



Fish Passage Center

Weekly Report #18–30

October 19, 2018

This is the final weekly report of 2018

The weekly report will return in March of 2019

This Week's Highlights

Water Supply

Precipitation throughout the Columbia Basin has varied between 54% and 124% of average at individual sub-basins over the first few weeks of October (Water Year 2019). Precipitation above The Dalles has been 89% of average over October.

Table 1. Summary of October 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 2019 October 1-17, 2018		Water Year 2019 October 1, 2018 to October 17, 2018	
	Observed (inches)	% Average	Observed (inches)	% Average
	Columbia Above Coulee	1.3	69	1.3
SNAKE RIVER ABOVE ICE HARBOR	1.1	124	1.1	124
Columbia Above The Dalles	1.1	89	1.1	89
Kootenai	1.3	70	1.3	70
Clark Fork	1.0	97	1.0	97
Flathead	1.4	98	1.4	98
Pend Oreille River Basin above Waneta Dam	1.1	86	1.1	86
Salmon River Basin	1.2	115	1.2	115
Upper Snake Tributaries	1.3	117	1.3	117
Clearwater	1.2	75	1.2	75
Willamette River above Portland	1.5	54	1.5	54

Grand Coulee Reservoir is at 1284.3 feet (10-18-18) and has held steady over the last week. Outflows at Grand Coulee have ranged between 50.2 Kcfs and 63.5 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2441.9 feet (10-18-18) and has held steady over the past week. Daily average outflows at Libby Dam have been 4.0 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3546.6 feet (10-18-18) and has drafted 1.0 feet last week. Outflows at Hungry Horse have been 2.3 Kcfs over the last week.

Dworshak is currently at an elevation of 1517.5 feet (10-18-18) and has drafted 2.7 feet last week. Dworshak outflows have been 1.6 Kcfs.

The Brownlee Reservoir was at an elevation of 2048.5 feet on October 18th, 2018 and has drafted 4.5 feet. Outflows at Hells Canyon have ranged between 8.4 and 8.6 Kcfs over the last four days.

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 two sites on October 18th (at the 3 m depth) were 58.3 °F at Lower Granite and 59.2 °F at McNary. The forebay TDG monitor at Bonneville is no longer in operation and there is not a temperature string in the Bonneville forebay. However, the daily average temperature in the Bonneville tailrace (at the Warrendale TDG monitor) on October 18th was 59.0 0°F.

Smolt Monitoring

Only three FCRPS bypass facilities continue to sample for the Smolt Monitoring Program (SMP). These three facilities are: Bonneville Dam on the Mid-Columbia River and Little Goose and Lower Granite dams on the Snake River. Sampling at these three facilities is scheduled to end at the end of this month.

This week's samples at Bonneville Dam (BON) were dominated by subyearling Chinook. In fact, the only target species that were encountered in this week's samples were subyearling Chinook. This week's daily average passage index for subyearling Chinook was about 50 per day, which is a decrease from the previous week's daily average passage index of about 80 per day. No lamprey juveniles were encountered this week.

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 October 18th. Subyearling Chinook continued to dominate the samples at LGR this week. In fact, subyearling Chinook passage has increased over the past two weeks, when compared to previous weeks. Over the last two weeks (Oct. 2-18), the daily average passage index for subyearling Chinook was about 320 per day. The daily average passage index for the two-weeks prior (Sept. 21-Oct. 4) was only about 30 subyearling Chinook per day. Very few spring migrants were encountered in the samples at LGR over the last two weeks. Pacific lamprey macrophthalmia were encountered in only two of the samples over the last two weeks.

Due to increased mortalities and incidences of *Columnaris* in September, the bypass system at Little Goose Dam (LGS) was switched to primary bypass on September 15th. From that point, LGS had been operating under a reduced sampling protocol, where a 24-hour sample was conducted every third day, instead of everyday. In addition, all fish collected in this sample were bypassed to the river, instead of being transported from LGS. However, on October 14th, this modified sampling protocol was lifted and normal, everyday sampling, resumed. Every-other-day trucking resumed as well, with the first truck leaving on October 15th. The normal sampling protocol is expected to remain for the rest of the 2018 season, unless issues

with mortality and/or disease arise. Over the most recent period of everyday sampling (Oct. 14-18), the daily average passage index for subyearling Chinook was 28 fish per day. The only other salmonids that were encountered during this period were sockeye, which were collected in very low numbers. Finally, Pacific lamprey macrophthalmia were encountered in two samples over this period but no ammocoetes were encountered.

Hatchery Releases

FPC has not received all data from some hatcheries as of 10/19/18, 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. Over the next two weeks there are approximately 1.1 million spring Chinook juveniles planned for release into this zone. Of these, 600,000 are planned for release into the Willamette River and its tributaries, half at Santiam Hatchery, and the other half at Dexter pond on October 31st. Another 500,000 will be released on November 1st into the Cowlitz River.

Adult Passage

Adult Passage Daily passage numbers at Bonneville Dam ranged between 113 and 259 adult Chinook in the last week. The 2018 Bonneville Dam adult fall Chinook count of 181,390 is about 58.4% of the 2017 count and about 34.2% of the 10-year average. At Willamette Falls, 2,575 adult fall Chinook have been counted so far this year. As of October 17th, a total of 97,746 adult fall Chinook have been counted at McNary Dam and 16,000 have been counted at Lower Granite Dam. The 2018 McNary Dam adult fall Chinook count is about 67.4% of the 2017 count and about 40.4% of the 10-year average count.

The 2018 Bonneville Dam adult steelhead count of 101,062 is about 87% the 2017 count of 116,145 and about 32.8% of the 10-year average count of 308,443. The 2018 Bonneville Dam adult unclipped steelhead count of 32,683 is about 96.8% of the 2017 count of 33,748 and about 31.1% of the 10-year average count of 104,936. Daily adult steelhead counts at Lower Granite Dam ranged from 645 to 937 adults per day last week. This year's Lower Granite steelhead count of 43,054 is about 65.2% of the 2017 count of 65,985 and about 31.5% of the 10-year average count of 136,647. The 2018 Lower Granite Dam adult unclipped steelhead count of 9,473 is about 73.5% of the 2017 count of 12,881 and 26.2% of the 10-year average count of 36,211. At Willamette Falls, the 2018 count for steelhead was 10,963 as of October 17th. This year's steelhead count is about 3.9 times greater than the 2017 count of 2,827 while being 51.8% of the 10-year average count of 21,157.

The 2018 Bonneville Dam adult coho count of 32,336 is about 54.1% of the 2017 count and about 30.9% of the 10-year average count. A total of 43,443 lampreys have been counted at Bonneville Dam so far this year. The Bonneville 2018 lamprey count is about 52.6% of the 2017 count of 82,559, while being about 1.4 times greater than the 10-year average count of 30,559.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 10/6/2018 to 10/19/18

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: 10/20/2018 to 11/2/2018

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver	Zone
Oregon Dept. of Fish and Wildlife	South Santiam Hatchery	CH0	SP	2019	300,000	10-31-18	10-31-18	South Santiam Hatchery	Santiam River	LCOL
Oregon Dept. of Fish and Wildlife	Willamette Hatchery	CH0	SP	2019	300,000	10-31-18	10-31-18	Dexter Pond	Willamette River	LCOL
Oregon Dept. of Fish and Wildlife Total					600,000					
Washington Dept. of Fish and Wildlife	Cowlitz Salmon	CH1	SP	2018	500,000	11-01-18	11-01-18	Cowlitz Salmon	Cowlitz River	LCOL
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 Total					686,300					
Grand Total					1,286,300					

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
10/05/2018	60.8	0.0	60.8	0.0	49.6	0.0	44.1	0.0	44.9	0.0	36.3	0.2	42.7	2.3
10/06/2018	42.3	0.0	43.1	0.0	44.9	0.0	47.8	0.0	48.3	0.0	61.6	0.4	52.5	2.2
10/07/2018	51.7	0.0	50.9	0.0	45.3	0.1	41.5	0.0	42.1	0.0	38.8	0.3	41.6	2.1
10/08/2018	71.8	0.0	70.6	0.0	73.0	0.0	75.0	0.0	77.3	0.0	75.9	0.8	66.9	2.3
10/09/2018	64.6	0.0	62.1	0.0	65.6	0.0	62.4	0.0	62.9	0.0	61.6	1.0	59.7	2.4
10/10/2018	75.1	0.0	74.8	0.0	77.2	3.8	80.8	0.0	83.7	0.0	94.4	1.0	85.8	2.7
10/11/2018	75.2	0.0	72.8	0.0	74.2	1.4	68.9	0.0	70.6	0.0	75.2	0.5	74.2	2.5
10/12/2018	62.9	0.0	65.7	0.0	78.0	0.0	76.1	0.0	79.2	0.0	73.9	1.0	72.5	2.6
10/13/2018	50.5	0.0	47.2	0.0	46.3	0.0	47.0	0.0	47.8	0.0	75.6	0.9	75.6	2.5
10/14/2018	59.7	0.0	57.0	0.0	53.3	0.0	51.5	0.0	51.5	0.0	52.4	0.6	57.0	2.1
10/15/2018	63.5	0.0	66.1	0.0	72.1	1.6	70.6	0.0	72.1	0.0	68.9	0.7	66.8	1.8
10/16/2018	55.9	0.0	54.4	0.0	56.1	0.0	57.5	0.0	58.4	0.0	63.3	0.9	58.7	1.7
10/17/2018	53.7	0.0	56.9	0.0	53.8	0.0	53.0	0.0	53.8	0.0	58.5	0.8	55.7	1.9
10/18/2018	53.0	0.0	50.0	0.0	57.1	0.0	54.8	0.0	57.5	0.0	67.2	0.9	60.7	1.8

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

Date	Dworshak		Brownlee Inflow	Hells Canyon	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill		Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
10/05/2018	1.6	0.0	---	---	20.3	0.0	19.4	0.0	21.7	0.0	19.9	0.0
10/06/2018	1.6	0.0	---	---	22.1	0.0	21.7	0.0	24.2	0.0	27.0	0.0
10/07/2018	1.6	0.0	---	---	16.7	0.0	15.5	0.0	13.5	0.0	12.6	0.0
10/08/2018	1.6	0.0	---	---	19.4	0.0	19.0	0.0	18.8	0.0	18.6	0.0
10/09/2018	1.6	0.0	---	---	19.7	0.0	18.9	0.0	15.3	0.0	15.9	0.0
10/10/2018	1.6	0.0	---	---	18.7	0.0	16.1	0.0	18.9	0.0	17.2	0.0
10/11/2018	1.6	0.0	---	---	19.2	0.0	17.4	3.0	19.7	0.0	19.4	0.0
10/12/2018	1.6	0.0	---	---	18.1	0.0	14.8	3.5	16.4	0.0	15.9	0.0
10/13/2018	1.6	0.0	---	---	15.5	0.0	13.9	0.0	13.4	0.0	12.5	0.0
10/14/2018	1.6	0.0	---	---	19.6	0.0	19.4	0.0	18.8	0.0	20.3	0.0
10/15/2018	1.7	0.0	---	---	16.7	0.0	16.9	0.0	19.8	0.0	22.4	0.0
10/16/2018	1.7	0.0	---	---	18.0	0.0	17.9	0.0	19.4	0.0	17.0	0.0
10/17/2018	1.6	0.0	---	---	16.1	0.0	14.3	3.4	18.1	0.0	17.7	0.0
10/18/2018	1.6	0.0	---	---	21.9	0.0	23.8	0.0	22.9	0.0	26.3	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	PH1	PH2
10/05/2018	81.7	0.0	84.7	0.9	85.6	0.0	93.1	1.2	0.0	84.5
10/06/2018	71.3	0.0	71.4	1.1	70.7	0.0	75.9	1.2	0.0	67.4
10/07/2018	70.0	0.0	70.2	0.8	72.3	0.0	72.4	1.1	0.0	63.8
10/08/2018	70.8	0.0	70.7	0.8	70.3	0.0	73.4	1.1	0.0	64.9
10/09/2018	81.3	0.0	73.9	0.8	72.7	0.0	83.7	1.2	0.0	75.1
10/10/2018	93.2	0.0	84.5	0.8	85.5	0.0	91.8	1.1	0.0	83.2
10/11/2018	108.6	0.0	88.3	0.8	85.8	0.0	95.8	1.2	0.0	87.2
10/12/2018	85.4	0.0	88.3	0.8	90.2	0.0	94.5	1.1	0.0	85.9
10/13/2018	87.8	0.0	81.3	0.8	82.4	0.0	89.8	1.2	0.0	81.2
10/14/2018	88.4	0.0	85.0	0.8	83.7	0.0	90.2	1.2	0.0	81.7
10/15/2018	96.5	0.0	99.1	0.8	99.5	0.0	104.3	1.1	8.4	87.4
10/16/2018	85.7	0.0	85.8	1.3	85.2	0.0	94.5	1.2	0.0	85.9
10/17/2018	76.7	0.0	81.5	0.8	83.3	0.0	88.9	1.1	2.0	78.3
10/18/2018	76.9	0.0	79.4	0.8	78.3	0.0	87.6	1.2	0.0	79.0

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 10/19/2018 7:15:09 AM

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Total Dissolved Gas Data at Upper Columbia Sites

Hungry H. Dnst		Boundary				Grand Coulee				Grand C. Tlwr				Chief Joseph				Chief J. Dnst				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				
10/05									99.6	99.8	99.9	24	99.1	99.5	99.5	24					98.8	99.4	99.4	24					10/05
10/06									99.1	99.7	99.6	24	99.4	99.9	100.3	24					98.9	99.3	100.0	24					10/06
10/07									98.8	99.0	99.0	24	99.5	100.2	106.4	24					98.0	98.7	98.8	24					10/07
10/08									99.2	99.4	99.7	24	98.6	99.1	99.3	24					98.0	98.2	98.4	24					10/08
10/09									99.4	99.7	99.7	24	98.9	99.3	100.0	24					98.4	98.6	99.0	24					10/09
10/10									98.8	99.2	98.9	24	98.4	98.7	99.0	24					98.1	98.3	98.6	14					10/10
10/11									98.7	99.0	99.3	24	97.9	98.6	99.5	24								0					10/11
10/12									99.0	99.2	99.3	24	98.4	98.9	99.3	24								0					10/12
10/13									98.0	99.1	98.9	24	98.1	98.9	98.7	24								0					10/13
10/14									97.2	97.8	97.4	24	97.1	98.0	97.6	24								0					10/14
10/15									97.3	97.3	97.4	21	96.9	97.4	97.9	24								0					10/15
10/16												0	96.8	97.2	97.4	24								0					10/16
10/17												0	97.3	97.7	98.0	24								0					10/17
10/18												0	97.5	98.1	98.6	22								0					10/18

Total Dissolved Gas Data at Upper Columbia Sites

Wells		Wells Dwnstrm				Rocky Reach				Rocky R. Tlwr				Rock Island				Rock I. 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				
10/05	98.2	99.2	98.8	24	98.4	99.1	99.1	24	99.3	99.9	99.6	24	98.9	100.1	100.3	22	99.0	99.8	99.6	23	98.9	99.8	99.6	22					10/05
10/06	98.4	98.7	99.1	24	98.3	98.7	99.2	24	99.2	99.5	99.7	24	98.3	99.3	100.1	24	98.3	99.1	98.9	24	98.3	99.2	98.9	23					10/06
10/07	97.6	98.5	98.1	24	97.9	98.4	98.8	24	99.1	99.3	99.6	24	98.0	99.0	100.1	19	98.3	98.7	99.1	19	98.1	98.5	99.1	19					10/07
10/08	98.4	98.6	98.8	24	98.4	98.7	98.8	24	99.3	99.5	99.7	23	99.5	100.0	100.5	21	98.5	98.7	99.1	21	98.5	98.8	99.1	21					10/08
10/09	98.3	98.7	98.8	24	98.1	98.7	98.9	24	99.4	99.7	99.9	23	99.4	99.8	100.5	21	98.7	99.1	99.2	23	98.8	99.1	99.3	21					10/09
10/10	97.7	97.9	98.4	24	99.6	102.1	110.9	24	99.0	99.2	99.2	24	100.0	100.2	100.9	22	98.4	98.6	98.8	23	98.4	98.6	98.8	22					10/10
10/11	97.6	97.9	98.2	24	98.0	99.1	102.8	24	98.6	99.0	98.9	24	99.5	100.5	100.8	23	98.3	98.7	98.8	24	98.3	98.6	98.7	21					10/11
10/12	98.1	98.5	98.8	24	97.9	98.6	99.0	24	99.7	100.7	102.2	24	99.8	100.3	102.4	23	98.5	98.8	99.2	24	98.6	98.8	99.1	23					10/12
10/13	97.4	98.4	98.0	24	97.0	98.1	97.9	24	99.3	101.1	101.1	23	99.3	101.4	102.3	22	98.5	99.1	99.5	23	98.3	98.9	99.3	23					10/13
10/14	96.3	97.1	96.5	5	93.7	96.9	95.7	24	98.1	98.5	98.9	24	98.1	98.9	99.5	22	98.0	99.1	98.5	22	98.3	99.0	98.8	21					10/14
10/15	96.8	97.1	97.2	15	96.4	99.1	104.0	24	97.6	98.4	98.0	24	98.3	98.9	99.6	24	97.3	97.7	98.0	24	97.4	98.2	98.0	24					10/15
10/16	96.5	96.9	97.3	24	96.6	97.3	97.7	24	97.5	97.8	98.3	24	97.9	99.2	99.5	20	97.2	97.6	97.6	22	97.4	97.7	97.7	20					10/16
10/17	97.0	97.9	98.5	24	96.9	97.7	98.4	24	98.0	98.4	99.1	24	98.1	98.7	99.7	24	97.5	97.8	98.1	24	97.7	98.1	98.4	23					10/17
10/18	97.3	97.8	98.3	23	97.2	97.8	98.3	23	98.8	99.5	99.9	23	98.8	99.2	100.7	20	97.3	97.8	98.4	21	97.9	98.2	98.7	19					10/18

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 10/19/2018 7:15:09 AM

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Total Dissolved Gas Data at Upper and Mid-Columbia Sites

Date	Wanapum				Wanapum Tlwr				Priest Rapids				Priest R. Dnstr				Pasco				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	
10/05	99.9	101.5	100.6	24	100.2	100.9	100.7	24	100.0	101.2	100.7	24	100.6	101.4	101.3	24					10/05
10/06	100.2	100.6	101.3	24	100.0	100.2	100.5	24	99.9	100.4	100.3	24	100.3	100.7	101.3	24					10/06
10/07	99.2	100.7	101.0	24	99.4	100.1	100.2	24	99.2	99.8	99.6	24	100.2	100.7	100.9	24					10/07
10/08	99.8	100.1	100.4	24	99.8	100.0	100.2	24	100.3	100.6	101.2	24	100.5	100.9	101.0	24					10/08
10/09	99.7	100.1	100.2	24	99.9	100.1	100.4	24	99.8	100.7	100.5	24	100.4	100.9	100.9	24					10/09
10/10	99.4	100.0	100.8	24	99.3	99.8	99.8	24	99.2	99.5	99.9	24	99.7	100.2	100.0	24					10/10
10/11	98.7	99.9	99.7	24	98.6	99.3	99.1	24	98.8	99.6	99.4	24	99.5	99.9	100.1	24					10/11
10/12	98.9	99.3	99.7	24	99.0	99.4	99.9	24	99.0	99.3	99.7	24	99.8	100.2	100.6	24					10/12
10/13	98.0	99.3	98.9	24	98.2	99.3	98.5	24	97.9	99.2	98.7	24	98.9	100.1	99.4	24					10/13
10/14	97.5	98.2	99.1	24	97.6	98.2	98.3	24	97.3	97.7	97.9	24				0					10/14
10/15	98.2	98.9	99.4	24	97.7	98.0	98.2	24	97.6	97.7	98.2	24	98.3	98.5	98.6	24					10/15
10/16	98.5	98.9	99.9	24	97.8	98.1	98.2	24	97.8	98.0	98.1	24	98.3	98.5	98.6	24					10/16
10/17	98.7	99.1	100.2	24	98.2	98.5	98.8	24	98.1	98.4	98.5	24	98.8	99.1	99.3	22					10/17
10/18	99.5	100.0	101.2	24	98.6	99.0	99.2	24	98.3	98.4	98.8	24				0					10/18

Total Dissolved Gas Data at Snake and Clearwater Sites

Date	Dworshak				Clrwr Peck				Anatone				Clrwr-Lewiston				Lower Granite				Lower G. 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	
10/05	104.8	105.6	106.6	24													96.2	96.4	96.8	24	10/05				
10/06	104.7	105.4	105.9	24													96.2	96.5	96.9	24	10/06				
10/07	104.4	105.0	106.0	24													95.9	96.2	96.6	24	10/07				
10/08	104.8	105.5	106.6	24													95.9	96.3	96.8	24	10/08				
10/09	105.1	105.5	106.2	24													96.4	96.6	97.1	24	10/09				
10/10	104.7	105.3	106.0	24													96.1	96.4	96.9	24	10/10				
10/11	104.3	104.9	106.0	24													95.7	96.0	96.5	24	10/11				
10/12	104.6	105.5	106.4	24													95.9	96.3	96.6	24	10/12				
10/13	104.2	105.3	105.6	24													95.3	96.3	96.0	24	10/13				
10/14	107.7	109.3	110.6	24													94.6	95.2	95.4	24	10/14				
10/15	106.3	109.1	108.0	24													94.9	95.3	95.4	24	10/15				
10/16	104.6	105.3	106.4	24													95.2	95.6	96.3	24	10/16				
10/17	103.9	105.1	105.2	24													95.7	96.1	96.6	24	10/17				
10/18	103.6	104.2	105.3	23													95.9	96.2	96.8	23	10/18				

FISH PASSAGE CENTER

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

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Total Dissolved Gas Data at Lower Snake Sites

Little Goose				L. Goose Tlwr				Lower Mon.				Lwr. Mon. Tlwr				Ice Harbor				Tlwr Ice Harbor				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
10/05					96.4	96.8	97.0	24					96.9	97.2	98.0	24					97.5	98.0	99.0	24	10/05
10/06					96.0	96.4	96.4	24					96.7	97.1	97.1	24					96.9	97.8	97.5	24	10/06
10/07					95.6	95.9	96.3	24					96.6	97.0	97.8	24					96.9	97.6	98.6	24	10/07
10/08					95.8	96.0	96.1	24					97.1	97.5	98.6	24					97.3	97.7	98.3	24	10/08
10/09					95.9	96.1	96.3	24					97.2	97.6	98.5	24					97.3	97.8	98.6	24	10/09
10/10					95.4	95.6	95.9	24					96.7	96.8	98.3	24					97.4	98.0	100.0	20	10/10
10/11					101.0	107.1	113.2	24					96.0	96.5	96.8	24					97.3	97.8	99.5	24	10/11
10/12					104.8	112.6	115.1	24					96.0	96.5	97.0	24					98.1	99.2	102.2	24	10/12
10/13					95.3	110.5	99.1	24					95.4	96.4	96.8	24					97.5	99.1	99.4	24	10/13
10/14					93.4	94.1	94.2	24					94.7	95.2	95.4	24					96.8	98.0	98.4	24	10/14
10/15					93.5	93.7	94.3	24					94.6	95.0	95.6	24					96.5	97.0	97.7	24	10/15
10/16					93.5	93.8	94.3	24					94.8	95.2	96.3	24					97.1	97.5	99.1	24	10/16
10/17					106.4	117.2	120.5	24					94.9	95.3	97.1	24					97.3	98.0	99.5	24	10/17
10/18					95.7	115.6	100.8	23					96.1	97.3	103.0	23					97.2	97.9	98.6	23	10/18

Total Dissolved Gas Data at Mid-Columbia Sites

McNary-Wash.				Tlwr McNary				John Day				Tlwr John Day				The Dalles				Dnstr T. Dalles				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
10/05					97.9	98.6	98.6	24					100.0	100.4	100.7	24					99.3	99.5	99.5	24	10/05
10/06					97.6	98.2	97.8	24					100.0	100.4	100.5	24					99.4	99.5	99.7	24	10/06
10/07					97.4	97.7	97.9	24					99.7	100.0	100.4	24					99.5	99.8	99.8	24	10/07
10/08					97.7	98.0	98.2	24					100.0	100.5	101.1	24					99.9	100.2	100.3	24	10/08
10/09					97.9	98.1	98.3	24					100.2	100.5	100.7	24					100.3	100.5	100.6	24	10/09
10/10					97.3	97.6	97.7	24					99.8	100.2	100.9	24					99.8	100.0	100.1	24	10/10
10/11					97.3	97.7	97.9	24					99.3	99.9	100.4	24					99.3	99.7	99.9	24	10/11
10/12					98.3	99.1	99.6	24					99.3	99.9	100.5	24					99.5	99.7	99.9	24	10/12
10/13					98.4	99.1	99.1	24					99.0	99.8	99.9	24					99.1	99.7	99.4	24	10/13
10/14					97.5	98.5	98.2	24					98.6	99.1	99.6	24					98.6	99.1	98.9	24	10/14
10/15					97.4	97.8	98.0	24					98.7	99.0	100.3	24					98.4	98.7	98.8	24	10/15
10/16					97.8	98.2	98.3	24					98.7	99.3	100.4	24					98.7	99.2	99.5	24	10/16
10/17					98.4	98.7	99.0	24					99.1	99.7	100.8	24					99.2	99.5	99.8	24	10/17
10/18					98.6	98.9	99.2	22					99.4	99.8	100.9	22					99.5	99.9	100.3	22	10/18

FISH PASSAGE CENTER

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

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Total Dissolved Gas Data at Mid-Columbia Sites

Bonneville					Warrendale				Camas\Washug.				Cascade Isld.				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	Date
10/05					101.9	102.1	102.4	24									10/05
10/06					101.9	102.2	102.5	24									10/06
10/07					102.0	102.5	102.7	24									10/07
10/08					102.4	103.0	103.2	24									10/08
10/09					102.3	102.9	103.0	24									10/09
10/10					102.4	102.8	103.2	24									10/10
10/11					102.4	102.9	103.8	24									10/11
10/12					102.4	102.8	103.4	24									10/12
10/13					102.4	102.7	103.4	24									10/13
10/14					101.1	102.6	102.0	24									10/14
10/15					101.6	102.8	103.6	24									10/15
10/16					101.2	102.7	102.5	24									10/16
10/17					102.1	103.5	105.5	24									10/17
10/18					101.6	103.5	102.3	23									10/18

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

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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)
10/05/2018					1						0
10/06/2018					2	0					0
10/07/2018					0						0
10/08/2018					0						0
10/09/2018					0	0					0
10/10/2018					0						0
10/11/2018					0						0
10/12/2018					0	0					0
10/13/2018					0						0
10/14/2018					0	0					0
10/15/2018					0	0					0
10/16/2018					0	0					0
10/17/2018					0	0					0
10/18/2018						0					0
10/19/2018											
Total:	0	0	0	0	3	0	0	0	0	0	0
# Days:	0	0	0	0	13	8	0	0	0	0	14
Average:	0	0	0	0	0	0	0	0	0	0	0
YTD:	23,452	41,212	21,824	12,792	4,639,025	2,838,053	2,045,319	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)
10/05/2018					81						136
10/06/2018					275	21					101
10/07/2018					374						67
10/08/2018					398						34
10/09/2018					730	48					25
10/10/2018					824						34
10/11/2018					376						136
10/12/2018					290	6					101
10/13/2018					166						33
10/14/2018					226	5					34
10/15/2018					142	13					33
10/16/2018					178	22					37
10/17/2018					127	25					33
10/18/2018						75					104
10/19/2018											
Total:	0	0	0	0	4,187	215	0	0	0	0	908
# Days:	0	0	0	0	13	8	0	0	0	0	14
Average:	0	0	0	0	322	27	0	0	0	0	65
YTD:	0	6	89	192	879,693	941,268	508,504	36,289	2,289,265	1,068,593	2,884,663

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)
10/05/2018					0						0
10/06/2018					1	0					0
10/07/2018					0						0
10/08/2018					0						0
10/09/2018					0	0					0
10/10/2018					0						0
10/11/2018					0						0
10/12/2018					0	0					0
10/13/2018					0						0
10/14/2018					0	0					0
10/15/2018					0	0					0
10/16/2018					0	0					0
10/17/2018					0	0					0
10/18/2018						0					0
10/19/2018											
Total:	0	0	0	0	1	0	0	0	0	0	0
# Days:	0	0	0	0	13	8	0	0	0	0	14
Average:	0	0	0	0	0	0	0	0	0	0	0
YTD:	0	0	1,224	1,365	262,533	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)
10/05/2018					1						0
10/06/2018					0	0					0
10/07/2018					1						0
10/08/2018					0						0
10/09/2018					0	0					0
10/10/2018					0						0
10/11/2018					0						0
10/12/2018					0	0					0
10/13/2018					2						0
10/14/2018					0	0					0
10/15/2018					0	0					0
10/16/2018					0	0					0
10/17/2018					1	0					0
10/18/2018						0					0
10/19/2018											
Total:	0	0	0	0	5	0	0	0	0	0	0
# Days:	0	0	0	0	13	8	0	0	0	0	14
Average:	0	0	0	0	0	0	0	0	0	0	0
YTD:	723	27,446	3,888	5,328	3,924,774	3,004,340	1,942,824	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)
10/05/2018					1						0
10/06/2018					3	0					0
10/07/2018					3						0
10/08/2018					2						0
10/09/2018					1	0					0
10/10/2018					0						0
10/11/2018					4						0
10/12/2018					0	0					0
10/13/2018					0						0
10/14/2018					1	0					0
10/15/2018					0	1					0
10/16/2018					1	3					0
10/17/2018					1	2					0
10/18/2018						1					0
10/19/2018											
Total:	0	0	0	0	17	7	0	0	0	0	0
# Days:	0	0	0	0	1	1	0	0	0	0	0
Average:	0	0	0	0	1	1	0	0	0	0	0
YTD:	0	0	4	115	260,653	120,877	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)
10/05/2018					0						0
10/06/2018					0	12					0
10/07/2018					0						0
10/08/2018					0						0
10/09/2018					0	5					0
10/10/2018					0						0
10/11/2018					0						0
10/12/2018					0	0					0
10/13/2018					0						0
10/14/2018					0	2					0
10/15/2018					0	0					0
10/16/2018					1	0					0
10/17/2018					1	0					0
10/18/2018						1					0
10/19/2018											
Total:	0	0	0	0	2	20	0	0	0	0	0
# Days:	0	0	0	0	13	8	0	0	0	0	14
Average:	0	0	0	0	0	3	0	0	0	0	0
YTD:		1	3		563	36,123	56,922	371	226,628	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

10/5/2018 12:00:00 AM TO 10/19/2018 12:00:00 AM

Date 10/19/2018 7:17:24 AM

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Lower Granite Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	4,187	3	1	17	5	4,218
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	8	0	0	0	5	18
Sum of Number Trucked	4,211	3	1	18	0	4,233
Sum of Sample Morts	22	0	0	1	0	23
Sum of Facility Morts	3	0	0	0	0	3
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	25	0	0	1	0	26

Little Goose Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	194	0	0	7	0	208
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	73	0	0	0	0	73
Sum of Number Trucked	64	0	0	6	0	76
Sum of Sample Morts	1	0	0	0	0	1
Sum of Facility Morts	1	0	0	0	0	1
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	2	0	0	0	0	2

FISH PASSAGE CENTER

Two Week Transportation Summary Report

10/5/2018 12:00:00 AM TO 10/19/2018 12:00:00 AM

Date 10/19/2018 7:17:24 AM

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Lower Monumental Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	0	0	0	0	0	0
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	0	0	0	0	0	0
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	0	0	0	0	0	0
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	0	0	0	0	0	0

Total

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	4,381	3	1	24	5	4,419
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	81	0	0	0	5	91
Sum of Number Trucked	4,275	3	1	24	0	4,303
Sum of Sample Morts	23	0	0	1	0	24
Sum of Facility Morts	4	0	0	0	0	4
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	27	0	0	1	0	28

FISH PASSAGE CENTER

YTD Transportation Summary Report

Date 10/19/2018 7:17:01 AM

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Lower Granite Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	535218	3041152	182827	188725	2522954	8993830
Sum of Number Barged	508800	2429169	179217	184065	1811318	6923887
Sum of Number Bypassed	14645	610813	3539	4465	711364	2056190
Sum of Number Trucked	10536	7	7	20	2	10574
Sum of Sample Morts	273	58	0	11	45	432
Sum of Facility Morts	939	1063	64	164	190	2610
Sum of Reseach Morts	25	42	0	0	35	137
Sum of Total Project Mort	1237	1163	64	175	270	3179

Little Goose Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	568693	1857033	137102	74685	1969535	6576583
Sum of Number Barged	559195	1546147	136377	66134	1357466	5022785
Sum of Number Bypassed	998	306206	407	7718	611659	1538647
Sum of Number Trucked	4158	0	2	10	6	4182
Sum of Sample Morts	229	41	4	14	14	316
Sum of Facility Morts	4058	4639	312	808	390	10597
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	4287	4680	316	822	404	10913

FISH PASSAGE CENTER

YTD Transportation Summary Report

Date 10/19/2018 7:17:01 AM

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Lower Monumental Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	305621	1218105	24944	35305	1178571	3941117
Sum of Number Barged	304570	1018208	24840	33659	926249	3233775
Sum of Number Bypassed	678	199435	100	1598	252174	706159
Sum of Number Trucked	129	0	0	0	0	129
Sum of Sample Morts	25	7	0	3	7	49
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	244	462	4	48	148	1054

Total

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	1409532	6116290	344873	298715	5671060	19511530
Sum of Number Barged	1372565	4993524	340434	283858	4095033	15180447
Sum of Number Bypassed	16321	1116454	4046	13781	1575197	4300996
Sum of Number Trucked	14823	7	9	30	8	14885
Sum of Sample Morts	527	106	4	28	66	797
Sum of Facility Morts	5216	6157	380	1017	721	14212
Sum of Reseach Morts	25	42	0	0	35	137
Sum of Total Project Mort	5768	6305	384	1045	822	15146

Cumulative Adult Passage at Mainstem Dams Through: 10/18

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	10/18	87894	6456	83624	18110	152393	25835	61057	4349	88044	10648	101791	21805	181390	31827	310770	36890	529056	83652
TDA	10/18	57935	4793	58310	12497	119227	21697	49296	3787	69246	9277	84539	17568	122928	21385	208504	27207	332329	69684
JDA	10/18	50572	5053	46675	12475	103731	20380	42835	4293	60416	7363	75555	16777	102767	18121	161575	20814	263794	59290
MCN	10/17	44427	3472	44292	7020	94405	16297	42649	2513	57279	4705	71705	12468	97746	12948	144990	11506	242155	41181
IHR	10/18	32600	2197	28306	6949	68113	11204	5808	560	9284	2087	19109	4826	16139	4284	25997	4902	40388	16568
LMN	10/18	35398	3020	28545	8270	68100	11017	6143	717	8216	3388	19658	6010	16843	7828	24979	6281	35997	18642
LGS	10/17	31834	2486	26598	8335	63992	12109	7458	589	9086	3754	19425	6430	16653	4107	24379	4027	36404	14468
LGR	10/18	31161	2948	27357	8256	62850	13009	7304	819	8952	3627	17398	6872	16000	4403	25191	6108	35718	16817
PRD	10/17	7067	949	7268	783	18018	1858	40076	2269	52981	1760	60015	3091	16446	1956	26740	2092	63932	7533
WAN	10/17	8071	964	6612	484	17542	2163	37808	1450	49392	1355	56843	2474	9841	1517	15781	1418	27303	4282
RIS	10/17	7894	997	8080	564	18255	2598	38816	1646	56265	1333	59661	4992	7532	1117	11002	1228	14927	4286
RRH	10/17	5919	807	5864	406	8195	1153	33110	1106	42608	1060	47856	3464	5562	868	8433	1049	11363	3030
WEL	10/17	7500	976	6589	820	8670	1609	22163	1101	30101	1102	37754	3567	1965	362	2800	453	4546	1365
WFA	10/17	24543	1999	36501	2883	35770	1705	0	0	0	0	0	0	2575	333	0	0	1764	462

DAM	ENDDATE	Coho						Sockeye			Steelhead						Lamprey		
		2018		2017		10-Yr Avg.		10-Yr			10-Yr Unclipped			10-Yr Unclipped			10-Yr		
		Adult	Jack	Adult	Jack	Adult	Jack	2018	2017	Avg.	2018	2017	Avg.	2018	2017	Avg.	2018	2017	Avg.
BON	10/18	32336	7249	59799	3923	104578	6754	193816	87693	321945	101062	116145	308443	32683	33748	104936	43443	82559	30559
TDA	10/18	20731	2307	32376	3006	46416	4264	152101	64059	273685	78569	94241	249238	22813	24986	82673	10514	30697	9428
JDA	10/18	15752	2750	28029	4913	38374	3845	168469	66041	264745	68326	79322	226024	21239	23091	74925	8543	23392	7426
MCN	10/17	11345	1604	20134	1358	25948	3176	155480	58022	230449	62639	75598	194253	19019	20501	60057	1564	2549	1338
IHR	10/18	1085	265	5078	392	3902	329	382	392	959	42006	58370	149362	9059	12254	38092	1011	1432	471
LMN	10/18	1235	440	6074	993	4047	632	398	346	1118	46047	61715	150956	10498	12650	40154	432	410	125
LGS	10/17	975	261	6258	999	4038	677	280	288	1047	39617	54447	135214	9047	10956	34709	61	474	91
LGR	10/18	998	719	6828	518	3969	349	276	228	1077	43054	65985	136647	9473	12881	36211	207	346	42
PRD	10/17	4532	317	7525	553	8505	706	189884	66670	271044	4706	5678	17742	0	0	0	11694	25975	7012
WAN	10/17	3925	309	5483	351	4536	323	196183	76075	241635	4181	4779	16242	0	0	0	9006	28318	6169
RIS	10/17	7124	545	11424	90	10625	558	172008	73218	263952	4874	5028	15806	2035	2293	6514	4994	21127	3462
RRH	10/17	3358	320	4452	40	3042	156	162678	46698	220844	3830	3782	12359	1486	1540	4785	5217	23974	3688
WEL	10/17	2205	106	2658	38	1783	8	153635	42298	209525	3423	3359	9551	1444	1550	3794	175	286	7
WFA	10/17	1990	2561	1143	1829	9294	2672	0	0	0	10963	2827	21157	2241	798	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.