

Fish Passage Center

Weekly Report #15–11

May 29, 2015

Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 29% and 182% of average at individual sub-basins over May. Precipitation above The Dalles has been 98% of average over May. Over the 2015 water year, precipitation has ranged between 78% and 100% of average.

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

Location	Water Year 2015		Water Year 2015	
	May 1–27, 2015		October 1, 2014 to May 27, 2015	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia above Coulee	1.46	50	27.7	98
Snake River above Ice Harbor	2.83	142	15.0	84
Columbia above The Dalles	2.12	98	19.1	88
Kootenai	1.24	41	28.3	100
Clark Fork	1.60	59	16.3	78
Flathead	0.93	29	24.9	91
Pend Oreille River Basin above Waneta Dam	1.26	43	21.5	86
Salmon River Basin	2.49	97	18.4	82
Upper Snake Tributaries	4.64	182	16.7	79
Clearwater	2.10	62	28.3	86
Willamette River above Portland	2.09	61	48.0	83

Snowpack within the Columbia Basin has been well below average. Average snowpack in the Columbia River for basins above the Snake River confluence is 28% of average. For Snake River Basins the average snowpack is 18% of average. For lower Columbia Basins between McNary and Bonneville Dam average snowpack is 0% of average.

Table 2 displays the May 28th ESP runoff volume forecasts for multiple reservoirs along with the May COE forecasts at Libby and Dworshak. The May 28th ESP forecast at The Dalles between April and August is 62,119 Kaf (71% of average).

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

Location	May 28, 2015 5-day QPF ESP	
	% Average (1981–2010)	Runoff Volume (Kaf)
The Dalles (Apr–Aug)	71	62,119
Grand Coulee (Apr–Aug)	78	44,430
Libby Res. Inflow, MT (Apr–Aug)	79 92*	4,648 5,396*
Hungry Horse Res. Inflow, MT (Apr–Aug)	76	1,476
Lower Granite Res. Inflow (Apr–July)	55	10,821
Brownlee Res. Inflow (Apr–July)	45	2,490
Dworshak Res. Inflow (Apr–July)	50 54*	1,201 1,325*

* Denotes COE May Forecast

Grand Coulee Reservoir is at 1,249.7 feet (5-28-15) and has refilled 1.2 feet over the last week. Outflows at Grand Coulee have ranged between 108.6 and 115.7 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2,424.8 feet (5-28-15) and has refilled 1.5 feet over the previous week. Daily average outflows at Libby Dam have increased to 26.6 Kcfs over the last week. The increase in outflows at Libby is for the sturgeon pulse operation, which began last Friday at 26.6 Kcfs (http://www.nwd-wc.usace.army.mil/tmt/sor/2015/0506_2015_USFWS_Libby_sturgeon_SOR.pdf).

Hungry Horse is currently at an elevation of 3,542.2 feet (5-28-15) and refilled 2.3 feet over the last week. Outflows at Hungry Horse have been 4.8 to 5.6 Kcfs over

the last week.

Dworshak is currently at an elevation of 1,596.2 feet (5-28-15) and refilled 3.6 feet over the last week. Dworshak is 3.8 feet from full. Outflows have been 1.5 Kcfs over the last week. Inflows to Dworshak have ranged between 6.3 and 7.7 Kcfs last week.

The Brownlee Reservoir was at an elevation of 2,074.0 feet on May 28, 2015, and has refilled 5.4 feet over the last week. Hells Canyon outflows have ranged between 8.3 and 18.6 Kcfs over the last four days.

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 8, 2015), the flow objective this spring will be 85 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 55.0 Kcfs over the spring season and 65.4 Kcfs last week.

Based on the April Final Water Supply Forecast, the Spring Biological Opinion Flow Objectives (which began April 10th) will be 220 Kcfs at McNary Dam and 135 Kcfs at Priest Rapids Dam. Over the spring season, flows at McNary Dam have averaged 177.8 Kcfs and Priest Rapids Dam flows have averaged 115.2 Kcfs. Over the last week, flows at McNary have averaged 213.7 Kcfs and averaged 139.0 Kcfs at Priest Rapids. At the May 20, 2015, TMT meeting, an average flow target of 210 Kcfs at McNary Dam was agreed upon through the end of May.

Spill

The 2015 fish spill program was implemented at the lower Snake River projects beginning on April 3rd, and beginning April 10th at the middle Columbia River projects.

All of the lower Snake River projects have spilled at the 2015 Fish Operations Plan (FOP) levels over the past week. The gas cap at Lower Monumental Dam remained at about 23 Kcfs over the past week in response to the total dissolved gas (TDG) levels measured at the Ice Harbor forebay. On April 28th the “test-like” conditions, where spill alternates between 30% instantaneous and 45 Kcfs/Gas Cap, were initiated at Ice Harbor Dam. The net effect of this operation is a decrease in spill levels during the “test-like” period.

Project	Spill Level Day/Night
Lower Granite	20 Kcfs/20 Kcfs
Little Goose	30%/30%
Lower Monumental	Gas Cap/Gas Cap
Ice Harbor	April 3-27: 45 Kcfs/Gas Cap April 28-June 20: 30%/30% vs. 45 kcf/Gas Cap

Since spill began on April 10th, spill for fish passage at the middle Columbia River projects occurred at the following amounts described in the 2015 FOP (the testing of two spill levels at John Day Dam began on April 28th).

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

TDG measurements exceeded the waiver limits (115%) at the Ice Harbor Dam forebay monitor most days this past week. At Ice Harbor Dam, the forebay gage often reads higher than the upstream tailrace gage and higher than the downstream gage at the project, and it is unlikely that these occurrences are related to spill. The forebay monitor reading at Ice Harbor is more likely a function of water temperature than the TDG level at the upstream project. However, spill at Lower Monumental was maintained at about 23 Kcfs over the week to address the TDG issue. **Note:** The State of Oregon and the State of Washington 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 Little Goose, Lower Monumental, McNary, Bonneville and Rock Island dams over the past week. Monitoring at Lower Granite Dam ended for the season due to low fish numbers. Over the past week one percent of the sample was observed with minor signs of GBT at Bonneville Dam on May 26th and at Rock Island Dam on May 28th. These levels are far below the 15% criteria for action to be taken.

Smolt Monitoring

All Smolt Monitoring Program bypass facilities continued sampling this week. Sampling at the Snake River Trap at Lewiston and Salmon River Trap at Whitebird has been terminated for the season. Sampling at the Imnaha River Trap and Grande Ronde River Trap continued this week, although sampling at the Grande Ronde River Trap has been limited.

This week's samples at Bonneville Dam (BON) were dominated by yearling Chinook juveniles, with a daily average passage index of about 20,000 per day. This is a substantial decrease over last week's daily average passage index of about 50,000 per day. Steelhead passage also decreased this week, when compared to the previous week. This week's daily average passage index for steelhead was about 16,700 per day whereas that for last week was about 25,700. The daily average passage index for coho this week was about 16,700, which was very similar to last week. Sockeye and subyearling Chinook passage increased this week, when compared to last week. This week's daily average passage indices were about 9,600 and 5,200 per day, respectively. Last week's daily average passage indices were 7,300 for sockeye and 4,550 for subyearling Chinook. Finally, Pacific lamprey ammocoetes were encountered in one of this week's samples (May 25th).

Yearling Chinook continued to dominate this week's salmonid collections at John Day Dam (JDA). The daily average passage index for yearling Chinook this week was about 11,600 fish per day, which is a decrease over last week's daily average passage index

of about 23,400. Passage of steelhead and sockeye decreased this week. This week's daily average passage indices were about 4,900 and 4,400, respectively. Last week's passage indices were 7,700 for steelhead and 6,300 for sockeye. Coho passage increased this week, when compared to the previous week. This week's daily average passage index for coho was nearly 2,900, whereas that for last week was about 2,200. Subyearling Chinook passage increased substantially this week. This week's daily average passage index for subyearling Chinook was about 2,350 per day. Last week's passage index was about 870 per day. Finally, Pacific lamprey macrophthalmia were encountered every day this week, with a daily average collection of about 750 fish per day. This is an increase over last week's daily average collection of about 170 macrophthalmia per day.

Since McNary Dam (MCN) is no longer a transportation site, sampling takes place every other day for the entire SMP season. This week's samples at MCN were dominated by yearling Chinook and steelhead. This week's daily average passage indices for these two species were about 21,300 and 17,500, respectively. These daily average passage indices are both decreases from the previous week. Last week's daily average passage indices were about 50,000 for yearling Chinook and 22,600 for steelhead. Passage of subyearling Chinook, coho, and sockeye all increased again this week. This week's daily average passage indices were about 1,900, 4,900, and nearly 10,000 per day, respectively. Last week's daily average passage indices were about 680 for subyearling Chinook, 4,250 for coho, and 9,300 for sockeye. Finally, Pacific lamprey macrophthalmia were encountered in two of this week's three samples. The daily average collection for lamprey macrophthalmia this week was about 300.

This week's samples at Lower Granite Dam (LGR) were dominated by subyearling Chinook juveniles. This week's daily average passage index for subyearling Chinook at LGR was about 20,300 per day. The increase in subyearling Chinook passage this week is largely due to hatchery releases above LGR in recent weeks. However, a large proportion of hatchery subyearlings released above LGR are unmarked and, therefore, it is difficult to determine what proportion of the sample at LGR is of hatchery origin. Passage of yearling Chinook and steelhead continued to decrease

this week. This week's daily average passage indices were about 2,000 and 8,500 per day, respectively. Last week's daily average passage indices were 8,400 for yearling Chinook and 11,500 for steelhead. Based on the cumulative passage indices at LGR for yearling Chinook (Figure 1) and steelhead (Figure 2), the 2015 outmigration appears to be much lower than the historic average (2005–2014). Sockeye and coho passage decreased this week when compared to previous weeks. This week's passage indices were only 60 for sockeye and about 700 for coho. Last week's daily average passage indices for these two species were about 1,600 and 1,300, respectively. Finally,

Pacific lamprey macrophthalmia were encountered in two of this week's samples. Each of these two samples (May 25th and May 27th) had one Pacific lamprey macrophthalmia.

Sampling at Little Goose Dam (LGS) was limited to a 24-hour sample every other day from April 2nd to April 30th. Little Goose Dam began collecting fish for transportation on May 1st and, therefore, collections at LGS are every day for the rest of the season. Data from LGS are available only through May 27th. Steelhead dominated this week's samples at LGS. This week's daily average passage index for steelhead at LGS was

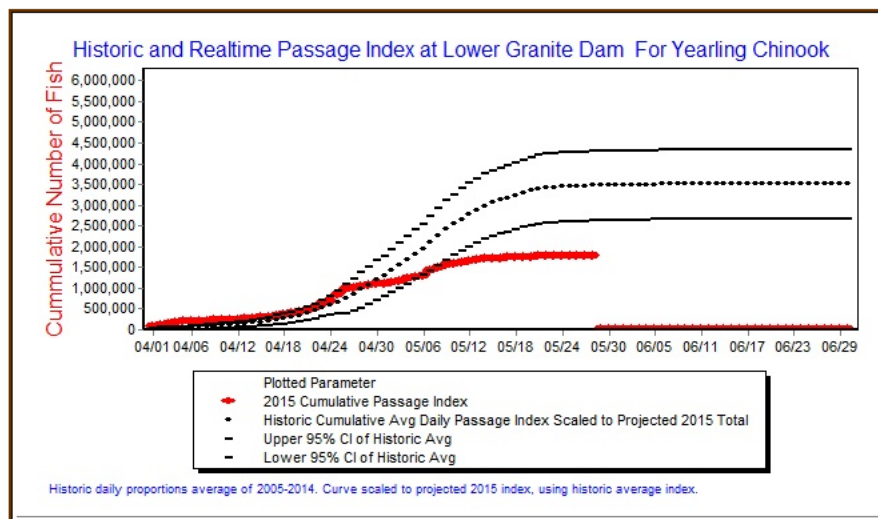


Figure 1. Cumulative passage index for yearling Chinook at Lower Granite Dam in 2015 (red dots) versus the 10-year average (2005–2014) (black dots). The 95% confidence interval around the 10-year average is indicated by the black hash marks. 2015 data are through May 28th.

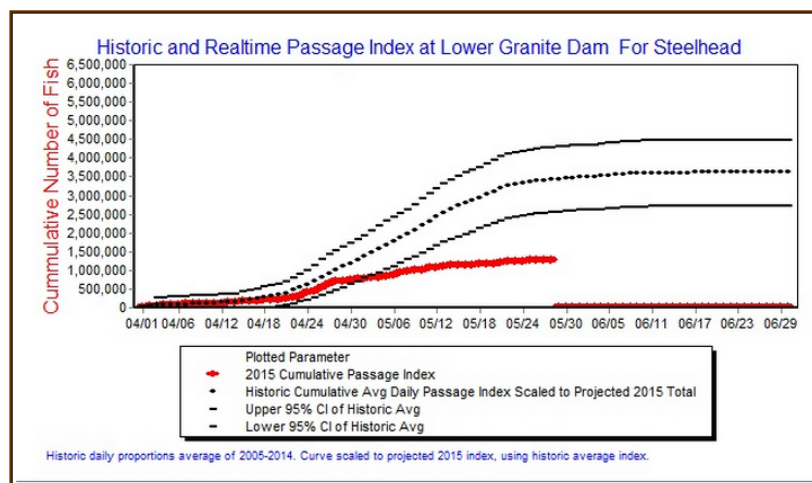


Figure 2. Cumulative passage index for steelhead at Lower Granite Dam in 2015 (red dots) versus the 10-year average (2005–2014) (black dots). The 95% confidence interval around the 10-year average is indicated by the black hash marks. 2015 data are through May 28th.

about 13,200 fish per day, which is a decrease over last week's daily average passage index of about 29,500 per day. Yearling Chinook passage continued to decrease this week. This week's daily average passage index for yearling Chinook at LGS was about 3,000, whereas that for last week was nearly 22,000 per day. Coho and sockeye passage also decreased this week. This week's daily average passage indices for these two species were 1,200 and 150, respectively. Last week's daily average passage indices were about 3,800 for coho and 2,300 for sockeye. As with LGR, subyearling Chinook passage increased this week. This week's daily average passage index for subyearling Chinook was nearly 3,400, whereas that for last week was about 1,200. Finally, Pacific lamprey macrophthalmia were encountered in two of this week's samples, with an estimated collection of 150–175 over both days.

Sampling at Lower Monumental Dam (LMN) was limited to a 24-hour sample every third day from April 4th to April 13th and every other day from April 15th to May 1st. At 1500 on May 1st, LMN began collecting fish for transportation and, therefore, collections at LMN are every day for the rest of the season. This week's samples at LMN were dominated by steelhead, with a daily average passage index of about 3,700 per day. This week's daily average passage index for steelhead is a decrease over last week's daily average passage index of about 12,500. Passage of yearling Chinook, coho, and sockeye also decreased this week, when compared to last week. This week's daily average passage indices for these three species were about 1,500, 650, and 150, respectively. Last week's daily average passage indices were 12,600 for yearling Chinook, 2,200 for coho, and 1,275 for sockeye. Unlike LGR and LGS, passage of subyearling Chinook at LMN decreased slightly this week, when compared to the previous week. This week's daily average passage index for subyearling Chinook was about 1,300 per day, whereas that for last week was about 1,550 per day. The decrease in subyearling Chinook passage at LMN versus increases at LGR and LGS is explained by a couple of factors. First, elevated passage numbers at LMN from the previous week were largely influenced by a release of hatchery subyearlings from Lyons Ferry Hatchery, which is located in the LMN pool. Second, fewer subyearlings are available for collection at LMN, given that LGR and LGS are transporting all subyearlings that are collected

at these projects. Finally, Pacific lamprey ammocoetes were encountered in one of this week's samples. The estimated collection for this day (May 28th) was 120 fish.

This week's samples at Rock Island Dam (RIS) were dominated by coho juveniles, with a daily average passage index of just over 700 fish per day. This is an increase over last week's daily average passage index of about 430 per day. Yearling Chinook passage increased this week, when compared to last week. This week's passage index for yearling Chinook was nearly 300 per day, whereas that for last week was about 200 per day. This week's daily average passage index for steelhead was about 400 per day, which is similar to that from last week. Sockeye and subyearling Chinook passage this week was relatively low, with daily average passage indices of about 30 for both species. Finally, one Pacific lamprey macrophthalmia was encountered in the May 25th sample.

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. Due to the release of approximately 400,000 hatchery subyearling fall Chinook into the Grande Ronde River on May 18th, collections at the GRN were suspended from May 19th through May 26th. This suspension was an effort to avoid handling these listed hatchery fish. Sampling resumed on the morning of May 26th for the May 27th sample. Collections in the samples from May 27th and 28th were dominated by subyearling Chinook. Subyearling Chinook collections on these days were 89 and 66, respectively. Only a few yearling Chinook and steelhead were encountered in these two samples. Sampling at GRN will be terminated for the season at the end of this week.

Sampling at the Salmon River Trap at Whitebird (WTB) was terminated for the season after the May 22nd sample. Sampling at the Snake River Trap at Lewiston (LEW) was terminated after the May 19th sample. However, since sampling was terminated on May 19th, LEW has been allowing fish to pass through, in an effort to collect PIT-tag interrogation data. This PIT-tag interrogation effort ended this week.

The Imnaha River Trap (IMN) is located at river kilometer 7 and is operated by the Nez Perce Tribe.

Sampling at IMN is year-round however the FPC typically receives data only from early March through June. Due to the remote nature of the trap, the Nez Perce Tribe is able to send collection data to the FPC only periodically. Therefore, data for IMN may be several days behind. To date, we have received data through May 20th. Over the last week of available data (May 14–May 20), collections at IMN were dominated by steelhead, with a daily average collection of about 1,100 fish per day. This is a slight increase over the daily average collection from the previous week of data (May 7–May 13), which was about 1,000 per day. Over the May 14–May 20 period, approximately 68% of the steelhead collected at IMN was of known hatchery origin. Yearling Chinook passage decreased over the May 14–May 20 period, when compared to the previous 7-day period. Over the May 14–May 20 period, the daily average collection for yearling Chinook was about 45, whereas that for the May 7–May 13 period was about 200 per day. Finally, subyearling Chinook juveniles were encountered in the May 17th and May 20th samples, although sample counts were only 1 or 2 fish for each of these 2 days.

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. To date, the Fish Passage Center has not received complete preliminary hatchery release data from the Nez Perce Tribe for 2015 releases. Therefore, release estimates discussed for this zone are likely underestimates, as they do not include all releases conducted by the tribe. Release data from the Nez Perce Tribe will be entered into our database as soon as we receive them.

No new releases were scheduled for this zone this week. Beginning on or around June 4th, approximately 918,000 subyearling fall Chinook juveniles are scheduled for release from the Nez Perce Tribal Hatchery on the Clearwater River. A large proportion (35%) of these subyearling fall Chinook are expected to be unmarked.

Mid-Columbia Zone: The Mid-Columbia Zone encompasses the area of the Columbia River and its

tributaries from McNary Dam to Chief Joseph Dam. To date, the Fish Passage Center has not received complete preliminary hatchery release data from the Colville Tribe for 2015 releases. Therefore, release estimates discussed for this zone are likely underestimates, as they do not include all releases conducted by the tribe, including releases from the new Chief Joseph Hatchery. Release data from the Colville Tribe will be entered into our database as soon as we receive them.

The only new release that was scheduled for this zone this week was a release of 484,000 subyearling summer Chinook from Wells Hatchery. This release was scheduled to begin on or around May 25th and may run through the end of the month. Several volitional releases of fall Chinook, summer Chinook, coho, and steelhead that began in previous weeks are expected to end over the next 2 weeks. In addition to these older releases, there are four new releases scheduled for this zone over the next 2 weeks. The first of these releases is of about 225 unmarked subyearling fall Chinook to Crab Creek. This release is part of the WDFW Cooperative Program and is scheduled to take place on or around June 1st. The second is a release of approximately 111,000 unmarked subyearling fall Chinook to the Yakima River that is also scheduled to occur on or around June 1st. The third is a release of approximately 3.5 million subyearling fall Chinook juveniles from Ringold Springs Hatchery, which is located below Priest Rapids Dam. This release is expected to begin on or around June 10th. All of these subyearlings are marked. Finally, June 10th is also the date of a release of about 7.3 million subyearling fall Chinook juveniles from Priest Rapids Hatchery. A large portion (47%) of these subyearlings will be marked with otolith marks, which means that they will not be distinguishable from wild fish.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. There were no new releases scheduled for this zone this week. Beginning on or around June 1st, approximately 4.0 million subyearling fall Chinook will be released into the Klickitat River. This is the only release that is scheduled for this zone over the next 2 weeks.

Adult Passage

Adult counts at Bonneville Dam have been updated through May 28th. Daily adult spring Chinook counts at Bonneville Dam ranged from 1,450 to 3,079 salmon per day. As of May 28th, a total of 211,819 spring Chinook have been counted at Bonneville Dam. In 2014, 182,703 adult spring Chinook were counted at Bonneville Dam for the same time period. The 2015 adult spring Chinook count at Bonneville Dam is about 1.2 times greater than the 2014 count and 1.7 times greater than the 10-year average count of 127,675. The 2015 spring Chinook jack count of 12,237 is about 48.9% of the 2014 count of 25,029 and 53.6% of the 10-year average count of 22,819. At Willamette Falls, 39,046 adult spring Chinook have been counted so far this year. In 2014, 18,320 adult spring Chinook were counted at Willamette Falls. This year's count is about 2.1 times greater than the 2014 count and 2 times greater than the 10-year average count of 19,451. As of May 28th, a total of 181,468 adult spring Chinook have been counted at The Dalles Dam and 141,011 have been counted at McNary Dam. The Dalles Dam 2015 adult spring Chinook count is 1.3 times greater than 2014 and 2 times greater than the 10-year average count. The 2015 McNary Dam adult spring Chinook count is about 1.5 times greater than the 2014 count and 2 times greater than the 10-year average count.

The 2015 Bonneville Dam adult steelhead count of 5,035 has 434 fewer fish than the 2014 count of 5,469, while having 9 more fish than the 10-year average count of 5,026. The 2015 Bonneville Dam adult wild steelhead count of 2,513 is about 1.8 times greater than the 2014 count of 1,423 and 1.9 times greater than the 10-year average count of 1,325. At upriver sites, adult steelhead continue to move through the hydro system to reach their tributaries and spawning sites. The majority of these fish over-wintered in pools and will complete their trip to their spawning grounds in March through May. 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 9,174 is about 1.2 times greater than the 2014 count of 7,453 and has 607 more fish than the 10-year average count of 8,781. The 2015 Lower Granite Dam adult wild steelhead count of 4,339 is 1.2 times greater than the 2014 count of 3,450 and is about 1.3 times greater than the 10-year average count of 3,231. At Willamette

Falls, the 2015 count for steelhead was 5,592 as of May 26th. This year's steelhead count is about 51.4% of the 2014 count of 10,875 and about 46.5% of the 10-year average count of 12,013.

Hatchery Releases Last Two Weeks

Hatchery Release Summary
From: 5/16/2015 to 05/29/15

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2015	525,000	05-20-15	05-20-15	Cpt John Acclim Pond	Snake River
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2015	525,000	05-21-15	05-21-15	Big Canyon (Clearwater River)	Clearwater River M F
Nez Perce Tribe Total					1,050,000				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	CH0	FA	2015	456,100	05-18-15	05-18-15	Grande Ronde River	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	CH1	SP	2015	240,000	04-06-15	06-15-15	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife Total					696,100				
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	CH1	SP	2015	42,000	04-20-15	05-20-15	Nason Creek	Wenatchee River
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2015	175	05-15-15	05-31-15	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2015	2,575	05-15-15	05-31-15	Above McNary Dam	Mid-Columbia River
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2015	4,000	05-20-15	05-20-15	Above McNary Dam	Mid-Columbia River
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2015	17,000	05-15-15	05-31-15	Yakama River	Yakama River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH0	FA	2015	220,000	05-18-15	05-18-15	Lyons Ferry Hatchery	Snake River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2015	85,000	04-20-15	05-31-15	Dayton Acclim Pond	Touchet River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH0	SU	2015	484,000	05-25-15	05-31-15	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2015	160,000	05-01-15	05-31-15	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					1,014,750				
Yakama Tribe	Eagle Creek NFH	CO	UN	2015	98,105	04-15-15	06-01-15	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2015	143,770	04-15-15	06-01-15	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2015	236,749	04-15-15	06-01-15	Easton Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	71,382	04-15-15	06-01-15	Yakama River	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	90,000	04-15-15	06-01-15	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	100,210	04-15-15	06-01-15	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	103,375	04-15-15	06-01-15	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	250,000	04-15-15	06-01-15	Prosser Acclim Pond	Yakima River
Yakama Tribe Total					1,093,591				
Grand Total					3,854,441				

Hatchery Releases Next Two Weeks

Hatchery Release Summary
From: **5/30/2015** to **6/11/2015**

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2015	378,000	06-04-15	06-16-15	Nez Perce Tribal Hatchery	Clearwater River M F
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2015	540,000	06-04-15	06-15-15	Nez Perce Tribal Hatchery	Clearwater River M F
Nez Perce Tribe Total					918,000				
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2015	175	05-15-15	05-31-15	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2015	225	06-01-15	06-01-15	Crab Creek	Mid-Columbia River
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2015	2,575	05-15-15	05-31-15	Above McNary Dam	Mid-Columbia River
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2015	17,000	05-15-15	05-31-15	Yakama River	Yakima River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2015	85,000	04-20-15	05-31-15	Dayton Acclim Pond	Touchet River
Washington Dept. of Fish and Wildlife	Priest Rapids Hatchery	CH0	FA	2015	7,300,000	06-10-15	06-30-15	Priest Rapids Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2015	3,500,000	06-10-15	06-20-15	Ringold Springs Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH0	SU	2015	484,000	05-25-15	05-31-15	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2015	160,000	05-01-15	05-31-15	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					11,548,975				
Yakama Tribe	Eagle Creek NFH	CO	UN	2015	98,105	04-15-15	06-01-15	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2015	143,770	04-15-15	06-01-15	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2015	236,749	04-15-15	06-01-15	Easton Pond	Yakima River
Yakama Tribe	Klickitat Hatchery	CH0	FA	2015	4,000,000	06-01-15	06-01-15	Klickitat River	Klickitat River
Yakama Tribe	Marion Drain Hatchery	CH0	FA	2015	111,000	06-01-15	06-01-15	Nelson Springs	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	71,382	04-15-15	06-01-15	Yakama River	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	90,000	04-15-15	06-01-15	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	100,210	04-15-15	06-01-15	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	103,375	04-15-15	06-01-15	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	250,000	04-15-15	06-01-15	Prosser Acclim Pond	Yakima River
Yakama Tribe Total					5,204,591				
Grand Total					17,671,566				

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
05/15/2015	94.7	0.0	96.8	0.0	104.9	9.1	98.7	0.1	105.9	11.8	128.5	26.5	146.5	38.5
05/16/2015	83.8	0.0	82.2	0.0	94.7	7.0	92.7	0.3	101.6	11.1	92.7	20.2	87.0	19.4
05/17/2015	98.2	0.0	96.6	0.0	113.1	7.9	114.6	0.0	126.0	10.4	116.5	14.9	102.6	28.2
05/18/2015	94.6	0.0	94.8	0.0	112.5	7.8	107.2	0.0	114.0	12.4	131.4	17.3	136.3	27.3
05/19/2015	102.9	0.0	103.3	0.0	120.2	8.3	118.7	0.0	127.0	11.7	124.6	26.5	121.1	23.8
05/20/2015	116.0	0.0	113.0	0.0	128.6	8.6	123.3	0.0	130.8	13.2	135.0	23.1	137.0	26.7
05/21/2015	112.3	0.0	118.5	0.0	132.4	9.3	127.0	0.0	136.8	13.3	143.6	23.5	140.3	26.0
05/22/2015	108.7	0.0	108.6	0.0	125.1	8.9	119.0	0.0	129.8	13.6	136.5	14.8	134.4	28.5
05/23/2015	115.7	0.0	113.6	0.0	130.6	9.1	125.9	0.0	138.0	13.3	142.0	17.6	138.7	29.1
05/24/2015	111.2	0.0	109.8	0.0	128.4	9.4	127.2	0.0	137.5	13.2	142.4	18.2	141.7	28.8
05/25/2015	106.8	0.0	107.9	0.0	126.8	8.4	121.0	0.0	132.6	13.3	141.4	20.0	141.8	27.9
05/26/2015	111.4	0.0	116.2	0.0	131.6	14.2	128.2	0.0	138.5	13.4	142.9	20.2	139.4	27.4
05/27/2015	108.6	0.0	100.9	0.0	123.1	8.4	118.3	0.0	128.7	13.2	146.8	16.7	148.2	28.2
05/28/2015	116.4	0.0	115.7	0.0	128.1	8.6	123.9	0.0	132.2	12.5	133.0	14.3	128.7	26.5

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	Flow	Spill
05/15/2015	1.5	0.0	---	6.6	56.3	20.2	55.8	16.7	56.5	24.7	55.5	16.7	
05/16/2015	5.1	0.0	---	7.5	59.9	20.3	58.8	17.6	59.9	26.6	59.2	42.3	
05/17/2015	7.4	0.0	---	8.1	71.5	20.3	69.4	20.7	70.8	26.5	72.3	53.9	
05/18/2015	5.0	0.0	---	8.1	71.3	20.5	70.8	21.2	72.2	26.3	73.5	53.0	
05/19/2015	1.5	0.0	---	8.1	63.4	20.5	61.7	18.5	63.4	26.5	63.6	48.8	
05/20/2015	1.6	0.0	---	8.2	64.3	20.4	61.8	18.4	63.5	25.4	64.0	25.3	
05/21/2015	1.7	0.0	---	8.4	64.5	20.4	61.4	18.4	63.1	24.3	62.0	18.7	
05/22/2015	1.6	0.0	---	8.4	64.3	20.3	64.1	19.2	64.8	23.4	65.8	44.4	
05/23/2015	1.5	0.0	---	8.4	64.3	20.4	61.5	18.4	62.0	22.9	62.8	50.7	
05/24/2015	1.5	0.0	---	8.4	67.7	20.5	64.7	19.4	67.3	23.0	68.8	28.4	
05/25/2015	1.5	0.0	---	8.3	66.1	20.4	64.6	19.4	64.8	23.9	64.1	19.2	
05/26/2015	1.5	0.0	---	11.1	64.0	20.4	62.0	18.6	63.8	23.4	63.6	18.9	
05/27/2015	1.5	0.0	---	14.8	64.2	20.4	63.4	19.0	65.2	23.8	63.9	19.2	
05/28/2015	1.5	0.0	---	14.6	67.1	20.3	62.8	18.8	63.7	23.2	63.9	42.0	

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
05/15/2015	206.7	83.0	198.1	62.3	185.8	74.0	205.1	99.4	0.0	93.3
05/16/2015	180.6	72.2	179.5	71.4	162.6	65.1	172.6	100.1	0.0	60.1
05/17/2015	167.5	66.7	168.7	64.5	152.5	61.0	171.1	100.5	0.0	58.2
05/18/2015	209.7	84.7	205.7	61.5	190.7	76.4	208.8	99.5	0.0	96.9
05/19/2015	204.7	82.4	200.6	63.4	184.5	73.7	205.9	99.2	0.0	94.3
05/20/2015	193.3	77.8	194.1	77.3	177.9	71.2	198.4	99.2	0.4	86.4
05/21/2015	217.7	87.6	212.4	80.6	194.0	78.1	210.2	99.0	0.0	98.8
05/22/2015	213.1	85.7	201.8	60.6	187.1	74.6	202.1	99.2	0.0	90.4
05/23/2015	203.2	81.4	203.0	64.0	188.9	75.4	200.0	99.7	0.0	87.9
05/24/2015	220.7	88.6	223.8	89.0	207.1	82.6	213.2	100.2	4.9	95.7
05/25/2015	218.3	87.7	210.4	81.1	194.2	77.8	218.5	100.3	1.8	104.0
05/26/2015	212.2	85.3	211.9	63.4	196.7	78.4	213.7	99.9	0.0	101.4
05/27/2015	219.2	88.1	219.6	69.3	201.4	81.0	218.5	100.1	5.4	100.6
05/28/2015	209.3	84.4	212.0	84.5	197.9	79.1	215.1	99.5	0.3	102.9

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											
	05/21/15	Chinook + Steelhead	102	0	0	0.00%	0.00%	0	0	0	0
Little Goose Dam											
	05/18/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/25/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	05/20/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/27/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	05/18/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/20/15	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/26/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/28/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	05/16/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/19/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/23/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/26/15	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
Rock Island Dam											
	05/19/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/21/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/26/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/28/15	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
5/15	103.4	103.5	103.7	24	---	---	---	0	108.3	108.5	108.6	24	106.7	107.0	107.2	24	107.5	107.6	108.0	15
5/16	103.1	103.5	104.1	24	---	---	---	0	107.8	108.0	109.0	24	106.4	106.7	106.7	24	107.4	107.7	108.3	23
5/17	101.8	102.7	103.3	24	---	---	---	0	107.4	107.9	108.7	24	105.7	105.8	105.9	24	106.4	106.6	106.7	24
5/18	103.0	103.7	104.1	24	---	---	---	0	106.7	107.0	108.0	24	105.7	106.0	106.1	24	106.9	107.4	107.9	23
5/19	103.4	103.6	103.9	24	---	---	---	0	106.7	106.9	107.0	24	106.0	106.3	106.6	24	107.6	108.0	108.4	21
5/20	103.9	104.6	105.0	24	---	---	---	0	106.7	107.0	107.3	24	106.5	107.2	107.5	24	107.5	108.1	108.4	24
5/21	104.4	104.8	105.2	24	---	---	---	0	107.6	108.0	108.5	24	106.9	107.4	107.7	24	108.0	108.5	109.1	24
5/22	104.9	105.3	105.6	24	---	---	---	0	107.2	107.6	108.0	24	106.7	107.3	107.7	24	107.9	108.3	108.8	24
5/23	104.5	104.9	105.4	24	---	---	---	0	106.7	106.9	107.2	24	106.3	106.9	107.2	24	107.4	107.7	108.1	24
5/24	104.3	104.7	105.0	24	---	---	---	0	107.3	107.8	108.6	24	106.3	106.9	107.4	24	107.6	108.0	108.6	24
5/25	103.8	104.3	104.6	24	---	---	---	0	106.9	107.2	107.3	24	106.2	106.7	107.0	24	107.4	107.6	107.8	24
5/26	102.7	103.2	103.5	24	---	---	---	0	106.6	107.0	107.3	24	105.8	106.2	106.5	24	106.8	107.0	107.2	24
5/27	103.6	104.9	105.9	24	---	---	---	0	106.3	106.5	106.6	24	105.4	106.1	106.5	24	106.8	107.2	107.5	24
5/28	105.3	105.5	105.7	23	---	---	---	0	106.3	106.5	106.7	23	105.7	106.4	106.7	23	106.6	106.9	107.1	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>#</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>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
5/15	107.2	107.2	108.9	13	107.3	107.9	108.8	24	108.8	109.6	110.1	24	108.8	109.1	109.7	24	108.5	108.7	109.0	24
5/16	106.8	107.2	108.1	24	107.1	107.7	108.1	24	108.4	108.9	109.3	24	108.8	109.0	109.4	24	108.6	108.9	109.4	24
5/17	106.1	106.5	107.1	24	106.1	106.4	106.6	24	107.4	107.7	108.1	24	107.7	107.8	108.1	24	107.7	107.9	108.2	24
5/18	106.3	106.9	107.8	24	106.3	107.0	107.6	24	107.4	108.2	108.5	24	107.6	107.9	108.1	24	107.2	107.6	108.0	24
5/19	107.0	107.3	108.0	24	107.0	107.8	108.2	24	108.2	109.2	109.5	24	108.2	108.6	108.8	24	107.9	108.5	108.8	24
5/20	107.1	107.5	108.1	24	107.6	108.3	108.9	24	108.7	109.7	110.2	24	108.7	109.1	109.5	24	108.3	108.7	109.0	24
5/21	107.3	107.6	107.9	24	107.5	107.5	107.6	3	108.3	108.3	108.4	3	109.5	109.8	109.9	24	109.0	109.2	109.5	24
5/22	107.3	107.5	108.1	24	---	---	---	0	---	---	---	0	109.4	109.6	109.8	24	108.8	109.0	109.4	24
5/23	106.8	107.1	107.5	24	---	---	---	0	---	---	---	0	109.0	109.3	109.5	24	108.6	108.8	109.2	24
5/24	106.8	107.2	107.6	24	---	---	---	0	---	---	---	0	109.2	109.4	109.6	24	108.7	108.9	109.2	24
5/25	106.8	107.0	107.1	24	---	---	---	0	---	---	---	0	108.9	109.1	109.3	24	108.3	108.4	108.7	24
5/26	106.2	106.4	106.7	24	---	---	---	0	---	---	---	0	108.4	108.5	108.6	24	107.8	108.0	108.1	24
5/27	106.3	106.6	107.1	24	---	---	---	0	---	---	---	0	108.4	108.8	109.9	24	107.6	108.0	108.8	24
5/28	106.1	106.4	106.9	23	---	---	---	0	---	---	---	0	109.2	109.6	109.9	23	108.6	108.8	109.0	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>#</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>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
5/15	107.8	108.3	108.5	24	111.6	112.2	113.0	24	110.2	111.0	112.1	24	111.8	113.2	118.8	24	110.4	110.9	111.4	24
5/16	107.6	108.1	108.2	24	111.1	112.2	114.2	24	108.3	108.7	109.6	24	110.5	112.2	118.8	24	108.9	109.7	110.6	24
5/17	106.7	107.2	107.8	24	109.6	110.9	112.2	24	108.2	109.0	109.4	24	109.1	109.6	109.8	24	108.9	109.5	110.8	24
5/18	106.9	107.4	107.8	24	111.0	111.8	115.1	24	109.0	109.5	110.0	24	110.2	110.9	111.5	24	109.3	109.9	110.8	24
5/19	107.3	108.0	108.6	24	110.8	112.0	116.7	24	104.1	109.5	110.8	24	112.1	112.6	113.2	24	110.9	111.5	112.4	24
5/20	107.8	108.4	108.8	24	111.2	112.2	113.0	24	110.2	110.8	111.3	24	111.9	112.5	113.2	24	111.8	112.0	112.3	24
5/21	108.5	109.1	109.6	24	111.6	112.2	112.7	24	111.7	112.8	114.2	24	112.3	113.3	117.3	24	112.5	112.7	112.9	24
5/22	108.4	108.8	109.2	24	111.9	113.2	114.4	24	111.3	111.8	113.2	24	110.9	111.2	111.7	24	112.0	113.3	114.8	24
5/23	108.0	108.4	108.7	24	111.4	111.9	113.3	24	110.4	111.2	113.0	24	110.6	110.8	111.7	24	109.9	110.3	110.7	24
5/24	108.1	108.8	109.2	24	111.6	112.1	112.4	24	109.8	110.1	110.7	24	111.3	112.1	113.0	24	109.9	110.4	111.2	24
5/25	107.9	108.2	108.5	24	111.5	112.2	112.8	24	109.6	110.3	111.0	24	111.5	111.8	112.1	24	110.2	110.6	111.1	24
5/26	107.5	107.8	108.1	24	111.1	112.0	113.2	24	---	---	---	0	---	---	---	0	---	---	---	0
5/27	107.3	107.9	108.2	24	111.1	111.8	112.7	24	---	---	---	0	---	---	---	0	---	---	---	0
5/28	108.2	109.1	109.5	23	110.8	112.6	114.2	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>				
5/15	112.6	113.3	115.4	24	---	---	---	0	103.6	104.4	105.0	24	---	---	---	0	103.2	103.5	103.8	24
5/16	110.7	111.6	115.9	24	---	---	---	0	98.5	99.1	103.9	24	---	---	---	0	103.2	103.8	104.4	24
5/17	111.9	112.2	112.5	24	---	---	---	0	96.9	97.3	97.6	24	---	---	---	0	104.0	104.9	105.7	24
5/18	111.5	111.7	111.9	24	---	---	---	0	98.0	98.6	98.9	24	---	---	---	0	104.4	105.1	106.1	23
5/19	111.9	112.0	112.3	24	---	---	---	0	106.6	108.9	110.1	24	---	---	---	0	104.7	105.5	106.3	21
5/20	112.7	113.0	113.4	24	---	---	---	0	105.9	108.4	110.9	24	---	---	---	0	104.2	105.1	106.1	24
5/21	113.0	113.3	113.4	24	---	---	---	0	102.2	103.4	104.5	24	---	---	---	0	103.9	104.6	105.3	22
5/22	113.0	113.3	113.6	24	---	---	---	0	103.0	104.1	105.6	24	---	---	---	0	103.4	104.1	105.0	24
5/23	112.0	112.1	112.2	24	---	---	---	0	103.4	104.8	106.1	24	---	---	---	0	103.0	103.9	104.7	24
5/24	111.9	112.2	112.5	24	---	---	---	0	103.5	104.8	106.2	24	---	---	---	0	102.9	103.8	104.6	23
5/25	111.7	111.9	112.0	24	---	---	---	0	103.4	104.5	105.3	24	---	---	---	0	102.4	102.6	103.6	18
5/26	---	---	---	0	---	---	---	0	103.4	104.4	105.1	24	---	---	---	0	102.4	102.4	103.2	4
5/27	---	---	---	0	---	---	---	0	103.6	105.0	107.1	24	---	---	---	0	107.5	107.8	148.4	13
5/28	---	---	---	0	---	---	---	0	103.6	104.8	106.5	23	---	---	---	0	103.8	104.9	105.6	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>				
5/15	101.8	102.4	103.1	24	102.8	102.9	103.4	24	110.2	110.4	110.7	24	110.1	110.3	110.6	24	111.5	111.6	111.9	24
5/16	101.3	102.1	102.8	24	102.2	102.3	102.5	24	110.4	111.0	111.9	24	109.2	109.5	109.7	24	110.9	111.1	111.5	24
5/17	101.7	103.0	104.1	24	102.4	102.8	103.1	24	109.6	109.8	110.5	24	108.7	108.9	109.1	24	110.7	110.9	111.2	24
5/18	102.3	103.7	104.9	24	102.3	102.4	102.7	24	109.6	109.9	110.4	24	109.2	109.5	109.9	24	110.4	110.7	111.3	24
5/19	103.1	104.9	106.2	24	102.7	103.1	103.5	24	109.8	110.0	110.1	24	109.5	109.7	110.0	24	110.5	110.9	111.3	24
5/20	103.0	104.6	106.0	24	103.9	104.3	104.9	24	110.0	110.2	110.4	24	110.2	110.5	110.9	24	111.0	111.3	111.8	24
5/21	102.6	103.9	104.8	24	104.7	105.0	105.4	24	110.4	110.6	111.0	24	110.5	110.7	110.9	24	110.9	111.1	111.2	24
5/22	102.6	104.1	105.9	24	104.6	104.8	105.0	24	110.4	110.6	111.0	24	109.8	109.9	110.1	24	110.8	111.1	111.4	24
5/23	102.7	104.3	105.7	24	103.5	103.7	104.1	24	110.1	110.2	110.7	24	109.4	109.6	109.8	24	111.2	111.5	111.9	24
5/24	102.5	103.7	104.4	24	103.2	103.6	104.0	24	110.1	110.3	110.6	24	110.5	111.1	111.5	24	111.2	111.5	111.8	24
5/25	102.0	103.0	104.2	24	103.2	103.3	103.5	24	110.0	110.2	111.0	24	111.1	111.4	111.9	24	111.1	111.3	111.6	24
5/26	102.1	103.5	104.6	24	103.3	103.4	103.6	24	110.1	110.4	110.8	24	110.2	110.3	110.6	24	111.1	111.3	111.5	24
5/27	102.4	104.0	105.5	24	103.0	103.1	103.3	24	110.2	110.4	111.1	24	109.8	110.0	110.2	24	110.9	111.2	111.5	24
5/28	102.5	104.3	105.6	23	102.4	102.6	102.7	23	109.9	110.1	110.6	23	109.7	110.0	110.5	23	111.0	111.2	111.3	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>				
5/15	111.1	111.2	111.3	24	116.9	117.5	118.1	24	112.5	112.7	113.2	24	113.0	114.4	115.0	24	---	---	---	0
5/16	110.9	111.0	111.1	24	117.7	118.2	118.6	24	113.1	113.5	113.7	24	114.4	115.1	115.4	24	---	---	---	0
5/17	110.1	110.3	110.5	24	117.9	118.2	118.6	24	113.6	113.6	113.7	24	115.3	115.5	115.7	24	---	---	---	0
5/18	110.4	110.7	111.1	24	118.3	119.0	119.3	24	114.1	114.4	114.6	24	115.5	115.7	115.9	24	---	---	---	0
5/19	111.8	112.2	112.5	24	118.4	119.0	119.5	24	115.4	115.8	116.0	24	115.3	115.6	115.8	24	---	---	---	0
5/20	112.6	112.9	113.2	24	118.5	119.2	120.4	24	116.3	116.6	116.8	24	115.3	116.0	116.3	24	---	---	---	0
5/21	112.8	113.0	113.1	24	118.0	118.6	119.2	21	117.3	117.7	117.9	24	114.8	116.0	116.7	24	---	---	---	0
5/22	113.0	113.2	113.4	24	116.4	118.2	119.1	22	117.7	118.0	118.3	24	115.5	115.9	116.2	24	---	---	---	0
5/23	112.4	112.6	112.8	24	113.5	113.8	114.3	24	116.3	116.5	116.8	24	115.2	115.5	115.6	24	---	---	---	0
5/24	112.0	112.3	112.5	24	113.4	113.8	114.6	24	115.6	115.8	116.0	24	115.6	116.0	116.3	24	---	---	---	0
5/25	112.2	112.5	112.6	24	113.5	113.7	114.6	24	115.4	115.5	115.7	24	115.4	115.9	116.4	24	---	---	---	0
5/26	112.2	112.3	112.5	24	113.7	114.5	116.6	24	115.0	115.2	115.8	24	114.5	115.8	116.2	24	---	---	---	0
5/27	111.7	111.8	112.2	24	116.0	116.4	117.0	24	114.7	114.9	115.1	24	115.2	115.7	116.1	24	---	---	---	0
5/28	111.6	111.8	111.9	23	116.4	116.9	117.2	23	115.0	115.0	115.5	23	115.5	115.8	116.2	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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>	
5/15	107.7	108.1	108.6	24	114.0	114.2	114.6	24	110.0	110.2	110.2	24	113.8	114.3	114.7	24	110.6	111.4	112.0	24
5/16	109.4	109.9	110.1	24	115.4	116.4	117.0	24	108.1	108.4	109.1	24	111.3	112.4	113.4	24	107.5	107.9	108.6	24
5/17	109.3	109.6	110.9	24	116.6	116.9	117.2	24	107.1	107.7	108.8	24	110.0	110.3	110.6	24	109.0	110.2	110.8	24
5/18	109.1	109.7	110.9	24	114.4	114.8	115.6	24	108.4	109.2	110.8	24	110.3	110.8	111.4	24	111.7	112.2	112.6	24
5/19	111.1	111.9	112.4	24	114.5	114.8	115.4	24	109.0	109.6	110.4	24	111.9	113.6	115.0	24	110.3	110.6	110.8	24
5/20	112.2	112.7	113.0	24	115.1	115.6	116.5	24	108.9	109.3	110.4	24	114.0	114.6	114.8	24	110.6	111.5	112.4	23
5/21	112.9	113.1	113.7	24	114.5	114.8	115.3	24	109.3	109.6	110.0	24	114.5	115.4	115.6	24	112.8	113.0	113.4	24
5/22	112.7	113.1	114.3	24	114.5	114.7	114.9	24	110.4	110.9	111.2	24	114.9	115.2	115.5	24	110.7	111.8	112.6	24
5/23	111.1	111.5	111.8	24	114.2	114.5	114.8	24	110.4	110.6	110.9	24	114.5	115.4	115.9	24	108.0	108.5	108.9	24
5/24	110.6	110.8	111.0	24	114.6	115.1	115.6	24	109.9	110.3	110.7	24	115.6	116.6	116.9	24	109.1	109.8	110.6	24
5/25	110.6	110.9	111.1	24	114.3	114.8	115.3	24	109.4	109.6	109.9	24	114.7	115.4	116.4	24	109.6	110.0	110.6	24
5/26	110.7	111.0	111.8	24	114.2	114.6	115.0	24	108.5	108.7	108.9	24	113.7	114.2	114.6	24	109.9	110.2	110.3	24
5/27	110.2	110.4	111.1	24	114.6	114.8	115.1	24	108.3	108.6	109.2	24	112.7	113.4	115.0	24	110.3	110.9	111.3	24
5/28	110.8	111.0	111.5	23	114.6	114.8	115.1	23	109.6	110.5	111.8	23	114.6	115.6	115.9	23	111.3	112.0	113.0	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			#	<u>Bonneville</u>			#	<u>Warrendale</u>			#	<u>CamasWashougal</u>			#	<u>Cascade Island</u>			#
	<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>	
5/15	116.5	117.1	117.3	24	112.6	113.4	113.8	24	115.8	116.0	116.1	24	112.8	113.4	113.9	24	116.9	117.1	117.2	24
5/16	114.2	114.6	114.8	24	109.6	110.3	111.6	24	115.4	115.6	116.0	24	112.1	112.6	112.9	24	116.1	116.2	116.3	24
5/17	114.8	115.8	116.1	24	108.8	109.6	110.1	24	116.0	116.4	116.8	24	114.2	116.1	117.0	24	116.3	116.6	117.2	24
5/18	117.1	118.0	118.4	24	111.6	112.9	113.4	24	115.6	116.0	116.3	24	114.3	115.3	115.9	24	116.8	117.3	117.6	24
5/19	116.5	116.8	116.9	24	112.8	113.1	113.5	24	115.7	115.9	116.1	24	113.2	114.5	115.1	24	116.9	117.1	117.3	24
5/20	116.6	117.3	117.5	24	112.5	113.3	113.6	24	115.9	116.1	116.4	24	114.4	115.9	116.8	24	116.8	117.3	117.6	23
5/21	118.1	118.6	119.0	24	114.3	114.8	115.1	24	116.3	116.6	117.0	24	114.4	115.6	116.4	24	117.3	117.6	117.7	24
5/22	116.7	117.3	117.9	24	112.4	113.1	114.4	24	115.3	115.5	116.1	24	113.0	113.4	114.6	24	117.0	117.2	117.3	24
5/23	114.8	115.2	115.4	24	108.9	109.3	110.2	24	114.5	114.8	115.1	24	111.9	112.7	113.5	24	116.7	117.1	117.3	24
5/24	115.5	115.9	116.0	24	107.8	108.2	108.7	24	114.1	114.4	114.6	24	111.3	112.5	113.7	24	116.8	117.5	117.6	24
5/25	115.8	116.0	116.3	24	108.5	109.0	109.5	24	114.1	114.6	114.8	24	111.0	112.0	112.6	24	117.3	117.4	117.6	24
5/26	115.9	116.4	116.8	24	109.1	109.8	110.3	24	114.5	114.9	115.1	24	111.5	112.6	113.3	24	117.1	117.4	117.5	24
5/27	116.3	116.6	116.9	24	111.2	112.3	112.8	24	115.3	115.7	116.0	24	112.6	114.2	115.1	24	117.4	117.6	117.8	24
5/28	116.8	117.4	117.6	23	113.8	114.9	115.4	23	116.3	116.9	117.4	23	114.1	115.8	117.0	23	117.5	117.7	117.8	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 5/29/2015 7:14

* 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/currentsmptsubmitdata.asp>

COMBINED YEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
05/15/2015	40	41	29	11	15,977	26,109	20,527	252	56,165	17,843	57,279
05/16/2015	*	---	54	79	11	8,159	19,788	19,326	214	---	68,800
05/17/2015	*	---	36	108	17	7,531	34,947	15,148	224	50,157	44,245
05/18/2015	*	13	31	47	30	9,663	21,082	6,359	234	---	66,922
05/19/2015	*	25	66	---	7	8,093	28,819	13,411	132	56,689	49,928
05/20/2015	*	13	45	---	---	4,275	14,236	7,422	140	---	37,503
05/21/2015	*	0	---	---	---	5,079	8,022	6,074	147	36,558	23,974
05/22/2015	*	10	---	---	---	5,872	5,519	3,743	151	---	33,322
05/23/2015	*	---	---	---	---	3,667	4,371	2,709	190	30,586	29,738
05/24/2015	*	---	---	---	---	1,384	2,439	1,939	319	---	26,777
05/25/2015	*	---	---	---	---	1,078	2,513	623	534	16,606	19,279
05/26/2015	*	---	---	---	---	806	1,158	325	331	---	16,048
05/27/2015	*	---	---	2	---	585	2,188	753	359	16,723	10,400
05/28/2015	*	---	---	3	---	440	---	259	186	---	7,546
05/29/2015	*	---	---	---	---	---	---	---	---	---	---
Total:	101	273	268	76	72,609	171,191	98,618	3,413	263,484	245,099	491,761
# Days:	6	6	6	5	14	13	14	14	7	14	14
Average:	17	46	45	15	5,186	13,169	7,044	244	37,641	17,507	35,126
YTD	40,054	65,094	7,458	1,081	1,766,931	1,151,349	1,123,480	15,478	1,299,745	640,198	1,667,787

COMBINED SUBYEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
05/15/2015	0	0	22	63	2,145	430	1,080	42	681	0	3,458
05/16/2015	*	---	64	43	800	2,008	1,793	74	---	456	4,021
05/17/2015	*	---	1	165	137	2,363	286	2,443	55	339	3,320
05/18/2015	*	0	73	245	897	1,429	2,016	13	---	585	4,762
05/19/2015	*	0	---	233	1,432	3,154	1,019	16	682	1,216	5,480
05/20/2015	*	0	2	---	2,100	0	1,446	7	---	1,901	5,642
05/21/2015	*	0	---	---	3,120	1,002	1,119	11	1,024	1,696	5,184
05/22/2015	*	0	---	---	4,178	1,361	1,139	9	---	931	6,993
05/23/2015	*	---	---	---	8,215	1,218	1,238	24	1,699	1,219	6,129
05/24/2015	*	---	---	---	14,352	1,505	853	18	---	1,312	6,786
05/25/2015	*	---	---	---	15,736	2,585	1,403	55	1,017	2,084	4,059
05/26/2015	*	---	---	---	35,629	4,255	1,139	31	---	2,658	3,086
05/27/2015	*	---	89	---	36,109	9,289	1,905	20	3,064	3,052	3,857
05/28/2015	*	---	66	---	27,851	---	1,616	69	---	5,236	5,739
05/29/2015	*	---	---	---	---	---	---	---	---	---	---
Total:	0	3	479	721	154,927	28,522	20,209	444	8,506	22,555	68,516
# Days:	6	6	6	5	14	13	14	14	7	14	14
Average:	0	1	80	144	11,066	2,194	1,444	32	1,215	1,611	4,894
YTD	1	42	1,225	2,077	171,406	29,833	25,861	5,088	13,512	22,883	1,493,069

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)
05/15/2015	0	0	0	0	1,838	1,291	0	342	4,416	2,436	10,159	
05/16/2015	*	---	0	0	1,760	5,449	1,195	247	---	3,117	19,881	
05/17/2015	*	---	0	0	1,329	6,731	4,561	385	4,067	2,089	19,881	
05/18/2015	*	0	0	0	1,311	5,000	3,567	397	---	1,265	17,044	
05/19/2015	*	0	0	---	430	4,444	3,225	332	2,726	1,932	19,890	
05/20/2015	*	0	0	---	1,350	2,156	1,622	509	---	2,890	13,405	
05/21/2015	*	0	---	---	871	1,575	1,119	822	5,786	1,423	16,199	
05/22/2015	*	0	---	---	1,906	860	488	1,057	---	1,629	16,044	
05/23/2015	*	---	---	---	807	1,862	1,780	678	6,797	4,016	20,658	
05/24/2015	*	---	---	---	874	1,361	698	808	---	3,081	20,896	
05/25/2015	*	---	---	---	431	431	701	714	3,389	4,168	16,032	
05/26/2015	*	---	---	---	733	1,397	0	613	---	2,345	17,694	
05/27/2015		---	0	---	219	1,327	746	631	4,420	2,861	12,944	
05/28/2015	*	---	0	---	0	---	162	489	---	2,083	12,647	
05/29/2015		---	---	---	---	---	---	---	---	---	---	
Total:	0	0	0	5	13,859	33,884	19,864	8,024	31,601	35,335	233,374	
# Days:	6	6	6	5	14	13	14	14	7	14	14	
Average:	0	0	0	1	990	2,606	1,419	573	4,514	2,524	16,670	
YTD	0	0	0	47	39,529	56,056	33,031	10,277	49,489	58,644	633,956	

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)
05/15/2015	14	609	25	164	9,298	6,312	16,206	346	29,609	9,746	31,557	
05/16/2015	*	---	1,035	32	168	5,039	19,790	8,567	422	---	11,024	25,018
05/17/2015	*	---	1,061	110	74	9,598	20,625	6,515	411	17,623	7,515	31,827
05/18/2015	*	20	495	55	197	8,766	54,916	12,718	345	---	5,156	41,858
05/19/2015	*	27	1,598	---	46	9,597	46,305	19,692	247	25,275	5,939	21,920
05/20/2015	*	11	1,839	---	---	12,975	30,908	10,598	274	---	8,973	17,057
05/21/2015	*	15	---	---	---	24,958	28,061	13,108	603	18,063	5,630	11,015
05/22/2015	*	8	---	---	---	19,930	27,079	6,348	788	---	4,809	15,427
05/23/2015	*	---	---	---	---	11,442	9,169	7,817	614	17,332	6,884	15,664
05/24/2015	*	---	---	---	---	11,656	14,689	2,172	475	---	4,335	17,664
05/25/2015	*	---	---	---	---	5,533	9,192	2,104	374	13,556	4,377	20,903
05/26/2015	*	---	---	---	---	4,765	10,530	1,789	227	---	3,266	20,163
05/27/2015		---	---	1	---	4,166	8,500	3,711	156	21,505	5,246	14,762
05/28/2015	*	---	---	0	---	2,199	---	1,939	175	---	5,390	12,434
05/29/2015		---	---	---	---	---	---	---	---	---	---	
Total:	95	6,637	223	649	139,922	286,076	113,284	5,457	142,963	88,290	297,269	
# Days:	6	6	6	5	14	13	14	14	7	14	14	
Average:	16	1,106	37	130	9,994	22,006	8,092	390	20,423	6,306	21,234	
YTD	2,567	36,015	670	11,678	1,256,769	1,010,351	561,306	10,648	426,519	185,363	969,205	

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)
05/15/2015	10	0	0	16	2,298	574	0	113	7,813	3,440	2,594
05/16/2015 *	---	0	0	3	720	2,581	199	90	---	6,158	5,584
05/17/2015 *	---	0	0	7	1,772	2,721	1,792	41	8,473	6,470	4,919
05/18/2015 *	0	0	1	6	2,347	3,000	2,326	40	---	6,129	5,514
05/19/2015 *	1	0	---	0	2,578	5,162	1,188	47	13,972	5,367	14,410
05/20/2015 *	0	0	---	---	825	1,006	1,983	71	---	7,985	10,584
05/21/2015 *	1	---	---	---	798	1,289	1,439	74	6,806	8,392	7,559
05/22/2015 *	0	---	---	---	293	430	488	54	---	6,438	13,164
05/23/2015 *	---	---	---	---	0	143	155	55	8,156	6,884	13,620
05/24/2015 *	---	---	---	---	0	143	155	38	---	4,657	18,849
05/25/2015 *	---	---	---	---	72	0	78	19	17,284	5,838	6,900
05/26/2015 *	---	---	---	---	73	143	81	24	---	3,793	6,584
05/27/2015	---	---	0	---	0	0	31	25	4,418	2,099	4,443
05/28/2015 *	---	---	0	---	0	---	32	6	---	967	3,720
05/29/2015	---	---	---	---	---	---	---	---	---	---	---
Total:	12	0	1	32	11,776	17,192	9,947	697	66,922	74,617	118,444
# Days:	6	6	6	5	14	13	14	14	7	14	14
Average:	2	0	0	6	841	1,322	711	50	9,560	5,330	8,460
YTD	74	0	4	47	16,038	19,599	10,998	3,760	121,717	96,180	133,380

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)
05/15/2015	0	0	0	0	0	0	0	0	0	100	100
05/16/2015 *	---	0	0	0	0	0	0	0	---	150	100
05/17/2015 *	---	0	0	0	0	0	0	1	0	125	0
05/18/2015 *	0	0	0	0	0	100	0	1	---	63	100
05/19/2015 *	0	0	---	0	0	1	0	0	600	400	0
05/20/2015 *	0	0	---	---	0	0	0	0	---	300	0
05/21/2015 *	0	---	---	---	0	0	0	1	200	63	0
05/22/2015 *	0	---	---	---	0	0	0	0	---	450	0
05/23/2015 *	---	---	---	---	0	0	0	0	0	250	0
05/24/2015 *	---	---	---	---	0	0	0	0	---	375	0
05/25/2015 *	---	---	---	---	1	0	0	1	400	688	100
05/26/2015 *	---	---	---	---	0	175	0	0	---	1,088	0
05/27/2015	---	---	0	---	0	150	0	0	200	1,200	0
05/28/2015 *	---	---	0	---	1	---	120	0	---	1,200	0
05/29/2015	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	2	426	120	4	1,400	6,452	400
# Days:	6	6	6	5	14	13	14	14	7	14	14
Average:	0	0	0	0	0	33	9	0	200	461	29
YTD	0	1	0	0	12	3,906	250	12	1,715	11,200	3,201

Two-Week Summary of Passage Indices

* See sampling comments

<http://www.fpc.org/currentDaily/smpcomments.htm>

Smolt indices, clipped & unclipped or combined, are presented in the following order: yearling chinook (chinook 1's,) subyearling chinook (chinook 0's), steelhead, coho, sockeye, and lamprey juveniles. Two classes of fish counts are shown in these tables:

Two classes of fish counts are shown in these tables:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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:

5/29/15 7:13 AM

		05/15/15	TO	05/29/15			
		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
LGR	Sum of NumberCollected	105,950	49,086	9,350	95,466	8,050	267,902
	Sum of NumberBarged	105,648	47,459	9,345	87,375	7,805	257,632
	Sum of NumberBypassed	123	1,549	0	7,994	0	9,666
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	16	3	0	8	5	32
	Sum of FacilityMorts	163	75	5	89	237	569
	Sum of ResearchMorts	0	0	0	0	3	3
	Sum of TotalProjectMorts	179	78	5	97	245	604
LGS	Sum of NumberCollected	19,894	119,457	23,650	199,669	12,001	374,671
	Sum of NumberBarged	13,413	117,892	22,724	193,678	11,996	359,703
	Sum of NumberBypassed	8	0	0	0	0	8
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	3	0	4	2	9
	Sum of FacilityMorts	3	40	1	69	3	116
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	3	43	1	73	5	125
LMN	Sum of NumberCollected	12,278	56,863	12,130	67,569	6,040	154,880
	Sum of NumberBarged	12,249	56,788	12,127	67,467	6,020	154,651
	Sum of NumberBypassed	12	0	0	0	0	12
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	6	1	8	0	15
	Sum of FacilityMorts	17	69	2	94	20	202
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	17	75	3	102	20	217
Total Sum of NumberCollected		138,122	225,406	45,130	362,704	26,091	797,453
Total Sum of NumberBarged		131,310	222,139	44,196	348,520	25,821	771,986
Total Sum of NumberBypassed		143	1,549	0	7,994	0	9,686
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		16	12	1	20	7	56
Total Sum of FacilityMorts		183	184	8	252	260	887
Total Sum of ResearchMorts		0	0	0	0	3	3
Total Sum of TotalProjectMorts		199	196	9	272	270	946

YTD Transportation Summary

Source: Fish Passage Center

Updated:

5/29/15 7:13 AM

TO: 05/29/15

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	117,340	1,148,728	25,750	10,810	799,224	2,101,852
	Sum of NumberBarged	108,987	471,901	22,245	10,392	338,300	951,825
	Sum of NumberBypassed	8,150	676,470	3,499	160	460,702	1,148,981
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	30	43	0	7	25	105
	Sum of FacilityMorts	173	314	6	248	197	938
	Sum of ResearchMorts	0	0	0	3	0	3
	Sum of TotalProjectMorts	203	357	6	258	222	1,046
LGS	Sum of NumberCollected	20,814	803,680	39,120	13,691	705,319	1,582,624
	Sum of NumberBarged	14,311	540,046	36,474	13,646	486,014	1,090,491
	Sum of NumberBypassed	30	261,966	1,720	40	213,220	476,976
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	20	0	2	8	30
	Sum of FacilityMorts	3	126	1	3	159	292
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	3	146	1	5	167	322
LMN	Sum of NumberCollected	15,488	640,527	19,330	6,670	314,050	996,065
	Sum of NumberBarged	15,343	579,637	19,027	6,620	276,931	897,558
	Sum of NumberBypassed	128	60,572	300	30	36,794	97,824
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	43	1	0	33	77
	Sum of FacilityMorts	17	305	2	20	292	636
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	17	348	3	20	325	713
Total Sum of NumberCollected		153,642	2,592,935	84,200	31,171	1,818,593	4,680,541
Total Sum of NumberBarged		138,641	1,591,584	77,746	30,658	1,101,245	2,939,874
Total Sum of NumberBypassed		8,308	999,008	5,519	230	710,716	1,723,781
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		30	106	1	9	66	212
Total Sum of FacilityMorts		193	745	9	271	648	1,866
Total Sum of ResearchMorts		0	0	0	3	0	3
Total Sum of TotalProjectMorts		223	851	10	283	714	2,081

Cumulative Adult Passage at Mainstem Dams Through: 05/28

DAM	END DATE	Spring Chinook						Summer Chinook						Fall Chinook					
		2015		2014		10-Yr Avg.		2015		2014		10-Yr Avg.		2015		2014		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	05/28	211819	12237	182703	25029	127675	22819	0	0	0	0	0	0	0	0	0	0	0	0
TDA	05/28	181468	10547	134794	19364	93888	18511	0	0	0	0	0	0	0	0	0	0	0	0
JDA	05/28	152475	9549	114320	17084	79912	16757	0	0	0	0	0	0	0	0	0	0	0	0
MCN	05/28	141011	6743	95907	13309	68511	12825	0	0	0	0	0	0	0	0	0	0	0	0
IHR	05/28	104591	4202	69258	9041	45612	7688	0	0	0	0	0	0	0	0	0	0	0	0
LMN	05/28	98809	5946	67257	9480	43418	6232	0	0	0	0	0	0	0	0	0	0	0	0
LGS	05/28	92638	5688	65726	8998	37674	6473	0	0	0	0	0	0	0	0	0	0	0	0
LGR	05/28	90791	4703	63237	8126	35233	6677	0	0	0	0	0	0	0	0	0	0	0	0
PRD	05/27	19916	936	17498	1692	11829	966	0	0	0	0	0	0	0	0	0	0	0	0
WAN	05/27	19356	540	0	0	11752	1143	0	0	0	0	0	0	0	0	0	0	0	0
RIS	05/27	21710	678	16080	1420	10088	1171	0	0	0	0	0	0	0	0	0	0	0	0
RRH	05/27	8918	343	8176	1050	3944	445	0	0	0	0	0	0	0	0	0	0	0	0
WEL	05/26	7145	413	6133	419	2302	288	0	0	0	0	0	0	0	0	0	0	0	0
WFA	05/26	39046	1390	18320	593	19451	489	0	0	0	0	0	0	0	0	0	0	0	0

DAM	END DATE	Coho						Sockeye			Steelhead						Lamprey		
		2015		2014		10-Yr Avg.		2015	2014	10-Yr Avg.	10-Yr		Wild 2015	Wild 2014	10-Yr Avg.	2015	2014	10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack				2015	2014							
BON	05/28	0	0	5	-2	0	0	44	20	5	5035	5469	5026	2513	1423	1325	271	2134	620
TDA	05/28	0	0	0	0	0	0	11	2	1	420	871	2446	178	209	924	18	0	0
JDA	05/28	0	0	0	1	0	1	8	4	0	594	3131	4983	338	1128	1745	90	132	34
MCN	05/28	0	0	0	0	1	0	14	0	0	716	821	5297	404	335	1770	20	7	1
IHR	05/28	0	0	0	0	0	0	0	0	0	1106	1756	4947	683	765	1515	10	5	0
LMN	05/28	0	0	0	0	0	0	0	1	0	3425	5238	6625	1840	1601	2139	6	1	0
LGS	05/28	0	0	0	0	0	0	0	0	0	1485	1541	3068	993	1002	1445	0	0	0
LGR	05/28	0	0	0	0	0	0	9	0	0	9174	7453	8781	4339	3450	3231	0	0	0
PRD	05/27	0	0	0	0	0	0	0	19	1	35	111	50	0	0	0	28	1	0
WAN	05/27	0	0	0	0	0	0	1	0	0	53	0	111	0	0	0	17	0	0
RIS	05/27	0	0	0	0	0	0	3	2	1	130	275	109	88	147	56	0	0	0
RRH	05/27	0	0	0	0	0	0	0	1	0	112	246	348	77	157	252	0	0	0
WEL	05/26	0	0	0	0	0	0	0	0	0	36	118	69	29	74	48	0	0	2
WFA	05/26	1	0	9	0	0	0	0	0	0	5592	10875	12013	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.