



Fish Passage Center

Weekly Report #18-28

September 21, 2018

Starting September 7, the weekly reports will be published every other week; the next report will be October 5.

This Week's Highlights

Water Supply

Precipitation throughout the Columbia Basin has varied between 1% and 87% of average at individual sub-basins over September. Precipitation above The Dalles has been 46% of average over September. Over the 2018 water year, precipitation has ranged between 85% and 105% of average.

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

Location	Water Year 2018		Water Year 2018	
	September 1-19, 2018		October 1, 2017 to September 19, 2018	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	1.13	84	35.1	94
Snake River Above Ice Harbor	0.02	4	19.5	87
Columbia Above The Dalles	0.38	46	24.1	89
Kootenai	1.24	87	34.2	91
Clark Fork	0.23	20	28.2	102
Flathead	0.23	16	34.8	98
Pend Oreille River Basin above Waneta Dam	0.26	21	31.5	97
Salmon River Basin	0.05	6	26.0	91
Upper Snake Tributaries	0.00	1	23.8	90
Clearwater	0.04	4	42.4	105
Willamette River above Portland	0.57	45	55.0	85

Grand Coulee Reservoir is at 1282.1 feet (9-20-18) and has refilled 2.4 feet over the last week. Outflows at Grand Coulee have ranged between 48.9 Kcfs and 68.3 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2442.1 feet (9-20-18) and has drafted 1.0 foot over the past week. Daily average outflows at Libby Dam have been 6.0 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3551.1 feet (9-20-18) and has drafted 2.1 feet last week. Outflows at Hungry Horse have been 2.3-2.4 Kcfs over the last week.

Dworshak is currently at an elevation of 1521.0 feet (9-20-18) and has drafted 9.0 feet last week. Dworshak outflows have been 4.5-5.4 Kcfs.

The Brownlee Reservoir was at an elevation of 2044 feet on September 20th, 2018 and has drafted 4.0 feet. Outflows at Hells Canyon have ranged between 9.2 and 18.8 Kcfs over the last four days.

The Biological Opinion flow period began on April 3rd in the lower Snake River (Lower Granite). According to the April Final Water Supply Forecast (April 4th, 2018), the flow objective this spring was 100 Kcfs at Lower Granite. Flows at Lower Granite Dam averaged 111.3 Kcfs over the spring season. The summer biological flow period began on June 21st, 2018 at Lower Granite (Flow Objective = 53.3 Kcfs), flows averaged 37.5 Kcfs over the summer period.

Based on the April Final Water Supply Forecast, the Spring Biological Opinion Flow Objective is 260 Kcfs at McNary Dam and 135 Kcfs at Priest Rapids Dam. Flows at McNary averaged 343.0 Kcfs over the season. The summer flow period began on July 1, 2018 at McNary Dam, with a flow objective of 200 Kcfs. Over the summer period, flows averaged 161.9 Kcfs at McNary.

Temperature

With the termination of the voluntary spill program, the total dissolved gas (TDG) monitors in the forebays of most FCRPS projects have been removed for the year. Therefore, temperature data from many of these monitors are no longer be available. However, the forebay temperature strings at Lower Granite and McNary continue to collect and report data. Herein, we report the daily average temperatures for these two projects from the forebay temperature stings located at the 3 meter depth. The daily average temperatures at these three sites on September 20th (at the 3 m string) were 65.2 °F at Lower Granite and 66.4 °F at McNary. The forebay TDG monitor at Bonneville is still in operation and continues to collect and report data. The daily average temperature at the Bonneville forebay TDG monitor on September 20th was 65.7 °F.

Smolt Monitoring

Smolt Monitoring Program (SMP) activities continued at most FCRPS bypass facilities this week. Sampling at John Day ended after sample on September 14th and sampling at Rock Island Dam ended after the sample on August 31st. This week's samples were dominated by subyearling Chinook at all the FCRPS bypass facilities that are continuing to sample.

This week's samples at Bonneville Dam (BON) were dominated by subyearling Chinook. This week's daily average passage index for subyearling Chinook was about 70 per day, which is similar to the daily average passage index from the previous week. No spring migrants were encountered in this week's samples. Furthermore, no lamprey juveniles were encountered this week.

Sampling at John Day Dam (JDA) ended after the sample on September 14th. The only salmonids that were encountered in the samples from the final week (Sept. 8-14) of sampling were subyearling Chinook. The daily average passage index for subyearling Chinook was approximately 50 per day. No lamprey juveniles were encountered at JDA in the last week of sampling.

Subyearling Chinook dominated this week's samples at McNary Dam (MCN). This week's daily average passage index for subyearling Chinook was about 50 per day, which is similar to the daily average passage index from the previous week. No other salmonids were encountered in this week's samples.

Pacific lamprey macrophthalmia were encountered in all four of this week's samples but no ammocoetes were encountered this week. This week's daily average collection for Pacific lamprey macrophthalmia was 12 per day.

Since the transition from barging to trucking, samples from Lower Granite Dam (LGR) may be held for up to 48-hours before being enumerated. Therefore, data from LGR may be delayed for 1-2 days over the remainder of the season. To date, the FPC has data from LGR through the sample on September 19th. Subyearling Chinook continued to dominate the samples at LGR this week. This week's daily average passage index for subyearling Chinook was about 30 per day, which is a decrease from the previous week's daily average passage index of about 60 per day. Very few spring migrants were encountered in this week's samples. Pacific lamprey macrophthalmia were encountered in three of this week's samples while Pacific lamprey ammocoetes were encountered in two of this week's samples. When encountered, sample counts for Pacific lamprey juveniles were low.

Due to increased mortalities and incidences of *Columnaris* last week, the bypass system at Little Goose Dam (LGS) was switched to primary bypass after the sample on September 15th. Under this protocol, LGS will conduct a condition sample (24-hour) every third day until three consecutive samples have mortality rates of less than 9%. Also, during this time, all sampled fish are being bypassed back to the river and not transported. If/when the <9% mortality criterion has been met, daily sampling and truck transportation will resume. The first condition sample under the reduced protocol was on September 18th. The subyearling Chinook collection for this sample was only five fish, with 0% mortality. The next condition sample will occur on September 21st. Pacific lamprey macrophthalmia were encountered in all three of this week's samples and ammocoetes were encountered in only one of this week's samples.

Similar to LGR, samples from Lower Monumental Dam (LMN) are held for up to 48-hours before being enumerated, due to the transition to trucking. Therefore, data from LMN may be delayed for 1-2 days over the remainder of the season. To date, the FPC has data from LMN through the sample on September 19th. This week's samples at LMN were dominated by subyearling Chinook. This week's daily average passage index for subyearling Chinook was about 5 per

day, which is a decrease from the daily average passage index from the previous week, which was about 20 per day. Finally, Pacific lamprey macrophthalmia and ammocoetes were each in four of this week's samples.

Hatchery Releases

FPC has not received all data from some hatcheries as of 09/21/18, therefore, this hatchery release schedule represents the most up to date accounting that are available, but should not be considered a finalized record of hatchery releases.

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. In the past week there were no scheduled releases into this zone, nor are there any scheduled for the next two.

Upper Columbia Zone:

The Upper Columbia Zone encompasses the area of the Columbia River and its tributaries from Priest Rapids Dam to Chief Joseph Dam. In the past week there were no scheduled releases into this zone, nor are there any scheduled for the next two.

Middle Columbia Zone:

The Middle Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to Priest Rapids Dam (excluding the Snake River). In the past week there were no scheduled releases into this zone, nor are there any scheduled for the next two.

Lower Columbia Zone:

The Lower Columbia Zone is defined as the Columbia River and its tributaries below Bonneville Dam. In the past week there were no scheduled releases into this zone. In the next two weeks there are 400,000 juvenile fall Chinook scheduled for release into Tanner Creek, below Bonneville Dam on September 28th. There are also 286,000 spring Chinook juveniles planned for release into the Lewis River starting on the 1st of October and running through the end of the month.

Adult Passage

Adult Passage Daily passage numbers at Bonneville Dam ranged between 1,579 and 4,642 adult Chinook in the last week. The 2018 Bonneville Dam adult fall Chinook count of 141,501 is about 57.6% of the 2017 count and about 33.7% of the 10-year average. At Willamette Falls, 857 adult fall Chinook have been counted so far this year. In 2017, 133 adult fall Chinook were counted at Willamette Falls. As of September 18th, a total of 56,698 adult fall Chinook have been counted at McNary Dam and 11,115 have been counted at Lower Granite Dam. The 2018 McNary Dam adult fall Chinook count is about 86.8% of the 2017 count and about 40.6% of the 10-year average count.

The 2018 Bonneville Dam adult steelhead count of 87,048 is about 86.3% the 2017 count of 100,865 and about 30.4% of the 10-year average count of 285,977. The 2018 Bonneville Dam adult unclipped steelhead count of 29,340 is about 94.9% of the 2017 count of 30,903 and about 29.6% of the 10-year average count of 99,202. Daily adult steelhead counts at Lower Granite Dam ranged from 565 to 1,122 adults per day last week. This year's Lower Granite steelhead count of 14,721 is about 1.3 times greater than the 2017 count of 11,669, while being and about 26.7% of the 10-year average count of 55,204. The 2018 Lower Granite Dam adult unclipped steelhead count of 4,257 is about 92.7% of the 2017 count of 4,593 and 24.3% of the 10-year average count of 17,506. At Willamette Falls, the 2018 count for steelhead was 10,843 as of September 18th. This year's steelhead count is about 3.9 times greater than the 2017 count of 2,762 while being 51.9% of the 10-year average count of 20,909.

The 2018 Bonneville Dam adult coho count of 24,016 is about 79% of the 2017 count and about 39.8% of the 10-year average count. As of September 20th at Bonneville Dam, the adult shad count was 6,059,933. This year's shad count is about 1.9 times greater than the 2017 count of 3,135,401 and 2.9 times greater than the 10-year average count of 2,101,623. A total of 43,418 lampreys have been counted at Bonneville Dam so far this year. The Bonneville 2018 lamprey count is about 52.7% of the 2017 count of 82,414, while being about 1.4 times greater than the 10-year average count of 30,386.

Hatchery Releases Last Two Weeks

Hatchery Release Summary
From: 9/8/2018 to 09/21/18

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver	Zone
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**Grand
Total**

0

Hatchery Releases Next Two Weeks

Hatchery Release Summary
From: 9/22/2018 to 10/5/2018

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver	Zone
Oregon Dept. of Fish and Wildlife	Bonneville Hatchery	CH0	FA	2019	400,000	09-28-18	09-28-18	Tanner Creek	Tanner Creek	LCOL
Oregon Dept. of Fish and Wildlife Total					400,000					
Washington Dept. of Fish and Wildlife	Lewis River Hatchery	CH0	SP	2018	186,300	10-01-18	11-01-18	Lewis River Hatchery	Lewis River	LCOL
Washington Dept. of Fish and Wildlife	Speelyai Hatchery	CH0	SP	2018	15,000	10-01-18	10-01-18	Lewis River	Lewis River	LCOL
Washington Dept. of Fish and Wildlife	Speelyai Hatchery	CH0	SP	2018	35,000	10-01-18	10-01-18	Lewis River	Lewis River	LCOL
Washington Dept. of Fish and Wildlife	Speelyai Hatchery	CH0	SP	2018	50,000	10-01-18	10-01-18	Lewis River	Lewis River	LCOL
Washington Dept. of Fish and Wildlife Total					286,300					
Grand Total					686,300					

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
09/07/2018	70.0	0.1	67.6	0.0	69.8	0.0	63.9	0.0	65.6	0.0	73.9	0.9	70.3	1.7
09/08/2018	62.4	0.1	58.3	0.0	58.1	0.0	60.3	0.3	60.8	0.0	54.9	1.1	52.3	1.7
09/09/2018	59.9	0.1	64.0	0.0	75.6	0.0	74.3	0.0	76.2	0.0	71.1	1.5	68.0	1.8
09/10/2018	59.4	0.1	58.9	0.0	57.5	0.0	56.6	0.0	59.0	0.0	76.1	1.4	75.4	1.6
09/11/2018	56.6	0.1	50.1	0.0	56.8	0.0	58.3	0.0	59.1	0.0	63.8	1.3	60.9	0.9
09/12/2018	54.5	0.1	55.7	0.0	59.3	0.0	56.9	0.0	57.3	0.0	60.5	1.1	57.9	1.0
09/13/2018	66.1	0.1	63.7	0.0	62.6	0.0	63.7	0.0	66.7	0.0	81.7	1.1	77.7	0.9
09/14/2018	68.3	0.1	71.8	0.0	67.9	0.0	66.3	0.0	68.3	0.0	71.9	0.9	68.0	1.0
09/15/2018	55.9	0.1	53.1	0.0	55.6	0.0	55.1	0.0	54.9	0.0	64.2	1.0	63.8	1.8
09/16/2018	49.7	0.1	46.2	0.0	51.7	0.0	49.2	0.0	51.2	0.0	48.7	1.1	46.9	1.7
09/17/2018	62.1	0.1	61.2	0.0	64.8	0.0	67.4	0.0	69.3	0.0	80.8	0.9	77.2	1.1
09/18/2018	62.7	0.1	64.7	0.0	63.5	3.2	57.4	0.0	57.9	0.0	67.4	0.8	64.7	0.9
09/19/2018	52.4	0.1	52.9	0.0	55.0	0.1	52.7	0.0	53.8	0.0	57.5	0.7	57.4	0.9
09/20/2018	48.9	0.1	45.5	0.0	47.2	0.0	47.1	0.0	46.8	0.0	49.5	0.8	47.0	1.0

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
09/07/2018	5.4	0.0	---	---	26.5	0.0	22.3	0.0	21.3	0.0	19.2	0.0
09/08/2018	5.4	0.0	---	---	25.5	0.0	23.7	0.0	23.1	0.0	22.0	0.0
09/09/2018	5.5	0.0	---	---	23.9	0.0	21.2	0.0	21.9	0.0	20.7	0.0
09/10/2018	5.5	0.0	---	---	25.5	0.0	23.1	0.0	23.1	0.0	24.3	0.0
09/11/2018	5.5	0.0	---	---	24.5	0.0	22.9	0.0	25.0	0.1	25.7	0.0
09/12/2018	5.5	0.0	---	---	22.9	0.0	24.9	0.0	24.3	0.0	25.4	0.0
09/13/2018	5.5	0.0	---	---	23.7	0.0	24.3	0.0	24.5	0.0	22.7	0.0
09/14/2018	5.5	0.0	---	---	24.0	0.0	21.3	0.0	19.5	0.0	17.5	0.0
09/15/2018	5.5	0.0	---	---	23.5	0.0	23.5	0.0	23.5	0.0	24.9	0.0
09/16/2018	4.9	0.0	---	---	22.7	0.0	20.9	0.0	23.0	0.0	21.7	0.0
09/17/2018	4.6	0.0	---	---	23.0	0.0	21.9	0.0	23.2	0.0	24.3	0.0
09/18/2018	4.6	0.0	---	---	22.4	0.0	24.9	0.0	25.9	0.0	24.3	0.0
09/19/2018	4.6	0.0	---	---	22.3	0.0	22.6	0.0	23.1	0.0	23.5	0.0
09/20/2018	4.6	0.0	---	---	21.9	0.0	25.2	0.0	26.1	0.0	27.5	0.0

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

Date	McNary		John Day		The Dalles		Bonneville			
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH2	
09/07/2018	108.3	0.0	104.8	1.1	106.2	0.0	107.8	1.3	0.0	99.1
09/08/2018	84.1	0.0	84.6	0.9	84.6	0.0	88.4	1.4	0.0	79.6
09/09/2018	78.3	0.0	77.6	1.0	79.2	0.0	85.2	1.3	0.0	76.4
09/10/2018	90.5	0.0	80.2	1.0	80.1	0.0	88.4	1.3	0.3	79.3
09/11/2018	96.1	0.0	97.7	1.6	95.2	0.0	97.0	1.3	0.0	88.3
09/12/2018	90.7	0.0	91.8	1.0	91.2	0.0	99.9	1.1	0.0	91.4
09/13/2018	79.3	0.0	74.0	1.2	72.1	0.0	82.3	1.4	0.6	72.9
09/14/2018	99.0	0.0	97.8	1.0	99.4	0.0	102.9	1.3	7.6	86.6
09/15/2018	89.0	0.0	91.5	1.0	90.3	0.0	99.7	1.3	0.1	90.9
09/16/2018	83.2	0.0	80.7	1.0	80.7	0.0	87.7	1.3	0.0	79.0
09/17/2018	98.8	0.0	97.6	1.2	101.7	0.0	109.3	1.2	2.9	97.8
09/18/2018	97.4	0.0	93.4	1.6	85.1	0.0	90.7	1.2	0.0	82.1
09/19/2018	82.2	0.0	81.3	0.9	83.1	0.0	87.8	1.2	0.0	79.2
09/20/2018	73.3	0.0	70.3	1.0	70.2	0.0	77.7	1.2	0.0	69.0

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

Total Dissolved Gas Data at Upper Columbia Sites

Date	Hungry H. Dnst				Boundary				Grand Coulee				Grand C. Tlwr				Chief Joseph				Chief J. Dnst				Date
	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	
09/07									103.8	104.0	105.0	24	103.8	104.4	104.6	24	104.8	105.1	105.4	22	104.1	104.6	105.2	24	09/07
09/08									104.5	104.8	105.1	24	104.0	105.0	105.7	24	104.5	105.0	105.1	23	104.0	104.5	105.5	24	09/08
09/09									104.5	105.0	105.0	24	103.5	104.0	104.9	24	104.5	104.9	105.1	19	103.9	104.4	105.1	24	09/09
09/10									104.3	104.5	104.8	24	103.6	104.2	104.9	24	104.5	104.9	105.4	21	103.8	104.5	105.8	24	09/10
09/11									104.9	105.1	105.9	24	103.1	103.7	104.4	24	104.6	104.9	105.2	14	103.5	104.2	105.6	24	09/11
09/12									103.7	104.8	104.7	24	103.2	103.8	104.1	24	104.3	104.8	104.4	8	102.9	103.5	104.1	23	09/12
09/13									103.7	104.1	104.4	24	102.8	103.5	104.0	24	103.7	104.3	104.3	10	102.6	103.1	103.5	24	09/13
09/14									103.2	103.6	103.7	24	102.3	102.9	103.4	24	103.5	103.7	103.7	10	102.2	102.7	103.0	24	09/14
09/15									103.2	103.4	103.6	24	102.8	103.5	103.8	24	103.2	103.5	103.5	8	102.1	102.6	103.5	24	09/15
09/16									101.7	103.1	103.2	24	102.7	103.2	103.8	24				0	101.9	102.4	103.2	24	09/16
09/17									101.9	101.9	102.2	24	101.7	102.7	102.7	24	101.9	102.3	103.0	24	101.2	101.9	102.4	24	09/17
09/18									101.9	102.0	102.3	24	101.8	102.3	102.7	24	101.7	102.2	102.7	24	100.8	101.3	101.7	24	09/18
09/19									101.9	102.0	102.1	24	102.2	102.8	103.3	24	101.6	102.0	102.3	24	101.0	101.6	102.3	24	09/19
09/20									101.8	101.9	102.1	23	102.3	102.8	103.4	23	101.9	102.4	102.7	14	100.8	101.4	102.3	23	09/20

Total Dissolved Gas Data at Upper Columbia Sites

Date	Wells				Wells Dwnstrm				Rocky Reach				Rocky R. Tlwr				Rock Island				Rock I. Tlwr				Date
	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	
09/07	103.9	104.5	104.9	24	104.0	104.8	105.3	24	103.9	104.2	104.5	24	103.6	104.1	105.0	23	103.4	103.8	104.0	23	103.3	103.9	104.2	21	09/07
09/08	104.1	104.5	104.8	24	104.0	104.6	105.3	24	104.0	104.3	104.6	24	103.7	104.4	105.1	23	103.3	103.7	103.8	24	103.2	103.7	103.9	23	09/08
09/09	104.1	104.6	105.0	23	104.2	105.0	105.6	23	104.3	104.5	104.6	24	104.0	104.4	105.2	22	103.5	103.8	104.2	24	103.5	103.8	104.0	21	09/09
09/10	104.0	104.5	104.2	24	103.8	104.7	104.6	24	104.1	104.5	104.6	24	103.8	104.7	105.6	22	103.3	103.8	104.2	23	103.4	103.8	104.0	21	09/10
09/11	103.8	104.4	105.0	24	103.8	104.7	105.7	24	104.1	104.3	104.9	24	103.6	104.7	105.1	23	102.7	103.1	103.6	23	102.9	103.3	103.5	20	09/11
09/12	103.5	104.0	104.8	24	103.4	104.3	105.2	24	103.9	104.2	104.9	24	103.5	104.1	104.7	23	103.0	103.3	103.8	24	102.8	103.3	103.6	23	09/12
09/13	103.1	103.7	105.4	24	103.1	103.9	105.0	24	103.4	104.0	104.2	24	102.7	104.1	104.2	24	102.8	103.2	103.2	24	102.7	103.2	103.4	23	09/13
09/14	103.1	103.6	104.2	24	102.9	103.5	104.2	24	103.2	103.6	103.9	24	102.6	103.5	104.7	23	102.4	102.7	102.8	24	102.3	102.9	103.1	23	09/14
09/15	102.7	103.4	103.1	24	102.7	103.2	103.3	24	103.5	103.7	103.8	22	102.7	103.8	103.8	16	102.5	102.8	103.0	22	102.5	102.9	103.1	18	09/15
09/16	102.3	102.9	103.0	24	102.2	102.9	102.7	24	102.9	103.5	103.3	24	102.0	103.2	103.4	23	101.8	102.6	102.3	23	101.8	102.8	102.3	21	09/16
09/17	101.3	102.1	102.3	24	101.3	102.1	101.9	24	102.0	102.7	102.6	24	101.3	101.9	103.5	22	100.9	101.4	101.7	23	101.0	101.6	101.7	20	09/17
09/18	101.2	101.8	102.2	24	102.7	104.8	112.5	24	101.8	102.2	102.6	24	101.6	102.5	103.4	21	101.0	101.5	102.0	24	101.0	101.6	101.9	21	09/18
09/19	101.7	102.2	103.4	24	101.5	103.3	103.1	24	102.0	102.4	103.2	24	101.4	102.7	102.7	24	101.4	101.9	102.7	24	101.5	102.1	102.6	24	09/19
09/20	101.5	102.0	102.6	23	101.3	102.0	102.7	23	101.8	102.4	102.3	23	101.0	102.1	102.7	21	101.3	101.8	102.7	22	101.5	102.0	102.5	19	09/20

FISH PASSAGE CENTER

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

[INTERNAL PURPOSES ONLY]

Date 9/21/2018 7:15:09 AM

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Total Dissolved Gas Data at Upper and Mid-Columbia Sites

Wanapum				Wanapum Tlwr				Priest Rapids				Priest R. Dnstr				Pasco				Date		
Date	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	Date	
09/07																						09/07
09/08																						09/08
09/09																						09/09
09/10																						09/10
09/11																						09/11
09/12																						09/12
09/13																						09/13
09/14																						09/14
09/15																						09/15
09/16																						09/16
09/17																						09/17
09/18																						09/18
09/19																						09/19
09/20																						09/20

Total Dissolved Gas Data at Snake and Clearwater Sites

Dworshak				Clrwr Peck				Anatone				Clrwr-Lewiston				Lower Granite				Lower G. Tlwr				Date	
Date	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	Date
09/07	101.6	102.0	102.4	24													100.5	101.3	101.7	24					09/07
09/08	101.6	102.0	102.6	24													99.9	101.2	100.7	24					09/08
09/09	101.6	102.0	102.6	24													99.7	100.5	100.8	24					09/09
09/10	101.7	102.1	102.6	24													100.9	101.3	101.6	24					09/10
09/11	101.6	102.0	102.3	24													100.4	101.0	100.7	24					09/11
09/12	101.7	102.1	102.7	24													100.1	100.4	100.6	24					09/12
09/13	101.3	101.8	101.9	24													99.6	100.3	100.0	24					09/13
09/14	101.5	102.1	102.7	24													99.2	100.1	100.5	24					09/14
09/15	101.8	102.3	102.9	24													98.5	99.9	99.4	24					09/15
09/16	101.5	102.0	102.3	24													97.4	98.3	97.9	24					09/16
09/17	102.8	103.3	103.8	24													97.0	97.4	97.4	24					09/17
09/18	103.1	103.5	104.1	24													97.5	97.8	98.0	24					09/18
09/19	103.1	103.6	104.3	24													98.0	98.7	103.1	24					09/19
09/20	102.8	103.4	103.8	23													97.3	98.6	97.8	23					09/20

FISH PASSAGE CENTER

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

[INTERNAL PURPOSES ONLY]

Date 9/21/2018 7:15:09 AM

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Total Dissolved Gas Data at Lower Snake Sites

Date	Little Goose				L. Goose Tlwr				Lower Mon.				Lwr. Mon. Tlwr				Ice Harbor				Tlwr Ice Harbor				Date
	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	
09/07	108.2	109.2	111.1	24	105.7	106.6	107.1	24	104.0	105.5	104.4	24	103.4	105.3	104.4	24	109.3	110.1	110.9	24	09/07				
09/08	105.1	108.5	105.9	24	102.5	106.6	105.4	24	102.9	104.0	103.9	24	102.5	103.8	103.9	24	106.9	109.5	108.3	24	09/08				
09/09	103.1	104.3	105.0	24	99.8	101.4	100.8	24	103.3	104.0	104.4	24	103.0	104.1	104.7	24	105.3	106.4	106.2	24	09/09				
09/10	103.1	104.1	104.2	24	99.6	100.4	100.5	24	103.0	104.0	103.9	24	103.0	103.8	104.1	24	104.6	105.5	105.3	24	09/10				
09/11	102.1	103.5	103.8	24	98.9	100.0	100.4	24	103.2	104.1	104.7	24	103.6	104.7	105.3	24	104.7	105.3	106.5	24	09/11				
09/12	103.8	104.7	105.5	24	100.6	101.3	101.7	24	105.1	105.3	105.6	24	103.6	104.7	105.5	24	104.7	105.3	106.0	24	09/12				
09/13	102.8	104.7	103.7	24	100.4	101.3	101.1	24	103.5	104.9	104.7	24	102.0	103.8	103.5	24	103.9	105.0	105.5	24	09/13				
09/14	101.9	103.2	102.4	24	100.5	101.1	101.4	24	103.6	104.0	104.2	24	100.8	102.1	102.9	24	103.3	104.1	105.0	24	09/14				
09/15	100.8	101.7	101.3	24	100.1	101.1	100.6	24	101.6	103.7	102.9	24	100.6	101.7	102.4	24	103.0	103.6	104.2	24	09/15				
09/16	99.8	100.8	100.6	24	98.6	100.1	99.3	24	99.9	101.4	100.7	24	99.3	101.0	101.5	24	101.9	103.0	103.2	24	09/16				
09/17	98.8	99.7	99.3	24	97.4	98.3	97.9	24	101.4	101.6	101.8	24	100.5	101.9	102.6	24	101.5	102.1	102.7	24	09/17				
09/18	98.7	99.0	99.2	24	97.7	98.1	98.8	24	101.8	102.6	102.9	24	101.2	103.0	103.9	24	101.6	102.2	102.9	24	09/18				
09/19	98.4	98.9	99.0	24	97.4	98.1	98.5	24	100.8	102.4	101.6	24	100.7	102.2	103.1	24	101.6	102.4	102.9	24	09/19				
09/20	97.8	98.6	98.3	15	96.6	97.9	97.3	15	100.1	101.1	100.5	10	100.7	101.9	102.6	23	101.4	102.1	103.4	23	09/20				

Total Dissolved Gas Data at Mid-Columbia Sites

Date	McNary-Wash.				Tlwr McNary				John Day				Tlwr John Day				The Dalles				Dnstr T. Dalles				Date
	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	
09/07					102.8	103.4	103.9	24	104.3	105.0	105.6	24	104.5	104.7	105.3	24	104.1	104.6	105.3	24	104.0	104.3	104.6	24	09/07
09/08					101.8	103.3	102.5	24	104.1	104.8	104.4	24	104.1	104.5	104.9	24	103.2	104.6	103.7	24	103.3	104.1	103.7	24	09/08
09/09					102.1	102.7	103.1	24	104.2	104.5	104.9	24	104.6	105.4	106.5	24	102.5	103.3	103.2	24	103.2	103.6	104.0	24	09/09
09/10					102.2	102.7	102.8	24	104.0	104.6	104.5	24	104.1	105.1	104.6	24	102.6	102.9	102.9	24	102.8	103.3	103.5	24	09/10
09/11					102.1	102.5	102.9	24	103.4	103.9	103.7	24	103.2	103.7	103.7	24	102.4	102.7	102.6	24	102.5	102.9	103.1	24	09/11
09/12					101.5	102.3	102.5	24	102.7	103.4	103.2	24	102.9	103.4	103.7	24	102.1	102.4	102.7	24	102.4	102.7	102.9	24	09/12
09/13					100.7	101.6	101.4	24	101.6	102.6	102.3	24	102.1	102.7	103.3	24	101.5	102.4	102.0	24	102.3	102.7	102.8	24	09/13
09/14					100.4	100.8	101.3	24	101.0	101.4	101.5	24	101.1	102.5	102.1	24	101.6	101.9	102.1	24	102.2	102.6	102.5	24	09/14
09/15					100.3	100.7	101.3	24	100.8	101.3	101.1	24	101.0	101.3	101.6	24	101.6	101.9	102.1	24	102.3	102.5	102.9	24	09/15
09/16					99.6	100.4	100.5	24	100.0	100.9	100.5	24	99.9	101.0	100.5	24	100.3	101.7	101.1	24	101.5	102.2	101.9	24	09/16
09/17					99.7	100.2	100.5	24	99.4	99.8	100.0	24	99.5	100.1	100.7	24	99.8	100.1	100.4	24	100.6	101.1	101.2	24	09/17
09/18					100.0	100.5	100.8	24	99.5	99.8	100.4	24	100.2	100.3	100.9	24	100.1	100.5	100.9	24	100.8	101.5	101.9	24	09/18
09/19					99.6	100.4	100.4	24	99.3	99.8	100.0	24	100.6	101.1	102.4	24	100.2	100.6	100.7	24	101.2	101.8	102.3	24	09/19
09/20					99.0	99.7	99.8	23	98.8	99.3	99.2	23	100.3	100.9	101.3	23	99.9	100.4	100.4	23	101.0	101.6	101.9	23	09/20

FISH PASSAGE CENTER

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

[INTERNAL PURPOSES ONLY]

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Total Dissolved Gas Data at Mid-Columbia Sites

Date	Bonneville				Warrendale				Camas\Washug.				Cascade Islid.				Date
	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	
09/07	103.1	103.4	103.8	24	104.6	105.3	105.8	24	104.8	105.6	105.8	24	113.0	117.6	123.6	24	09/07
09/08	102.4	103.4	102.9	24	104.6	105.3	106.2	24	104.3	105.3	105.4	24	113.2	118.1	124.0	24	09/08
09/09	102.6	103.0	103.3	24	104.6	105.2	105.7	24	105.2	105.9	106.4	24	113.3	117.4	122.1	24	09/09
09/10	102.5	103.0	102.8	24	104.7	105.0	105.6	24	104.5	105.8	105.1	24	111.2	114.1	119.8	24	09/10
09/11	102.3	102.6	102.6	24	104.3	104.7	104.9	24	104.0	104.4	105.1	24	113.1	116.5	123.5	24	09/11
09/12	102.2	102.5	102.6	24	104.2	104.5	105.1	24	103.7	104.4	104.2	24	115.6	122.0	124.2	24	09/12
09/13	101.5	102.1	101.8	24	104.3	104.7	105.5	24	103.5	104.1	104.7	24	113.2	119.3	125.0	24	09/13
09/14	101.8	102.1	102.4	24	104.6	105.6	106.4	24	104.3	105.1	105.4	24	113.1	116.0	123.5	24	09/14
09/15	102.3	102.5	102.8	24	104.5	105.6	105.3	24	104.5	105.1	105.3	24	113.8	119.5	123.6	24	09/15
09/16	101.7	102.4	102.1	24	103.9	104.3	104.6	24	103.5	105.0	104.6	24	113.0	118.9	123.2	24	09/16
09/17	101.6	102.0	102.2	24	104.1	105.0	106.2	24	103.5	104.2	104.6	24	112.7	115.6	120.2	24	09/17
09/18	101.8	102.1	102.4	24	103.5	104.8	104.3	24	103.8	104.5	105.1	24	112.4	117.9	120.6	24	09/18
09/19	101.5	102.1	101.8	24	102.6	103.6	103.8	24	103.7	104.6	104.7	24	111.5	113.9	117.6	24	09/19
09/20	100.9	101.6	101.3	23	103.1	103.3	103.9	23	103.5	104.1	104.8	23	111.0	114.8	116.8	23	09/20

Hours used in calculating values:

24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
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FISH PASSAGE CENTER

Smolt Monitoring Program Two Week Passage Index Report

Date 9/21/2018 7:16:53 AM

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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)
09/07/2018					0	0	0				0
09/08/2018					0	0	0		0	0	0
09/09/2018					0	0	0				0
09/10/2018					0	0	0		0	0	0
09/11/2018					0	0	0				0
09/12/2018					0	0	0		0	0	0
09/13/2018					0	0	0				0
09/14/2018					0	0	0		0	0	0
09/15/2018					0	0	0				0
09/16/2018					0		0		0		0
09/17/2018					0		0				0
09/18/2018					0	0	0		0		0
09/19/2018					0		0				0
09/20/2018									0		0
09/21/2018											
Total:	0	0	0	0	0	0	0	0	0	0	0
# Days:	0	0	0	0	13	10	13	0	7	4	14
Average:	0	0	0	0	0	0	0	0	0	0	0
YTD:	23,452	41,212	21,824	12,792	4,639,019	2,838,053	2,045,317	49,702	1,494,206	1,257,455	1,890,717

Number of hours sampled:

- No data available or no sample conducted

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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FISH PASSAGE CENTER

Smolt Monitoring Program Two Week Passage Index Report

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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)
09/07/2018					70	91	27				58
09/08/2018					81	110	25		72	106	72
09/09/2018					56	87	27				14
09/10/2018					74	74	16		80	30	29
09/11/2018					62	65	14				88
09/12/2018					59	98	16		48	46	58
09/13/2018					46	61	11				73
09/14/2018					32	51	2		110	31	59
09/15/2018					45	32	3				32
09/16/2018					34		5		20		73
09/17/2018					17		5				14
09/18/2018					21	5	4		48		98
09/19/2018					17		6				102
09/20/2018									36		81
09/21/2018											
Total:	0	0	0	0	614	674	161	0	414	213	851
# Days:	0	0	0	0	13	10	13	0	7	4	14
Average:	0	0	0	0	47	67	12	0	59	53	61
YTD:	0	6	89	192	875,127	940,988	508,439	36,289	2,289,225	1,068,593	2,881,657

Number of hours sampled:

- No data available or no sample conducted

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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FISH PASSAGE CENTER

Smolt Monitoring Program Two Week Passage Index Report

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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)
09/07/2018					0	0	0				0
09/08/2018					0	0	0		0	0	0
09/09/2018					0	0	0				0
09/10/2018					0	0	0		0	0	0
09/11/2018					0	0	0				0
09/12/2018					0	0	0		0	0	0
09/13/2018					0	0	0				0
09/14/2018					0	0	0		0	0	0
09/15/2018					0	0	0				0
09/16/2018					0		0		0		0
09/17/2018					0		0				0
09/18/2018					1	0	0		0		0
09/19/2018					0		0				0
09/20/2018									0		0
09/21/2018											
Total:	0	0	0	0	1	0	0	0	0	0	0
# Days:	0	0	0	0	13	10	13	0	7	4	14
Average:	0	0	0	0	0	0	0	0	0	0	0
YTD:	0	0	1,224	1,365	262,531	215,275	42,479	44,218	226,511	120,100	477,487

Number of hours sampled:

- No data available or no sample conducted

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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FISH PASSAGE CENTER

Smolt Monitoring Program Two Week Passage Index Report

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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)
09/07/2018					0	0	0				0
09/08/2018					0	0	0		0	0	0
09/09/2018					0	0	1				0
09/10/2018					0	0	0		0	0	0
09/11/2018					0	0	0				0
09/12/2018					0	0	0		0	0	0
09/13/2018					0	0	0				0
09/14/2018					0	0	0		0	0	0
09/15/2018					0	0	1				0
09/16/2018					0		0		0		0
09/17/2018					0		0				0
09/18/2018					1	0	0		0		0
09/19/2018					0		0				0
09/20/2018									0		0
09/21/2018											
Total:	0	0	0	0	1	0	2	0	0	0	0
# Days:	0	0	0	0	13	10	13	0	7	4	14
Average:	0	0	0	0	0	0	0	0	0	0	0
YTD:	723	27,446	3,888	5,328	3,924,765	3,004,340	1,942,823	24,918	240,968	681,274	356,557

Number of hours sampled:

- No data available or no sample conducted

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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FISH PASSAGE CENTER

Smolt Monitoring Program Two Week Passage Index Report

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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)
09/07/2018					0	0	0				0
09/08/2018					0	0	0		0	0	0
09/09/2018					0	1	0				14
09/10/2018					0	0	0		0	0	0
09/11/2018					0	0	0				0
09/12/2018					0	1	0		0	0	0
09/13/2018					0	0	0				0
09/14/2018					0	2	0		0	0	0
09/15/2018					0	0	0				0
09/16/2018					0		0		0		0
09/17/2018					0		0				0
09/18/2018					1	0	0		0		0
09/19/2018					0		0				0
09/20/2018									0		0
09/21/2018											
Total:	0	0	0	0	1	4	0	0	0	0	14
# Days:	0	0	0	0	0	0	0	0	0	0	1
Average:	0	0	0	0	0	0	0	0	0	0	1
YTD:	0	0	4	115	260,631	120,868	58,625	76,238	1,527,709	383,716	741,306

Number of hours sampled:

- No data available or no sample conducted

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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FISH PASSAGE CENTER

Smolt Monitoring Program Two Week Passage Index Report

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COMBINED LAMPREY JUVENILES

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR* (Sample)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)
09/07/2018					0	4	0				0
09/08/2018					2	7	0		12	0	0
09/09/2018					0	6	10				0
09/10/2018					1	3	0		0	0	0
09/11/2018					1	5	0				0
09/12/2018					2	2	0		20	0	0
09/13/2018					0	11	14				0
09/14/2018					2	7	4		20	0	0
09/15/2018					0	12	8				0
09/16/2018					3		2		10		0
09/17/2018					1		1				0
09/18/2018					3	8	5		12		0
09/19/2018					0		0				0
09/20/2018									4		0
09/21/2018											
Total:	0	0	0	0	15	65	44	0	78	0	0
# Days:	0	0	0	0	14	16	18	0	7	4	14
Average:	0	0	0	0	1	4	2	0	11	0	0
YTD:		1	3		554	36,051	56,899	371	219,428	227,728	27,329

- No data available or no sample conducted

- 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.

Number of hours sampled:

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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Smolt Monitoring Program Two Week Passage Index Report

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Smolt Monitoring Program Sites and Agency Collaborations:

- 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
- LGS (Index) - Little Goose Bypass Collection System : Passage Index Counts
- LMN (Index) - Lower Monumental Dam Bypass Collection System : Passage Index Counts
- RIS (Index) - Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts
- MCN (Index) - McNary Dam Bypass Collection System : Passage Index Counts
- JDA (Index) - John Day Dam Bypass Collection System : Passage Index Counts
- BO2 (Index) - Bonneville Dam Second Powerhouse Bypass Collection System : Passage Index Counts

- No data available or no sample conducted

Number of hours sampled:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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Important Information About this Report:

- For clip information see: <http://www.fpc.org/currentdaily/smpcomments.htm>
- Three 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. Equations for passage index are provided below for each site.
 LGR, LGS, LMN, MCN, JDA (Index) = Lower Granite Dam Bypass Collection System : Passage Index Counts
 $\text{Passage Index} = \frac{\text{Collection Counts}}{(\text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}))}$
 RIS, BO2 (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts
 $\text{Passage Index} = \frac{\text{Collection Counts}}{(\text{Powerhouse 2 Flow} / (\text{Powerhouse 1 \& 2 Flow} + \text{Spill}))}$
- 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.
- 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.

FISH PASSAGE CENTER

Two Week Transportation Summary Report

9/7/2018 12:00:00 AM TO 9/21/2018 12:00:00 AM

Date 9/21/2018 7:17:29 AM

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Lower Granite Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	614	0	1	1	1	618
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	0	0	0	0	0	0
Sum of Number Trucked	660	0	1	0	1	663
Sum of Sample Morts	8	0	0	0	0	8
Sum of Facility Morts	0	0	0	1	0	1
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	8	0	0	1	0	9

Little Goose Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	674	0	0	4	0	682
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	5	0	0	0	0	5
Sum of Number Trucked	637	0	0	2	0	641
Sum of Sample Morts	53	0	0	1	0	55
Sum of Facility Morts	31	0	0	1	0	33
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	84	0	0	2	0	88

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Two Week Transportation Summary Report

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Lower Monumental Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	161	0	0	0	2	165
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	184	0	0	0	2	188
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	1	0	0	0	0	1
Sum of Facility Morts	0	0	0	0	0	0
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	1	0	0	0	0	1

Total

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	1,449	0	1	5	3	1,461
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	189	0	0	0	2	193
Sum of Number Trucked	1,297	0	1	2	1	1,302
Sum of Sample Morts	62	0	0	1	0	63
Sum of Facility Morts	31	0	0	2	0	33
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	93	0	0	3	0	96

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YTD Transportation Summary Report

Date 9/21/2018 7:17:07 AM

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Lower Granite Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	530652	3041146	182825	188703	2522945	8989216
Sum of Number Barged	508800	2429169	179217	184065	1811318	6923887
Sum of Number Bypassed	14637	610813	3539	4465	711356	2056166
Sum of Number Trucked	6004	1	5	0	1	6012
Sum of Sample Morts	250	58	0	9	45	407
Sum of Facility Morts	936	1063	64	164	190	2607
Sum of Reseach Morts	25	42	0	0	35	137
Sum of Total Project Mort	1211	1163	64	173	270	3151

Little Goose Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	568434	1857033	137102	74676	1969535	6576315
Sum of Number Barged	559195	1546147	136377	66134	1357466	5022785
Sum of Number Bypassed	860	306206	407	7716	611659	1538507
Sum of Number Trucked	4094	0	2	4	6	4112
Sum of Sample Morts	228	41	4	14	14	315
Sum of Facility Morts	4057	4639	312	808	390	10596
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	4285	4680	316	822	404	10911

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YTD Transportation Summary Report

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Lower Monumental Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	305556	1218103	24944	35305	1178570	3941048
Sum of Number Barged	304570	1018208	24840	33659	926249	3233775
Sum of Number Bypassed	615	199433	100	1598	252173	706092
Sum of Number Trucked	129	0	0	0	0	129
Sum of Sample Morts	23	7	0	3	7	47
Sum of Facility Morts	219	455	4	45	141	1005
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	242	462	4	48	148	1052

Total

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	1404642	6116282	344871	298684	5671050	19506579
Sum of Number Barged	1372565	4993524	340434	283858	4095033	15180447
Sum of Number Bypassed	16112	1116452	4046	13779	1575188	4300765
Sum of Number Trucked	10227	1	7	4	7	10253
Sum of Sample Morts	501	106	4	26	66	769
Sum of Facility Morts	5212	6157	380	1017	721	14208
Sum of Reseach Morts	25	42	0	0	35	137
Sum of Total Project Mort	5738	6305	384	1043	822	15114

Cumulative Adult Passage at Mainstem Dams Through: 09/20

dam	enddate	Spring Chinook						Summer Chinook						Fall Chinook					
		2018		2017		10-Yr Avg.		2018		2017		10-Yr Avg.		2018		2017		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	09/20	87894	6456	83624	18110	152393	25835	61057	4349	88044	10648	101791	21805	141501	20361	245680	27685	433232	61511
TDA	09/20	57935	4793	58310	12497	119227	21697	49296	3787	69246	9277	84539	17568	84560	11522	135180	16321	242503	46349
JDA	09/20	50572	5053	46675	12475	103731	20380	42835	4293	60416	7363	75555	16777	65770	9684	91884	11413	177388	37254
MCN	09/20	44427	3472	44292	7020	94405	16297	42649	2513	57279	4705	71705	12468	56698	5970	65314	5307	139712	22181
IHR	09/20	32600	2197	28306	6949	68113	11204	6046	521	9284	2087	19109	4826	12775	2161	15702	2340	29444	9710
LMN	09/20	35398	3020	28545	8270	68100	11017	6091	716	8216	3388	19658	6010	12955	3444	13287	2739	25144	10851
LGS	09/20	31834	2486	26598	8335	63992	12109	7458	589	9086	3754	19425	6430	11974	1934	10858	1672	23263	7664
LGR	09/20	31161	2948	27357	8256	62850	13009	7304	819	8952	3627	17398	6872	11115	2057	8569	1698	20581	7841
PRD	09/19	7067	949	7268	783	18018	1858	40076	2269	52981	1760	60015	3091	9026	1199	7139	860	26030	4278
WAN	09/19	8071	964	6612	484	17542	2163	37808	1450	49392	1355	56843	2474	5735	994	4020	630	10960	2748
RIS	09/19	7894	997	8080	564	18255	2598	38816	1646	56265	1333	59661	4992	3954	608	3814	557	6869	2762
RRH	09/19	5919	807	5864	406	8195	1153	33110	1106	42608	1060	47856	3464	2925	481	2957	452	5205	1857
WEL	09/19	7500	976	6589	820	8670	1609	22163	1101	30101	1102	37754	3567	945	168	1047	161	2257	730
WFA	09/18	24543	1999	34775	2528	35770	1705	0	0	0	0	0	0	857	133	0	0	744	185

DAM	ENDDATE	Coho						Sockeye			Steelhead						Lamprey		
		2018		2017		10-Yr Avg.		2018	2017	10-Yr Avg.	10-Yr Unclipped		Unclipped		10-Yr	2018	2017	10-Yr	
		Adult	Jack	Adult	Jack	Adult	Jack	2018	2017	Avg.	2018	2017	Avg.	2018	2017	Avg.	2018	2017	Avg.
BON	09/20	24016	4294	30375	1967	60274	3805	193816	87690	321945	87048	100865	285977	29340	30903	99202	43418	82414	30386
TDA	09/20	14371	1516	11341	1423	26278	2830	152087	64031	273683	53853	58811	193351	16464	17336	66629	10467	30536	9323
JDA	09/20	10203	1581	6970	1340	18512	2343	168466	65996	264743	39237	35516	157036	13113	11807	53655	8522	23169	7282
MCN	09/20	6313	719	3131	326	10132	1615	155477	58012	230421	31285	25584	122049	10493	8222	39765	1530	2508	1295
IHR	09/20	334	89	456	68	1207	168	659	392	959	17273	13671	82723	4148	4017	22133	995	1379	457
LMN	09/20	211	79	201	39	751	150	396	346	1118	16987	11565	78030	4811	3838	22752	415	412	125
LGS	09/20	82	27	53	17	559	129	280	285	1047	13322	7613	59960	3740	2742	17912	70	495	91
LGR	09/20	46	21	11	0	220	30	275	227	1077	14721	11669	55204	4257	4593	17506	207	339	42
PRD	09/19	2246	124	134	27	1813	234	189883	66670	271043	3622	2750	14175	0	0	0	11353	25343	6514
WAN	09/19	1892	110	131	60	811	131	196183	76074	241635	3054	2375	12959	0	0	0	8497	26087	5515
RIS	09/19	2320	33	43	3	812	123	171982	73193	263933	3384	2347	12021	1562	1226	5116	4804	20313	3233
RRH	09/19	654	16	8	0	103	16	162656	46688	220823	2462	1607	8896	1056	734	3568	5045	22970	3478
WEL	09/19	228	9	5	0	19	0	153602	42288	209505	1869	1312	6302	885	703	2611	174	248	7
WFA	09/18	317	633	155	216	1648	657	0	0	0	10843	2762	20909	2187	761	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.