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Fish Passage Center

Weekly Report #16–16

July 1, 2016

Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 24% and 68% of average at individual sub-basins over June. Precipitation above The Dalles has been 54% of average over June. Over the 2016 water year, precipitation has ranged between 86% and 106% of average.

Table 1. Summary of June precipitation and cumulative October through June 29th precipitation with respect to average (1981–2010), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2016 June 1–29, 2016		Water Year 2016 October 1, 2015 to June 29, 2016	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia above Coulee	2.15	68	31.6	99
Snake River above Ice Harbor	0.50	30	18.7	93
Columbia above The Dalles	1.11	54	23.6	98
Kootenai	2.10	62	31.3	99
Clark Fork	0.79	29	20.1	86
Flathead	1.68	47	32.6	106
Pend Oreille River Basin above Waneta Dam	1.27	41	27.3	106
Salmon River Basin	0.74	31	23.6	92
Upper Snake Tributaries	0.44	24	19.8	87
Clearwater	1.36	44	35.6	98
Willamette River above Portland	1.77	67	65.9	106

Table 2 displays the June 30th ESP runoff volume forecasts for multiple reservoirs along with the June COE forecasts at Libby and Dworshak. The June 30th ESP forecast at The Dalles between April and August is 79,046 Kaf (90% of average).

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

Location	June 30, 2016 5-day QPF ESP	
	% Average (1981–2010)	Runoff Volume (Kaf)
The Dalles (Apr–Aug)	90	79,046
Grand Coulee (Apr–Aug)	92	52,117
Libby Res. Inflow, MT (Apr–Aug)	89 110*	5,256 6,445*
Hungry Horse Res. Inflow, MT (Apr–Aug)	87	1,682
Lower Granite Res. Inflow (Apr–July)	83	16,474
Brownlee Res. Inflow (Apr–July)	73	4,003
Dworshak Res. Inflow (Apr–July)	86 86*	2,083 2,083*

* Denotes COE June Forecast

Grand Coulee Reservoir is at 1,286.3 feet (6-30-16) and has drafted 1.4 feet over the last week. Outflows at Grand Coulee have ranged between 124.1 and 136.9 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2,439.3 feet (6-30-16) and has refilled 3.0 feet over the previous week. Daily average outflows at Libby Dam have been 7.0 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3,558.6 feet (6-30-16) and has refilled 0.9 feet over the last week. Outflows at Hungry Horse have been 2.1 Kcfs over the last week.

Dworshak is currently at an elevation of 1,597.4 feet (6-30-16) and has drafted 2.3 feet over the last week. Dworshak has increased outflows over the last week from 2.2 Kcfs to 9.5 Kcfs.

The Brownlee Reservoir was at an elevation of 2,072.0 feet on June 30, 2016, and has drafted 2.8 ft. over the last week. Inflows at Brownlee have ranged between 10.3 and 11.5 Kcfs over the last week.

The Spring Biological Opinion flow period began on April 3rd and ended June 20th in the lower Snake River (Lower Granite). According to the April Final Water Supply Forecast (April 7, 2016), the flow objective this spring was 96 Kcfs at Lower Granite. Flows at Lower Granite Dam averaged 84.1 Kcfs over the spring flow period. The Summer Biological Opinion flow period began on June 21st with a flow objective of 50.4 Kcfs. Between June 21 and 30, 2016 flows at Lower Granite Dam were 40.8 Kcfs.

Based on the April Final Water Supply Forecast(which began on April 10th), the Spring Biological Opinion Flow Objectives will be 243 Kcfs at McNary Dam and 135 Kcfs at Priest Rapids Dam. Over the last week, flows at McNary have averaged 195.0 Kcfs and 146.2 Kcfs at Priest Rapids. Between April 10 and June 30, 2016 flows at McNary Dam averaged 247.5 Kcfs and Priest Rapids Dam flows were 155.9 Kcfs.

Spill and River Temperature

No spill occurred at Dworshak Dam over the past week.

Summer spill for juvenile fish passage began on June 21st and will continue through August 31st. Summer spill for fish passage at the Snake River projects is to occur at the following amounts described in the 2016 Fish Operations Plan (FOP).

Project	Spill Level Day/Night
Lower Granite	18 Kcfs/18 Kcfs
Little Goose	30%/30%
Lower Monumental	17 Kcfs/17 Kcfs
Ice Harbor	June 21-July 13: 30%/30% vs. 45 Kcfs/Gas Cap July 13-August 31: 45 Kcfs/Gas Cap

At Lower Granite Dam the removable spillway weir was closed on June 29th to reduce the amount of surface warm water transferred from the forebay to the tailrace. The spill pattern was changed from a "bulk" spill pattern to a "uniform" spill pattern. The change was not supposed to decrease the amount of spill (18 Kcfs), but for 9 hours after the change was made, spill only measured 16.5 Kcfs. Since that time spill has ranged from 17.5 to 18 Kcfs, averaging 17.8 Kcfs on June 30. At the other Lower Snake River projects (Little Goose, Lower Monumental and Ice Harbor dams) spill has occurred at the 2016 FOP levels.

Summer spill for fish passage began on June 16th 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	June 16-Aug 31: 50%/50%
John Day	June 16-July 20: 30%/30% and 40%/40% July 20-August 31: 30%/30%
The Dalles	40%/40%
Bonneville	June 16 -Aug 31: 85Kcfs/121Kcfs and 95 Kcfs/95 Kcfs

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

All sites were within TDG criteria over the past week.

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, McNary, Bonneville and Rock Island dams over the past week. No fish were observed with signs of GBT over the past week.

Temperature: At present water temperatures remain below the 68° F temperature standard at all the hydroelectric projects in the FCRPS. With the recent warm weather that prevailed over Lower Snake River region last week, the rate of increase in water temperature at Lower Granite Dam intensified. The forebay temperatures increased from 61.2 on June 23rd to 67.1°F on June 30th. The cool water releases from Dworshak Dam were increased on Monday to attempt to reduce the warm temperatures. It is about two degrees cooler (65.3°F) downstream at Ice Harbor Dam, where the temperature is about the same as it was last week. At McNary and Bonneville dams the forebay temperatures were 65.8°F and 66.0°F, respectively on June 30th. These forebay temperatures are measuring 3 to 4 degrees Fahrenheit less than the levels measured at this time last year.

Smolt Monitoring

Smolt Monitoring Program (SMP) sampling is ongoing at all SMP bypass facilities and the Imnaha trap. Subyearling Chinook dominated this week's samples at all of the SMP bypass facilities. Subyearling Chinook passage increased at the three Middle Columbia sites (BON, JDA, and MCN) and the one Upper Columbia site (RIS) but decreased at all three Snake River sites (LGR, LGS, and LMN). Finally, passage of spring migrants (i.e., yearling Chinook, steelhead, coho, and sockeye) was extremely low at all SMP bypass facilities.

Samples at Bonneville Dam (BON) were again dominated by subyearling Chinook. This week's daily average passage index for subyearling Chinook at BON was nearly 43,000 per day, which is an increase over last week's daily average passage index of about 10,400 per day. Passage of spring migrants was low this week, with daily average passage indices of less than 200 fish per day for each species. No Pacific lamprey ammocoetes were encountered in this week's samples and Pacific macropthalmia were only encountered in one of this week's samples (June 27th).

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. Subyearling Chinook continued to dominate the collections at JDA this week. This week's daily average passage index was about 117,000 fish per day, which is a substantial increase over last week's daily average passage index of nearly 39,000 fish per day. Passage of spring migrants was extremely low this week. In fact, the only spring migrants that were encountered in this week's samples were steelhead. Finally, no juvenile lamprey ammocoetes were encountered in this week's samples at JDA.

As in recent years, sampling at McNary Dam (MCN) in 2016 will be every-other-day for the entire SMP season. Subyearling Chinook again were the dominate species at MCN this week, with a daily average passage index of about 592,500 per day. This is a substantial increase over last week's daily average passage index of about 205,000 subyearling Chinook per day. The increase in subyearling Chinook passage coincides with the release of about 10.5 million hatchery subyearlings from Priest Rapids and Ringgold hatcheries that began on June 16th and June 22nd, respectively. PIT-tagged fish from the Priest Rapids Hatchery release were first detected at MCN on June 20th with peak PIT-tag detections on June 27th. The only spring migrants that were encountered in this week's samples at MCN were sockeye, which were collected in the June 24th sample. Finally, Pacific lamprey macropthalmia were only encountered in one of this week's samples (June 24th).

This week's samples at Lower Granite Dam (LGR) were again dominated by subyearling Chinook, with a daily average passage index of about 16,300 per day. This is a decrease over last week's daily average passage index of about 20,800 subyearling Chinook per day. Passage of spring migrants was extremely low this week. In fact, the daily average passage indices for spring migrants for this week were all below 125 fish per day. Finally, Pacific lamprey ammocoetes and

macropthalmia were encountered in one of this week's samples (June 29th for ammocoetes and June 24th for macropthalmia).

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. Subyearling Chinook dominated this week's collections at LGS. This week's daily average passage index for subyearling Chinook at LGS was about 12,000 fish per day, which is a decrease over last week's daily average passage index of about 22,500 fish per day. Passage of spring migrants was extremely low this week, with daily average passage indices of less than 100 fish per day. Finally, Pacific lamprey ammocoetes were not encountered in this week's samples and Pacific lamprey macropthalmia were encountered in four of this week's samples.

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. This week's samples at LMN were dominated by subyearling Chinook, with a daily average passage index of just over 2,000 per day, which is a decrease over last week's daily average passage index of about 3,550 per day. Passage of spring migrants was extremely low this week, with daily average passage indices of less than 75 fish per day for each species. Finally, Pacific lamprey macropthalmia were encountered in four of this week's samples.

Subyearling Chinook continued to dominate the samples at Rock Island Dam (RIS) this week. This week's daily average passage index for subyearling Chinook at RIS was about 280 per day, which is an increase over last week's daily average passage index of about 200 fish per day. Passage of spring migrants this week was very low and no lamprey juveniles were encountered in this week's samples at RIS.

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 June 16 sample. For the period of June 10-June 16, yearling Chinook dominated the collections at IMN. The daily average collection for yearling Chinook was nearly 20 per day. The daily average collection for steelhead over this same period was nearly 10 fish per day.

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 400,000 spring Chinook pre-smolts were scheduled to be released into the Selway River, a tributary of the Clearwater River. This release was scheduled to begin on or around July 1st. Although released in 2016, these pre-smolts are not expected to out-migrate until spring of 2017. No new releases 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 were scheduled for this zone this week. However, the volitional release of 3.5 million subyearling fall Chinook juveniles from Ringgold Hatchery continued this week. This volitional release began on June 22nd and is expected to run through July 6th. No new releases are scheduled for this zone over the next two weeks.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. On or around July 1st, Willard NFH was expected to begin a release of about 2.0 million subyearling fall Chinook brights into the Little White Salmon River. In addition, Little White Salmon NFH is scheduled to begin releasing its 4.1 million subyearling fall Chinook brights into the Little White Salmon River on or around July 5th. No other releases are scheduled for this zone over the next two weeks.

Adult Passage

The summer Chinook count began June 1st at Bonneville Dam. Daily passage numbers at Bonneville Dam ranged between 2,216 and 3,412 adult summer Chinook in the last week. The 2016 summer Chinook count of 77,465 is about 76.5% of the 2015 count, while being 1.2 times greater than the 10-year average. The 2016 summer Chinook jack count of 6,586 is about 56.2% of the 2015 count and 46.6% of the 10-year average count. At Willamette Falls, 23,347 adult spring Chinook have been counted so far this year. In 2015, 49,957 adult spring Chinook were counted at Willamette Falls. This year's count is about 46.7% of the 2015 count and 74.3% of the 10-year average count of 31,442. As of June 30th, a total of 44,182 adult summer Chinook have been counted at McNary Dam and 5,611 have been counted at Lower Granite Dam. The 2016 McNary Dam adult summer Chinook count has 2,109 fewer fish than the 2015 count, while being about 1.2 times greater than the 10-year average count. The 2016 Lower Granite Dam adult summer Chinook count has 1,984 fewer fish than the 2015 count and 3,897 fewer fish than the 10-year average count.

The 2016 Bonneville Dam adult steelhead count of 15,013 is 1.3 times greater than the 2015 count of 11,331 and has 14 more fish than the 10-year average count of 14,999. The 2016 Bonneville Dam adult wild steelhead count of 6,041 has 649 more fish than the 2015 count of 5,392 and 1,230 more fish than the 10-year average count of 4,811. Daily adult steelhead counts at Lower Granite Dam ranged from 11 to 24 adults per day last week. This year's Lower Granite steelhead count of 5,667 is about 61% of the 2015 count of 9,293 and 60% of the 10-year average count of 9,456. The 2016 Lower Granite Dam adult wild steelhead count of 3,263 is 74.5% of the 2015 count of 4,379 and is about 91.9% of the 10-year average count of 3,551. At Willamette Falls, the 2016 count for steelhead was 20,119 as of June 27th. This year's steelhead count is about 3 times greater than the 2015 count of 6,813 and about 1.1 times greater than the 10-year average count of 18,916.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 7,854 and 21,412 last week. The 2016 adult sockeye count at Bonneville Dam of 284,345 is about 79.6% of the 2015 count and 1.5 times greater than the 10-year average count. The 2016 adult sockeye count at McNary Dam of 190,670 has 6,983 more fish than the 2015 count and is 2 times greater than the 10-year average count. The Lower Granite Dam 2016 adult sockeye count of 67 has 8 fewer fish than the 2015 count of 75 while having 30 more fish than the 10-year average count. As of June 30th at Bonneville Dam, the adult shad count was 1,594,859. This year's shad count is about 97% of the 2015 count of 1,643,733 and 74.2% of the 10-year average count of 2,148,786.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 6/18/2016 to 07/01/16

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Nez Perce Tribe	Dworshak NFH	CH1	SP	2017	400,000	07-01-16	07-01-16	Meadow Creek - SELW	Selway River
Nez Perce Tribe Total					**400,000**				
U.S. Fish and Wildlife Service	Willard Hatchery	CH0	FA	2016	2,000,000	07-01-16	07-07-16	Willard Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service Total					**2,000,000**				
Washington Dept. of Fish and Wildlife	Priest Rapids Hatchery	CH0	FA	2016	7,039,543	06-16-16	06-24-16	Priest Rapids Hatchery	McNary Pool
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2016	3,500,000	06-22-16	07-06-16	Ringold Springs Hatchery	McNary Pool
Washington Dept. of Fish and Wildlife Total					**10,539,543**				
Grand Total					**12,939,543**				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 7/2/2016 to 7/15/2016

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH0	FA	2016	4,100,000	07-05-16	07-05-16	Little White Salmon Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service	Willard Hatchery	CH0	FA	2016	2,000,000	07-01-16	07-07-16	Willard Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service Total					**6,100,000**				
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2016	3,500,000	06-22-16	07-06-16	Ringold Springs Hatchery	McNary Pool
Washington Dept. of Fish and Wildlife Total					**3,500,000**				
Grand Total					**9,600,000**				

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

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

	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
06/17/2016	106.6	0.0	107.3	0.0	124.3	9.3	123.2	9.9	131.7	22.9	149.3	19.3	148.4	27.1
06/18/2016	79.3	0.1	80.7	0.0	87.4	6.6	85.5	9.0	92.0	19.9	107.0	17.9	109.8	25.2
06/19/2016	116.4	0.1	115.1	0.0	116.6	8.3	108.1	9.0	114.2	20.5	95.4	19.1	90.8	27.2
06/20/2016	110.0	0.1	112.1	0.0	119.7	8.5	118.2	11.9	128.7	24.5	137.1	19.7	132.2	18.5
06/21/2016	121.3	0.1	118.3	0.0	125.7	9.0	122.3	10.8	129.1	23.3	139.3	19.2	136.0	27.2
06/22/2016	135.6	0.2	135.8	0.0	149.1	9.5	150.1	11.7	158.4	27.8	148.7	27.3	150.0	23.9
06/23/2016	133.4	0.1	133.2	0.0	134.6	9.3	129.7	10.9	137.9	25.5	157.9	16.9	150.5	25.6
06/24/2016	130.4	0.1	127.3	0.0	135.5	9.6	130.7	11.1	139.0	27.1	147.8	18.7	145.2	26.7
06/25/2016	134.6	0.1	140.1	0.4	146.4	10.0	145.3	10.9	155.4	25.7	156.6	18.9	152.0	26.3
06/26/2016	132.2	0.1	132.7	0.0	142.7	10.0	139.0	13.2	146.6	28.8	156.8	18.6	154.7	25.8
06/27/2016	136.9	0.1	134.7	0.0	141.2	9.6	141.9	13.5	148.6	28.7	155.0	18.5	154.4	25.0
06/28/2016	124.1	0.1	129.0	0.0	135.1	10.0	138.4	12.4	145.4	29.5	146.5	18.7	139.9	23.0
06/29/2016	134.5	0.1	132.1	0.0	137.4	9.9	137.1	13.4	142.0	30.4	144.5	18.7	141.9	23.2
06/30/2016	136.7	0.1	138.8	0.0	140.8	10.0	136.7	13.4	144.6	30.4	140.1	19.8	135.3	29.2

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

	Dworshak		Brownlee	Hells Canyon	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
Date	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
06/17/2016	4.3	0.0	---	15.3	54.1	20.6	47.7	14.3	47.1	26.4	50.8	21.6
06/18/2016	4.3	0.0	---	13.8	49.7	20.5	46.3	13.9	45.7	26.3	48.3	14.4
06/19/2016	4.3	0.0	---	15.3	48.9	20.5	46.5	14.0	46.2	26.6	50.3	35.3
06/20/2016	4.2	0.0	---	16.4	47.2	20.4	41.3	12.4	42.5	26.2	42.5	31.5
06/21/2016	4.2	0.0	---	16.0	45.5	18.6	43.5	13.1	42.8	17.0	45.7	17.3
06/22/2016	3.7	0.0	---	18.0	43.0	18.7	40.8	12.3	41.2	16.4	41.6	12.4
06/23/2016	3.7	0.0	---	15.5	44.8	18.9	42.4	12.8	42.8	17.0	44.1	29.9
06/24/2016	2.2	0.0	---	10.9	39.4	18.6	36.5	10.8	36.0	16.7	38.4	27.4
06/25/2016	2.2	0.0	---	11.8	34.5	18.7	32.8	9.9	32.9	16.4	34.9	13.8
06/26/2016	2.2	0.0	---	12.1	35.1	18.7	33.9	10.2	33.3	16.6	33.4	10.0
06/27/2016	5.6	0.0	---	16.3	36.9	18.8	35.7	10.7	36.0	17.0	36.1	22.1
06/28/2016	8.1	0.0	---	15.1	43.5	18.8	41.7	12.5	42.3	16.6	45.9	34.7
06/29/2016	9.5	0.0	---	13.9	42.4	17.8	40.0	12.1	39.1	17.1	39.4	14.3
06/30/2016	9.5	0.0	---	14.1	43.1	17.8	38.2	11.4	39.2	16.8	39.3	11.8

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

	McNary		John Day		The Dalles		Bonneville			
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
06/17/2016	202.9	101.7	199.1	79.4	184.3	74.1	197.5	73.1	24.1	87.9
06/18/2016	201.1	100.9	176.0	67.6	163.3	65.1	186.1	95.7	9.9	68.0
06/19/2016	148.3	74.2	153.6	46.4	145.8	58.7	175.0	95.1	10.3	57.2
06/20/2016	192.2	96.3	192.6	61.6	180.2	72.3	178.9	94.9	10.3	61.4
06/21/2016	184.2	92.2	196.7	78.5	181.2	72.4	201.6	95.4	10.2	83.6
06/22/2016	201.7	101.1	188.5	72.2	169.8	68.2	188.5	95.2	4.9	76.0
06/23/2016	207.9	104.2	195.3	59.0	177.4	70.9	187.0	95.5	1.0	78.1
06/24/2016	179.9	90.2	164.6	52.2	154.4	62.0	175.7	95.3	0.9	67.0
06/25/2016	195.8	98.0	197.4	78.5	183.6	73.3	186.6	95.6	0.9	77.6
06/26/2016	204.3	102.3	196.7	74.7	180.3	71.6	194.3	91.0	0.9	90.0
06/27/2016	203.6	102.1	193.7	58.3	174.6	69.9	198.6	95.9	1.8	88.5
06/28/2016	197.6	99.1	195.1	62.0	179.5	71.9	196.1	97.3	0.9	85.5
06/29/2016	195.5	98.0	186.9	75.0	170.8	68.3	192.8	94.7	0.9	84.8
06/30/2016	188.2	94.3	180.7	69.4	167.5	66.9	174.8	90.9	0.9	70.6

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										
Little Goose Dam										
	06/20/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/27/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam										
	06/22/16 Chinook + Steelhead	75*	0	0			0	0	0	0
	06/29/16 Chinook + Steelhead	55*	0	0			0	0	0	0
McNary Dam										
	06/17/16 Chinook + Steelhead	102	0	0	0.00%	0.00%	0	0	0	0
	06/19/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/23/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/27/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam										
	06/18/16 Chinook + Steelhead	94*	0	0			0	0	0	0
	06/19/16 Chinook + Steelhead	6*	0	0			0	0	0	0
	06/21/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/25/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/28/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam										
	06/21/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/23/16 Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	06/28/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/30/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

	Hungry H. Dnst				Boundary				Grand Coulee				Grand C. Tlwr				Chief Joseph			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/17	103.2	103.6	103.7	24	---	---	---	0	107.5	107.7	107.9	24	105.8	106.3	106.7	24	105.8	106.4	106.8	24
6/18	103.5	103.8	104.1	24	---	---	---	0	106.2	107.2	107.7	24	105.9	106.4	106.9	24	105.6	105.9	106.1	24
6/19	102.9	103.1	103.2	24	---	---	---	0	106.3	106.5	106.8	24	104.9	105.4	105.6	24	105.1	105.5	105.7	24
6/20	103.4	104.1	104.3	24	---	---	---	0	107.1	107.4	107.6	24	105.8	106.3	106.8	24	105.9	106.3	106.7	24
6/21	103.6	103.9	104.1	24	---	---	---	0	107.1	107.5	108.0	24	106.1	106.4	106.6	24	106.4	106.7	106.9	24
6/22	103.9	104.3	104.6	24	---	---	---	0	106.8	107.1	107.5	24	106.2	106.7	106.8	24	106.8	107.4	107.6	24
6/23	104.7	105.0	105.5	23	---	---	---	0	107.5	107.7	108.0	24	106.6	106.9	107.2	24	107.2	107.5	107.7	24
6/24	104.1	104.3	104.7	23	---	---	---	0	106.2	106.5	106.8	24	105.7	105.9	106.3	24	106.1	106.4	106.7	24
6/25	103.2	103.4	103.7	24	---	---	---	0	105.9	106.2	106.6	24	105.5	105.7	105.9	24	105.6	106.0	106.4	24
6/26	103.3	103.7	104.1	24	---	---	---	0	106.0	106.1	106.3	24	105.6	106.1	106.5	24	105.5	106.1	106.4	24
6/27	103.6	104.0	104.5	24	---	---	---	0	106.0	106.4	106.6	24	105.9	106.3	106.5	24	106.5	106.9	107.1	24
6/28	104.3	104.7	105.1	24	---	---	---	0	106.6	106.9	109.1	24	106.1	106.5	106.8	24	107.0	107.5	107.9	24
6/29	104.4	104.7	105.1	24	---	---	---	0	106.8	107.0	107.2	24	106.3	106.8	107.0	24	107.2	107.7	108.0	24
6/30	105.0	105.4	105.9	23	---	---	---	0	106.9	107.0	107.2	23	106.5	106.8	107.0	23	107.3	107.7	108.3	23

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

	Chief J. Dnst				Wells				Wells Dwnstrm				Rocky Reach				Rocky R. Tlwr			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/17	106.0	106.3	106.7	24	105.0	105.6	106.1	24	106.6	107.3	107.7	24	106.1	106.4	106.7	24	111.9	112.7	113.1	24
6/18	105.9	106.4	106.9	24	105.2	105.5	105.8	24	106.4	106.6	106.9	24	106.1	106.6	106.7	24	110.8	111.4	112.6	24
6/19	105.0	105.4	105.9	24	104.1	104.5	104.8	24	106.1	106.5	106.8	24	105.2	105.3	105.6	24	110.4	111.2	111.8	24
6/20	106.0	106.2	106.5	24	105.7	106.5	106.9	24	107.5	108.5	109.2	24	105.9	106.4	107.0	24	112.1	113.2	113.7	24
6/21	106.4	106.6	106.9	24	106.1	106.5	106.9	24	108.0	108.4	108.9	24	106.9	107.2	107.5	24	112.7	113.4	114.1	24
6/22	106.6	107.2	107.8	24	106.9	107.3	107.6	24	108.7	109.4	109.8	24	108.4	108.8	109.1	24	114.1	114.9	115.4	24
6/23	107.3	107.7	108.0	24	106.8	107.0	107.2	24	108.6	109.0	109.3	24	108.7	108.9	109.1	24	113.8	114.3	114.6	24
6/24	106.1	106.7	107.3	24	105.9	106.3	106.5	24	107.8	108.2	108.5	24	107.6	108.1	108.6	24	113.3	113.7	114.2	24
6/25	105.1	105.4	105.8	24	105.0	105.3	105.7	24	107.0	107.5	108.0	24	106.3	106.5	106.7	24	112.5	112.9	113.0	24
6/26	105.1	105.4	105.9	24	105.6	106.1	106.5	24	107.6	108.2	108.5	24	106.7	107.2	107.5	24	113.3	114.2	114.5	24
6/27	106.1	106.4	106.8	24	106.1	106.6	106.9	24	108.0	108.7	109.4	24	107.5	108.0	108.4	24	113.6	114.5	115.1	24
6/28	106.5	107.0	108.5	24	107.1	107.7	108.0	24	109.0	109.7	110.3	24	108.2	108.6	108.9	24	113.6	114.4	114.6	24
6/29	106.4	106.8	107.2	24	107.5	108.2	108.7	24	109.3	110.3	110.9	24	108.8	109.3	109.6	24	114.1	115.0	115.3	24
6/30	106.6	106.9	107.1	23	107.0	107.3	107.8	22	109.4	110.0	110.5	22	109.1	109.4	109.6	23	114.4	115.1	115.4	23

Total Dissolved Gas Saturation at Mid Columbia River Sites

	Rock Island				Rock I. Tlwr				Wanapum				Wanapum Tlwr				Priest Rapids			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/17	107.1	107.7	108.2	24	111.9	113.1	113.7	24	109.5	110.4	110.8	24	110.9	111.1	111.2	24	109.1	109.7	110.2	24
6/18	106.8	107.4	108.2	24	111.9	113.0	113.9	24	108.6	109.4	110.0	24	111.0	111.4	112.2	24	109.4	110.0	110.2	24
6/19	105.9	106.5	107.8	24	111.0	112.3	113.7	24	108.0	109.2	110.1	24	111.1	111.7	112.4	24	108.1	108.8	110.2	24
6/20	107.2	107.9	108.6	24	112.7	113.3	114.2	24	109.5	110.7	111.9	24	111.0	111.4	111.6	24	111.1	111.7	112.0	24
6/21	107.9	108.5	109.1	24	112.2	113.8	115.5	24	108.3	108.8	109.2	24	110.3	110.7	111.7	24	109.5	110.0	110.8	24
6/22	108.9	109.9	110.4	24	113.7	115.1	115.8	24	110.0	111.0	111.7	24	111.6	112.4	112.9	24	109.9	110.5	111.5	24
6/23	109.1	109.4	109.7	24	113.6	114.5	115.5	24	110.5	110.8	111.1	22	111.6	112.1	112.9	22	110.8	111.4	112.0	22
6/24	108.1	108.3	108.9	24	113.4	113.9	114.9	24	108.0	108.7	109.8	24	109.9	110.5	111.1	24	108.6	109.1	109.4	24
6/25	107.4	107.8	108.3	24	112.2	113.1	113.4	24	108.6	110.2	111.8	24	109.1	109.6	110.0	24	108.1	108.6	109.1	24
6/26	107.8	108.6	109.5	24	113.1	114.6	115.1	24	110.6	111.9	112.4	24	110.7	111.2	111.4	24	109.4	109.9	110.5	24
6/27	108.4	109.0	109.5	24	113.4	114.4	114.9	24	111.9	112.9	113.8	24	112.8	113.0	113.2	24	111.1	111.5	111.8	24
6/28	108.8	109.3	109.9	24	114.1	115.2	115.7	24	112.4	113.4	114.0	24	112.7	113.0	113.3	24	111.6	111.9	112.1	24
6/29	109.1	109.7	110.4	24	113.5	114.4	115.4	24	112.3	113.1	114.2	24	112.3	113.0	113.4	24	111.8	111.9	112.1	24
6/30	109.0	109.5	110.1	23	114.2	115.3	115.9	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

	Priest R. Dnst				Pasco				Dworshak				Clrwtr-Peck				Anatone			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/17	111.2	111.5	111.8	24	---	---	---	0	99.4	100.2	103.0	24	100.6	101.6	102.1	24	103.5	104.6	105.2	24
6/18	111.4	112.0	113.2	24	---	---	---	0	98.8	99.3	100.0	24	99.5	100.0	100.6	24	102.8	103.1	103.3	24
6/19	112.9	114.1	115.5	24	---	---	---	0	98.3	98.9	99.3	24	99.5	100.8	101.6	24	102.9	104.0	104.7	24
6/20	111.5	111.8	112.0	24	---	---	---	0	99.4	100.3	100.9	24	100.3	101.6	102.8	24	103.5	104.3	105.0	24
6/21	111.3	111.6	112.3	24	---	---	---	0	100.2	100.7	101.2	24	100.7	102.8	104.2	24	102.9	103.6	104.4	24
6/22	111.2	111.3	111.5	24	---	---	---	0	100.3	100.9	101.8	24	102.4	103.7	104.9	24	103.0	104.0	104.8	24
6/23	112.0	112.4	113.0	21	---	---	---	0	100.7	101.3	101.8	24	102.2	103.4	104.3	24	102.6	103.3	104.0	24
6/24	111.1	111.4	112.0	24	---	---	---	0	100.9	101.6	102.6	24	101.0	101.9	103.0	24	101.6	102.2	103.0	24
6/25	110.7	111.1	111.2	24	---	---	---	0	101.1	102.3	103.0	24	101.4	103.1	104.0	24	102.0	103.3	104.4	24
6/26	111.4	111.9	112.1	24	---	---	---	0	101.4	102.7	103.5	24	101.4	102.9	103.9	24	102.3	103.4	104.4	24
6/27	112.6	112.8	113.0	24	---	---	---	0	99.8	100.5	102.4	24	101.8	103.3	104.8	24	102.5	103.7	104.6	24
6/28	112.4	112.7	113.0	24	---	---	---	0	98.9	99.4	100.2	24	101.9	103.1	104.1	24	102.6	103.6	104.6	24
6/29	112.4	112.8	113.0	24	---	---	---	0	98.7	99.2	99.5	24	102.0	103.2	104.1	24	102.6	103.8	104.8	24
6/30	---	---	---	0	---	---	---	0	98.9	99.3	99.5	23	102.2	103.3	104.1	23	102.3	103.4	104.6	23

Total Dissolved Gas Saturation Data at Snake River Sites

	Clrwtr-Lewiston				Lower Granite				L. Granite Tlwr				Little Goose				L. Goose Tlwr			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/17	102.3	104.2	105.4	24	100.2	100.3	100.5	24	110.1	110.5	111.2	24	105.8	106.3	106.6	24	110.5	110.9	111.3	24
6/18	100.8	101.4	102.2	24	100.1	100.3	100.5	24	110.4	110.9	111.4	24	105.9	106.1	106.3	24	110.8	111.0	111.2	24
6/19	102.0	104.6	106.1	24	99.9	100.2	100.5	24	110.5	110.7	110.9	24	105.9	106.7	107.3	24	111.1	111.5	111.9	24
6/20	102.9	105.2	106.8	24	100.9	101.1	101.8	24	110.8	111.2	111.7	24	107.5	107.8	108.1	24	111.6	112.0	112.3	24
6/21	102.6	104.7	106.8	23	101.4	101.7	101.9	24	113.6	114.0	114.7	24	107.4	107.7	107.8	24	111.5	111.9	112.4	24
6/22	103.5	105.9	107.8	24	102.5	103.7	105.0	24	114.3	114.8	115.3	24	108.0	108.2	108.6	24	112.0	112.4	112.8	24
6/23	103.2	105.3	106.6	24	104.3	104.7	105.4	24	114.6	114.9	115.2	24	108.1	108.7	109.7	24	111.8	112.2	112.5	24
6/24	101.7	103.2	104.1	24	103.2	103.4	103.6	24	114.7	115.0	115.4	24	108.6	108.9	109.4	24	111.0	111.3	111.5	24
6/25	102.8	105.6	107.4	24	102.4	102.7	103.1	24	114.9	115.3	115.7	24	107.2	107.4	107.6	24	110.9	111.3	111.6	24
6/26	103.3	106.0	107.8	24	101.8	101.9	102.2	24	115.0	115.3	115.7	24	107.6	108.0	108.4	24	110.6	110.7	110.9	24
6/27	103.5	106.2	107.9	24	101.2	101.4	101.6	24	114.8	115.0	115.3	24	108.5	108.8	109.1	24	110.1	110.4	110.7	24
6/28	103.9	106.0	107.6	24	101.1	101.3	101.6	24	114.2	114.4	114.5	24	110.3	111.5	113.3	24	110.9	111.7	112.0	24
6/29	103.7	105.9	107.6	24	102.2	103.0	103.8	23	112.2	114.2	114.8	24	114.7	115.5	116.3	24	111.0	111.7	112.1	24
6/30	103.9	106.2	107.9	23	102.3	102.5	102.7	23	110.7	111.2	111.5	23	114.1	114.5	115.1	23	110.0	110.7	111.1	23

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

	Lower Mon.				L. Mon. Tlwr				Ice Harbor				Ice Harbor Tlwr				McNary-Oregon			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/17	107.8	108.3	108.8	24	116.7	117.0	117.1	24	111.6	112.5	113.8	24	112.8	114.0	115.8	24	---	---	---	0
6/18	107.8	108.5	108.9	24	116.5	117.0	117.0	24	112.3	113.1	114.1	24	111.2	111.5	111.9	24	---	---	---	0
6/19	107.0	107.6	108.0	24	116.2	117.0	117.5	24	110.6	111.2	112.7	24	112.8	114.1	115.4	24	---	---	---	0
6/20	108.3	108.5	108.7	24	117.5	117.9	118.2	24	112.7	112.8	113.1	24	113.4	114.1	115.3	24	---	---	---	0
6/21	108.4	109.0	109.7	24	115.6	116.3	116.8	24	111.6	111.9	112.4	24	111.8	112.2	112.9	24	---	---	---	0
6/22	110.4	111.0	112.2	24	115.1	115.7	116.1	24	112.7	113.3	113.7	24	112.1	112.8	113.5	24	---	---	---	0
6/23	111.1	111.4	112.1	24	115.2	115.5	115.8	24	114.4	114.7	115.0	24	112.4	112.7	113.1	24	---	---	---	0
6/24	110.0	110.4	110.7	24	114.5	114.9	115.3	24	112.3	112.8	114.1	24	112.5	113.1	113.6	24	---	---	---	0
6/25	108.8	109.1	109.5	24	115.2	115.9	116.4	24	109.7	110.2	110.6	24	111.9	112.7	113.3	24	---	---	---	0
6/26	108.9	109.1	109.5	24	115.0	115.4	115.9	24	108.8	109.1	109.5	24	111.1	111.8	112.3	24	---	---	---	0
6/27	109.1	109.4	109.9	24	115.3	115.6	115.9	24	109.4	110.0	110.8	24	112.7	113.9	114.3	24	---	---	---	0
6/28	110.1	110.6	111.6	24	114.9	115.6	116.0	24	111.7	113.4	114.5	24	113.5	114.2	114.8	24	---	---	---	0
6/29	112.0	112.4	112.8	24	115.1	116.3	117.3	24	112.8	113.4	114.0	24	112.5	112.9	113.3	24	---	---	---	0
6/30	112.1	112.5	112.9	23	116.0	116.5	116.9	23	114.0	114.6	115.8	23	112.5	113.0	113.6	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

	McNary-Wash				McNary Tlwr				John Day				John Day Tlwr				The Dalles			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr
6/17	106.0	107.1	107.3	24	116.1	116.4	116.7	24	104.1	104.5	105.0	24	114.4	115.3	115.9	24	107.1	107.9	109.0	24
6/18	106.5	106.8	106.9	24	116.0	116.2	116.6	24	103.3	103.9	104.2	24	112.9	113.4	114.0	24	108.7	109.6	110.2	24
6/19	105.7	106.1	106.5	24	114.6	115.2	116.0	24	102.9	103.8	105.3	24	113.1	113.8	114.5	24	107.1	107.8	108.3	24
6/20	106.5	106.8	107.1	24	115.9	116.6	117.0	24	104.3	104.7	105.0	24	113.1	113.6	114.5	24	108.1	108.5	109.0	24
6/21	106.4	107.3	108.4	24	115.7	116.1	116.8	24	104.1	104.8	105.2	24	113.6	115.7	116.7	24	107.0	107.7	108.6	24
6/22	109.8	110.4	110.9	24	117.2	117.8	118.6	24	106.0	106.7	106.9	24	113.9	115.4	116.0	24	109.4	109.7	110.3	24
6/23	109.3	109.6	110.1	24	117.2	118.4	120.3	24	106.1	106.3	106.5	24	112.8	113.1	113.3	24	108.5	109.2	109.4	24
6/24	106.7	107.5	108.6	24	115.4	115.5	115.7	24	104.8	105.0	105.6	24	113.5	113.9	114.2	24	106.1	106.5	106.9	24
6/25	105.2	105.5	106.3	24	116.2	116.5	116.7	24	105.2	105.8	106.2	24	114.1	115.2	115.4	24	106.6	108.1	110.1	24
6/26	106.4	107.0	107.7	24	117.0	117.7	118.3	24	106.7	107.5	108.7	24	113.5	114.6	116.0	24	110.4	110.7	110.8	24
6/27	108.5	109.3	111.4	24	117.3	118.3	119.7	24	107.0	107.3	107.6	24	113.6	113.9	114.3	24	110.3	110.9	111.4	24
6/28	110.3	110.7	111.2	24	116.6	117.5	118.9	24	106.3	106.6	106.9	24	113.6	114.1	115.3	24	107.9	108.2	108.6	24
6/29	111.0	111.1	111.2	24	116.9	117.2	117.5	24	106.0	106.4	106.6	24	113.5	114.1	115.9	24	107.0	107.5	107.9	24
6/30	111.2	111.4	111.7	23	116.8	117.2	117.4	23	106.8	107.7	108.2	23	114.2	114.9	115.2	23	106.6	107.0	107.4	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

	The Dalles Dnst				Bonneville				Warrendale				Camas\Washougal				Cascade Island			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/17	112.9	113.6	113.8	24	110.0	110.2	110.9	24	114.0	115.1	115.5	24	112.0	112.6	113.6	24	115.7	116.8	117.3	24
6/18	113.4	113.9	114.1	24	110.0	110.8	111.3	24	114.9	115.1	115.3	24	110.7	110.9	111.2	24	116.5	116.6	116.9	24
6/19	112.8	113.4	113.9	24	110.0	110.7	111.1	24	115.5	116.0	116.3	24	111.4	112.8	113.6	24	116.4	116.5	116.6	24
6/20	114.0	114.7	115.7	24	111.9	112.5	113.1	24	115.6	116.1	116.6	24	112.9	114.2	115.3	24	116.5	116.6	116.6	24
6/21	112.9	113.6	114.1	24	110.5	111.0	111.4	24	115.1	115.5	115.8	24	112.5	113.8	114.6	24	116.6	116.9	117.2	24
6/22	114.1	115.1	115.5	24	110.2	110.3	110.6	24	115.4	115.8	116.0	24	113.0	114.2	115.3	24	116.5	116.6	116.8	24
6/23	113.5	114.1	114.8	24	109.4	109.7	110.0	24	114.9	115.4	115.8	24	111.1	111.7	112.8	24	116.5	116.6	116.8	24
6/24	111.7	111.8	111.9	24	108.4	108.8	109.2	24	114.8	115.0	115.2	24	109.9	110.5	110.9	24	116.3	116.4	116.5	24
6/25	112.3	113.0	113.6	24	108.9	109.5	110.1	24	115.5	115.9	116.2	24	112.6	114.6	115.7	24	116.4	116.5	116.6	24
6/26	114.7	115.4	115.8	24	110.8	111.7	112.2	24	115.1	115.4	115.8	24	112.9	113.9	114.6	24	115.5	116.2	117.8	24
6/27	115.1	115.6	116.4	24	113.2	113.8	114.2	24	116.1	116.8	117.8	24	113.4	115.3	116.9	24	115.8	116.6	117.8	24
6/28	113.6	114.0	114.3	24	111.3	112.2	113.2	24	115.4	116.0	117.1	24	112.6	113.8	115.1	24	116.2	116.9	117.6	24
6/29	112.6	112.9	113.5	24	107.7	108.1	108.9	24	114.0	114.3	114.8	24	110.5	111.3	112.2	24	116.3	116.4	116.6	24
6/30	112.6	112.9	113.2	23	105.7	106.0	106.4	23	113.0	113.3	113.7	23	109.6	110.8	112.2	23	115.0	115.5	116.8	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center Updated: 7/1/2016 9:25

Two-Week Summary of Passage Indices

* 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)
06/17/2016	*	---	---	---	---	842	86	61	0	---	227	48
06/18/2016	*	---	---	---	---	0	36	101	0	0	---	214
06/19/2016	*	---	---	---	---	0	0	77	0	---	0	89
06/20/2016	*	---	---	---	---	175	36	122	0	0	---	0
06/21/2016	*	---	---	---	---	0	180	89	0	---	76	112
06/22/2016	*	---	---	---	---	0	194	21	1	0	---	0
06/23/2016	*	---	---	---	---	0	58	51	0	---	79	59
06/24/2016	*	---	---	---	---	134	29	71	0	0	---	0
06/25/2016	*	---	---	---	---	96	86	58	0	---	0	0
06/26/2016	*	---	---	---	---	113	0	42	0	0	---	0
06/27/2016	*	---	---	---	---	0	0	59	0	---	0	0
06/28/2016	*	---	---	---	---	0	29	101	0	0	---	0
06/29/2016	*	---	---	---	---	0	14	130	0	---	0	9
06/30/2016	*	---	---	---	---	0	29	54	0	0	---	0
07/01/2016	*	---	---	---	---	---	---	---	---	---	---	0
Total:		**0**	**0**	**0**	**0**	**1,360**	**777**	**1,037**	**1**	**0**	**382**	**531**
# Days:		**0**	**0**	**0**	**0**	**14**	**14**	**14**	**14**	**7**	**7**	**15**
Average:		**0**	**0**	**0**	**0**	**97**	**56**	**74**	**0**	**0**	**55**	**35**
YTD		**27,295**	**56,302**	**16,183**	**7,757**	**5,898,944**	**3,490,945**	**4,891,044**	**44,783**	**2,181,660**	**1,456,048**	**2,660,364**

		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)
06/17/2016	*	---	---	---	---	57,754	23,925	3,975	141	---	29,657	8,163
06/18/2016	*	---	---	---	---	25,242	29,906	3,117	170	49,140	---	6,807
06/19/2016	*	---	---	---	---	18,814	40,634	3,318	66	---	34,084	10,500
06/20/2016	*	---	---	---	---	14,761	30,351	1,979	158	73,875	---	8,658
06/21/2016	*	---	---	---	---	11,747	7,616	3,085	291	---	39,399	11,724
06/22/2016	*	---	---	---	---	6,978	14,246	5,568	342	492,592	---	13,687
06/23/2016	*	---	---	---	---	10,341	10,726	3,831	319	---	52,368	12,986
06/24/2016	*	---	---	---	---	29,449	17,710	4,114	286	534,312	---	15,759
06/25/2016	*	---	---	---	---	33,644	23,117	2,358	278	---	61,540	24,183
06/26/2016	*	---	---	---	---	22,019	8,970	1,601	320	684,391	---	32,045
06/27/2016	*	---	---	---	---	14,147	8,903	1,328	266	---	87,899	59,140
06/28/2016	*	---	---	---	---	4,936	6,759	1,102	308	983,533	---	54,853
06/29/2016	*	---	---	---	---	4,737	7,163	2,235	239	---	202,058	49,688
06/30/2016	*	---	---	---	---	5,384	10,685	1,485	265	167,889	---	64,127
07/01/2016	*	---	---	---	---	---	---	---	---	---	---	58,334
Total:		**0**	**0**	**0**	**0**	**259,953**	**240,711**	**39,096**	**3,449**	**2,985,732**	**507,005**	**430,654**
# Days:		**0**	**0**	**0**	**0**	**14**	**14**	**14**	**14**	**7**	**7**	**15**
Average:		**0**	**0**	**0**	**0**	**18,568**	**17,194**	**2,793**	**246**	**426,533**	**72,429**	**28,710**
YTD		**0**	**55**	**698**	**2,869**	**1,013,761**	**742,530**	**273,369**	**15,136**	**3,574,757**	**644,365**	**2,183,702**

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)
06/17/2016	*	---	---	---	---	0	86	0	1	---	38	262
06/18/2016	*	---	---	---	---	0	36	0	3	0	---	228
06/19/2016	*	---	---	---	---	0	0	26	0	---	0	215
06/20/2016	*	---	---	---	---	0	0	0	3	0	---	86
06/21/2016	*	---	---	---	---	0	0	0	3	---	0	410
06/22/2016	*	---	---	---	---	0	0	0	0	0	---	259
06/23/2016	*	---	---	---	---	36	0	0	0	---	0	529
06/24/2016	*	---	---	---	---	0	29	18	2	0	---	565
06/25/2016	*	---	---	---	---	0	0	0	1	---	0	414
06/26/2016	*	---	---	---	---	0	0	0	1	0	---	9
06/27/2016	*	---	---	---	---	0	0	0	0	---	0	108
06/28/2016	*	---	---	---	---	0	0	0	1	0	---	0
06/29/2016	*	---	---	---	---	0	14	0	0	---	0	0
06/30/2016	*	---	---	---	---	0	0	9	2	0	---	0
07/01/2016	*	---	---	---	---	---	---	---	---	---	---	0
Total:		**0**	**0**	**0**	**0**	**36**	**165**	**53**	**17**	**0**	**38**	**3,085**
# Days:		**0**	**0**	**0**	**0**	**14**	**14**	**14**	**14**	**7**	**7**	**15**
Average:		**0**	**0**	**0**	**0**	**3**	**12**	**4**	**1**	**0**	**5**	**206**
YTD		**0**	**0**	**0**	**316**	**198,028**	**147,678**	**60,106**	**45,350**	**154,245**	**58,662**	**802,504**

					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)
06/17/2016	*	---	---	---	---	842	229	183	12	---	38	143
06/18/2016	*	---	---	---	---	0	36	25	1	822	---	158
06/19/2016	*	---	---	---	---	171	180	51	4	---	0	164
06/20/2016	*	---	---	---	---	262	108	24	6	0	---	0
06/21/2016	*	---	---	---	---	0	37	20	8	---	76	73
06/22/2016	*	---	---	---	---	0	0	33	6	412	---	89
06/23/2016	*	---	---	---	---	0	58	0	5	---	0	235
06/24/2016	*	---	---	---	---	201	30	18	9	0	---	169
06/25/2016	*	---	---	---	---	0	86	0	16	---	0	0
06/26/2016	*	---	---	---	---	226	29	42	13	0	---	108
06/27/2016	*	---	---	---	---	106	202	99	8	---	156	108
06/28/2016	*	---	---	---	---	201	121	18	7	0	---	0
06/29/2016	*	---	---	---	---	35	72	9	0	---	0	47
06/30/2016	*	---	---	---	---	35	72	18	2	0	---	0
07/01/2016	*	---	---	---	---	---	---	---	---	---	---	0
Total:		**0**	**0**	**0**	**0**	**2,079**	**1,260**	**540**	**97**	**1,234**	**270**	**1,294**
# Days:		**0**	**0**	**0**	**0**	**14**	**14**	**14**	**14**	**7**	**7**	**15**
Average:		**0**	**0**	**0**	**0**	**149**	**90**	**39**	**7**	**176**	**39**	**86**
YTD		**755**	**26,494**	**3,377**	**9,186**	**3,955,998**	**2,294,866**	**1,837,928**	**17,603**	**735,162**	**502,821**	**622,090**

Two-Week Summary of Passage Indices

				COMBINED SOCKEYE								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
06/17/2016	*	---	---	---	---	0	0	0	1	---	76	48
06/18/2016	*	---	---	---	---	0	0	0	0	0	---	65
06/19/2016	*	---	---	---	---	0	0	0	0	---	78	38
06/20/2016	*	---	---	---	---	0	0	0	0	0	---	86
06/21/2016	*	---	---	---	---	0	0	0	0	---	152	0
06/22/2016	*	---	---	---	---	0	0	0	0	0	---	10
06/23/2016	*	---	---	---	---	0	0	0	0	---	157	0
06/24/2016	*	---	---	---	---	0	0	0	2	411	---	0
06/25/2016	*	---	---	---	---	0	0	0	0	---	0	0
06/26/2016	*	---	---	---	---	0	0	0	1	0	---	0
06/27/2016	*	---	---	---	---	0	0	0	2	---	0	0
06/28/2016	*	---	---	---	---	0	0	0	0	0	---	312
06/29/2016	*	---	---	---	---	0	0	0	1	---	0	0
06/30/2016	*	---	---	---	---	0	0	0	0	0	---	0
07/01/2016	*	---	---	---	---	---	---	---	---	---	---	254
Total:		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**411**	**463**	**813**
# Days:		**0**	**0**	**0**	**0**	**14**	**14**	**14**	**14**	**7**	**7**	**15**
Average:		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**59**	**66**	**54**
YTD		**1**	**0**	**0**	**133**	**43,851**	**32,770**	**24,148**	**56,607**	**860,948**	**303,137**	**800,696**

				COMBINED LAMPREY JUVENILES								
		WTB	IMN	GRN	LEW	LGR†	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(Samp)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)
06/17/2016	*	---	---	---	---	0	120	10	0	---	100	10
06/18/2016	*	---	---	---	---	1	50	30	0	0	---	0
06/19/2016	*	---	---	---	---	0	50	10	0	---	100	14
06/20/2016	*	---	---	---	---	0	50	30	0	400	---	29
06/21/2016	*	---	---	---	---	0	50	10	1	---	50	0
06/22/2016	*	---	---	---	---	0	75	5	0	0	---	25
06/23/2016	*	---	---	---	---	0	40	10	0	---	0	0
06/24/2016	*	---	---	---	---	1	0	20	0	200	---	0
06/25/2016	*	---	---	---	---	0	0	10	0	---	0	0
06/26/2016	*	---	---	---	---	0	50	10	0	0	---	0
06/27/2016	*	---	---	---	---	0	20	0	0	---	0	100
06/28/2016	*	---	---	---	---	0	20	10	0	0	---	0
06/29/2016	*	---	---	---	---	1	10	0	0	---	0	0
06/30/2016	*	---	---	---	---	0	0	5	0	0	---	0
07/01/2016	*	---	---	---	---	---	---	---	---	---	---	0
Total:		**0**	**0**	**0**	**0**	**3**	**535**	**160**	**1**	**600**	**250**	**178**
# Days:		**0**	**0**	**0**	**0**	**14**	**14**	**14**	**14**	**7**	**7**	**15**
Average:		**0**	**0**	**0**	**0**	**0**	**38**	**11**	**0**	**86**	**36**	**12**
YTD		**0**	**4**	**1**	**0**	**167**	**34,265**	**29,630**	**89**	**34,143**	**25,700**	**10,008**

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 macropthalmia, 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: 7/1/16 9:28 AM

06/17/16 TO 07/01/16

		Species				
Site	Data	**CH0**	**CH1**	CO	ST	**Grand Total**
LGR	Sum of NumberCollected	145,835	798	20	1,176	147,829
	Sum of NumberBarged	145,545	797	20	1,170	147,532
	Sum of NumberBypassed	14	0	0	0	14
	Sum of Numbertrucked	0	0	0	0	0
	Sum of SampleMorts	10	0	0	1	11
	Sum of FacilityMorts	266	0	0	2	268
	Sum of ResearchMorts	0	1	0	3	4
	Sum of TotalProjectMorts	276	1	0	6	283
LGS	Sum of NumberCollected	167,416	540	115	876	168,947
	Sum of NumberBarged	167,186	539	105	873	168,703
	Sum of NumberBypassed	9	0	0	0	9
	Sum of Numbertrucked	0	0	0	0	0
	Sum of SampleMorts	13	0	0	0	13
	Sum of FacilityMorts	208	1	10	3	222
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	221	1	10	3	235
LMN	Sum of NumberCollected	20,201	519	25	265	21,010
	Sum of NumberBarged	19,944	510	25	262	20,741
	Sum of NumberBypassed	229	9	0	0	238
	Sum of Numbertrucked	0	0	0	0	0
	Sum of SampleMorts	8	0	0	1	9
	Sum of FacilityMorts	20	0	0	2	22
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	28	0	0	3	31
Total Sum of NumberCollected		333,452	1,857	160	2,317	337,786
Total Sum of NumberBarged		332,675	1,846	150	2,305	336,976
Total Sum of NumberBypassed		252	9	0	0	261
Total Sum of Numbertrucked		0	0	0	0	0
Total Sum of SampleMorts		31	0	0	2	33
Total Sum of FacilityMorts		494	1	10	7	512
Total Sum of ResearchMorts		0	1	0	3	4
Total Sum of TotalProjectMorts		525	2	10	12	549

YTD Transportation Summary

Source: Fish Passage Center Updated: 7/1/16 9:28 AM

TO: 07/01/16

		Species					
Site	Data	**CH0**	**CH1**	CO	SO	ST	**Grand Total**
LGR	Sum of NumberCollected	673,500	4,509,952	150,390	33,350	2,985,499	8,352,691
	Sum of NumberBarged	639,448	1,403,161	117,255	31,849	1,109,432	3,301,145
	Sum of NumberBypassed	31,770	3,104,914	33,069	650	1,875,866	5,046,269
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	64	94	1	16	35	210
	Sum of FacilityMorts	2,016	1,361	65	830	98	4,370
	Sum of ResearchMorts	202	422	0	5	68	697
	Sum of TotalProjectMorts	2,282	1,877	66	851	201	5,277
LGS	Sum of NumberCollected	517,775	2,438,117	104,356	22,898	1,600,355	4,683,501
	Sum of NumberBarged	514,316	1,022,196	90,698	22,682	670,503	2,320,395
	Sum of NumberBypassed	2,872	1,415,436	13,600	7	929,747	2,361,662
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	30	23	1	22	12	88
	Sum of FacilityMorts	557	462	57	187	93	1,356
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	587	485	58	209	105	1,444
LMN	Sum of NumberCollected	156,235	3,509,670	40,575	11,370	1,285,328	5,003,178
	Sum of NumberBarged	153,212	1,896,843	34,336	11,348	630,423	2,726,162
	Sum of NumberBypassed	2,357	1,612,348	6,238	0	654,785	2,275,728
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	20	127	0	5	23	175
	Sum of FacilityMorts	96	352	1	18	97	564
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	116	479	1	23	120	739
Total Sum of NumberCollected		1,347,510	10,457,739	295,321	67,618	5,871,182	18,039,370
Total Sum of NumberBarged		1,306,976	4,322,200	242,289	65,879	2,410,358	8,347,702
Total Sum of NumberBypassed		36,999	6,132,698	52,907	657	3,460,398	9,683,659
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		114	244	2	43	70	473
Total Sum of FacilityMorts		2,669	2,175	123	1,035	288	6,290
Total Sum of ResearchMorts		202	422	0	5	68	697
Total Sum of TotalProjectMorts		2,985	2,841	125	1,083	426	7,460

Cumulative Adult Passage at Mainstem Dams Through: 06/30

		Spring Chinook						Summer Chinook						Fall Chinook					
		2016		2015		10-Yr Avg.		2016		2015		10-Yr Avg.		2016		2015		10-Yr Avg.	
DAM	ENDDATE	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	06/30	137215	11145	220480	13314	146704	24884	77465	6586	101296	11724	65234	14132	0	0	0	0	0	0
TDA	06/30	105504	9999	194116	12307	114381	21222	57909	4602	73818	8998	51166	10533	0	0	0	0	0	0
JDA	06/30	93659	8262	166015	11514	99110	19896	53304	3773	61299	6281	43089	9586	0	0	0	0	0	0
MCN	06/30	82626	7237	156151	8767	89797	16347	44182	3119	46291	4229	35975	6765	0	0	0	0	0	0
IHR	06/30	67484	5029	116462	5745	63912	10829	9377	1039	14279	2067	12993	3249	0	0	0	0	0	0
LMN	06/30	66115	6268	111511	8697	63840	10328	7799	1391	11122	2560	13297	3221	0	0	0	0	0	0
LGS	06/30	62597	6365	105124	8553	59587	11445	6511	1114	8975	2280	11376	3393	0	0	0	0	0	0
LGR	06/30	62050	5480	104873	8379	58449	12640	5611	1026	7595	1984	9508	3116	0	0	0	0	0	0
PRD	06/28	16843	1003	27716	1570	17080	1731	24963	1302	22076	1227	12723	529	0	0	0	0	0	0
WAN	06/28	17164	919	25982	1077	16645	2069	21001	828	21344	660	10462	538	0	0	0	0	0	0
RIS	06/28	18646	715	31748	1092	17101	2726	18337	348	16739	295	7929	630	0	0	0	0	0	0
RRH	06/28	9449	351	15244	609	7441	1202	9501	168	10580	125	3924	169	0	0	0	0	0	0
WEL	06/29	11789	833	19971	1520	7481	1542	1493	16	809	31	428	28	0	0	0	0	0	0
WFA	06/27	23347	1624	49957	1992	31442	1029	0	0	0	0	0	0	0	0	0	0	0	0

		Coho						Sockeye			Steelhead						Lamprey		
		2016		2015		10-Yr Avg.				10-Yr			10-Yr	Wild	Wild	10-Yr			10-Yr
DAM	ENDDATE	Adult	Jack	Adult	Jack	Adult	Jack	2016	2015	Avg.	2016	2015	Avg.	2016	2015	Avg.	2016	2015	Avg.
BON	06/30	0	0	0	0	0	0	284345	357363	193277	15013	11331	14999	6041	5392	4811	12246	12414	6228
TDA	06/30	0	0	0	0	0	0	231012	290982	149601	3855	2860	6211	1924	1235	2219	2134	5185	914
JDA	06/30	0	0	0	0	0	1	226807	252225	135940	2560	2542	8260	1574	1272	2886	1945	2959	477
MCN	06/30	-1	0	13	5	1	0	190670	183687	95806	1829	2067	7419	1077	839	2291	160	395	46
IHR	06/30	0	0	0	0	0	0	276	372	140	1913	2098	6036	1041	915	1683	35	143	8
LMN	06/30	-2	0	0	0	0	0	240	313	115	1945	3992	9136	1293	1993	2938	12	24	0
LGS	06/30	0	0	0	0	0	0	110	150	69	3661	1649	3417	2143	1051	1545	0	15	0
LGR	06/30	0	0	0	0	0	0	67	75	37	5667	9293	9456	3263	4379	3551	3	2	0
PRD	06/28	0	1	0	0	0	0	117176	116408	32345	307	295	166	0	0	0	417	389	60
WAN	06/28	0	0	0	0	0	0	89668	91286	20843	205	181	214	0	0	0	230	191	27
RIS	06/28	0	0	0	0	0	0	68600	56706	12615	137	179	175	79	119	89	31	16	0
RRH	06/28	0	0	0	0	0	0	42894	38224	7643	127	139	374	47	91	244	4	5	0
WEL	06/29	0	0	0	0	0	0	30210	30582	5217	102	72	95	43	48	63	1	0	0
WFA	06/27	0	0	1	0	0	0	0	0	0	20119	6813	18916	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.

Page last updated on: 07/01/16

Columbia/Snake Project Forebay Temperatures