



Fish Passage Center

Weekly Report #16–18

July 15, 2016

Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 61% and 269% of average at individual sub-basins over July. Precipitation above The Dalles has been 128% of average over July. Over the 2016 water year, precipitation has ranged between 86% and 107% of average.

Table 1. Summary of July precipitation and cumulative October through July 13th 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 1–13, 2016		October 1, 2015 to July 13, 2016	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia above Coulee	1.11	125	32.7	100
SNAKE RIVER above Ice Harbor	0.50	138	19.2	94
Columbia above The Dalles	0.67	128	24.3	99
Kootenai	0.87	92	32.2	99
Clark Fork	1.49	241	21.6	89
Flathead	1.52	190	34.1	107
Pend Oreille River Basin above Waneta Dam	1.35	198	28.7	99
Salmon River Basin	0.57	112	24.2	93
Upper Snake Tributaries	0.34	61	20.1	86
Clearwater	1.54	245	37.2	100
Willamette River above Portland	0.93	269	66.8	107

Table 2 displays the July 13th ESP runoff volume forecasts for multiple reservoirs along with the June COE forecasts at Libby and Dworshak. The July 13th ESP forecast at The Dalles between April and August is 79,504 Kaf (91% of average).

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

Location	July 13, 2016 5-day QPF ESP	
	% Average (1981–2010)	Runoff Volume (Kaf)
The Dalles (Apr–Aug)	91	79504
Grand Coulee (Apr–Aug)	92	52424
Libby Res. Inflow, MT (Apr–Aug)	90 110**	5323 6445**
Hungry Horse Res. Inflow, MT (Apr–Aug)	87	1692
Lower Granite Res. Inflow (Apr–July)	83	16558
Brownlee Res. Inflow (Apr–July)	74	4043
Dworshak Res. Inflow (Apr–July)	86 86**	2079 2083**

* Denotes COE June Forecast

Grand Coulee Reservoir is at 1287.6 feet (7-13-16) and has held steady over the last week. Outflows at Grand Coulee have ranged between 87.2 and 118.9 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2443.7 feet (7-13-16) and has refilled 1.4 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 3558.8 feet (7-13-16) and has drafted 0.2 feet over the last week. Outflows at Hungry Horse have been 2.0-3.0 Kcfs over the last week.

Dworshak is currently at an elevation of 1588.2 feet (7-13-16) and has drafted 3.3 feet over the last week. Dworshak has decreased outflows over the last week have been 7.4 Kcfs.

The Brownlee Reservoir was at an elevation of 2069.4 feet on July 13, 2016, and has refilled 0.2 ft. over the last week. Outflows at Hells Canyon have ranged between 7.9 and 20.1 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 38.3 Kcfs and 33.9 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, flows at McNary have averaged 167.8 Kcfs and 160.0 Kcfs last week.

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. 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. Presently, at all daily flows less than 32 Kcfs, spill will occur at a fixed volume, but above 32 Kcfs the 30%

of instantaneous flow will be implemented. Both conditions occurred over the past week. 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	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.

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

Temperature: At present water temperatures are above the 68° F temperature standard at the forebays of Bonneville and Ice Harbor dams. With the cooler weather that prevailed over Lower Snake River region the last few weeks, the water temperature at Lower Granite Dam has continued to decrease aided by the cool water releases from Dworshak Dam. The forebay temperatures had increased to 67.1°F on June 30th. However, 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 63.7°F on July 14th. It is warmer (68.8°F) downstream at the forebay of Ice Harbor Dam, where the temperature is about two degrees warmer than last week. At McNary and Bonneville dams the forebay temperatures were 67.2°F and 68.4°F, respectively on July 14th. 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 at McNary Dam and exceeding the water quality standard at Bonneville Dam.

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. However, when compared to the previous week, subyearling Chinook passage decreased at all SMP bypass facilities this week. 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 about 21,500 per day, which is a decrease from last week's daily average passage index of about 43,400 per day. However, subyearling Chinook passage has increased in the last couple of days. This increase in passage is likely due to large releases of hatchery subyearling fall Chinook into the Little White Salmon River this week. In all, approximately 6.0 million subyearling fall Chinook juveniles were scheduled to be released into the Little White Salmon River this week. Passage of spring migrants was low this week. Pacific lamprey macrophthalmia were only encountered in two samples this week (July 13th and 14th) and no ammocoetes were encountered this week 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 8,200 fish per day, which is a substantial decrease from last week's daily average passage index of about 62,800 subyearling Chinook per day. Very few spring migrants were encountered in this week's samples at JDA. Finally, Pacific lamprey macrophthalmia were encountered in two of this week's three samples (July 11th and July 13th). 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 28,400 per day. This is a substantial decrease over last week's daily average passage index of about 203,000 subyearling Chinook per day. Very few 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 12th) 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 about 7,100 per day. This is a decrease over last week's daily average passage index of about 10,000 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 yearling Chinook and steelhead. Finally, no lamprey juveniles were encountered in this week's samples.

Sampling at Little Goose Dam (LGS) was limited to a 24-hour sample every-other-day until transportation began, at which time sampling switched to daily. Subyearling Chinook dominated this week's collections at LGS. This week's daily average passage index for subyearling Chinook at LGS was about 3,900 per day, which is a decrease over last week's daily average passage index of about 10,600 subyearlings per day. The only spring migrants that were encountered in this week's samples at LGS were steelhead. Finally, Pacific lamprey ammocoetes were encountered in three of this week's samples and Pacific lamprey macrophthalmia were encountered every day this week. The daily average collection for Pacific macrophthalmia was 12 per day.

Sampling at Lower Monumental Dam (LMN) was limited to a 24-hour sample every-third-day through the April 14th, every-other-day from April 16th to April 30th, and every day with the initiation of transportation. This week's samples at LMN were dominated by subyearling Chinook, with a daily average passage index of about 2,240 per day. This is a decrease over last week's daily average passage index of about 5,100 subyearlings per day. Passage of spring migrants was extremely low this week, with daily average passage indices of less than 50 fish per day for yearling Chinook and steelhead. No coho or sockeye juveniles were encountered in this week's samples. Finally, Pacific lamprey macrophthalmia were encountered in four of this week's samples at LMN.

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 150 per day, which is a decrease over last week's daily average passage index of about 340 fish per day. Passage of spring migrants was very low this week. No Pacific lamprey ammocoetes were encountered this week and Pacific lamprey macrophthalmia were encountered in three 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 July 13 sample. Starting in July, sampling at IMN switched from seven days per week to only five days per week, with weekends off. Furthermore, the sampling period of July 4-July 8 was shortened due to the July 4th holiday. For the period of July 11-July 13, yearling Chinook dominated the collections at IMN. The daily average collection for yearling Chinook was about 11 per day. Very few steelhead juveniles were collected during this same period.

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 and no new releases are scheduled 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. Approximately 6.0 million subyearling fall Chinook brights were scheduled to be released into the Little White Salmon River this week. These fall Chinook juveniles were released from Little White Salmon NFH (3.96 million) and Willard NFH (2.0 million) on July 11th. No new releases are scheduled for this zone over the next two weeks.

Adult Passage

Daily passage numbers at Bonneville Dam ranged between 1,187 and 1,884 adult summer Chinook in the last week. The 2016 summer Chinook count of 102,510 is about 76.2% of the 2015 count, while being 1.2 times greater than the 10-year average. The 2016 summer Chinook jack count of 8,930 is about 59.8% of the 2015 count and 47.7% of the 10-year average count. At Willamette Falls, 26,586 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 53.2% of the 2015 count and 77.7% of the 10-year average count of 34,206. As of July 14th, a total of 67,615 adult summer Chinook have been counted at McNary Dam and 8,931 have been counted at Lower Granite Dam. The 2016 McNary Dam adult summer Chinook count has 5,472 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 1,597 fewer fish than the 2015 count and 5,330 fewer fish than the 10-year average count.

The 2016 Bonneville Dam adult steelhead count of 28,850 is 1.4 times greater than the 2015 count of 20,789, while being 76.9% of the 10-year average count of 37,531. The 2016 Bonneville Dam adult wild steelhead count of 12,032 has 914 more fish than the 2015 count of 11,118 and 4,457 fewer fish than the 10-year average count of 16,489. Daily adult steelhead counts at Lower Granite Dam ranged from 40 to 107 adults per day last week. This year's Lower Granite steelhead count of 6,289 is about 66.8% of the 2015 count of 9,410 and 61.2% of the 10-year average count of 10,273. The 2016 Lower Granite Dam adult wild steelhead count of 3,644 is 81.8% of the 2015 count of 4,457 and is about 95% of the 10-year average count of 3,835. At Willamette Falls, the 2016 count for steelhead was 22,872 as of July 13th. This year's steelhead count is about 3.3 times greater than the 2015 count of 6,831 and about 1.1 times greater than the 10-year average count of 20,846.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 1,256 and 2,690 last week. The 2016 adult sockeye count at Bonneville Dam of 333,997 is about 68.7% of the 2015 count and 1.2 times greater than the 10-year average count. The 2016 adult sockeye count at McNary Dam of 252,486 is about 95.6% of the 2015 count, while being about 1.3 times greater than the 10-year average count. The Lower Granite Dam 2016 adult sockeye count of 640 has 406 more fish than the 2015 count of 234 and 85 more fish than the 10-year average count. As of July 14th at Bonneville Dam, the adult shad count was 1,739,289. This year's shad count is about 96.3% of the 2015 count of 1,805,675 and 80.3% of the 10-year average count of 2,249,041.

Hatchery Releases Last Two Weeks

Hatchery Release Summary									
From:		7/2/2016		to		07/15/16			
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				
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2016	3,608,397	06-22-16	07-06-16	Ringold Springs Hatchery	McNary Pool
Washington Dept. of Fish and Wildlife Total					3,608,397				
Grand Total					9,568,397				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 7/16/2016 to 7/29/2016

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
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No releases Scheduled

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

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

Date	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
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	128.6	9.4	125.3	10.5	132.2	26.6	140.0	19.9	139.9	28.5
07/08/2016	107.7	0.1	107.3	0.0	122.4	9.0	122.7	10.6	130.4	23.9	147.9	18.9	144.9	26.9
07/09/2016	95.4	0.1	96.8	0.0	100.0	6.8	97.7	9.2	102.6	21.7	105.4	18.3	103.0	25.6
07/10/2016	87.2	0.1	85.1	0.0	88.2	6.7	83.8	8.6	87.7	19.3	84.4	18.8	83.8	26.1
07/11/2016	109.3	0.1	107.8	0.0	107.1	10.3	106.7	10.5	112.4	24.0	116.6	19.8	110.7	28.7
07/12/2016	95.9	0.1	90.9	0.0	103.5	7.1	101.9	9.9	108.9	22.0	111.1	19.9	109.4	25.0
07/13/2016	107.4	0.1	110.6	0.0	110.6	9.8	106.4	9.5	112.1	22.4	116.5	19.6	114.8	25.0
07/14/2016	110.0	0.1	108.1	0.0	112.6	8.7	110.7	8.8	118.8	21.6	118.4	20.2	112.0	25.8

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

Date	Dworshak		Brownlee Inflow	Hells Canyon Outflow	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill			Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
07/01/2016	9.5	0.0	---	15.5	42.4	17.7	39.1	11.7	38.6	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	35.0
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	40.7	12.5
07/08/2016	7.4	0.0	---	11.2	32.1	17.6	28.2	8.5	28.1	13.6	27.8	8.9
07/09/2016	7.4	0.0	---	10.1	32.4	17.7	30.7	10.8	29.8	17.0	31.8	18.5
07/10/2016	7.4	0.0	---	9.4	31.0	17.6	28.4	10.8	28.2	16.2	29.4	18.4
07/11/2016	7.4	0.0	---	9.5	33.4	17.8	31.6	10.7	31.2	16.6	31.7	12.8
07/12/2016	7.5	0.0	---	10.2	37.7	17.6	35.7	10.7	34.7	16.2	34.6	10.3
07/13/2016	7.4	0.0	---	11.8	35.8	17.6	35.3	10.6	34.7	17.0	36.3	22.9
07/14/2016	7.5	0.0	---	14.0	35.3	17.8	33.6	10.0	33.6	16.9	35.2	24.6

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		
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
07/08/2016	183.3	91.9	177.0	68.3	162.3	65.1	168.0	95.3	0.9	59.4
07/09/2016	169.5	85.0	164.8	49.4	149.2	59.7	165.6	93.8	7.0	52.4
07/10/2016	136.4	68.4	125.4	39.6	113.6	45.2	139.3	93.9	1.2	31.8
07/11/2016	139.0	69.7	133.0	53.4	119.9	47.7	139.1	94.3	0.9	31.5
07/12/2016	150.4	75.3	142.2	54.2	127.8	50.9	144.5	94.0	0.9	37.2
07/13/2016	159.4	79.9	153.1	45.9	141.2	56.4	151.6	94.0	0.9	44.2
07/14/2016	160.3	80.3	161.1	50.7	149.3	59.6	157.0	94.3	1.6	48.7

Gas Bubble Trauma Monitoring Results from Representative Sites on the Snake River and Columbia River

Site	Date & Species	Number of Fish	Number w/ GBT signs	Number w/ Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank			
							Rank 1	Rank 2	Rank 3	Rank 4
Lower Granite Dam										
Little Goose Dam										
	07/04/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/11/16 Chinook + Steelhead	83*	0	0			0	0	0	0
Lower Monumental Dam										
	07/06/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/13/16 Chinook + Steelhead	60*	0	0			0	0	0	0
McNary Dam										
	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
	07/11/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam										
	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
	07/09/16 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/12/16 Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
Rock Island Dam										
	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

* Sample size criteria not met, therefore no % fish with GBT estimated for this sample day.

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
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	24	---	---	---	0	105.8	105.9	106.1	24	104.8	105.1	105.5	24	105.7	106.0	106.2	24
7/8	111.0	116.7	118.0	23	---	---	---	0	105.4	105.6	105.7	24	104.5	104.8	105.6	24	105.4	105.7	105.8	24
7/9	104.5	104.7	105.3	24	---	---	---	0	105.8	106.4	108.0	24	104.6	104.8	105.6	24	104.8	105.0	105.3	24
7/10	104.9	105.6	106.2	22	---	---	---	0	105.5	105.8	106.5	24	104.3	104.6	105.0	24	104.8	105.0	105.3	22
7/11	104.8	104.8	105.0	7	---	---	---	0	105.4	105.8	108.7	24	104.2	104.7	109.3	24	104.8	104.9	105.1	19
7/12	104.8	105.1	105.4	24	---	---	---	0	105.4	105.8	106.6	24	103.5	104.0	105.0	24	104.6	104.9	105.1	24
7/13	104.2	104.5	104.7	24	---	---	---	0	104.4	104.6	105.2	24	102.9	103.3	104.2	24	104.2	104.4	104.9	24
7/14	104.2	104.8	105.0	23	---	---	---	0	104.6	104.9	105.4	23	103.2	103.6	104.0	23	103.8	104.2	104.6	23

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
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	24	106.4	106.4	107.1	8	108.0	108.0	108.7	12	107.5	107.7	108.0	24	112.9	113.4	113.6	24
7/8	105.3	105.5	106.2	22	105.6	105.9	106.7	19	107.2	107.5	108.3	19	107.9	108.2	108.4	24	113.3	113.7	114.0	24
7/9	104.7	105.0	105.3	24	105.1	105.3	105.7	19	106.7	107.0	107.3	19	107.6	107.9	108.4	24	112.0	112.8	113.5	24
7/10	104.6	105.1	105.7	24	105.3	105.5	106.5	15	106.6	106.8	107.6	15	107.0	107.2	107.5	24	110.9	111.6	112.0	24
7/11	104.6	104.9	105.9	22	104.7	104.8	105.7	14	106.9	107.1	112.6	14	106.3	106.4	107.0	24	111.9	112.9	113.4	24
7/12	105.0	105.4	106.2	24	104.7	104.8	106.5	13	106.3	106.4	108.7	13	106.4	106.5	106.6	24	111.8	112.7	113.7	24
7/13	104.3	104.6	104.9	24	104.2	104.2	105.4	11	105.8	105.8	110.8	11	106.4	107.0	107.8	24	111.5	112.9	113.3	24
7/14	104.1	104.5	105.2	23	104.8	104.8	105.8	10	106.3	106.3	107.6	10	106.6	106.8	107.1	23	111.7	112.5	113.1	23

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
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	107.8	108.5	108.9	24	113.8	114.9	115.6	23	110.0	110.8	111.7	24	111.6	111.8	111.9	24	109.7	109.9	110.1	24
7/8	108.7	109.1	109.4	24	113.8	115.0	116.2	24	110.7	111.5	111.8	24	111.8	112.0	112.2	24	110.1	110.3	110.4	24
7/9	108.5	108.8	109.0	24	113.7	114.6	115.2	24	110.4	110.7	111.0	24	112.1	112.5	113.2	24	109.8	109.9	110.1	24
7/10	107.4	107.8	108.7	24	112.9	113.9	115.6	24	109.0	109.5	110.1	24	112.3	112.7	113.3	24	109.4	109.7	109.8	24
7/11	107.3	107.8	108.6	24	113.2	114.2	114.9	24	107.9	108.7	109.4	24	111.3	111.9	113.2	24	107.9	108.6	109.3	24
7/12	107.3	107.8	108.6	24	112.4	114.0	114.8	24	108.6	109.0	109.3	24	111.5	111.9	112.5	24	109.0	109.2	109.4	24
7/13	107.1	107.6	108.2	24	112.8	113.5	114.4	24	---	---	---	0	---	---	---	0	---	---	---	0
7/14	107.9	108.3	109.0	21	112.9	113.6	114.2	23	---	---	---	0	---	---	---	0	---	---	---	0

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

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

Date	<u>Priest R. Dnst</u>			<u>Pasco</u>			<u>Dworshak</u>			<u>Clwrtr-Peck</u>			<u>Anatone</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
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	112.2	112.4	112.5	24	---	---	---	0	99.5	99.9	100.3	24	101.5	102.6	103.2	24	101.6	102.9	103.8	24
7/8	112.3	112.4	112.6	24	---	---	---	0	99.2	99.4	99.8	24	101.1	101.8	102.6	24	100.9	101.7	102.2	24
7/9	112.4	113.1	116.3	24	---	---	---	0	99.3	99.7	100.3	24	101.4	102.5	103.7	24	101.1	102.0	103.3	23
7/10	112.9	113.8	115.9	24	---	---	---	0	99.1	99.2	99.4	22	100.5	100.8	101.1	22	99.7	99.8	99.9	22
7/11	112.7	113.6	116.2	24	---	---	---	0	99.2	99.5	99.9	24	100.9	101.8	102.3	23	100.6	101.8	102.7	24
7/12	111.8	112.5	115.1	24	---	---	---	0	99.0	99.3	99.7	24	100.7	101.2	102.0	24	101.0	101.7	102.7	24
7/13	---	---	---	0	---	---	---	0	98.8	99.2	99.6	24	101.1	102.4	103.2	24	101.2	102.5	103.5	24
7/14	---	---	---	0	---	---	---	0	99.2	99.7	100.0	23	100.6	100.8	103.1	14	101.7	102.8	104.0	23

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clwrtr-Lewiston</u>			<u>Lower Granite</u>			<u>L. Granite Tlwr</u>			<u>Little Goose</u>			<u>L. Goose Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
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	24	102.0	102.1	102.3	24	109.8	110.3	111.2	24	108.0	108.5	109.1	24	111.6	112.0	112.2	24
7/8	102.2	103.3	103.9	24	101.6	101.9	102.8	24	110.5	110.9	111.2	24	107.2	107.5	108.3	24	111.3	111.7	112.3	24
7/9	103.1	105.3	107.6	24	102.1	102.3	102.8	24	110.4	110.9	111.2	24	107.3	107.8	108.8	24	111.5	112.0	112.2	24
7/10	101.4	102.1	102.4	24	101.9	102.0	102.3	24	110.4	110.6	110.9	24	106.5	106.7	106.9	24	111.5	111.7	111.9	24
7/11	102.7	104.9	106.1	24	101.4	101.6	101.9	24	110.1	110.6	111.0	24	106.3	106.6	107.0	24	109.9	110.9	111.4	24
7/12	102.0	103.5	105.1	24	101.0	101.4	101.5	24	109.2	110.2	110.9	24	106.0	106.2	106.4	24	108.7	109.0	109.4	24
7/13	103.3	106.0	107.8	24	99.1	99.4	99.8	24	109.7	110.5	111.4	24	104.4	104.8	105.1	24	108.1	108.5	108.8	24
7/14	103.8	106.5	108.3	23	99.1	99.4	100.1	23	110.1	110.4	111.2	23	105.0	105.3	106.1	23	108.2	108.8	109.1	23

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

Date	<u>Lower Mon.</u>			<u>L. Mon. Tlwr</u>			<u>Ice Harbor</u>			<u>Ice Harbor Tlwr</u>			<u>McNary-Oregon</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
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	24	115.9	116.6	117.0	24	111.9	112.3	112.7	24	111.9	112.3	112.6	24	---	---	---	0
7/8	109.3	109.8	110.2	24	113.9	115.7	117.2	24	111.5	111.6	111.7	24	111.4	111.6	112.7	24	---	---	---	0
7/9	108.6	109.0	110.0	24	117.1	117.4	117.7	24	111.0	111.2	111.4	24	112.2	113.0	113.7	24	---	---	---	0
7/10	108.2	108.6	109.1	24	116.3	116.8	117.1	24	110.6	111.0	111.2	24	111.7	112.4	112.7	24	---	---	---	0
7/11	107.1	107.3	107.7	24	116.0	116.6	117.1	24	108.2	108.6	109.1	24	111.0	111.7	112.7	24	---	---	---	0
7/12	106.8	107.4	108.0	24	116.0	116.9	117.3	24	107.8	108.1	108.2	23	110.2	110.8	112.5	24	---	---	---	0
7/13	106.1	106.4	107.4	24	116.6	117.0	117.3	24	107.1	107.5	107.7	24	112.7	114.1	114.6	24	---	---	---	0
7/14	107.3	107.6	107.8	23	116.5	117.4	117.9	23	108.0	108.6	109.6	23	113.2	113.7	114.3	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	
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	107.5	107.8	108.4	24	115.9	116.4	116.8	24	104.9	105.2	105.5	24	113.2	113.6	114.4	24	107.3	107.6	107.9	24
7/8	107.0	107.4	107.8	24	116.0	116.4	116.7	24	104.8	105.0	105.3	24	113.5	113.9	114.3	24	108.5	108.7	109.0	24
7/9	107.3	107.4	107.5	24	115.6	115.9	116.2	24	104.8	105.1	105.4	24	113.9	114.3	114.6	24	108.2	108.6	108.9	24
7/10	106.3	106.5	106.8	24	114.1	114.4	114.5	24	105.0	105.2	105.4	24	113.3	113.4	113.8	24	106.6	107.0	107.1	24
7/11	105.2	105.5	106.1	24	114.1	115.0	115.7	24	104.6	105.1	105.6	24	114.0	114.2	114.7	24	105.0	105.3	105.4	24
7/12	105.5	105.7	106.0	24	114.7	115.7	116.2	24	104.6	104.8	105.1	24	113.5	113.8	114.0	24	106.8	107.6	107.8	24
7/13	104.5	104.7	105.5	24	115.1	116.0	116.6	24	103.5	103.8	104.0	24	113.5	114.1	114.5	24	105.6	106.2	106.9	24
7/14	106.1	106.6	107.1	23	115.3	116.4	116.8	23	103.2	103.4	103.6	23	113.3	113.7	114.0	23	106.5	106.7	106.8	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	
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	24	108.2	108.6	109.0	24	114.7	115.5	116.1	24	112.0	112.7	114.2	24	115.9	116.6	117.1	24
7/8	113.6	114.0	114.3	24	108.9	109.3	109.6	24	115.8	116.4	117.0	24	111.0	111.9	112.4	24	116.7	116.8	117.2	24
7/9	113.2	113.7	114.0	24	109.3	109.4	109.7	24	116.0	116.4	116.9	24	111.8	112.6	113.4	24	116.9	117.1	117.3	24
7/10	111.8	112.0	112.3	24	108.9	109.0	109.2	24	116.7	117.1	117.4	24	112.1	113.1	114.4	24	116.9	117.1	117.2	24
7/11	111.1	111.7	112.2	24	107.1	107.6	108.1	24	116.5	117.0	117.3	24	113.7	115.2	115.8	24	116.7	116.8	116.9	24
7/12	111.6	111.9	112.4	24	106.4	106.9	107.5	24	115.8	116.1	116.6	24	113.2	113.9	115.1	24	116.7	116.8	117.0	24
7/13	112.2	112.7	112.9	24	106.3	106.9	107.3	24	115.7	116.2	116.8	24	112.6	114.0	114.9	24	116.6	116.8	116.9	24
7/14	112.3	112.7	113.4	23	106.7	107.2	107.7	23	115.2	115.8	116.5	23	112.0	112.7	113.3	23	116.6	116.7	117.0	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 7/15/2016 7:20

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/smolqueries/currentsmppsubmitdata.asp>

COMBINED YEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
06/30/2016 *	---	16	---	---	0	29	54	0	0	---	0
07/01/2016 *	---	11	---	---	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 *	---	11	---	---	0	0	238	0	0	---	0
07/07/2016 *	---	13	---	---	0	2	127	0	---	0	0
07/08/2016 *	---	9	---	---	0	0	100	0	0	---	0
07/09/2016 *	---	---	---	---	0	0	66	0	---	0	0
07/10/2016 *	---	---	---	---	0	0	75	0	0	---	0
07/11/2016 *	---	15	---	---	48	0	24	0	---	0	0
07/12/2016 *	---	10	---	---	0	0	20	0	0	---	0
07/13/2016 *	---	9	---	---	38	0	0	0	---	0	0
07/14/2016 *	---	---	---	---	0	0	---	0	0	---	0
Total:	0	94	0	0	86	34	1,113	0	0	0	364
# Days:	0	8	0	0	15	15	14	15	8	7	15
Average:	0	12	0	0	6	2	80	0	0	0	24
YTD	27,295	56,768	16,183	7,757	5,899,030	3,490,950	4,892,103	44,783	2,181,660	1,456,048	2,660,728

COMBINED SUBYEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
06/30/2016 *	---	0	---	---	5,384	10,685	1,485	265	167,889	---	64,127
07/01/2016 *	---	0	---	---	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 *	---	1	---	---	8,494	3,793	10,457	274	29,648	---	30,340
07/07/2016 *	---	0	---	---	6,755	3,457	7,513	277	---	63,733	48,791
07/08/2016 *	---	1	---	---	6,048	1,707	6,162	271	39,680	---	57,234
07/09/2016 *	---	---	---	---	8,319	4,530	3,276	177	---	12,224	46,287
07/10/2016 *	---	---	---	---	12,559	5,866	1,835	139	24,620	---	12,345
07/11/2016 *	---	1	---	---	8,381	3,071	891	121	---	6,764	2,698
07/12/2016 *	---	1	---	---	7,019	2,064	1,809	100	27,313	---	4,962
07/13/2016 *	---	0	---	---	5,154	5,533	1,124	107	---	5,565	7,964
07/14/2016 *	---	---	---	---	2,123	4,418	---	90	21,916	---	18,885
Total:	0	4	0	0	124,693	112,128	52,214	3,670	890,500	275,715	518,321
# Days:	0	8	0	0	15	15	14	15	8	7	15
Average:	0	1	0	0	8,313	7,475	3,730	245	111,313	39,388	34,555
YTD	0	77	698	2,869	1,133,070	843,973	324,098	18,541	4,297,368	920,080	2,579,562

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)	
06/30/2016	*	---	0	---	---	0	0	9	2	0	---	0
07/01/2016	*	---	0	---	---	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	0	1	0	---	0
07/07/2016	*	---	0	---	---	0	0	0	0	---	0	0
07/08/2016	*	---	0	---	---	0	0	0	0	0	---	0
07/09/2016	*	---	---	---	---	0	0	0	1	---	0	0
07/10/2016	*	---	---	---	---	0	0	0	0	0	---	0
07/11/2016	*	---	0	---	---	0	0	0	0	---	0	0
07/12/2016	*	---	0	---	---	0	0	0	0	0	---	0
07/13/2016	*	---	0	---	---	0	0	0	0	---	0	16
07/14/2016	*	---	---	---	---	0	0	---	0	0	---	0
<hr/>												
Total:		0	0	0	0	35	0	26	16	0	0	16
# Days:		0	8	0	0	15	15	14	15	8	7	15
Average:		0	0	0	0	2	0	2	1	0	0	1
YTD		0	0	0	316	198,063	147,678	60,123	45,364	154,245	58,662	802,520

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)	
06/30/2016	*	---	0	---	---	35	72	18	2	0	---	0
07/01/2016	*	---	4	---	---	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	0	21	4	0	---	127
07/07/2016	*	---	0	---	---	45	0	0	4	---	0	130
07/08/2016	*	---	0	---	---	42	0	0	0	0	---	0
07/09/2016	*	---	---	---	---	92	0	0	0	---	0	0
07/10/2016	*	---	---	---	---	44	0	0	4	0	---	0
07/11/2016	*	---	2	---	---	48	0	24	7	---	0	0
07/12/2016	*	---	0	---	---	83	23	0	1	0	---	0
07/13/2016	*	---	0	---	---	0	11	0	0	---	0	0
07/14/2016	*	---	---	---	---	40	7	---	1	0	---	0
<hr/>												
Total:		0	6	0	0	737	170	135	53	0	0	508
# Days:		0	8	0	0	15	15	14	15	8	7	15
Average:		0	1	0	0	49	11	10	4	0	0	34
YTD		755	26,536	3,377	9,186	3,956,700	2,294,964	1,838,045	17,654	735,162	502,821	622,598

Two-Week Summary of Passage Indices

COMBINED SOCKEYE												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
06/30/2016	*	---	0	---	---	0	0	0	0	---	0	
07/01/2016	*	---	0	---	---	0	0	0	1	---	0	
07/02/2016	*	---	---	---	---	0	0	0	0	---	254	
07/03/2016	*	---	---	---	---	0	0	0	1	---	441	
07/04/2016	*	---	---	---	---	0	0	0	1	0	0	
07/05/2016	*	---	---	---	---	0	0	0	4	---	388	
07/06/2016	*	---	0	---	---	0	0	0	0	0	0	
07/07/2016	*	---	0	---	---	0	0	0	3	---	0	
07/08/2016	*	---	0	---	---	0	0	0	1	0	0	
07/09/2016	*	---	---	---	---	0	0	0	0	---	0	
07/10/2016	*	---	---	---	---	0	0	0	1	0	0	
07/11/2016	*	---	0	---	---	0	0	0	0	---	0	
07/12/2016	*	---	0	---	---	0	0	0	0	0	0	
07/13/2016	*	---	0	---	---	0	0	0	3	---	57	
07/14/2016	*	---	---	---	---	0	0	---	0	103	0	
Total:		0	0	0	0	0	0	15	103	16	1,140	
# Days:		0	8	0	0	15	15	14	15	8	7	
Average:		0	0	0	0	0	0	1	13	2	76	
YTD		1	0	0	133	43,851	32,770	24,148	56,622	861,051	303,153	801,582

COMBINED LAMPREY JUVENILES												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR† (Samp)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)	
06/30/2016	*	---	0	---	---	0	0	5	0	0	0	
07/01/2016	*	---	0	---	---	2	0	5	2	---	0	
07/02/2016	*	---	---	---	---	0	40	5	1	0	0	
07/03/2016	*	---	---	---	---	0	40	0	1	---	143	
07/04/2016	*	---	---	---	---	0	20	0	1	0	0	
07/05/2016	*	---	---	---	---	0	0	0	1	---	200	
07/06/2016	*	---	0	---	---	0	10	0	0	200	0	
07/07/2016	*	---	0	---	---	1	0	0	0	---	0	
07/08/2016	*	---	0	---	---	0	20	0	1	0	0	
07/09/2016	*	---	---	---	---	0	10	10	2	---	0	
07/10/2016	*	---	---	---	---	0	20	10	1	0	0	
07/11/2016	*	---	0	---	---	0	25	0	0	---	50	
07/12/2016	*	---	0	---	---	0	12	0	0	50	0	
07/13/2016	*	---	0	---	---	0	12	5	0	---	30	
07/14/2016	*	---	---	---	---	0	10	---	0	0	10	
Total:		0	0	0	3	219	40	10	250	423	20	
# Days:		0	8	0	0	15	15	14	15	8	7	
Average:		0	0	0	0	15	3	1	31	60	1	
YTD		0	5	1	0	170	34,484	29,665	99	34,393	26,123	10,028

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:

7/15/16 7:21 AM

07/01/16 TO 07/15/16

		Species				
Site	Data	CH0	CH1	CO	ST	Grand Total
LGR	Sum of NumberCollected	64,063	40	20	378	64,501
	Sum of NumberBarged	66,630	40	20	393	67,083
	Sum of NumberBypassed	0	0	0	0	0
	Sum of Numbertrucked	0	0	0	0	0
	Sum of SampleMorts	18	0	0	0	18
	Sum of FacilityMorts	112	0	0	4	116
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	130	0	0	4	134
LGS	Sum of NumberCollected	76,937	23		119	77,079
	Sum of NumberBarged	81,571	32		165	81,768
	Sum of NumberBypassed	0	0		0	0
	Sum of Numbertrucked	0	0		0	0
	Sum of SampleMorts	43	0		0	43
	Sum of FacilityMorts	279	1		3	283
	Sum of ResearchMorts	0	0		0	0
	Sum of TotalProjectMorts	322	1		3	326
LMN	Sum of NumberCollected	26,442	568	15	70	27,095
	Sum of NumberBarged	26,896	634	15	74	27,619
	Sum of NumberBypassed	211	3	0	0	214
	Sum of Numbertrucked	0	0	0	0	0
	Sum of SampleMorts	25	0	0	0	25
	Sum of FacilityMorts	43	1	0	1	45
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	68	1	0	1	70
Total Sum of NumberCollected		167,442	631	35	567	168,675
Total Sum of NumberBarged		175,097	706	35	632	176,470
Total Sum of NumberBypassed		211	3	0	0	214
Total Sum of Numbertrucked		0	0	0	0	0
Total Sum of SampleMorts		86	0	0	0	86
Total Sum of FacilityMorts		434	2	0	8	444
Total Sum of ResearchMorts		0	0	0	0	0
Total Sum of TotalProjectMorts		520	2	0	8	530

YTD Transportation Summary

Source: Fish Passage Center

Updated:

7/15/16 7:21 AM

TO: 07/15/16

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	734,443	4,509,992	150,410	33,350	2,985,857	8,414,052
	Sum of NumberBarged	700,267	1,403,201	117,275	31,849	1,109,786	3,362,378
	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	82	94	1	16	35	228
	Sum of FacilityMorts	2,122	1,361	65	830	102	4,480
	Sum of ResearchMorts	202	422	0	5	68	697
	Sum of TotalProjectMorts	2,406	1,877	66	851	205	5,405
LGS	Sum of NumberCollected	587,292	2,438,120	104,356	22,898	1,600,424	4,753,090
	Sum of NumberBarged	583,517	1,022,198	90,698	22,682	670,569	2,389,664
	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	71	23	1	22	12	129
	Sum of FacilityMorts	832	463	57	187	96	1,635
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	903	486	58	209	108	1,764
LMN	Sum of NumberCollected	181,857	3,510,208	40,585	11,370	1,285,388	5,029,408
	Sum of NumberBarged	178,036	1,897,377	34,346	11,348	630,482	2,751,589
	Sum of NumberBypassed	2,568	1,612,351	6,238	0	654,785	2,275,942
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	43	127	0	5	23	198
	Sum of FacilityMorts	138	353	1	18	98	608
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	181	480	1	23	121	806
Total Sum of NumberCollected		1,503,592	10,458,320	295,351	67,618	5,871,669	18,196,550
Total Sum of NumberBarged		1,461,820	4,322,776	242,319	65,879	2,410,837	8,503,631
Total Sum of NumberBypassed		37,210	6,132,701	52,907	657	3,460,398	9,683,873
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		196	244	2	43	70	555
Total Sum of FacilityMorts		3,092	2,177	123	1,035	296	6,723
Total Sum of ResearchMorts		202	422	0	5	68	697
Total Sum of TotalProjectMorts		3,490	2,843	125	1,083	434	7,975

Cumulative Adult Passage at Mainstem Dams Through: 07/14

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	07/14	137215	11145	220480	13314	146704	24884	102510	8930	134439	14937	84089	18716	0	0	0	0	0	0
TDA	07/14	105504	9999	194116	12307	114381	21222	80557	6809	98106	12142	68666	14437	0	0	0	0	0	0
JDA	07/14	93659	8262	166015	11514	99110	19896	75766	5750	84451	8245	60292	13763	0	0	0	0	0	0
MCN	07/14	82626	7237	156151	8767	89797	16347	67615	4880	73087	6383	54672	10199	0	0	0	0	0	0
IHR	07/14	67484	5029	116462	5745	63912	10829	11740	1290	19204	2606	16642	4391	0	0	0	0	0	0
LMN	07/14	66115	6268	111511	8697	63840	10328	10246	1962	15332	4123	17611	4957	0	0	0	0	0	0
LGS	07/14	62597	6365	105124	8553	59587	11445	9998	1660	12793	3750	16224	5379	0	0	0	0	0	0
LGR	07/14	62050	5480	104873	8379	58449	12640	8931	1646	10528	3055	14261	5567	0	0	0	0	0	0
PRD	07/11	16843	1003	27716	1570	17080	1731	55014	2787	48191	2289	34409	1123	0	0	0	0	0	0
WAN	07/11	17164	919	25982	1077	16645	2069	50759	1769	46974	1229	31384	954	0	0	0	0	0	0
RIS	07/12	18646	715	31748	1092	17101	2726	49723	1356	48684	1202	30683	2075	0	0	0	0	0	0
RRH	07/12	9449	351	15244	609	7441	1202	32181	841	36075	806	19519	1145	0	0	0	0	0	0
WEL	07/13	11789	833	19971	1520	7481	1542	19248	614	22512	1267	12683	821	0	0	0	0	0	0
WFA	07/13	26586	1883	50005	1992	34206	1157	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.	2016	2015	Avg.	2016	2015	10-Yr Avg.	2016	2015	10-Yr Avg.
		Adult	Jack	Adult	Jack	Adult	Jack												
BON	07/14	0	0	0	0	0	0	333997	486125	275700	28850	20789	37531	12032	11118	16489	22376	18656	10735
TDA	07/14	0	0	0	0	0	0	280829	400023	232512	11049	6710	18309	5401	3671	8483	4308	7340	2203
JDA	07/14	0	0	0	0	0	1	280628	339856	222424	7110	5274	16944	3977	2969	6960	3681	4999	1516
MCN	07/14	-1	0	13	5	1	0	252486	264095	188382	5665	4244	12259	3031	2048	4165	347	797	170
IHR	07/14	0	0	0	0	0	0	815	810	656	3890	3271	8562	1917	1469	2412	230	329	33
LMN	07/14	-2	0	0	0	0	0	891	733	712	3514	4814	11445	2122	2384	3619	47	74	4
LGS	07/14	0	0	0	0	0	0	810	449	596	4582	1919	4454	2676	1193	1899	25	48	1
LGR	07/14	0	0	0	0	0	0	640	234	555	6289	9410	10273	3644	4457	3835	13	10	0
PRD	07/11	0	0	0	0	0	0	283555	279771	178854	767	891	659	0	0	0	914	1491	236
WAN	07/11	0	0	0	0	0	0	282982	268082	150245	682	572	650	0	0	0	428	841	133
RIS	07/12	0	0	0	0	0	0	268714	240782	154432	393	446	453	211	307	242	66	160	16
RRH	07/12	0	0	0	0	0	0	199689	191999	117056	269	267	529	120	170	311	37	88	4
WEL	07/13	0	0	0	0	0	0	176240	162317	102094	188	135	174	87	87	103	1	0	0
WFA	07/13	0	0	1	0	0	0	0	0	0	22872	6831	20846	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

