



Fish Passage Center

Weekly Report #16–17

July 8, 2016

Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 0% and 74% of average at individual sub-basins over early July. Precipitation above The Dalles has been 35% of average over July. Over the 2016 water year, precipitation has ranged between 85% and 105% of average.

Table 1. Summary of July precipitation and cumulative October through July 6th precipitation with respect to average (1981–2010), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2016		Water Year 2016	
	July 1–6, 2016		October 1, 2015 to July 6, 2016	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia above Coulee	0.23	56	31.8	99
Sneke River above Ice Harbor	0.02	9	18.7	93
Columbia above The Dalles	0.08	35	23.7	97
Kootenai	0.23	53	31.6	98
Clark Fork	0.12	41	20.2	85
Flathead	0.27	74	32.8	105
Pend Oreille River Basin above Waneta Dam	0.19	61	27.5	96
Salmon River Basin	0.01	2	23.6	91
Upper Snake Tributaries	0.03	10	19.8	86
Clearwater	0.11	37	35.7	97
Willamette River above Portland	0.00	0	65.9	105

Table 2 displays the July 7th ESP runoff volume forecasts for multiple reservoirs along with the June COE forecasts at Libby and Dworshak. The July 7th ESP forecast at The Dalles between April and August is 79,031 Kaf (90% of average).

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

Location	July 7, 2016	
	% Average (1981–2010)	Runoff Volume (Kaf)
The Dalles (Apr–Aug)	90	79,031
Grand Coulee (Apr–Aug)	92	52,091
Libby Res. Inflow, MT (Apr–Aug)	90 110*	5,294 6,445*
Hungry Horse Res. Inflow, MT (Apr–Aug)	89	1,725
Lower Granite Res. Inflow (Apr–July)	83	16,479
Brownlee Res. Inflow (Apr–July)	73	4,007
Dworshak Res. Inflow (Apr–July)	86 86*	2,090 2,083*

* Denotes COE June Forecast

Grand Coulee Reservoir is at 1,286.5 feet (7-7-16) and has refilled 0.3 feet over the last week. Outflows at Grand Coulee have ranged between 102.5 and 130.3 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2,442.3 feet (7-7-16) and has refilled 2.4 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 3,559.0 feet (7-7-16) and has refilled 0.3 feet over the last week. Outflows at Hungry Horse have been 2.0-2.2 Kcfs over the last week.

Dworshak is currently at an elevation of 1,591.6 feet (7-7-16) and has drafted 5.0 feet over the last week. Dworshak has decreased outflows over the last week from 10.4 Kcfs to 7.4 Kcfs.

The Brownlee Reservoir was at an elevation of 2,069.2 feet on July 7th, 2016, and has drafted 1.8 ft. over the last week. Inflows at Brownlee have ranged between 9.9 and 10.1 Kcfs over the last week.

The Summer Biological Opinion flow period began on June 21st with a flow objective of 50.4 Kcfs at Lower Granite. Over the Summer Flow Period, flows at Lower Granite Dam have averaged 39.9 Kcfs and 38.5 Kcfs over the last week.

The Summer Biological Opinion Flow Objectives will be 200 Kcfs at McNary Dam (began July 1st). Over the Summer Flow Period (first four days), flows at McNary have averaged 177.7 Kcfs.

Spill and River Temperature

Some spill occurred at Dworshak Dam earlier in the week as the discharge from the project was increased to address water temperatures at Lower Granite Dam.

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. Since that time spill has been less than 18 Kcfs, ranging from 17.6 to 17.8 Kcfs. At Little Goose Dam spill was changed on July 6th from spilling 30% of instantaneous flow, to a fixed volume spill operation to maintain compatibility with Lower Granite and Lower Monumental operations. At the other Lower Snake River projects (Lower

Monumental and Ice Harbor dams) spill has occurred at the 2016 FOP levels. Flow has decreased significantly over the past week such that BIOP spill levels are considered met if all flow in excess of that needed for the operation of one turbine unit at a project is provided as spill.

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. Spill at Bonneville Dam has been changed to 95 Kcfs to address erosion concerns below the project.

All sites were within TDG criteria over the past week, with the exception of two days at Little Goose forebay and one day at the Ice Harbor forebay, when TDG measured 116%.

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 warm weather that prevailed over Lower Snake River region the week before last, the rate of increase in water temperature at Lower Granite Dam intensified. The forebay temperatures increased to 67.1°F on June 30th. Increases in cool water releases from Dworshak Dam, as well as air temperature moderation in the region, allowed the Lower Granite Dam forebay water to cool to 66.5°F on July 7th. It is slightly warmer (66.8°F) downstream at Ice Harbor Dam, where the temperature is about a degree warmer than last week. At McNary and Bonneville dams the forebay temperatures were 67.1°F and 67.2°F, respectively on July 7th. These forebay temperatures are measuring 3 to 4 degrees Fahrenheit less than the levels measured at this time last year. However, temperatures have increased over the past week, and they are approaching the 68°F temperature standard.

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 decreased at most of the SMP bypass facilities exception to Bonneville, Rock Island, and Lower Monumental dams. 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 43,400 per day, which is slightly above last

week's daily average passage index of about 42,800 subyearlings per day. Passage of spring migrants was low this week. No lamprey juveniles were encountered in this week's samples at BON.

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 62,800 fish per day, which is a decrease from last week's daily average passage index of just over 117,000 subyearling Chinook per day. No spring migrants were encountered in this week's samples at JDA. Finally, Pacific lamprey macrophthalmia were encountered in two of this week's samples (July 3rd and July 5th). No Pacific lamprey ammocoetes were encountered at JDA this week.

As in recent years, sampling at McNary Dam (MCN) in 2016 will be every-other-day for the entire SMP season. Subyearling Chinook dominated the collections at MCN this week, with a daily average passage index of about 203,000 per day. This is a substantial decrease over last week's daily average passage index of about 592,500 subyearling Chinook per day. No spring migrants were encountered in this week's samples at MCN. Finally, Pacific lamprey macrophthalmia were encountered in only one of this week's samples (July 6th) and Pacific lamprey ammocoetes were not encountered in this week's samples.

This week's samples at Lower Granite Dam (LGR) were again dominated by subyearling Chinook, with a daily average passage index of nearly 10,000 per day. This is a decrease over last week's daily average passage index of about 16,300 subyearling Chinook 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 coho and steelhead. Finally, Pacific lamprey ammocoetes and macrophthalmia were encountered in one of this week's samples (July 1st for ammocoetes and July 7th for macrophthalmia).

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 10,600 per day,

which is a slight decrease over last week's daily average passage index of about 11,900 subyearlings per day. The only spring migrants that were encountered in this week's samples at LGS were yearling Chinook and steelhead. Collections of these spring migrants were extremely low. Finally, Pacific lamprey ammocoetes were encountered in only one of this week's samples (July 2nd) and Pacific lamprey macrophthalmia 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 about 5,100 per day. This is an increase over last week's daily average passage index of about 2,000 subyearlings per day. Passage of spring migrants was extremely low this week, with daily average passage indices of less than 125 fish per day for yearling Chinook, coho, and steelhead. No sockeye juveniles were encountered in this week's samples. Finally, Pacific lamprey macrophthalmia were encountered in two of this week's samples (July 1st and July 2nd).

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 350 per day, which is a slight increase over last week's daily average passage index of about 280 fish per day. Passage of spring migrants this week was very low. No Pacific lamprey ammocoetes were encountered this week. However, Pacific lamprey macrophthalmia were encountered in five of this week's samples.

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. No new releases were scheduled for this zone this week. Furthermore, no 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 was scheduled to end this week. This volitional release began on June 22nd and was scheduled to end on or around 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. Releases of subyearling fall Chinook brights from Little White Salmon NFH and Willard NFH that were originally scheduled for last week and this week have been postponed until July 11th. The July 11th releases from Little White Salmon NFH and Willard NFH are expected to total 3.96 million and 2.0 million, respectively. No other releases are scheduled for this zone over the next two weeks.

Adult Passage

Daily passage numbers at Bonneville Dam ranged between 1,713 and 2,474 adult summer Chinook in the last week. The 2016 summer Chinook count of 91,841 is about 77% of the 2015 count, while being 1.2 times greater than the 10-year average. The 2016 summer Chinook jack count of 7,833 is about 58% of the 2015 count and 46.3% of the 10-year average count. At Willamette Falls, 24,820 adult spring Chinook have been counted so far this year. In 2015, 50,005 adult spring Chinook were counted at Willamette Falls. This year's count is about 49.6% of the 2015 count and 77% of the 10-year average count of 32,242. As of July 7th, a total of 58,350 adult summer Chinook have been counted at McNary Dam and 7,109 have been counted

at Lower Granite Dam. The 2016 McNary Dam adult summer Chinook count has 5,631 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 2,079 fewer fish than the 2015 count and 5,343 fewer fish than the 10-year average count.

The 2016 Bonneville Dam adult steelhead count of 21,119 is 1.4 times greater than the 2015 count of 15,095 and has 1,751 fewer fish than the 10-year average count of 22,870. The 2016 Bonneville Dam adult wild steelhead count of 8,787 has 1,190 more fish than the 2015 count of 7,597 and 9 fewer fish than the 10-year average count of 8,796. Daily adult steelhead counts at Lower Granite Dam ranged from 13 to 37 adults per day last week. This year's Lower Granite steelhead count of 5,859 is about 62.7% of the 2015 count of 9,343 and 60% of the 10-year average count of 9,741. The 2016 Lower Granite Dam adult wild steelhead count of 3,383 is 76.8% of the 2015 count of 4,403 and is about 93% of the 10-year average count of 3,638. At Willamette Falls, the 2016 count for steelhead was 21,433 as of June 30th. This year's steelhead count is about 3 times greater than the 2015 count of 6,832 and about 1.1 times greater than the 10-year average count of 19,445.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 2,507 and 9,160 last week. The 2016 adult sockeye count at Bonneville Dam of 320,693 is about 72.3% of the 2015 count and 1.3 times greater than the 10-year average count. The 2016 adult sockeye count at McNary Dam of 237,461 is about 92.3% of the 2015 count, while being about 1.6 times greater than the 10-year average count. The Lower Granite Dam 2016 adult sockeye count of 350 has 194 more fish than the 2015 count of 156 and 98 more fish than the 10-year average count. As of July 7th at Bonneville Dam, the adult shad count was 1,708,558. This year's shad count is about 96.5% of the 2015 count of 1,770,137 and 76.8% of the 10-year average count of 2,226,097.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 6/25/2016 to 07/08/16

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				
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					3,900,000				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 7/9/2016 to 7/22/2016

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH0	FA	2016	3,960,000	07-11-16	07-11-16	Little White Salmon Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service	Willard Hatchery	CH0	FA	2016	2,000,000	07-11-16	07-11-16	Willard Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service Total					5,960,000				
Grand Total					5,960,000				

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

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
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	8131.1	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
07/01/2016	125.0	0.1	127.5	0.0	137.0	9.5	138.7	12.7	148.2	26.8	148.7	20.1	144.2	29.4
07/02/2016	116.8	0.1	109.3	0.0	116.7	8.8	115.7	11.1	126.4	23.7	136.7	19.6	135.1	28.0
07/03/2016	109.5	0.1	110.6	0.0	114.2	8.6	110.2	10.5	118.5	23.4	118.8	20.1	114.0	29.7
07/04/2016	102.5	0.0	104.7	0.0	115.2	9.7	115.4	10.5	125.0	23.4	133.6	20.1	132.5	29.9
07/05/2016	109.7	0.1	111.4	0.0	117.5	8.6	115.9	11.6	123.7	25.5	129.7	19.8	127.0	28.2
07/06/2016	130.4	0.1	127.3	0.0	132.8	9.4	129.4	11.0	136.7	25.7	143.6	19.5	139.2	28.3
07/07/2016	118.9	0.1	124.4	0.0	127.8	9.3	125.3	10.5	132.2	26.6	140.0	19.9	139.9	28.5

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

Date	Dworshak		Brownlee Inflow	Hells Canyon	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill		Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
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
07/01/2016	9.5	0.0	---	15.5	42.4	17.7	39.1	11.7	39.1	17.0	39.6	25.7
07/02/2016	9.9	0.4	---	15.5	42.9	17.9	39.7	11.9	41.3	16.9	43.4	33.0
07/03/2016	10.4	0.9	---	14.0	40.3	17.8	38.1	11.4	38.0	17.0	39.3	15.5
07/04/2016	10.4	0.9	---	10.5	43.3	17.7	39.5	11.8	40.9	16.7	40.9	12.2
07/05/2016	8.9	0.4	---	10.4	33.7	17.6	30.7	9.1	28.8	15.4	29.0	16.2
07/06/2016	7.4	0.0	---	11.5	32.0	17.8	29.2	10.8	31.5	16.6	33.3	22.7
07/07/2016	7.4	0.0	---	11.6	35.1	17.7	33.4	10.8	33.0	16.3	34.7	12.5

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		
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
07/01/2016	195.7	97.9	198.7	59.5	178.4	71.2	184.0	95.1	2.2	74.3
07/02/2016	176.9	88.6	161.9	51.5	151.0	60.6	184.4	99.7	0.9	71.5
07/03/2016	167.3	83.8	161.3	64.6	144.0	57.7	162.5	95.2	0.9	54.0
07/04/2016	177.7	88.9	170.1	64.7	154.1	61.8	165.0	90.2	0.9	61.5
07/05/2016	164.2	82.1	167.9	50.5	158.6	63.6	171.5	92.6	0.9	65.6
07/06/2016	180.5	90.2	168.8	53.6	153.9	61.6	166.1	94.9	2.7	56.0
07/07/2016	181.8	90.9	170.8	68.2	153.8	61.8	171.5	79.9	8.0	71.3

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										
	06/27/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/04/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam										
	06/29/16 Chinook + Steelhead	55*	0	0			0	0	0	0
	07/06/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
McNary Dam										
	06/27/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/01/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/03/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/07/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam										
	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
	07/02/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/05/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam										
	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
	07/05/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/07/16 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

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
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	24	---	---	---	0	106.9	107.0	107.2	24	106.5	106.8	107.0	24	107.3	107.7	108.3	24
7/1	105.2	105.6	106.0	24	---	---	---	0	106.9	107.0	107.1	24	106.4	106.8	107.2	24	107.1	107.5	107.7	24
7/2	105.4	105.7	105.9	24	---	---	---	0	106.9	107.1	107.2	24	106.4	106.7	107.0	24	107.2	107.7	108.0	24
7/3	105.4	105.6	106.1	24	---	---	---	0	106.8	107.0	107.2	24	106.1	106.5	106.8	24	107.0	107.3	107.5	24
7/4	116.5	118.2	118.3	24	---	---	---	0	106.2	106.3	106.3	24	105.3	105.6	106.1	24	106.2	106.4	106.6	24
7/5	117.3	118.8	120.3	23	---	---	---	0	105.8	105.9	106.1	24	105.2	105.4	105.6	24	106.0	106.2	106.5	24
7/6	118.6	119.4	120.8	24	---	---	---	0	105.3	105.5	105.7	24	104.8	105.0	105.3	24	105.8	106.0	106.5	24
7/7	117.9	118.0	118.1	23	---	---	---	0	105.8	105.9	106.1	23	104.8	105.1	105.5	23	105.7	106.0	106.2	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>					
	<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>				
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	24	106.9	107.3	107.8	23	109.3	110.0	110.5	23	109.1	109.4	109.6	24	114.4	115.1	115.4	24
7/1	106.3	106.6	107.1	24	101.9	101.9	105.6	4	109.1	109.3	110.4	15	109.1	109.3	109.5	24	114.6	115.3	115.6	24
7/2	106.9	107.2	107.5	24	---	---	---	0	109.3	109.3	110.2	11	108.9	109.1	109.2	24	113.7	114.4	114.9	24
7/3	106.6	106.8	107.1	24	---	---	---	0	108.5	108.5	109.1	10	108.5	108.8	109.1	24	112.7	113.3	113.8	24
7/4	106.3	106.7	107.3	24	---	---	---	0	107.8	108.0	108.4	14	107.0	107.4	107.8	24	112.2	112.7	113.1	24
7/5	105.9	106.2	106.9	24	---	---	---	0	107.5	107.8	108.7	16	106.5	106.7	106.9	24	112.3	112.9	113.4	24
7/6	105.3	105.7	106.5	24	---	---	---	0	107.7	108.2	108.8	16	106.7	106.9	107.2	24	112.6	113.1	113.1	24
7/7	105.4	105.7	106.2	23	106.4	106.4	107.1	8	108.0	108.0	108.7	12	107.4	107.7	108.0	23	112.9	113.4	113.6	23

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</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>				
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	24	114.3	115.3	115.9	24	110.5	111.2	111.7	24	112.1	112.5	113.0	24	110.7	111.0	111.7	24
7/1	109.3	109.8	110.2	24	114.5	115.4	115.7	24	109.9	110.3	110.6	24	111.5	111.9	112.3	24	110.4	110.5	110.6	24
7/2	109.5	109.9	110.4	24	114.1	115.2	115.7	24	110.2	110.7	111.0	24	112.0	112.7	113.2	24	110.0	110.3	110.6	24
7/3	108.5	108.8	109.8	24	113.7	114.5	115.5	24	109.1	109.6	110.5	24	111.8	112.3	113.2	24	109.2	109.5	110.0	24
7/4	107.5	107.6	107.9	24	112.7	114.1	114.9	24	107.4	107.5	107.7	24	110.4	110.7	111.1	24	108.2	108.3	108.4	24
7/5	107.2	107.6	107.9	24	113.4	114.6	115.2	24	107.5	107.9	108.1	24	110.4	110.8	111.2	24	108.0	108.3	108.5	24
7/6	107.8	108.6	109.2	24	113.3	114.2	114.4	24	108.3	109.2	109.7	24	110.4	110.8	110.9	24	108.2	108.5	109.0	24
7/7	107.7	108.5	108.9	23	113.7	114.7	115.3	22	---	---	---	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>Clrwrtr-Peck</u>			#	<u>Anatone</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
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	112.4	112.7	112.9	24	---	---	---	0	98.9	99.3	99.5	24	102.2	103.3	104.1	24	102.3	103.4	104.6	24
7/1	112.4	112.7	112.8	24	---	---	---	0	98.9	99.3	99.7	24	102.1	103.3	104.2	24	102.3	103.4	104.6	24
7/2	112.2	112.7	113.4	24	---	---	---	0	99.5	100.3	100.8	24	102.0	102.9	103.7	24	101.8	102.6	103.1	24
7/3	112.3	112.8	114.6	24	---	---	---	0	100.4	100.7	101.0	24	102.7	103.8	104.6	24	101.9	103.1	104.2	24
7/4	111.5	111.8	112.2	24	---	---	---	0	100.2	100.5	100.7	24	102.3	103.4	104.1	24	101.6	102.7	103.6	24
7/5	111.1	111.4	111.8	24	---	---	---	0	99.7	99.9	100.5	24	102.1	103.1	104.0	24	101.5	102.9	104.2	24
7/6	111.1	111.7	112.0	24	---	---	---	0	99.2	99.5	99.9	24	101.6	102.7	103.7	24	101.3	102.5	103.8	24
7/7	---	---	---	0	---	---	---	0	99.5	99.9	100.3	23	101.5	102.6	103.2	23	101.6	102.9	103.8	23

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwrtr-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>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
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	103.8	106.2	107.9	24	102.3	102.5	102.7	24	110.7	111.2	111.5	24	114.1	114.6	115.1	24	110.0	110.7	111.1	24
7/1	103.9	106.3	108.0	24	102.1	102.8	103.3	24	110.6	111.3	111.5	24	115.2	115.3	115.5	24	109.7	109.9	110.3	24
7/2	103.3	105.3	106.7	24	102.9	103.3	103.8	24	110.6	111.3	111.5	24	115.5	115.7	115.9	24	109.4	110.0	110.4	24
7/3	104.1	106.6	108.4	24	102.9	103.1	103.4	24	109.8	110.7	111.0	24	113.3	113.9	115.3	24	109.0	109.4	109.8	24
7/4	103.9	106.4	108.0	24	102.6	103.0	103.5	24	110.8	111.1	111.3	24	111.6	111.9	112.1	24	108.4	108.9	109.1	24
7/5	103.8	106.2	108.0	24	102.2	102.6	103.0	24	110.2	110.9	111.4	24	109.8	110.2	110.9	24	107.7	108.7	111.4	24
7/6	103.6	105.7	107.2	24	101.7	102.0	102.4	24	110.7	111.4	111.8	24	108.3	108.7	109.6	24	112.1	112.8	113.1	24
7/7	103.7	106.1	107.8	23	102.0	102.1	102.3	23	109.7	110.3	111.2	23	108.1	108.5	109.1	23	111.6	112.0	112.2	23

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

Date	<u>Lower Mon.</u>			#	<u>L. Mon. Tlwr</u>			#	<u>Ice Harbor</u>			#	<u>Ice Harbor Tlwr</u>			#	<u>McNary-Oregon</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
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	112.6	112.9	24	116.1	116.5	116.9	24	114.0	114.7	115.8	24	112.5	113.0	113.6	24	---	---	---	0
7/1	113.2	113.3	113.7	24	117.2	117.7	118.1	24	115.3	115.7	116.1	24	113.2	114.0	114.4	24	---	---	---	0
7/2	113.3	113.5	113.7	24	116.9	117.4	117.7	24	115.0	115.6	116.0	24	113.0	113.7	114.5	24	---	---	---	0
7/3	112.6	112.9	113.1	24	116.7	117.1	117.5	24	114.2	114.9	115.5	24	112.5	113.0	113.3	24	---	---	---	0
7/4	112.0	112.3	112.8	24	116.5	117.1	118.2	24	113.7	114.0	114.7	24	111.8	112.4	113.0	24	---	---	---	0
7/5	110.7	111.0	111.5	24	115.5	116.3	116.9	24	112.8	113.2	113.8	24	110.8	111.3	112.1	24	---	---	---	0
7/6	109.8	110.1	110.5	24	116.4	116.8	117.7	24	112.2	112.5	112.9	24	112.2	113.5	114.7	24	---	---	---	0
7/7	110.1	110.3	110.6	23	116.1	116.6	117.0	23	111.9	112.3	112.7	23	111.9	112.3	112.6	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

Date	<u>McNary-Wash</u>			#	<u>McNary Tlwr</u>			#	<u>John Day</u>			#	<u>John Day Tlwr</u>			#	<u>The Dalles</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	AVG	High	
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	111.1	111.4	111.7	24	116.8	117.2	117.4	24	106.9	107.8	108.2	24	114.2	114.9	115.2	24	106.6	107.0	107.4	24
7/1	110.4	110.5	110.7	24	116.5	117.0	117.2	24	108.3	108.7	108.9	24	114.2	114.7	115.1	24	107.1	107.3	107.7	24
7/2	109.6	109.8	110.0	24	116.7	117.0	117.4	24	108.6	109.0	109.3	24	114.4	114.7	114.9	24	107.6	107.9	108.1	24
7/3	109.1	109.3	109.6	24	116.1	116.3	116.5	24	107.4	107.8	108.2	24	112.8	113.4	113.6	24	106.2	106.5	106.9	24
7/4	108.2	108.4	108.6	24	116.0	116.4	116.7	24	106.2	106.4	106.6	24	113.0	113.5	113.7	24	105.5	105.9	106.1	24
7/5	107.9	108.2	108.6	24	115.9	116.3	116.7	24	105.2	105.3	105.6	24	114.0	114.3	114.8	24	106.3	106.7	107.0	24
7/6	107.5	107.7	108.0	24	116.0	116.6	117.1	24	104.7	105.1	105.2	24	113.1	113.7	114.1	24	106.1	106.3	106.9	24
7/7	107.6	107.8	108.4	23	115.9	116.3	116.8	23	104.9	105.2	105.5	23	113.2	113.6	114.4	23	107.4	107.6	107.9	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			#	<u>Bonneville</u>			#	<u>Warrendale</u>			#	<u>Camas\Washougal</u>			#	<u>Cascade Island</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
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	24	105.7	106.0	106.4	24	113.0	113.3	113.7	24	109.6	111.0	112.2	24	115.0	115.7	116.8	24
7/1	112.7	113.5	113.8	24	105.5	105.8	106.2	24	114.3	115.4	117.3	24	110.7	113.0	115.0	24	115.2	115.9	117.6	24
7/2	112.7	112.9	113.0	24	106.8	107.2	107.4	24	114.9	115.4	115.9	24	110.7	112.3	113.5	24	116.5	116.8	117.6	24
7/3	111.8	112.1	112.5	24	106.5	106.8	107.1	24	114.5	115.1	115.7	24	110.0	111.5	112.4	24	116.5	116.7	116.9	24
7/4	111.5	111.8	112.2	24	105.0	105.2	105.6	24	113.5	114.1	114.9	24	110.2	111.2	112.2	24	115.0	115.7	117.7	24
7/5	111.9	112.2	112.8	24	105.1	105.5	105.9	24	114.3	115.4	117.1	24	110.0	112.0	114.0	24	115.2	116.0	117.8	24
7/6	112.0	112.9	113.4	24	106.5	107.3	108.0	24	115.4	116.3	116.8	24	111.1	113.1	114.9	24	116.6	116.9	117.1	24
7/7	112.8	113.2	113.4	23	108.2	108.6	109.0	23	114.7	115.5	116.1	23	112.1	112.7	114.2	23	115.9	116.6	117.1	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 7/8/2016 7:18

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/currentsmppsubmitdata.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)	
06/24/2016	*	---	---	---	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	0	26	0	---	0	0	
07/02/2016	*	---	---	---	0	0	89	0	0	---	0	
07/03/2016	*	---	---	---	0	0	144	0	---	0	364	
07/04/2016	*	---	---	---	0	0	76	0	0	---	0	
07/05/2016	*	---	---	---	0	3	74	0	---	0	0	
07/06/2016	*	---	---	---	0	0	238	0	0	---	0	
07/07/2016	*	---	---	---	0	2	127	0	---	0	0	
07/08/2016		---	---	---	---	---	---	---	---	---	---	
<hr/>												
Total:		0	0	0	343	192	1,289	0	0	0	373	
# Days:		0	0	0	14	14	14	14	7	7	14	
Average:		0	0	0	25	14	92	0	0	0	27	
YTD		27,295	56,302	16,183	7,757	5,898,944	3,490,950	4,891,818	44,783	2,181,660	1,456,048	2,660,728

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)	
06/24/2016	*	---	---	---	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	*	---	---	---	5,654	14,880	3,144	444	---	88,276	58,334	
07/02/2016	*	---	---	---	9,143	17,463	4,260	470	455,398	---	68,500	
07/03/2016	*	---	---	---	9,894	9,000	2,873	334	---	43,857	41,209	
07/04/2016	*	---	---	---	15,503	16,352	2,222	330	124,036	---	32,590	
07/05/2016	*	---	---	---	14,263	9,309	5,163	271	---	55,296	24,055	
07/06/2016	*	---	---	---	8,494	3,793	10,457	274	29,648	---	30,340	
07/07/2016	*	---	---	---	6,755	3,457	7,513	277	---	63,733	48,791	
07/08/2016		---	---	---	---	---	---	---	---	---	---	
<hr/>												
Total:		0	0	0	184,022	157,561	49,855	4,362	2,979,207	602,659	603,614	
# Days:		0	0	0	14	14	14	14	7	7	14	
Average:		0	0	0	13,144	11,254	3,561	312	425,601	86,094	43,115	
YTD		0	55	698	2,869	1,083,467	816,784	309,001	17,536	4,183,839	895,527	2,429,187

Two-Week Summary of Passage Indices

COMBINED COHO												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
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	*	---	---	---	---	35	0	0	6	---	0	0
07/02/2016	*	---	---	---	---	0	0	0	0	0	---	0
07/03/2016	*	---	---	---	---	0	0	17	3	---	0	0
07/04/2016	*	---	---	---	---	0	0	0	3	0	---	0
07/05/2016	*	---	---	---	---	0	0	0	0	---	0	0
07/06/2016	*	---	---	---	---	0	0	0	1	0	---	0
07/07/2016	*	---	---	---	---	0	0	0	0	---	0	0
07/08/2016		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	35	43	44	20	0	0	1,096
# Days:		0	0	0	0	14	14	14	14	7	7	14
Average:		0	0	0	0	3	3	3	1	0	0	78
YTD		0	0	0	316	198,063	147,678	60,123	45,363	154,245	58,662	802,504

COMBINED STEELHEAD												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
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	*	---	---	---	---	70	29	26	15	---	0	0
07/02/2016	*	---	---	---	---	34	14	27	7	0	---	220
07/03/2016	*	---	---	---	---	137	0	0	3	---	0	31
07/04/2016	*	---	---	---	---	67	14	0	4	0	---	0
07/05/2016	*	---	---	---	---	0	0	19	1	---	0	0
07/06/2016	*	---	---	---	---	0	0	21	4	0	---	127
07/07/2016	*	---	---	---	---	45	0	0	4	---	0	130
07/08/2016		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	1,157	669	297	93	0	156	940
# Days:		0	0	0	0	14	14	14	14	7	7	14
Average:		0	0	0	0	83	48	21	7	0	22	67
YTD		755	26,494	3,377	9,186	3,956,351	2,294,923	1,838,021	17,641	735,162	502,821	622,598

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)	
06/24/2016	*	---	---	---	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	*	---	---	---	0	0	0	1	---	0	254	
07/02/2016	*	---	---	---	0	0	0	0	0	---	441	
07/03/2016	*	---	---	---	0	0	0	1	---	0	0	
07/04/2016	*	---	---	---	0	0	0	1	0	---	0	
07/05/2016	*	---	---	---	0	0	0	4	---	0	388	
07/06/2016	*	---	---	---	0	0	0	0	0	---	0	
07/07/2016	*	---	---	---	0	0	0	3	---	0	0	
07/08/2016		---	---	---	---	---	---	---	---	---	---	
Total:		0	0	0	0	0	0	16	411	0	1,395	
# Days:		0	0	0	14	14	14	14	7	7	14	
Average:		0	0	0	0	0	0	1	59	0	100	
YTD		1	0	0	133	43,851	32,770	24,148	56,617	860,948	303,137	801,525

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)	
06/24/2016	*	---	---	---	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	*	---	---	---	2	0	5	2	---	0	0	
07/02/2016	*	---	---	---	0	40	5	1	0	---	0	
07/03/2016	*	---	---	---	0	40	0	1	---	143	0	
07/04/2016	*	---	---	---	0	20	0	1	0	---	0	
07/05/2016	*	---	---	---	0	0	0	1	---	200	0	
07/06/2016	*	---	---	---	0	10	0	0	200	---	0	
07/07/2016	*	---	---	---	1	0	0	0	---	0	0	
07/08/2016		---	---	---	---	---	---	---	---	---	---	
Total:		0	0	0	5	210	65	6	400	343	100	
# Days:		0	0	0	14	14	14	14	7	7	14	
Average:		0	0	0	0	15	5	0	57	49	7	
YTD		0	4	1	0	170	34,375	29,640	95	34,343	26,043	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 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:

7/8/16 7:18 AM

06/24/16 TO 07/08/16

		Species				
Site	Data	CH0	CH1	CO	ST	Grand Total
LGR	Sum of NumberCollected	96,972	176	20	602	97,770
	Sum of NumberBarged	99,566	176	40	579	100,361
	Sum of NumberBypassed	5	0	0	0	5
	Sum of Numbertrucked	0	0	0	0	0
	Sum of SampleMorts	13	0	0	0	13
	Sum of FacilityMorts	150	0	0	3	153
	Sum of ResearchMorts	0	0	0	1	1
	Sum of TotalProjectMorts	163	0	0	4	167
LGS	Sum of NumberCollected	109,337	133	30	465	109,965
	Sum of NumberBarged	114,376	172	28	502	115,078
	Sum of NumberBypassed	3	0	0	0	3
	Sum of Numbertrucked	0	0	0	0	0
	Sum of SampleMorts	17	0	0	0	17
	Sum of FacilityMorts	220	1	2	3	226
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	237	1	2	3	243
LMN	Sum of NumberCollected	26,186	689	25	155	27,055
	Sum of NumberBarged	24,585	649	25	153	25,412
	Sum of NumberBypassed	254	9	0	0	263
	Sum of Numbertrucked	0	0	0	0	0
	Sum of SampleMorts	20	0	0	0	20
	Sum of FacilityMorts	48	1	0	2	51
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	68	1	0	2	71
Total Sum of NumberCollected		232,495	998	75	1,222	234,790
Total Sum of NumberBarged		238,527	997	93	1,234	240,851
Total Sum of NumberBypassed		262	9	0	0	271
Total Sum of Numbertrucked		0	0	0	0	0
Total Sum of SampleMorts		50	0	0	0	50
Total Sum of FacilityMorts		418	2	2	8	430
Total Sum of ResearchMorts		0	0	0	1	1
Total Sum of TotalProjectMorts		468	2	2	9	481

YTD Transportation Summary

Source: Fish Passage Center

Updated:

7/8/16 7:18 AM

TO: 07/08/16

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	711,583	4,509,952	150,410	33,350	2,985,697	8,390,992
	Sum of NumberBarged	674,442	1,403,161	117,275	31,849	1,109,609	3,336,336
	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	75	94	1	16	35	221
	Sum of FacilityMorts	2,081	1,361	65	830	100	4,437
	Sum of ResearchMorts	202	422	0	5	68	697
	Sum of TotalProjectMorts	2,358	1,877	66	851	203	5,355
LGS	Sum of NumberCollected	569,212	2,438,120	104,356	22,898	1,600,395	4,734,981
	Sum of NumberBarged	563,421	1,022,198	90,698	22,682	670,543	2,369,542
	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	41	23	1	22	12	99
	Sum of FacilityMorts	716	463	57	187	93	1,516
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	757	486	58	209	105	1,615
LMN	Sum of NumberCollected	174,707	3,510,078	40,585	11,370	1,285,378	5,022,118
	Sum of NumberBarged	167,943	1,897,187	34,346	11,348	630,473	2,741,297
	Sum of NumberBypassed	2,508	1,612,351	6,238	0	654,785	2,275,882
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	38	127	0	5	23	193
	Sum of FacilityMorts	129	353	1	18	97	598
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	167	480	1	23	120	791
Total Sum of NumberCollected		1,455,502	10,458,150	295,351	67,618	5,871,470	18,148,091
Total Sum of NumberBarged		1,405,806	4,322,546	242,319	65,879	2,410,625	8,447,175
Total Sum of NumberBypassed		37,150	6,132,701	52,907	657	3,460,398	9,683,813
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		154	244	2	43	70	513
Total Sum of FacilityMorts		2,926	2,177	123	1,035	290	6,551
Total Sum of ResearchMorts		202	422	0	5	68	697
Total Sum of TotalProjectMorts		3,282	2,843	125	1,083	428	7,761

Cumulative Adult Passage at Mainstem Dams Through: 07/07

DAM	ENDDATE	Spring Chinook						Summer Chinook						Fall Chinook					
		2016		2015		10-Yr Avg.		2016		2015		10-Yr Avg.		2016		2015		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	07/07	137215	11145	220480	13314	146704	24884	91841	7833	119242	13495	76291	16930	0	0	0	0	0	0
TDA	07/07	105504	9999	194116	12307	114381	21222	71636	5698	89559	10932	61909	12821	0	0	0	0	0	0
JDA	07/07	93659	8262	166015	11514	99110	19896	65496	4788	77805	7542	53660	11955	0	0	0	0	0	0
MCN	07/07	82626	7237	156151	8767	89797	16347	58350	4132	63981	5548	47020	8678	0	0	0	0	0	0
IHR	07/07	67484	5029	116462	5745	63912	10829	10888	1209	17662	2454	15279	3947	0	0	0	0	0	0
LMN	07/07	66115	6268	111511	8697	63840	10328	9268	1741	13690	3545	16010	4253	0	0	0	0	0	0
LGS	07/07	62597	6365	105124	8553	59587	11445	8159	1439	11392	3093	14315	4553	0	0	0	0	0	0
LGR	07/07	62050	5480	104873	8379	58449	12640	7109	1388	9188	2525	12452	4480	0	0	0	0	0	0
PRD	07/03	16843	1003	27716	1570	17080	1731	37643	1933	32596	1550	21184	739	0	0	0	0	0	0
WAN	07/03	17164	919	25982	1077	16645	2069	33950	1144	30406	842	17670	687	0	0	0	0	0	0
RIS	07/05	18646	715	31748	1092	17101	2726	36519	856	32981	754	18542	1207	0	0	0	0	0	0
RRH	07/05	9449	351	15244	609	7441	1202	22067	534	23049	482	10534	476	0	0	0	0	0	0
WEL	07/06	11789	833	19971	1520	7481	1542	11864	261	11734	630	5533	323	0	0	0	0	0	0
WFA	06/30	24820	1728	50005	1992	32242	1052	0	0	0	0	0	0	0	0	0	0	0	0

DAM	ENDDATE	Coho						Sockeye			Steelhead						Lamprey		
		2016		2015		10-Yr Avg.		2016	2015	10-Yr Avg.	10-Yr		Wild	Wild	10-Yr	2016	2015	Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack				10-Yr	10-Yr							
BON	07/07	0	0	0	0	0	0	320693	443830	252314	21119	15095	22870	8787	7597	8796	17005	15318	8102
TDA	07/07	0	0	0	0	0	0	269214	370685	205562	6981	4554	10339	3433	2263	4256	3097	6223	1400
JDA	07/07	0	0	0	0	0	1	262687	322984	191886	4615	4047	11336	2696	2184	4197	2840	4109	903
MCN	07/07	-1	0	13	5	1	0	237461	256235	153179	3540	2967	9188	2021	1297	2887	257	558	90
IHR	07/07	0	0	0	0	0	0	661	671	389	2799	2589	6955	1427	1159	1915	188	218	15
LMN	07/07	-2	0	0	0	0	0	649	571	397	2501	4312	9991	1617	2135	3156	32	38	0
LGS	07/07	0	0	0	0	0	0	500	369	315	3948	1739	3794	2317	1094	1655	9	27	0
LGR	07/07	0	0	0	0	0	0	350	156	252	5859	9343	9741	3383	4403	3638	5	4	0
PRD	07/03	0	0	0	0	0	0	218293	207739	88810	478	447	314	0	0	0	527	613	104
WAN	07/03	0	0	0	0	0	0	199016	184825	61774	395	282	343	0	0	0	296	296	50
RIS	07/05	0	0	0	0	0	0	206948	176558	68131	261	284	265	152	189	140	52	44	2
RRH	07/05	0	0	0	0	0	0	144691	129572	45297	186	189	420	80	122	265	20	20	0
WEL	07/06	0	0	0	0	0	0	120623	107224	35164	131	96	118	55	63	76	1	0	0
WFA	06/30	0	0	1	0	0	0	0	0	0	21433	6832	19445	0	0	0	0	0	0

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

Columbia/Snake Project Forebay Temperatures

