --- | 18.8 | 102.6 | 20.4 | 97.3 | 29.2 | 97.3 | 41.0 | 102.6 | 58.6 |
| 05/17/2016 | 6.1 | 0.0 | --- | 15.5 | 93.9 | 20.5 | 91.4 | 27.4 | 91.2 | 40.6 | 97.9 | 68.0 |
| 05/18/2016 | 5.4 | 0.0 | --- | 20.7 | 89.6 | 20.4 | 85.1 | 25.5 | 82.0 | 40.3 | 86.2 | 58.1 |
| 05/19/2016 | 5.4 | 0.0 | --- | 20.1 | 93.5 | 20.4 | 89.0 | 26.8 | 88.6 | 40.5 | 91.6 | 62.8 |

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

| Date | McNary | | John Day | | The Dalles | | Bonneville | | PH1 | PH2 |
|------------|--------|-------|----------|-------|------------|-------|------------|-------|------|-------|
| | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill | | |
| 05/06/2016 | 281.3 | 134.4 | 275.8 | 82.6 | 263.3 | 105.2 | 284.8 | 100.2 | 56.6 | 115.7 |
| 05/07/2016 | 282.4 | 121.5 | 266.4 | 84.5 | 249.3 | 100.0 | 278.6 | 100.0 | 52.1 | 114.1 |
| 05/08/2016 | 293.1 | 131.4 | 282.9 | 112.4 | 278.7 | 110.7 | 298.4 | 104.2 | 61.8 | 120.0 |
| 05/09/2016 | 284.7 | 118.5 | 281.8 | 107.4 | 270.3 | 107.0 | 283.3 | 106.2 | 61.6 | 103.1 |
| 05/10/2016 | 298.6 | 125.6 | 299.2 | 89.2 | 287.0 | 113.9 | 309.2 | 125.6 | 67.6 | 103.6 |
| 05/11/2016 | 287.7 | 115.0 | 288.9 | 90.9 | 274.6 | 108.6 | 299.7 | 107.3 | 67.0 | 113.0 |
| 05/12/2016 | 282.4 | 113.1 | 272.7 | 108.7 | 264.9 | 104.2 | 290.0 | 100.7 | 59.0 | 118.0 |
| 05/13/2016 | 284.0 | 113.8 | 270.9 | 103.8 | 256.7 | 103.3 | 272.2 | 99.9 | 47.5 | 112.5 |
| 05/14/2016 | 262.9 | 105.6 | 256.8 | 77.1 | 235.1 | 94.0 | 261.2 | 100.0 | 36.2 | 112.7 |
| 05/15/2016 | 260.4 | 104.3 | 246.2 | 78.4 | 229.2 | 91.9 | 252.1 | 100.8 | 26.9 | 112.0 |
| 05/16/2016 | 258.6 | 103.7 | 264.8 | 106.0 | 246.7 | 98.6 | 264.7 | 100.1 | 39.7 | 112.5 |
| 05/17/2016 | 271.3 | 108.9 | 271.7 | 104.2 | 254.0 | 102.1 | 276.9 | 99.7 | 50.6 | 114.2 |
| 05/18/2016 | 244.4 | 97.9 | 228.5 | 68.8 | 214.0 | 85.6 | 241.3 | 99.6 | 17.4 | 111.9 |
| 05/19/2016 | 240.9 | 96.5 | 236.7 | 75.2 | 218.2 | 87.6 | 237.1 | 99.7 | 13.2 | 111.7 |

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 |
| Lower Granite Dam | | | | | | | | | | | |
| | 05/12/16 | Chinook + Steelhead | 101 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| | 05/19/16 | Chinook + Steelhead | 101 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| Little Goose Dam | | | | | | | | | | | |
| | 05/09/16 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| | 05/16/16 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| Lower Monumental Dam | | | | | | | | | | | |
| | 05/06/16 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| | 05/11/16 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| | 05/18/16 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| McNary Dam | | | | | | | | | | | |
| | 05/06/16 | Chinook + Steelhead | 101 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| | 05/08/16 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| | 05/12/16 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| | 05/16/16 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| Bonneville Dam | | | | | | | | | | | |
| | 05/07/16 | Chinook + Steelhead | 100 | 2 | 2 | 2.00% | 0.00% | 1 | 1 | 0 | 0 |
| | 05/14/16 | Chinook + Steelhead | 100 | 2 | 2 | 2.00% | 0.00% | 1 | 1 | 0 | 0 |
| | 05/17/16 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| Rock Island Dam | | | | | | | | | | | |
| | 05/10/16 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| | 05/12/16 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| | 05/17/16 | Chinook + Steelhead | 100 | 4 | 4 | 4.00% | 0.00% | 4 | 0 | 0 | 0 |
| | 05/19/16 | Chinook + Steelhead | 100 | 2 | 2 | 2.00% | 0.00% | 2 | 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>High</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>High</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>High</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | | | | |
| | <u>Avg</u> | <u>Avg</u> | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | |
| 5/6 | 102.9 | 104.3 | 105.1 | 24 | --- | --- | --- | 0 | 109.0 | 109.2 | 109.5 | 24 | 107.6 | 107.9 | 108.0 | 24 | 107.7 | 108.2 | 108.5 | 24 |
| 5/7 | 105.2 | 106.1 | 106.5 | 24 | --- | --- | --- | 0 | 109.9 | 110.3 | 110.7 | 24 | 108.8 | 109.6 | 109.9 | 24 | 108.4 | 109.1 | 109.6 | 24 |
| 5/8 | 105.7 | 106.7 | 107.3 | 24 | --- | --- | --- | 0 | 110.3 | 110.5 | 110.7 | 24 | 109.3 | 109.8 | 110.3 | 24 | 109.1 | 109.4 | 109.9 | 24 |
| 5/9 | 102.8 | 103.6 | 104.4 | 24 | --- | --- | --- | 0 | 109.0 | 109.4 | 109.7 | 24 | 107.5 | 107.8 | 107.9 | 24 | 107.9 | 108.1 | 108.6 | 24 |
| 5/10 | 100.8 | 101.3 | 102.0 | 21 | --- | --- | --- | 0 | 108.4 | 108.6 | 109.2 | 24 | 107.2 | 107.6 | 107.8 | 24 | 107.3 | 107.6 | 108.1 | 24 |
| 5/11 | 101.8 | 103.2 | 103.5 | 24 | --- | --- | --- | 0 | 109.3 | 109.7 | 110.4 | 24 | 107.7 | 108.1 | 108.3 | 24 | 107.1 | 107.5 | 107.8 | 24 |
| 5/12 | 103.0 | 103.5 | 103.8 | 24 | --- | --- | --- | 0 | 109.8 | 110.0 | 110.2 | 24 | 108.3 | 108.7 | 108.9 | 24 | 108.2 | 108.7 | 109.0 | 24 |
| 5/13 | 102.7 | 103.0 | 103.2 | 24 | --- | --- | --- | 0 | 110.0 | 110.4 | 111.1 | 24 | 108.2 | 108.6 | 108.8 | 24 | 107.9 | 108.4 | 108.8 | 24 |
| 5/14 | 103.2 | 103.8 | 104.0 | 24 | --- | --- | --- | 0 | 110.3 | 110.6 | 110.8 | 24 | 108.7 | 109.1 | 109.3 | 24 | 108.5 | 108.9 | 109.0 | 24 |
| 5/15 | 104.1 | 104.3 | 104.6 | 24 | --- | --- | --- | 0 | 110.6 | 110.8 | 111.1 | 24 | 108.6 | 108.9 | 109.3 | 24 | 108.6 | 108.7 | 108.9 | 24 |
| 5/16 | 104.2 | 104.6 | 104.8 | 24 | --- | --- | --- | 0 | 109.9 | 110.1 | 110.3 | 24 | 108.2 | 108.6 | 109.0 | 24 | 108.2 | 108.4 | 108.9 | 24 |
| 5/17 | 104.2 | 104.5 | 104.8 | 24 | --- | --- | --- | 0 | 109.9 | 110.2 | 110.7 | 24 | 108.1 | 108.4 | 108.7 | 24 | 108.1 | 108.7 | 109.0 | 24 |
| 5/18 | 105.2 | 105.9 | 106.2 | 24 | --- | --- | --- | 0 | 110.8 | 111.2 | 111.5 | 24 | 109.2 | 110.0 | 110.3 | 24 | 109.3 | 110.0 | 110.2 | 24 |
| 5/19 | 105.8 | 106.0 | 106.1 | 23 | --- | --- | --- | 0 | 111.0 | 111.2 | 111.4 | 23 | 109.2 | 109.7 | 110.4 | 23 | 109.5 | 109.7 | 109.9 | 23 |

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

| Date | <u>Chief J. Dnst</u> | | | <u>Wells</u> | | | <u>Wells Dwnstrm</u> | | | <u>Rocky Reach</u> | | | <u>Rocky R. Tlwr</u> | | | # | | | | |
|------|----------------------|-------------|-------------|--------------|-------------|-------------|----------------------|-----------|-------------|--------------------|-------------|-----------|----------------------|-------------|-------------|----|-----------|------------|------------|----|
| | <u>24 h</u> | <u>12 h</u> | <u>High</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>High</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>High</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | | | | |
| | <u>Avg</u> | <u>Avg</u> | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | |
| 5/6 | 107.7 | 108.3 | 108.6 | 24 | 106.3 | 106.8 | 107.1 | 24 | 110.2 | 111.5 | 112.6 | 24 | 109.3 | 110.1 | 110.9 | 24 | 111.1 | 112.6 | 117.9 | 24 |
| 5/7 | 108.1 | 108.6 | 109.4 | 24 | 107.8 | 108.4 | 108.8 | 23 | 110.2 | 110.9 | 111.4 | 23 | 111.1 | 111.3 | 111.5 | 24 | 110.9 | 111.0 | 111.2 | 24 |
| 5/8 | 109.2 | 109.5 | 110.0 | 24 | 107.8 | 108.2 | 108.5 | 23 | 111.0 | 112.0 | 114.5 | 23 | 110.8 | 111.3 | 111.7 | 24 | 110.8 | 111.3 | 112.2 | 24 |
| 5/9 | 108.3 | 108.9 | 109.4 | 24 | 105.6 | 106.0 | 106.2 | 24 | 109.6 | 111.2 | 116.4 | 24 | 108.0 | 108.4 | 109.2 | 24 | 110.2 | 112.7 | 119.0 | 24 |
| 5/10 | 107.2 | 107.8 | 108.2 | 24 | 105.9 | 106.4 | 106.6 | 24 | 108.7 | 109.5 | 110.9 | 24 | 108.9 | 109.5 | 110.2 | 24 | 111.6 | 113.9 | 115.5 | 24 |
| 5/11 | 106.6 | 106.9 | 107.1 | 24 | 106.5 | 106.7 | 106.9 | 24 | 109.5 | 109.9 | 110.7 | 24 | 108.7 | 109.5 | 109.7 | 24 | 111.2 | 112.8 | 116.3 | 24 |
| 5/12 | 107.3 | 107.8 | 108.8 | 24 | 106.6 | 106.8 | 107.2 | 24 | 110.7 | 111.5 | 111.9 | 24 | 110.1 | 110.4 | 110.7 | 24 | 113.6 | 116.3 | 118.6 | 24 |
| 5/13 | 107.3 | 107.8 | 108.4 | 24 | 106.8 | 107.1 | 107.4 | 24 | 109.6 | 110.1 | 110.5 | 24 | 110.2 | 111.1 | 111.5 | 24 | 112.1 | 113.6 | 114.6 | 24 |
| 5/14 | 108.6 | 109.1 | 109.4 | 24 | 107.4 | 107.8 | 108.3 | 24 | 109.8 | 110.3 | 110.4 | 24 | 110.3 | 110.5 | 110.6 | 24 | 110.1 | 110.3 | 110.4 | 24 |
| 5/15 | 108.5 | 108.8 | 109.1 | 24 | 106.9 | 107.1 | 107.5 | 24 | 109.7 | 110.0 | 110.2 | 24 | 109.6 | 109.9 | 110.4 | 24 | 109.5 | 109.7 | 110.4 | 24 |
| 5/16 | 108.1 | 108.5 | 108.8 | 24 | 106.8 | 107.3 | 107.7 | 22 | 109.5 | 109.9 | 110.3 | 22 | 108.9 | 109.1 | 109.2 | 24 | 108.7 | 108.8 | 109.1 | 24 |
| 5/17 | 107.9 | 108.2 | 108.7 | 24 | 107.2 | 107.6 | 108.0 | 24 | 110.1 | 111.0 | 112.6 | 24 | 109.0 | 109.4 | 109.7 | 24 | 109.5 | 110.6 | 117.9 | 24 |
| 5/18 | 109.1 | 109.6 | 110.2 | 24 | 108.1 | 108.5 | 109.0 | 24 | 110.3 | 110.9 | 112.3 | 24 | 110.1 | 110.7 | 111.0 | 23 | 111.4 | 112.8 | 119.3 | 23 |
| 5/19 | 109.9 | 110.3 | 110.9 | 23 | 107.9 | 108.2 | 109.1 | 23 | 109.6 | 110.1 | 111.3 | 23 | 110.6 | 110.8 | 111.2 | 23 | 110.2 | 110.4 | 110.6 | 23 |

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>High</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>High</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>High</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>High</u> | | | | | |
| | <u>Avg</u> | <u>Avg</u> | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | |
| 5/6 | 109.4 | 110.2 | 111.2 | 24 | 112.6 | 113.6 | 115.5 | 24 | 111.0 | 111.3 | 111.7 | 24 | 112.5 | 113.0 | 113.5 | 24 | 112.8 | 113.5 | 114.0 | 24 |
| 5/7 | 109.7 | 110.5 | 111.1 | 24 | 112.3 | 113.0 | 113.5 | 24 | 112.8 | 114.0 | 115.2 | 24 | 113.3 | 114.1 | 115.1 | 24 | 112.9 | 113.5 | 114.3 | 24 |
| 5/8 | 108.9 | 109.2 | 109.6 | 24 | 111.5 | 111.9 | 113.0 | 24 | 109.9 | 110.9 | 112.4 | 24 | 112.8 | 114.0 | 116.8 | 24 | 111.1 | 111.6 | 112.6 | 24 |
| 5/9 | 107.7 | 108.7 | 110.6 | 24 | 110.7 | 111.5 | 112.6 | 24 | 107.6 | 107.8 | 108.1 | 24 | 110.3 | 110.8 | 111.7 | 24 | 107.5 | 108.0 | 109.3 | 24 |
| 5/10 | 107.6 | 109.5 | 110.4 | 24 | 110.6 | 113.0 | 113.6 | 24 | 108.5 | 109.8 | 110.6 | 24 | 110.0 | 110.4 | 110.6 | 24 | 108.5 | 109.1 | 109.5 | 24 |
| 5/11 | 108.4 | 109.2 | 110.2 | 24 | 111.9 | 112.9 | 113.7 | 24 | 109.4 | 110.1 | 110.7 | 24 | 110.9 | 111.1 | 111.4 | 24 | 110.2 | 110.9 | 111.3 | 24 |
| 5/12 | 109.6 | 111.1 | 112.2 | 24 | 112.8 | 113.7 | 114.0 | 24 | 111.8 | 113.1 | 115.0 | 24 | 112.4 | 112.7 | 113.1 | 24 | 111.0 | 111.4 | 111.9 | 24 |
| 5/13 | 109.1 | 110.2 | 111.3 | 24 | 112.2 | 113.0 | 113.9 | 24 | 110.8 | 111.3 | 111.8 | 24 | 111.8 | 111.9 | 112.0 | 24 | 111.1 | 111.4 | 111.6 | 24 |
| 5/14 | 109.0 | 109.5 | 110.7 | 24 | 110.9 | 111.5 | 113.8 | 24 | 111.0 | 111.2 | 111.4 | 24 | 112.2 | 112.3 | 112.4 | 24 | 111.0 | 111.2 | 111.5 | 24 |
| 5/15 | 108.2 | 108.4 | 108.5 | 24 | 109.9 | 110.4 | 110.8 | 24 | 110.2 | 110.3 | 110.5 | 24 | 111.5 | 111.7 | 112.2 | 24 | 110.4 | 110.6 | 111.0 | 24 |
| 5/16 | 107.5 | 107.9 | 108.2 | 24 | 109.6 | 110.2 | 110.8 | 24 | 110.1 | 110.6 | 111.6 | 24 | 110.9 | 111.1 | 111.8 | 24 | 110.0 | 110.2 | 110.3 | 24 |
| 5/17 | 107.5 | 108.1 | 108.4 | 24 | 109.7 | 110.4 | 111.2 | 23 | 108.8 | 109.3 | 109.7 | 24 | 110.2 | 110.5 | 110.9 | 24 | 109.8 | 110.1 | 110.3 | 24 |
| 5/18 | 109.3 | 110.3 | 111.8 | 24 | 111.4 | 112.2 | 113.1 | 24 | 109.4 | 110.0 | 111.2 | 24 | 111.0 | 111.3 | 111.6 | 24 | 110.2 | 110.5 | 110.9 | 24 |
| 5/19 | 108.4 | 108.7 | 109.1 | 23 | 110.9 | 111.4 | 112.6 | 23 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |

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

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

| Date | <u>Priest R. Dnst</u> | | | <u>Pasco</u> | | | <u>Dworshak</u> | | | <u>Clrwtr-Peck</u> | | | <u>Anatone</u> | | | # | | | | |
|------|-----------------------|-------------|-------------|--------------|-------------|------------|-----------------|-------------|------------|--------------------|-------------|-----------|----------------|-------------|-------------|----|-----------|-------|-------|----|
| | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | | | | | |
| | <u>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> | | | |
| 5/6 | 114.3 | 114.8 | 115.8 | 24 | --- | --- | --- | 0 | 97.9 | 98.4 | 98.9 | 24 | 102.1 | 103.0 | 103.5 | 24 | 105.3 | 106.0 | 106.6 | 24 |
| 5/7 | 114.5 | 115.3 | 116.2 | 24 | --- | --- | --- | 0 | 98.5 | 99.1 | 99.5 | 24 | 102.9 | 104.0 | 104.6 | 24 | 105.9 | 106.6 | 107.2 | 23 |
| 5/8 | 113.5 | 114.8 | 116.2 | 24 | --- | --- | --- | 0 | 98.8 | 99.3 | 99.8 | 24 | 102.9 | 103.7 | 104.4 | 24 | 106.1 | 106.7 | 107.1 | 24 |
| 5/9 | 111.2 | 112.1 | 114.1 | 24 | --- | --- | --- | 0 | 97.7 | 98.1 | 98.3 | 24 | 101.4 | 101.8 | 102.5 | 24 | 105.5 | 105.8 | 106.1 | 22 |
| 5/10 | 112.2 | 114.1 | 114.7 | 24 | --- | --- | --- | 0 | 97.3 | 97.8 | 98.3 | 24 | 101.6 | 102.4 | 103.0 | 24 | 106.0 | 106.8 | 107.5 | 24 |
| 5/11 | 113.7 | 114.7 | 115.1 | 24 | --- | --- | --- | 0 | 97.7 | 98.2 | 98.8 | 24 | 101.7 | 102.6 | 103.1 | 24 | 106.3 | 107.2 | 107.9 | 24 |
| 5/12 | 114.3 | 115.6 | 115.9 | 24 | --- | --- | --- | 0 | 97.6 | 97.9 | 98.3 | 24 | 101.1 | 101.8 | 102.4 | 24 | 106.0 | 106.6 | 107.2 | 24 |
| 5/13 | 114.6 | 115.6 | 116.9 | 24 | --- | --- | --- | 0 | 97.7 | 98.1 | 98.4 | 24 | 101.1 | 102.0 | 102.6 | 24 | 105.5 | 106.4 | 107.1 | 24 |
| 5/14 | 112.0 | 112.4 | 112.8 | 24 | --- | --- | --- | 0 | 98.6 | 98.9 | 99.0 | 24 | 100.9 | 101.2 | 101.4 | 24 | 104.6 | 104.8 | 105.0 | 24 |
| 5/15 | 111.5 | 111.6 | 111.8 | 24 | --- | --- | --- | 0 | 98.6 | 98.8 | 98.9 | 24 | 100.4 | 100.5 | 100.8 | 24 | 104.1 | 104.3 | 104.4 | 24 |
| 5/16 | 111.2 | 111.5 | 111.8 | 24 | --- | --- | --- | 0 | 98.1 | 98.3 | 98.5 | 24 | 101.0 | 101.7 | 102.3 | 24 | 105.0 | 105.7 | 106.3 | 24 |
| 5/17 | 111.2 | 111.5 | 111.7 | 24 | --- | --- | --- | 0 | 98.5 | 99.3 | 100.7 | 24 | 101.6 | 102.7 | 103.4 | 24 | 105.5 | 106.4 | 107.1 | 24 |
| 5/18 | 111.7 | 112.0 | 112.3 | 24 | --- | --- | --- | 0 | 98.8 | 99.4 | 99.9 | 24 | 102.0 | 102.9 | 103.4 | 24 | 105.9 | 106.8 | 107.5 | 24 |
| 5/19 | --- | --- | --- | 0 | --- | --- | --- | 0 | 99.2 | 99.5 | 99.9 | 23 | 101.3 | 101.6 | 101.9 | 23 | 105.3 | 105.7 | 106.4 | 22 |

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>#</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> | | | |
| 5/6 | 101.9 | 102.7 | 103.4 | 24 | 103.8 | 104.0 | 104.1 | 24 | 112.4 | 114.6 | 116.2 | 24 | 110.0 | 110.5 | 111.2 | 24 | 114.8 | 115.2 | 115.5 | 24 |
| 5/7 | 102.4 | 103.3 | 103.9 | 24 | 104.4 | 104.8 | 104.9 | 24 | 111.2 | 112.2 | 113.5 | 24 | 110.5 | 111.1 | 111.6 | 24 | 115.5 | 115.7 | 115.9 | 24 |
| 5/8 | 102.4 | 103.1 | 103.7 | 24 | 105.2 | 105.3 | 105.4 | 24 | 114.1 | 114.7 | 115.1 | 24 | 110.6 | 111.1 | 111.4 | 24 | 115.1 | 115.5 | 116.1 | 24 |
| 5/9 | 100.8 | 101.2 | 101.5 | 24 | 103.9 | 104.4 | 104.9 | 24 | 114.6 | 115.1 | 116.1 | 24 | 106.6 | 107.2 | 108.6 | 24 | 113.6 | 113.8 | 114.1 | 24 |
| 5/10 | 101.3 | 102.4 | 103.1 | 24 | 102.3 | 102.5 | 102.8 | 24 | 112.8 | 115.6 | 116.5 | 24 | 105.9 | 106.5 | 106.9 | 24 | 113.6 | 113.9 | 114.3 | 24 |
| 5/11 | 102.3 | 103.5 | 104.5 | 24 | 103.1 | 103.8 | 104.4 | 24 | 109.4 | 109.8 | 110.1 | 24 | 108.1 | 109.1 | 110.0 | 24 | 114.0 | 114.6 | 115.2 | 24 |
| 5/12 | 101.8 | 102.7 | 103.6 | 24 | 105.3 | 105.8 | 106.0 | 24 | 109.9 | 110.1 | 110.4 | 24 | 111.1 | 111.7 | 112.5 | 24 | 114.2 | 114.8 | 115.2 | 24 |
| 5/13 | 101.7 | 103.0 | 103.9 | 24 | 105.7 | 106.1 | 106.3 | 24 | 110.0 | 110.3 | 110.5 | 24 | 109.3 | 109.7 | 110.6 | 24 | 113.3 | 113.7 | 114.1 | 24 |
| 5/14 | 100.9 | 101.3 | 101.6 | 24 | 105.5 | 105.7 | 105.8 | 24 | 110.1 | 110.3 | 110.4 | 24 | 108.4 | 108.6 | 108.8 | 24 | 113.4 | 113.5 | 113.6 | 24 |
| 5/15 | 100.2 | 100.4 | 100.5 | 24 | 104.3 | 104.5 | 104.9 | 24 | 109.9 | 110.1 | 110.3 | 24 | 107.8 | 107.9 | 108.2 | 24 | 113.8 | 114.1 | 114.2 | 24 |
| 5/16 | 100.7 | 101.5 | 102.0 | 24 | 102.3 | 102.7 | 103.5 | 24 | 109.6 | 109.9 | 110.2 | 24 | 107.2 | 107.5 | 108.0 | 24 | 114.1 | 114.5 | 114.7 | 24 |
| 5/17 | 101.8 | 103.3 | 104.3 | 24 | 101.7 | 102.0 | 102.3 | 24 | 109.3 | 109.4 | 109.9 | 24 | 106.5 | 106.8 | 107.3 | 24 | 113.7 | 114.2 | 114.6 | 24 |
| 5/18 | 102.4 | 103.7 | 104.8 | 24 | 103.7 | 104.5 | 104.8 | 24 | 110.0 | 110.4 | 110.9 | 24 | 107.9 | 108.5 | 108.9 | 24 | 113.4 | 113.6 | 113.8 | 24 |
| 5/19 | 101.4 | 102.0 | 102.6 | 23 | 105.0 | 105.3 | 105.5 | 23 | 110.2 | 110.3 | 110.4 | 23 | 107.6 | 107.9 | 108.7 | 23 | 113.2 | 113.6 | 114.2 | 23 |

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

| Date | <u>Lower Mon.</u> | | | <u>L. Mon. Tlwr</u> | | | <u>Ice Harbor</u> | | | <u>Ice Harbor Tlwr</u> | | | <u>McNary-Oregon</u> | | | # | | | | |
|------|-------------------|-------------|-------------|---------------------|-------------|------------|-------------------|-------------|------------|------------------------|-------------|-----------|----------------------|-------------|-------------|----|-----------|-----|-----|---|
| | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | | | | | |
| | <u>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> | | | |
| 5/6 | 114.3 | 114.5 | 115.0 | 24 | 119.2 | 120.1 | 120.4 | 24 | 116.8 | 117.1 | 117.3 | 24 | 117.4 | 118.5 | 119.9 | 24 | --- | --- | --- | 0 |
| 5/7 | 115.6 | 116.0 | 116.5 | 24 | 119.8 | 120.2 | 120.7 | 24 | 117.2 | 117.6 | 117.9 | 24 | 119.4 | 119.8 | 120.1 | 24 | --- | --- | --- | 0 |
| 5/8 | 116.0 | 116.2 | 116.4 | 24 | 119.8 | 120.6 | 120.8 | 24 | 117.0 | 117.2 | 117.4 | 24 | 119.1 | 120.0 | 120.5 | 24 | --- | --- | --- | 0 |
| 5/9 | 112.8 | 113.7 | 115.1 | 24 | 118.8 | 119.8 | 120.1 | 24 | 114.5 | 115.2 | 116.2 | 24 | 118.4 | 119.2 | 119.6 | 24 | --- | --- | --- | 0 |
| 5/10 | 110.3 | 110.5 | 110.8 | 24 | 118.3 | 118.8 | 119.0 | 24 | 112.6 | 113.0 | 113.3 | 24 | 118.1 | 119.0 | 119.6 | 24 | --- | --- | --- | 0 |
| 5/11 | 111.6 | 112.3 | 113.1 | 24 | 119.0 | 119.6 | 120.2 | 24 | 113.6 | 114.2 | 114.8 | 24 | 116.6 | 117.5 | 119.4 | 24 | --- | --- | --- | 0 |
| 5/12 | 113.8 | 114.3 | 114.7 | 24 | 119.6 | 120.3 | 120.6 | 24 | 114.7 | 115.1 | 115.4 | 24 | 116.3 | 116.8 | 117.1 | 24 | --- | --- | --- | 0 |
| 5/13 | 114.4 | 114.7 | 114.9 | 24 | 118.5 | 119.7 | 120.4 | 24 | 115.3 | 115.8 | 116.3 | 24 | 116.1 | 116.6 | 117.5 | 24 | --- | --- | --- | 0 |
| 5/14 | 113.9 | 114.8 | 115.2 | 24 | 117.0 | 117.3 | 117.5 | 24 | 115.4 | 115.7 | 116.3 | 24 | 116.5 | 116.9 | 117.7 | 24 | --- | --- | --- | 0 |
| 5/15 | 112.3 | 112.4 | 112.6 | 24 | 117.8 | 117.9 | 118.1 | 24 | 113.6 | 114.0 | 114.9 | 24 | 116.1 | 116.4 | 116.7 | 24 | --- | --- | --- | 0 |
| 5/16 | 112.6 | 113.2 | 113.8 | 24 | 118.1 | 118.3 | 118.5 | 24 | 113.1 | 113.3 | 113.7 | 24 | 117.5 | 118.8 | 119.9 | 24 | --- | --- | --- | 0 |
| 5/17 | 113.5 | 113.9 | 114.3 | 24 | 117.8 | 118.2 | 118.5 | 24 | 114.7 | 115.7 | 116.4 | 24 | 117.8 | 118.5 | 119.9 | 24 | --- | --- | --- | 0 |
| 5/18 | 115.3 | 115.9 | 116.1 | 24 | 117.7 | 118.1 | 118.3 | 24 | 117.1 | 117.8 | 118.2 | 24 | 116.6 | 117.3 | 118.5 | 24 | --- | --- | --- | 0 |
| 5/19 | 114.9 | 115.4 | 116.1 | 23 | 117.9 | 118.4 | 119.3 | 23 | 117.2 | 117.5 | 118.1 | 23 | 116.9 | 117.5 | 118.9 | 23 | --- | --- | --- | 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>24 h</u> | <u>12 h</u> | | | <u>24h</u> | <u>12h</u> | | | <u>24h</u> | <u>12h</u> | | | <u>24h</u> | <u>12h</u> | | |
| | <u>Avg</u> | <u>Avg</u> | <u>High</u> | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | | <u>High</u> | <u>hr</u> | <u>Avg</u> | | <u>Avg</u> | <u>High</u> | <u>hr</u> | | <u>Avg</u> | <u>Avg</u> | <u>High</u> | |
| 5/6 | 111.6 | 111.9 | 112.5 | 24 | 117.2 | 117.5 | 117.6 | 24 | 113.4 | 113.7 | 114.0 | 24 | 116.4 | 117.3 | 117.8 | 24 | 114.2 | 114.4 | 114.5 | 24 |
| 5/7 | 112.4 | 112.9 | 114.4 | 24 | 116.7 | 116.8 | 116.9 | 24 | 113.5 | 113.7 | 114.0 | 24 | 116.1 | 116.9 | 119.1 | 24 | 114.1 | 114.4 | 114.7 | 24 |
| 5/8 | 113.6 | 114.2 | 114.7 | 24 | 117.2 | 117.7 | 117.9 | 24 | 111.2 | 112.0 | 113.0 | 24 | 119.5 | 120.2 | 120.7 | 24 | 110.7 | 111.5 | 113.0 | 24 |
| 5/9 | 110.1 | 110.6 | 111.5 | 24 | 116.1 | 116.7 | 117.0 | 24 | 108.6 | 108.8 | 109.4 | 24 | 118.7 | 119.9 | 120.9 | 24 | 109.3 | 109.8 | 110.3 | 23 |
| 5/10 | 108.7 | 109.5 | 110.5 | 24 | 116.5 | 116.9 | 117.1 | 24 | 107.8 | 108.2 | 108.6 | 24 | 116.9 | 117.2 | 117.5 | 24 | 110.8 | 111.0 | 111.2 | 24 |
| 5/11 | 110.1 | 110.7 | 112.4 | 24 | 115.8 | 116.1 | 116.2 | 24 | 108.2 | 108.4 | 108.6 | 24 | 116.7 | 118.2 | 120.9 | 24 | 110.8 | 111.2 | 111.5 | 24 |
| 5/12 | 111.5 | 112.0 | 112.7 | 24 | 115.6 | 115.9 | 116.0 | 24 | 108.7 | 109.2 | 109.5 | 24 | 118.7 | 119.5 | 120.3 | 24 | 111.7 | 112.4 | 112.7 | 24 |
| 5/13 | 112.9 | 113.8 | 114.9 | 24 | 115.7 | 116.0 | 116.2 | 24 | 111.2 | 112.3 | 113.0 | 24 | 117.8 | 118.5 | 119.5 | 24 | 113.3 | 114.1 | 114.6 | 24 |
| 5/14 | 111.4 | 111.7 | 112.7 | 24 | 115.3 | 115.4 | 115.6 | 24 | 112.7 | 112.9 | 113.0 | 24 | 114.4 | 115.4 | 116.3 | 24 | 113.2 | 114.1 | 114.6 | 24 |
| 5/15 | 111.0 | 111.2 | 111.5 | 24 | 115.1 | 115.3 | 115.4 | 24 | 111.2 | 111.6 | 112.1 | 24 | 114.3 | 115.2 | 117.9 | 24 | 110.1 | 110.8 | 111.5 | 24 |
| 5/16 | 109.0 | 109.6 | 110.5 | 24 | 115.2 | 115.3 | 115.6 | 24 | 108.9 | 109.4 | 110.2 | 24 | 117.4 | 117.9 | 118.2 | 24 | 109.4 | 110.3 | 110.7 | 24 |
| 5/17 | 109.6 | 110.1 | 111.5 | 24 | 115.3 | 115.6 | 116.0 | 24 | 108.2 | 108.7 | 108.9 | 24 | 117.2 | 117.9 | 118.3 | 24 | 110.7 | 111.8 | 112.5 | 24 |
| 5/18 | 111.8 | 112.1 | 112.7 | 24 | 115.3 | 115.5 | 115.9 | 24 | 108.6 | 108.8 | 108.9 | 24 | 113.6 | 113.9 | 114.6 | 24 | 110.8 | 111.9 | 112.4 | 24 |
| 5/19 | 111.1 | 111.6 | 111.9 | 23 | 115.1 | 115.4 | 115.8 | 23 | 107.4 | 107.6 | 108.0 | 23 | 114.3 | 115.0 | 116.7 | 23 | 107.3 | 107.5 | 107.9 | 23 |

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

| Date | <u>The Dalles Dnst</u> | | | | # | <u>Bonneville</u> | | | # | <u>Warrendale</u> | | | # | <u>Camas\Washougal</u> | | | # | <u>Cascade Island</u> | | | # |
|------|------------------------|-------------|-------------|-----------|-------|-------------------|-------------|-------------|-------|-------------------|------------|------------|-------|------------------------|------------|------------|-------|-----------------------|-------------|-----------|---|
| | <u>24 h</u> | <u>12 h</u> | | | | <u>24 h</u> | <u>12 h</u> | | | <u>24h</u> | <u>12h</u> | | | <u>24h</u> | <u>12h</u> | | | <u>24h</u> | <u>12h</u> | | |
| | <u>Avg</u> | <u>Avg</u> | <u>High</u> | <u>hr</u> | | <u>Avg</u> | <u>Avg</u> | <u>High</u> | | <u>hr</u> | <u>Avg</u> | <u>Avg</u> | | <u>High</u> | <u>hr</u> | <u>Avg</u> | | <u>Avg</u> | <u>High</u> | <u>hr</u> | |
| 5/6 | 117.6 | 118.0 | 118.3 | 24 | 115.9 | 117.0 | 117.5 | 24 | 116.4 | 117.2 | 117.4 | 24 | 114.6 | 115.9 | 116.2 | 24 | 118.9 | 119.2 | 119.4 | 24 | |
| 5/7 | 117.8 | 118.2 | 118.4 | 24 | 117.9 | 118.5 | 119.1 | 24 | 117.7 | 118.2 | 118.5 | 24 | 116.3 | 117.3 | 118.4 | 24 | 119.1 | 119.2 | 119.5 | 24 | |
| 5/8 | 115.5 | 116.2 | 117.0 | 24 | 112.5 | 113.9 | 115.4 | 24 | 114.6 | 115.5 | 116.3 | 24 | 113.7 | 114.3 | 114.7 | 24 | 119.2 | 119.7 | 120.0 | 24 | |
| 5/9 | 114.5 | 115.1 | 115.6 | 24 | 109.4 | 109.9 | 110.4 | 24 | 112.8 | 113.1 | 114.0 | 24 | 111.0 | 111.7 | 112.3 | 24 | 118.6 | 118.9 | 119.5 | 24 | |
| 5/10 | 115.7 | 116.1 | 116.6 | 24 | 112.5 | 114.1 | 115.1 | 24 | 115.5 | 116.3 | 116.6 | 24 | 112.6 | 114.4 | 114.9 | 24 | 119.9 | 120.2 | 120.9 | 24 | |
| 5/11 | 115.9 | 116.4 | 116.6 | 24 | 116.2 | 116.7 | 117.1 | 24 | 116.9 | 117.2 | 117.6 | 24 | 115.0 | 116.2 | 117.0 | 24 | 119.5 | 119.7 | 120.0 | 24 | |
| 5/12 | 116.3 | 116.8 | 117.3 | 24 | 116.7 | 117.1 | 117.4 | 24 | 117.0 | 117.3 | 117.7 | 24 | 116.0 | 116.8 | 117.5 | 24 | 119.0 | 119.3 | 120.1 | 24 | |
| 5/13 | 117.4 | 118.2 | 118.5 | 24 | 115.2 | 115.7 | 116.5 | 24 | 116.4 | 116.5 | 116.7 | 24 | 114.9 | 115.3 | 115.9 | 24 | 118.7 | 118.9 | 119.0 | 24 | |
| 5/14 | 117.0 | 117.3 | 118.1 | 24 | 115.5 | 116.3 | 116.5 | 24 | 116.2 | 116.4 | 116.6 | 24 | 113.5 | 113.7 | 113.9 | 24 | 118.5 | 118.6 | 118.8 | 24 | |
| 5/15 | 115.1 | 115.6 | 116.4 | 24 | 112.3 | 112.9 | 113.3 | 24 | 115.1 | 115.2 | 115.5 | 24 | 112.7 | 113.1 | 113.6 | 24 | 117.9 | 118.1 | 118.3 | 24 | |
| 5/16 | 114.4 | 114.9 | 115.6 | 24 | 110.6 | 111.3 | 111.8 | 24 | 114.1 | 114.6 | 114.9 | 24 | 111.4 | 111.8 | 112.0 | 24 | 117.8 | 118.0 | 118.1 | 24 | |
| 5/17 | 115.4 | 115.9 | 116.6 | 24 | 110.4 | 111.2 | 111.9 | 24 | 113.7 | 114.1 | 114.4 | 24 | 111.9 | 112.8 | 113.5 | 24 | 118.1 | 118.2 | 118.3 | 24 | |
| 5/18 | 115.3 | 115.9 | 116.6 | 24 | 112.7 | 113.0 | 113.1 | 24 | 115.8 | 116.4 | 116.7 | 24 | 112.5 | 113.5 | 114.7 | 24 | 117.6 | 117.7 | 118.2 | 24 | |
| 5/19 | 113.5 | 113.7 | 114.2 | 23 | 110.6 | 110.8 | 111.4 | 23 | 115.1 | 115.3 | 115.5 | 23 | 111.0 | 111.4 | 111.7 | 23 | 117.4 | 117.5 | 117.7 | 23 | |

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 5/20/2016 7:00

* One or more of the sites on this date had an incomplete or biased sample.
See Sampling Comments: <http://www.fpc.org/currentDaily/smpcomments.htm>

For clip information see: <http://www.fpc.org/CurrentDaily/catch.htm>

For sockeye and yearling chinook (Snake only) race information see: <http://www.fpc.org/smoltqueries/currentsmpsubmitdata.asp>

| COMBINED YEARLING CHINOOK | | | | | | | | | | | | |
|----------------------------------|--------|---------------|---------------|---------------|--------------|------------------|------------------|------------------|---------------|------------------|------------------|------------------|
| | WTB | IMN | GRN | LEW | LGR | LGS | LMN | RIS | MCN | JDA | BO2 | |
| Date | (Coll) | (Coll) | (Coll) | (Coll) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) |
| 05/06/2016 | * | --- | --- | 565 | 626 | 272,738 | 111,706 | 230,817 | 1,049 | --- | 84,950 | 90,836 |
| 05/07/2016 | * | --- | --- | 315 | 396 | 214,918 | 114,991 | 220,460 | 1,325 | 139,956 | --- | 95,428 |
| 05/08/2016 | * | --- | --- | 140 | --- | 212,633 | 109,376 | 301,513 | 1,050 | --- | 74,514 | 93,774 |
| 05/09/2016 | * | --- | --- | 162 | 158 | 234,319 | 141,545 | 473,658 | 981 | 131,234 | --- | 165,766 |
| 05/10/2016 | * | --- | --- | 116 | 61 | 156,563 | 80,879 | 398,463 | 714 | --- | 54,885 | 90,081 |
| 05/11/2016 | * | --- | --- | 47 | 4 | 85,860 | 58,036 | 238,871 | 830 | 118,705 | --- | 55,784 |
| 05/12/2016 | * | --- | --- | 33 | 8 | 46,191 | 38,659 | 129,113 | 915 | --- | 39,507 | 45,620 |
| 05/13/2016 | * | --- | --- | 17 | 12 | 19,164 | 28,641 | 64,324 | 667 | 94,199 | --- | 43,041 |
| 05/14/2016 | * | --- | --- | 13 | 2 | 9,868 | 21,503 | 71,370 | 399 | --- | 18,855 | 47,588 |
| 05/15/2016 | * | --- | --- | 27 | 14 | 22,044 | 17,624 | 46,754 | 277 | 58,194 | --- | 40,816 |
| 05/16/2016 | * | --- | --- | 57 | 5 | 16,504 | 17,310 | 34,043 | 184 | --- | 31,557 | 20,373 |
| 05/17/2016 | * | --- | --- | 59 | 10 | 8,510 | 22,439 | 29,354 | 140 | 56,599 | --- | 16,607 |
| 05/18/2016 | * | --- | --- | 20 | 1 | 3,888 | 15,625 | 31,969 | 77 | --- | 16,358 | 24,041 |
| 05/19/2016 | * | --- | --- | 18 | 2 | 4,635 | 7,309 | 12,345 | 43 | 26,713 | --- | 15,222 |
| 05/20/2016 | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | | 0 | 0 | 1,589 | 1,299 | 1,307,835 | 785,643 | 2,283,054 | 8,651 | 625,600 | 320,626 | 844,977 |
| # Days: | | 0 | 0 | 14 | 13 | 14 | 14 | 14 | 14 | 7 | 7 | 14 |
| Average: | | 0 | 0 | 114 | 100 | 93,417 | 56,117 | 163,075 | 618 | 89,371 | 45,804 | 60,356 |
| YTD | | 27,295 | 55,604 | 15,997 | 7,757 | 5,850,814 | 3,434,889 | 4,835,217 | 44,295 | 2,124,123 | 1,424,552 | 2,600,891 |

| COMBINED SUBYEARLING CHINOOK | | | | | | | | | | | | |
|-------------------------------------|--------|----------|-----------|------------|--------------|---------------|---------------|---------------|--------------|----------------|---------------|------------------|
| | WTB | IMN | GRN | LEW | LGR | LGS | LMN | RIS | MCN | JDA | BO2 | |
| Date | (Coll) | (Coll) | (Coll) | (Coll) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) |
| 05/06/2016 | * | --- | --- | 39 | 86 | 267 | 573 | 540 | 75 | --- | 1,325 | 3,268 |
| 05/07/2016 | * | --- | --- | 22 | 112 | 253 | 572 | 1,333 | 55 | 6,343 | --- | 2,067 |
| 05/08/2016 | * | --- | --- | 2 | --- | 506 | 1,718 | 1,303 | 74 | --- | 219 | 3,379 |
| 05/09/2016 | * | --- | --- | 6 | 179 | 2,394 | 2,169 | 1,276 | 102 | 9,694 | --- | 1,770 |
| 05/10/2016 | * | --- | --- | 13 | 256 | 275 | 0 | 2,317 | 72 | --- | 1,771 | 167,127 |
| 05/11/2016 | * | --- | --- | 10 | 48 | 1,025 | 2,232 | 542 | 50 | 8,576 | --- | 306,395 |
| 05/12/2016 | * | --- | --- | 22 | 21 | 255 | 2,863 | 1,431 | 35 | --- | 2,279 | 19,096 |
| 05/13/2016 | * | --- | --- | 18 | 100 | 0 | 859 | 298 | 28 | 11,129 | --- | 10,930 |
| 05/14/2016 | * | --- | --- | 9 | 40 | 519 | 1,720 | 0 | 17 | --- | 2,883 | 3,329 |
| 05/15/2016 | * | --- | --- | 4 | 120 | 513 | 287 | 668 | 14 | 14,549 | --- | 3,035 |
| 05/16/2016 | * | --- | --- | 9 | 101 | 508 | 286 | 0 | 14 | --- | 2,994 | 3,042 |
| 05/17/2016 | * | --- | --- | 19 | 90 | 3,003 | 1,721 | 699 | 27 | 21,650 | --- | 3,631 |
| 05/18/2016 | * | --- | --- | 15 | 20 | 1,814 | 718 | 602 | 27 | --- | 3,366 | 2,995 |
| 05/19/2016 | * | --- | --- | 29 | 274 | 1,674 | 1,146 | 1,122 | 21 | 11,494 | --- | 3,125 |
| 05/20/2016 | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | | 0 | 0 | 217 | 1,447 | 13,006 | 16,864 | 12,131 | 611 | 83,435 | 14,837 | 533,189 |
| # Days: | | 0 | 0 | 14 | 13 | 14 | 14 | 14 | 14 | 7 | 7 | 14 |
| Average: | | 0 | 0 | 16 | 111 | 929 | 1,205 | 867 | 44 | 11,919 | 2,120 | 38,085 |
| YTD | | 0 | 12 | 348 | 2,454 | 59,224 | 29,492 | 13,009 | 6,733 | 239,495 | 22,846 | 1,632,967 |

Two-Week Summary of Passage Indices

| COMBINED COHO | | | | | | | | | | | | |
|----------------------|--------|----------|----------|-----------|------------|----------------|----------------|---------------|---------------|----------------|---------------|----------------|
| | WTB | IMN | GRN | LEW | LGR | LGS | LMN | RIS | MCN | JDA | BO2 | |
| Date | (Coll) | (Coll) | (Coll) | (Coll) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) |
| 05/06/2016 | * | --- | --- | 0 | 22 | 12,538 | 12,030 | 3,508 | 1,680 | --- | 1,985 | 19,931 |
| 05/07/2016 | * | --- | --- | 0 | 19 | 10,645 | 15,444 | 1,333 | 2,138 | 6,637 | --- | 17,570 |
| 05/08/2016 | * | --- | --- | 0 | --- | 8,596 | 13,743 | 5,473 | 2,226 | --- | 1,973 | 17,636 |
| 05/09/2016 | * | --- | --- | 0 | 21 | 28,193 | 17,895 | 8,932 | 2,493 | 10,397 | --- | 26,212 |
| 05/10/2016 | * | --- | --- | 0 | 3 | 20,086 | 9,569 | 5,148 | 2,649 | --- | 3,541 | 17,385 |
| 05/11/2016 | * | --- | --- | 0 | 3 | 11,533 | 4,464 | 542 | 4,111 | 12,692 | --- | 12,713 |
| 05/12/2016 | * | --- | --- | 0 | 3 | 6,890 | 4,868 | 1,718 | 3,331 | --- | 3,343 | 18,036 |
| 05/13/2016 | * | --- | --- | 0 | 5 | 1,811 | 4,582 | 3,276 | 3,241 | 15,175 | --- | 18,448 |
| 05/14/2016 | * | --- | --- | 0 | 0 | 3,895 | 4,300 | 2,706 | 2,832 | --- | 3,818 | 10,650 |
| 05/15/2016 | * | --- | --- | 0 | 3 | 2,307 | 2,579 | 1,336 | 1,763 | 15,227 | --- | 14,741 |
| 05/16/2016 | * | --- | --- | 0 | 5 | 2,793 | 3,576 | 1,433 | 1,543 | --- | 3,532 | 17,636 |
| 05/17/2016 | * | --- | --- | 0 | 1 | 1,001 | 4,445 | 1,747 | 734 | 15,218 | --- | 9,008 |
| 05/18/2016 | * | --- | --- | 0 | 1 | 1,296 | 2,580 | 803 | 1,086 | --- | 3,757 | 20,424 |
| 05/19/2016 | * | --- | --- | 0 | 0 | 901 | 860 | 1,309 | 718 | 13,199 | --- | 16,432 |
| 05/20/2016 | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | | 0 | 0 | 0 | 86 | 112,485 | 100,935 | 39,264 | 30,545 | 88,545 | 21,949 | 236,822 |
| # Days: | | 0 | 0 | 14 | 13 | 14 | 14 | 14 | 14 | 7 | 7 | 14 |
| Average: | | 0 | 0 | 0 | 7 | 8,035 | 7,210 | 2,805 | 2,182 | 12,649 | 3,136 | 16,916 |
| YTD | | 0 | 0 | 0 | 316 | 185,563 | 129,685 | 51,594 | 40,974 | 122,414 | 47,735 | 725,803 |

| COMBINED STEELHEAD | | | | | | | | | | | | |
|---------------------------|--------|------------|---------------|--------------|--------------|------------------|------------------|------------------|---------------|----------------|----------------|----------------|
| | WTB | IMN | GRN | LEW | LGR | LGS | LMN | RIS | MCN | JDA | BO2 | |
| Date | (Coll) | (Coll) | (Coll) | (Coll) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) |
| 05/06/2016 | * | --- | --- | 174 | 1,444 | 60,866 | 75,041 | 54,044 | 492 | --- | 30,228 | 38,886 |
| 05/07/2016 | * | --- | --- | 106 | 515 | 91,999 | 102,392 | 53,049 | 836 | 30,634 | --- | 30,315 |
| 05/08/2016 | * | --- | --- | 100 | --- | 116,809 | 81,312 | 75,574 | 1,052 | --- | 20,381 | 24,215 |
| 05/09/2016 | * | --- | --- | 146 | 547 | 151,869 | 66,701 | 66,098 | 1,051 | 21,139 | --- | 20,899 |
| 05/10/2016 | * | --- | --- | 49 | 103 | 104,009 | 48,974 | 63,322 | 913 | --- | 19,476 | 19,755 |
| 05/11/2016 | * | --- | --- | 37 | 26 | 95,855 | 55,245 | 46,908 | 912 | 22,298 | --- | 2,050 |
| 05/12/2016 | * | --- | --- | 46 | 31 | 97,487 | 37,511 | 36,644 | 916 | --- | 13,371 | 5,305 |
| 05/13/2016 | * | --- | --- | 17 | 25 | 68,653 | 24,630 | 27,099 | 702 | 25,319 | --- | 5,466 |
| 05/14/2016 | * | --- | --- | 21 | 24 | 41,032 | 32,683 | 41,943 | 709 | --- | 6,389 | 6,658 |
| 05/15/2016 | * | --- | --- | 31 | 84 | 66,645 | 18,770 | 26,382 | 487 | 29,774 | --- | 10,486 |
| 05/16/2016 | * | --- | --- | 116 | 44 | 40,372 | 17,453 | 24,009 | 349 | --- | 4,223 | 5,779 |
| 05/17/2016 | * | --- | --- | 48 | 32 | 22,276 | 35,200 | 14,328 | 221 | 16,618 | --- | 6,723 |
| 05/18/2016 | * | --- | --- | 20 | 23 | 31,103 | 19,063 | 16,612 | 210 | --- | 5,635 | 12,574 |
| 05/19/2016 | * | --- | --- | 18 | 14 | 14,163 | 10,748 | 10,287 | 167 | 10,483 | --- | 15,020 |
| 05/20/2016 | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | | 0 | 0 | 929 | 2,912 | 1,003,138 | 625,723 | 556,299 | 9,017 | 156,265 | 99,703 | 204,131 |
| # Days: | | 0 | 0 | 14 | 13 | 14 | 14 | 14 | 14 | 7 | 7 | 14 |
| Average: | | 0 | 0 | 66 | 224 | 71,653 | 44,695 | 39,736 | 644 | 22,324 | 14,243 | 14,581 |
| YTD | | 755 | 19,918 | 3,183 | 9,159 | 3,795,231 | 2,168,098 | 1,760,845 | 15,830 | 691,099 | 488,359 | 562,524 |

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) |
| 05/06/2016 * | --- | --- | 0 | 4 | 0 | 0 | 0 | 3,283 | --- | 19,197 | 31,694 |
| 05/07/2016 * | --- | --- | 0 | 0 | 253 | 572 | 0 | 4,641 | 87,672 | --- | 22,738 |
| 05/08/2016 * | --- | --- | 0 | --- | 253 | 573 | 261 | 2,604 | --- | 53,914 | 49,438 |
| 05/09/2016 * | --- | --- | 0 | 13 | 1,064 | 542 | 0 | 1,784 | 54,946 | --- | 113,697 |
| 05/10/2016 * | --- | --- | 0 | 1 | 550 | 0 | 0 | 2,627 | --- | 24,343 | 61,240 |
| 05/11/2016 * | --- | --- | 0 | 1 | 513 | 558 | 271 | 1,717 | 124,529 | --- | 27,890 |
| 05/12/2016 * | --- | --- | 0 | 5 | 0 | 0 | 0 | 1,328 | --- | 23,400 | 33,949 |
| 05/13/2016 * | --- | --- | 0 | 3 | 0 | 0 | 0 | 713 | 92,726 | --- | 57,046 |
| 05/14/2016 * | --- | --- | 0 | 3 | 0 | 0 | 0 | 637 | --- | 19,478 | 39,934 |
| 05/15/2016 * | --- | --- | 0 | 5 | 0 | 0 | 0 | 206 | 70,375 | --- | 58,995 |
| 05/16/2016 * | --- | --- | 0 | 10 | 508 | 143 | 0 | 127 | --- | 10,058 | 28,885 |
| 05/17/2016 * | --- | --- | 0 | 14 | 751 | 287 | 0 | 79 | 49,376 | --- | 15,665 |
| 05/18/2016 * | --- | --- | 0 | 10 | 1,814 | 0 | 201 | 116 | --- | 26,299 | 39,695 |
| 05/19/2016 * | --- | --- | 0 | 9 | 3,090 | 716 | 0 | 68 | 57,477 | --- | 23,891 |
| 05/20/2016 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | 0 | 0 | 0 | 78 | 8,796 | 3,391 | 733 | 19,930 | 537,101 | 176,689 | 604,757 |
| # Days: | 0 | 0 | 14 | 13 | 14 | 14 | 14 | 14 | 7 | 7 | 14 |
| Average: | 0 | 0 | 0 | 6 | 628 | 242 | 52 | 1,424 | 76,729 | 25,241 | 43,197 |
| YTD | 1 | 0 | 0 | 116 | 9,949 | 4,535 | 1,021 | 56,273 | 792,235 | 251,209 | 706,025 |

| COMBINED LAMPREY JUVENILES | | | | | | | | | | | |
|-----------------------------------|---------------|---------------|---------------|---------------|----------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Date | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR [†] (Samp) | LGS (Coll) | LMN (Coll) | RIS (Coll) | MCN (Coll) | JDA (Coll) | BO2 (Coll) |
| 05/06/2016 * | --- | --- | 0 | 0 | 1 | 0 | 200 | 0 | --- | 857 | 0 |
| 05/07/2016 * | --- | --- | 0 | 0 | 1 | 1,600 | 0 | 0 | 1,557 | --- | 143 |
| 05/08/2016 * | --- | --- | 0 | --- | 0 | 800 | 200 | 0 | --- | 857 | 143 |
| 05/09/2016 * | --- | --- | 0 | 0 | 5 | 1,600 | 0 | 0 | 736 | --- | 0 |
| 05/10/2016 * | --- | --- | 0 | 0 | 1 | 800 | 400 | 0 | --- | 714 | 0 |
| 05/11/2016 * | --- | --- | 0 | 0 | 6 | 1,600 | 800 | 0 | 1,200 | --- | 143 |
| 05/12/2016 * | --- | --- | 0 | 0 | 34 | 1,800 | 200 | 0 | --- | 400 | 143 |
| 05/13/2016 * | --- | --- | 0 | 0 | 0 | 1,200 | 2,200 | 0 | 600 | --- | 143 |
| 05/14/2016 * | --- | --- | 0 | 0 | 4 | 3,400 | 2,200 | 0 | --- | 650 | 0 |
| 05/15/2016 * | --- | --- | 0 | 0 | 0 | 1,300 | 5,600 | 0 | 2,000 | --- | 429 |
| 05/16/2016 * | --- | --- | 0 | 0 | 8 | 900 | 8,200 | 0 | --- | 1,150 | 0 |
| 05/17/2016 * | --- | --- | 0 | 0 | 2 | 1,400 | 2,600 | 0 | 1,400 | --- | 0 |
| 05/18/2016 * | --- | --- | 0 | 0 | 3 | 500 | 800 | 0 | --- | 700 | 0 |
| 05/19/2016 * | --- | --- | 0 | 0 | 0 | 400 | 1,200 | 0 | 2,800 | --- | 0 |
| 05/20/2016 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | 0 | 0 | 0 | 0 | 65 | 17,300 | 24,600 | 0 | 10,293 | 5,328 | 1,144 |
| # Days: | 0 | 0 | 14 | 13 | 14 | 14 | 14 | 14 | 7 | 7 | 14 |
| Average: | 0 | 0 | 0 | 0 | 5 | 1,236 | 1,757 | 0 | 1,470 | 761 | 82 |
| YTD | 0 | 4 | 1 | 0 | 157 | 30,200 | 28,420 | 83 | 22,743 | 17,004 | 8,116 |

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:

Sample counts (Samp) are provided for juvenile lamprey at LGR. See note below for details †.

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, pacific lamprey macrophthalmia, and unidentified lamprey species.

† In 2013 it was confirmed that juvenile lamprey can escape the sample tank at LGR which would lead to unreliable estimates of collection.

Therefore, only sample counts are provided in this report.

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

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

JDA and BO2 data collected for the FPC by Pacific States Marine Fisheries Commission.

RIS data collected for the FPC by Chelan Co. PUD.

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.

Fall (post SMP season) trapping at the Imnaha River Fish Trap (IMN) is funded by the Lower Snake River Compensation Program (LSRCP)

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

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

5/20/16 7:01 AM

| | | 05/06/16 | TO | 05/20/16 | | | |
|--------------------------------|--------------------------|----------|-----------|----------|-----------|-------|-------------|
| | | Species | | | | | |
| Site | Data | CH0 | CH1 | CO | ST | SO | Grand Total |
| LGR | Sum of NumberCollected | 10,100 | 1,001,488 | 85,700 | 772,914 | 6,800 | 1,877,002 |
| | Sum of NumberBarged | 10,044 | 992,020 | 85,653 | 760,823 | 6,787 | 1,855,327 |
| | Sum of NumberBypassed | 28 | 8,291 | 0 | 12,017 | 0 | 20,336 |
| | Sum of Numbertrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of SampleMorts | 0 | 17 | 0 | 7 | 0 | 24 |
| | Sum of FacilityMorts | 28 | 980 | 47 | 42 | 13 | 1,110 |
| | Sum of ResearchMorts | 0 | 180 | 0 | 25 | 0 | 205 |
| | Sum of TotalProjectMorts | 28 | 1,177 | 47 | 74 | 13 | 1,339 |
| LGS | Sum of NumberCollected | 11,901 | 559,740 | 71,800 | 443,304 | 2,400 | 1,089,145 |
| | Sum of NumberBarged | 11,877 | 559,582 | 71,800 | 443,267 | 2,399 | 1,088,925 |
| | Sum of NumberBypassed | 17 | 0 | 0 | 0 | 1 | 18 |
| | Sum of Numbertrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of SampleMorts | 1 | 5 | 0 | 4 | 0 | 10 |
| | Sum of FacilityMorts | 6 | 153 | 0 | 33 | 0 | 192 |
| | Sum of ResearchMorts | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMorts | 7 | 158 | 0 | 37 | 0 | 202 |
| LMN | Sum of NumberCollected | 8,500 | 1,687,025 | 27,900 | 393,275 | 500 | 2,117,200 |
| | Sum of NumberBarged | 7,069 | 1,379,504 | 24,881 | 369,919 | 499 | 1,781,872 |
| | Sum of NumberBypassed | 1,230 | 307,283 | 3,019 | 23,307 | 0 | 334,839 |
| | Sum of Numbertrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of SampleMorts | 0 | 77 | 0 | 4 | 0 | 81 |
| | Sum of FacilityMorts | 1 | 161 | 0 | 45 | 1 | 208 |
| | Sum of ResearchMorts | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMorts | 1 | 238 | 0 | 49 | 1 | 289 |
| Total Sum of NumberCollected | | 30,501 | 3,248,253 | 185,400 | 1,609,493 | 9,700 | 5,083,347 |
| Total Sum of NumberBarged | | 28,990 | 2,931,106 | 182,334 | 1,574,009 | 9,685 | 4,726,124 |
| Total Sum of NumberBypassed | | 1,275 | 315,574 | 3,019 | 35,324 | 1 | 355,193 |
| Total Sum of Numbertrucked | | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Sum of SampleMorts | | 1 | 99 | 0 | 15 | 0 | 115 |
| Total Sum of FacilityMorts | | 35 | 1,294 | 47 | 120 | 14 | 1,510 |
| Total Sum of ResearchMorts | | 0 | 180 | 0 | 25 | 0 | 205 |
| Total Sum of TotalProjectMorts | | 36 | 1,573 | 47 | 160 | 14 | 1,830 |

YTD Transportation Summary

Source: Fish Passage Center

Updated:

5/20/16 7:01 AM

TO: 05/20/16

| | | Species | | | | | |
|--------------------------------|--------------------------|---------|------------|---------|--------|-----------|-------------|
| Site | Data | CH0 | CH1 | CO | SO | ST | Grand Total |
| LGR | Sum of NumberCollected | 45,890 | 4,474,283 | 141,170 | 7,650 | 2,865,831 | 7,534,824 |
| | Sum of NumberBarged | 14,415 | 1,369,529 | 108,043 | 6,984 | 995,290 | 2,494,261 |
| | Sum of NumberBypassed | 31,385 | 3,103,042 | 33,069 | 650 | 1,870,404 | 5,038,550 |
| | Sum of NumberTrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of SampleMorts | 12 | 93 | 1 | 0 | 30 | 136 |
| | Sum of FacilityMorts | 78 | 1,319 | 57 | 16 | 57 | 1,527 |
| | Sum of ResearchMorts | 0 | 300 | 0 | 0 | 50 | 350 |
| | Sum of TotalProjectMorts | 90 | 1,712 | 58 | 16 | 137 | 2,013 |
| LGS | Sum of NumberCollected | 20,701 | 2,399,008 | 91,800 | 3,200 | 1,511,920 | 4,026,629 |
| | Sum of NumberBarged | 17,867 | 983,198 | 78,200 | 3,199 | 582,115 | 1,664,579 |
| | Sum of NumberBypassed | 2,825 | 1,415,436 | 13,600 | 1 | 929,747 | 2,361,609 |
| | Sum of NumberTrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of SampleMorts | 3 | 20 | 0 | 0 | 7 | 30 |
| | Sum of FacilityMorts | 6 | 354 | 0 | 0 | 51 | 411 |
| | Sum of ResearchMorts | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMorts | 9 | 374 | 0 | 0 | 58 | 441 |
| LMN | Sum of NumberCollected | 9,100 | 3,482,019 | 36,520 | 700 | 1,247,639 | 4,775,978 |
| | Sum of NumberBarged | 7,069 | 1,869,301 | 30,281 | 699 | 593,022 | 2,500,372 |
| | Sum of NumberBypassed | 1,830 | 1,612,271 | 6,238 | 0 | 654,518 | 2,274,857 |
| | Sum of NumberTrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of SampleMorts | 0 | 127 | 0 | 0 | 13 | 140 |
| | Sum of FacilityMorts | 1 | 320 | 1 | 2 | 86 | 410 |
| | Sum of ResearchMorts | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMorts | 1 | 447 | 1 | 2 | 99 | 550 |
| Total Sum of NumberCollected | | 75,691 | 10,355,310 | 269,490 | 11,550 | 5,625,390 | 16,337,431 |
| Total Sum of NumberBarged | | 39,351 | 4,222,028 | 216,524 | 10,882 | 2,170,427 | 6,659,212 |
| Total Sum of NumberBypassed | | 36,040 | 6,130,749 | 52,907 | 651 | 3,454,669 | 9,675,016 |
| Total Sum of NumberTrucked | | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Sum of SampleMorts | | 15 | 240 | 1 | 0 | 50 | 306 |
| Total Sum of FacilityMorts | | 85 | 1,993 | 58 | 18 | 194 | 2,348 |
| Total Sum of ResearchMorts | | 0 | 300 | 0 | 0 | 50 | 350 |
| Total Sum of TotalProjectMorts | | 100 | 2,533 | 59 | 18 | 294 | 3,004 |

Cumulative Adult Passage at Mainstem Dams Through: 05/19

| DAM | END DATE | Spring Chinook | | | | | | Summer Chinook | | | | | | Fall Chinook | | | | | |
|-----|----------|----------------|------|--------|------|------------|-------|----------------|------|-------|------|------------|------|--------------|------|-------|------|------------|------|
| | | 2016 | | 2015 | | 10-Yr Avg. | | 2016 | | 2015 | | 10-Yr Avg. | | 2016 | | 2015 | | 10-Yr Avg. | |
| | | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack |
| BON | 05/19 | 119929 | 8986 | 191844 | 8979 | 129971 | 19461 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TDA | 05/19 | 84884 | 7329 | 166826 | 7234 | 95587 | 14978 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| JDA | 05/19 | 72901 | 5499 | 140299 | 6501 | 80323 | 13050 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MCN | 05/19 | 58008 | 4175 | 128755 | 4572 | 66897 | 8558 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IHR | 05/19 | 46108 | 2714 | 95926 | 2384 | 45982 | 5113 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LMN | 05/19 | 43891 | 3019 | 90096 | 3506 | 42139 | 3986 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LGS | 05/19 | 38673 | 2687 | 84522 | 3411 | 35193 | 3570 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LGR | 05/19 | 34924 | 1748 | 81500 | 2653 | 30816 | 3056 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PRD | 05/18 | 9553 | 225 | 17894 | 594 | 9373 | 341 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WAN | 05/18 | 9761 | 182 | 16999 | 315 | 8316 | 296 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RIS | 05/18 | 8002 | 102 | 19131 | 256 | 7247 | 256 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RRH | 05/18 | 2890 | 46 | 7190 | 94 | 2408 | 74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WEL | 05/18 | 1654 | 26 | 5528 | 150 | 1453 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WFA | 05/17 | 12485 | 431 | 35772 | 1153 | 17700 | 381 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| DAM | END DATE | Coho | | | | | | Sockeye | | | Steelhead | | | | | | Lamprey | | |
|-----|----------|-------|------|-------|------|------------|------|---------|------|------------|-----------|------|------|------|-------|------|---------|------|------|
| | | 2016 | | 2015 | | 10-Yr Avg. | | 2016 | 2015 | 10-Yr Avg. | 10-Yr | | Wild | Wild | 10-Yr | 2016 | 2015 | Avg. | |
| | | Adult | Jack | Adult | Jack | Adult | Jack | | | | 2016 | 2015 | | | | | | | 2016 |
| BON | 05/19 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 4525 | 4661 | 4688 | 1758 | 2391 | 1400 | 1242 | 42 | 122 |
| TDA | 05/19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 320 | 361 | 2424 | 175 | 170 | 935 | 3 | 3 | 0 |
| JDA | 05/19 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 367 | 533 | 4765 | 251 | 322 | 1829 | 309 | 60 | 16 |
| MCN | 05/19 | -1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 452 | 681 | 5516 | 286 | 413 | 1866 | 9 | 15 | 2 |
| IHR | 05/19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1340 | 1086 | 5125 | 703 | 682 | 1544 | 1 | 3 | 0 |
| LMN | 05/19 | -2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1416 | 3407 | 8333 | 983 | 1836 | 2810 | 1 | 0 | 0 |
| LGS | 05/19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3398 | 1470 | 3093 | 1966 | 988 | 1488 | 0 | 1 | 0 |
| LGR | 05/19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5462 | 9152 | 9216 | 3107 | 4319 | 3487 | -1 | 0 | 0 |
| PRD | 05/18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 34 | 45 | 0 | 0 | 0 | 78 | 5 | 0 |
| WAN | 05/18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 26 | 50 | 91 | 0 | 0 | 0 | 40 | 4 | 0 |
| RIS | 05/18 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 35 | 108 | 108 | 17 | 79 | 60 | 0 | 0 | 0 |
| RRH | 05/18 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 81 | 104 | 303 | 25 | 73 | 209 | 0 | 0 | 0 |
| WEL | 05/18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 29 | 54 | 17 | 23 | 40 | 1 | 0 | 0 |
| WFA | 05/17 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 10036 | 5351 | 9865 | 0 | 0 | 0 | 0 | 0 | 0 |

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.

Columbia/Snake Project Forebay Temperatures

