



Fish Passage Center

Weekly Report #16–27

September 23, 2016

Starting September 9, the weekly reports will be published every other week; the next report will be October 7.

Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 88% and 130% of average at individual sub-basins over September. Precipitation above The Dalles has been 106% of average over early September. Over the 2016 water year, precipitation has ranged between 82% and 104% of average.

Table 1. Summary of September precipitation and cumulative October through September 21st precipitation with respect to average (1981–2010), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2016 September 1–7, 2016		Water Year 2016 October 1, 2015 to September 21, 2016	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia above Coulee	1.82	124	36.3	97
Snake River above Ice Harbor	0.74	104	20.0	89
Columbia above The Dalles	0.99	106	25.9	95
Kootenai	2.01	130	36.2	97
Clark Fork	1.46	119	23.6	85
Flathead	1.76	109	37.2	103
Pend Oreille River Basin above Waneta Dam	1.50	111	31.1	95
Salmon River Basin	1.15	124	25.5	88
Upper Snake Tributaries	1.25	112	21.7	82
Clearwater	1.15	88	38.6	95
Willamette River above Portland	1.29	89	68.3	104

Grand Coulee Reservoir is at 1,281.6 feet (9-22-16) and refilled 3.5 feet over the last two weeks. Outflows at Grand Coulee have ranged between 53.1 and 84.3 Kcfs over the last two weeks.

The Libby Reservoir is currently at elevation 2,445.37 feet (9-22-16) and has drafted 0.83 feet over the previous two weeks. Daily average outflows at Libby Dam have been 6.5 Kcfs over the last two weeks.

Hungry Horse is currently at an elevation of 3,551.0 feet (9-22-16) and has drafted 1.8 feet over the last two weeks. Outflows at Hungry Horse have been 2.0-2.2 Kcfs over the last two weeks.

Dworshak is currently at an elevation of 1,519.8 feet (9-22-16) and has drafted 8.2 feet over the last two weeks. Dworshak outflows over the last two weeks have been 1.6 to 6.4 Kcfs.

The Brownlee Reservoir was at an elevation of 2,051 feet on September 21st, 2016, and has remained steady over the last two weeks. Outflows at Hells Canyon have ranged between 9.0 and 11.2 Kcfs over the last two weeks.

The Summer Biological Opinion flow period began on June 21st and ended August 31st with a flow objective of 50.4 Kcfs at Lower Granite. Over the Summer Flow Period, flows at Lower Granite Dam averaged 31.0 Kcfs

The Summer Biological Opinion Flow Objective was 200 Kcfs at McNary Dam (began July 1st and ended August 31st). Over the Summer Flow Period, flows at McNary averaged 148.9 Kcfs.

Smolt Monitoring

Smolt Monitoring Program (SMP) sampling this week occurred at the following SMP bypass facilities: Bonneville Dam, McNary Dam, Little Goose Dam, and Lower Granite Dam. Sampling at Rock Island Dam and John Day Dam ended after the sample on August 31st and September 15th, respectively.

Subyearling Chinook were the only salmonids encountered in this week's samples at BON. This week's daily average passage index for subyearling Chinook at BON was about 20 per day, which is a decrease over the previous week's daily average passage index of nearly 40 fish per day. No lamprey juveniles were encountered at BON this week.

To date, the FPC only has data for three of this week's four samples at McNary Dam, as data from the sample on Sept. 20th have not been reported. This week's samples at MCN were dominated by subyearling Chinook, with a daily average passage index of about 7 per day. This is similar to the daily average passage index from the previous week, which was about 9 subyearling Chinook per day. No spring migrants were encountered at MCN this week. Pacific lamprey macrophthalmia were encountered in two of the three samples from this week (Sept. 16th and Sept. 22nd).

This week's samples at Lower Granite Dam (LGR) were again dominated by subyearling Chinook, with a daily average passage index of about 40 per day. This is a decrease over the previous week's daily average passage index of about 80 subyearling Chinook per day. Other juvenile salmonids that were encountered in this week's samples included yearling Chinook, sockeye, and steelhead. However, sample counts for these three species were very low. Finally, one Pacific lamprey ammocoete was encountered this week (Sept. 18th) while macrophthalmia were encountered every day this week. This week's daily average sample count for Pacific lamprey macrophthalmia at LGR was 18 per day.

Subyearling Chinook dominated this week's collections at Little Goose Dam (LGS). This week's daily average passage index for subyearling Chinook at LGS was about 380 per day, which is an increase over the previous week's daily average passage index of about 270. No spring migrants were encountered in this week's samples at LGS. Finally, Pacific macrophthalmia

were encountered every day this week, with a daily average collection of 11 fish per day. No Pacific ammocoetes were encountered at LGS this week.

This week's samples at Lower Monumental Dam (LMN) were again dominated by subyearling Chinook, with a daily average passage index of only 8 per day. This is an increase over the previous week's daily average passage index of about 15 per day. No spring migrants were encountered in this week's samples at LMN. Finally, one Pacific lamprey ammocoete was encountered this week (Sept. 22nd) while one macrophthalmia was encountered in each of three samples this week (Sept. 16th, 17th, and 20th).

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. No new releases were scheduled for this zone this week and no new releases are scheduled over the next two weeks.

Adult Passage

The adult fall Chinook count of 394,540 is about 54% of the 2015 count of 730,639 and about 95.5% of the 10-year average count of 412,939. The 2016 Bonneville Dam fall Chinook jack count of 45,788 is about 81.2% of the 2015 count of 56,348 and 74.6% of the 10-year average count of 61,369. The 2016 adult fall Chinook count of 31,454 at Ice Harbor Dam in the Snake River is about 66.7% of the 2015 count but 1.1 times the greater than the 10-year average count of 28,322. The 2016 Lower Granite fall Chinook adult count of 26,079 is about 69.5% of the 2015 count but 1.3 times greater than the 10-year average count of 20,451.

The 2016 Bonneville Dam adult steelhead count of 160,405 is about 66.8% of the 2015 count of 240,071 and about 49.9% of the 10-year average count of 321,474. The 2016 Bonneville Dam adult wild steelhead count of 45,658 is about 51.4% of the 2015 count of 88,896 and about 42.5% of the 10-year average count of 107,347. Daily adult steelhead counts at Lower Granite Dam ranged from 1,176 to 2,351 adults per day last week. This year's Lower Granite steelhead count of 28,318 is about 57.5% of the 2015 count of 49,269 and 42.7% of the 10-year average count of 66,347. The 2016 Lower Granite Dam adult wild steelhead count of 8,900 is 54.8% of the 2015 count of 16,252 and about 45.4% of the 10-year average count of 19,620. At Willamette Falls, the 2016 count for steelhead was 26,306 as of September 21st. This year's steelhead count is about 3.4 times greater than the 2015 count of 7,848 and about 1.2 times greater than the 10-year average count of 22,390.

As of September 21st, the cumulative adult coho count at Bonneville Dam is 26,144, which is about 1.2 times greater than the 2015 count but only 39.3% of the 10-year average count of 66,503.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 9/10/2016 to 09/23/16

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

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 9/24/2016 to 10/7/2016

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

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
09/09/2016	84.3	0.1	87.2	0.0	87.9	0.0	88.2	0.0	89.0	0.0	87.2	1.7	83.4	2.5
09/10/2016	59.2	0.1	56.1	0.0	60.5	0.0	61.6	0.0	66.2	0.0	76.9	1.6	75.4	2.6
09/11/2016	52.2	0.0	53.9	0.0	56.5	0.0	52.2	0.0	53.9	0.0	59.7	1.6	60.0	2.5
09/12/2016	53.1	0.1	50.6	0.0	51.6	0.0	51.7	0.0	54.1	0.0	67.3	1.5	72.1	2.3
09/13/2016	70.3	0.1	67.6	0.0	70.3	0.0	68.9	0.0	71.6	0.0	69.1	1.7	64.1	2.2
09/14/2016	64.7	0.1	65.7	0.0	64.7	0.0	62.7	0.0	64.9	0.0	69.1	1.7	67.3	2.4
09/15/2016	71.7	0.1	71.8	0.0	71.2	0.0	70.2	0.0	72.7	0.0	74.1	1.9	71.7	2.3
09/16/2016	69.3	0.1	67.8	0.0	70.7	0.0	73.1	0.0	77.1	0.0	74.6	2.0	73.6	2.5
09/17/2016	59.0	0.1	56.5	0.0	52.4	0.0	46.9	0.0	49.7	0.0	49.3	2.3	43.8	2.5
09/18/2016	63.3	0.1	65.1	0.0	68.1	0.0	66.3	0.0	68.9	0.0	67.8	2.5	65.3	2.8
09/19/2016	57.0	0.1	62.7	0.0	61.8	0.0	61.7	0.0	65.1	0.0	73.5	2.4	74.4	1.9
09/20/2016	78.7	0.1	75.8	0.0	77.7	0.0	75.1	0.0	78.2	0.0	87.0	2.2	85.9	2.3
09/21/2016	78.2	0.1	78.8	0.0	79.7	0.0	78.7	0.0	81.3	0.0	84.9	2.5	82.3	2.2
09/22/2016	60.5	0.1	65.3	0.0	64.9	0.0	63.0	0.0	67.4	0.0	67.6	2.0	65.3	2.1

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	
09/09/2016	6.2	1.5	---	10.1	21.4	0.0	20.6	0.0	20.5	0.0	20.9	0.0	0.0
09/10/2016	6.2	1.6	---	10.2	20.4	0.0	14.7	0.0	14.2	0.0	14.1	0.0	0.0
09/11/2016	6.2	1.6	---	9.2	20.6	0.0	18.3	0.0	18.8	0.0	18.4	0.0	0.0
09/12/2016	6.3	1.5	---	9.0	17.1	0.0	15.3	0.0	15.8	0.0	17.1	0.0	0.0
09/13/2016	6.3	1.6	---	9.7	22.7	0.0	21.2	0.0	21.7	0.0	20.8	0.0	0.0
09/14/2016	6.4	1.6	---	10.1	24.7	0.0	24.5	0.0	23.9	0.0	24.3	0.0	0.0
09/15/2016	6.3	1.5	---	10.1	23.8	0.0	23.6	0.0	22.6	0.0	22.6	0.0	0.0
09/16/2016	6.3	1.6	---	9.8	23.3	0.0	29.9	0.0	32.9	0.0	33.3	0.0	0.0
09/17/2016	4.8	0.0	---	9.9	19.5	0.0	18.4	0.0	17.9	0.0	19.8	0.0	0.0
09/18/2016	4.8	0.0	---	10.9	17.7	0.0	15.5	0.0	15.4	0.0	18.6	0.0	0.0
09/19/2016	2.1	0.0	---	10.5	25.5	0.0	23.0	0.0	25.0	0.0	24.6	0.0	0.0
09/20/2016	1.6	0.0	---	11.2	17.8	0.0	17.4	0.0	18.4	0.0	15.4	0.0	0.0
09/21/2016	1.6	0.0	---	10.1	18.4	0.0	18.3	0.0	18.9	0.0	19.4	0.0	0.0
09/22/2016	1.6	0.0	---	10.4	16.0	0.0	15.6	0.0	15.7	0.0	12.1	0.0	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
09/09/2016	73.1	0.0	67.0	0.9	68.1	0.0	76.7	1.7	13.2	53.7
09/10/2016	103.3	0.0	93.6	0.9	92.9	0.0	96.6	1.4	32.9	55.0
09/11/2016	78.3	0.0	78.2	1.0	78.7	0.0	86.0	1.4	22.3	54.9
09/12/2016	90.5	0.0	90.2	1.1	90.4	0.0	98.4	1.4	33.1	56.5
09/13/2016	81.1	0.0	71.4	1.0	70.1	0.0	77.6	1.3	17.2	51.6
09/14/2016	93.8	0.0	93.0	1.0	92.4	0.0	96.1	1.4	31.4	56.0
09/15/2016	93.3	0.0	92.1	1.2	94.3	0.0	104.8	1.3	51.7	44.3
09/16/2016	104.9	0.0	100.4	1.0	98.2	0.0	104.6	1.3	52.4	43.4
09/17/2016	79.7	0.0	80.7	1.2	79.6	0.0	88.6	1.3	37.0	42.9
09/18/2016	67.6	0.0	61.7	1.0	64.9	0.0	79.2	1.2	27.5	43.1
09/19/2016	104.7	0.0	99.2	0.9	96.8	0.0	100.7	1.4	50.2	41.0
09/20/2016	104.7	0.0	107.7	0.9	107.6	0.0	111.0	1.6	58.2	43.8
09/21/2016	99.8	0.0	99.5	0.9	99.3	0.0	107.3	1.3	55.4	43.2
09/22/2016	82.4	0.0	81.8	0.9	82.3	0.0	93.0	1.3	43.0	41.2

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>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
9/9	102.0	102.3	102.9	24	---	---	---	0	100.8	101.2	101.5	24	100.1	100.5	101.3	24	101.8	102.1	102.4	24
9/10	102.4	102.9	103.2	24	---	---	---	0	101.3	101.7	101.9	24	101.6	102.4	102.7	24	102.5	103.1	103.3	24
9/11	102.8	103.0	103.2	24	---	---	---	0	101.8	102.0	102.2	24	102.1	102.7	103.7	24	102.3	102.7	103.0	24
9/12	102.1	102.4	102.8	24	---	---	---	0	101.0	101.3	101.6	24	101.2	101.5	102.2	24	101.5	101.9	102.3	24
9/13	101.8	102.4	102.9	24	---	---	---	0	100.8	101.0	101.4	24	101.0	101.6	102.2	24	101.6	102.1	102.6	24
9/14	102.3	102.7	103.2	24	---	---	---	0	100.3	100.8	101.1	24	100.6	100.9	101.2	24	101.2	101.6	102.0	24
9/15	101.5	101.8	102.2	24	---	---	---	0	100.2	100.7	100.8	24	100.3	100.7	101.1	24	101.7	102.3	102.7	24
9/16	101.5	101.9	102.3	24	---	---	---	0	101.2	101.8	101.9	24	100.8	101.2	101.4	24	102.2	102.6	103.0	24
9/17	101.7	102.1	102.5	24	---	---	---	0	101.6	101.7	101.9	24	101.5	101.9	102.1	24	101.8	102.1	102.3	24
9/18	101.5	101.8	102.2	24	---	---	---	0	101.0	101.2	101.4	24	101.0	101.4	102.0	24	101.0	101.3	101.6	24
9/19	101.7	102.0	102.2	24	---	---	---	0	100.5	100.7	100.8	24	100.2	100.8	101.2	24	100.5	101.0	101.3	24
9/20	101.1	101.3	101.5	24	---	---	---	0	100.2	100.5	100.7	24	99.9	100.3	100.7	24	99.9	100.2	100.6	24
9/21	101.1	101.3	101.5	24	---	---	---	0	100.6	100.8	101.0	24	99.3	99.4	99.7	13	100.1	100.9	101.2	24
9/22	100.7	101.0	101.3	23	---	---	---	0	100.6	100.7	100.7	23	99.9	100.3	100.8	23	100.5	100.8	101.0	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>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
9/9	101.8	102.1	102.5	24	101.4	101.9	102.0	24	101.4	102.0	102.3	24	100.7	100.9	101.1	24	100.5	101.0	101.2	24
9/10	102.9	103.6	104.6	24	102.7	103.6	104.1	24	102.4	103.4	104.0	24	101.7	102.3	103.1	24	101.1	101.7	102.2	24
9/11	102.8	103.4	104.1	24	102.5	102.9	103.3	24	102.4	102.9	103.5	24	102.2	102.5	103.1	24	101.3	101.8	102.0	24
9/12	102.2	103.0	104.3	24	101.4	101.9	102.3	24	101.2	101.9	102.4	24	101.8	102.0	102.6	24	101.1	101.6	102.0	24
9/13	102.1	102.6	103.6	24	101.8	102.4	103.1	23	101.5	102.3	103.0	23	102.0	102.6	103.2	24	101.5	102.4	102.7	24
9/14	101.8	102.4	103.0	24	102.3	103.0	103.9	24	101.9	102.6	103.5	24	102.4	102.6	102.7	24	102.0	102.6	103.0	24
9/15	102.1	102.5	103.0	24	102.0	102.4	103.1	24	101.8	102.6	103.9	24	102.4	102.6	103.1	24	101.8	102.4	102.6	24
9/16	102.7	103.3	104.3	24	102.1	102.7	103.0	24	102.1	102.8	103.3	24	102.3	102.6	102.8	24	102.1	102.5	102.7	24
9/17	102.7	102.9	103.4	24	102.3	102.5	102.7	24	102.5	102.9	103.4	24	102.7	102.9	103.1	24	102.1	102.5	102.7	24
9/18	101.6	102.2	103.3	24	101.4	101.8	102.2	24	101.6	102.2	102.7	24	101.9	102.1	102.4	24	101.5	101.8	102.2	24
9/19	101.3	101.8	102.5	24	100.6	100.9	101.2	24	101.0	101.5	102.0	24	100.9	101.1	101.2	24	100.7	101.0	101.2	24
9/20	100.6	101.0	101.5	24	100.1	100.4	100.9	22	100.2	100.7	101.6	22	100.4	100.6	100.7	24	100.1	100.7	100.9	24
9/21	100.7	101.3	102.1	24	100.4	100.8	100.9	24	100.6	101.2	101.6	24	100.7	101.1	101.4	24	100.7	101.2	101.4	24
9/22	101.1	101.7	102.4	23	100.5	100.6	101.1	22	100.8	101.2	101.8	22	100.9	101.2	101.6	23	100.5	100.8	101.1	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>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
9/9	100.4	100.7	101.1	24	100.4	100.7	101.2	24	98.2	100.4	101.0	24	99.6	100.1	100.2	24	99.3	99.6	99.7	24
9/10	101.0	101.3	101.7	24	101.2	101.4	101.6	24	99.7	100.4	101.4	24	101.0	101.6	102.1	24	100.4	101.0	101.3	24
9/11	101.1	101.3	101.5	24	101.2	101.5	101.7	24	98.5	99.8	102.1	24	101.0	101.2	101.3	24	100.0	100.2	100.8	24
9/12	101.1	101.4	101.7	24	101.0	101.5	101.9	24	99.5	100.3	100.7	24	100.6	100.9	101.5	24	99.3	99.5	99.6	24
9/13	101.4	101.8	102.1	24	101.5	102.0	102.4	23	98.8	101.8	102.9	24	100.9	101.5	101.8	24	99.3	99.6	99.8	24
9/14	101.7	101.9	102.1	24	101.8	102.0	102.1	24	100.8	101.7	102.3	24	101.2	101.5	102.1	24	99.4	99.6	99.7	24
9/15	101.9	102.0	102.3	24	102.0	102.2	102.4	24	100.1	101.4	102.3	24	101.0	101.3	101.4	24	99.3	99.9	100.6	24
9/16	101.9	102.2	102.4	24	102.0	102.1	102.3	24	100.6	102.2	102.8	24	101.4	101.8	102.0	24	100.8	101.3	101.4	24
9/17	102.0	102.2	102.4	24	102.2	102.4	102.6	24	97.5	99.8	101.0	24	101.9	102.5	102.9	24	101.0	101.1	101.4	24
9/18	101.3	101.4	101.5	24	101.4	101.5	101.7	24	98.9	101.0	101.5	24	101.6	101.8	102.1	24	100.5	100.7	100.8	24
9/19	100.7	101.2	101.5	24	101.0	101.4	101.5	24	99.9	100.4	100.7	24	101.1	101.3	101.7	24	100.3	100.4	100.5	24
9/20	100.0	100.1	100.5	24	100.1	100.3	100.4	24	100.3	101.2	102.0	24	101.0	101.3	101.6	24	100.3	100.4	100.6	24
9/21	100.3	100.7	101.2	24	100.4	100.6	101.1	24	100.5	101.3	101.8	24	101.5	102.2	105.5	24	100.7	101.1	101.4	24
9/22	100.4	100.6	100.9	23	100.7	100.9	101.2	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	Priest R. Dnst				Pasco				Dworshak				Clrwr-Peck				Anatone			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
9/9	100.3	100.6	100.7	24	---	---	---	0	103.3	103.7	104.3	24	---	---	---	0	101.0	102.3	103.4	23
9/10	101.5	102.3	102.8	24	---	---	---	0	104.2	104.9	105.3	24	---	---	---	0	101.9	103.2	104.4	24
9/11	101.5	101.9	102.5	24	---	---	---	0	104.3	104.6	105.0	24	---	---	---	0	101.2	101.9	102.7	24
9/12	101.1	101.3	101.7	24	---	---	---	0	103.8	104.2	104.6	24	---	---	---	0	100.7	101.8	102.9	24
9/13	101.6	102.3	102.7	24	---	---	---	0	104.3	104.7	105.1	24	---	---	---	0	101.1	102.3	103.5	24
9/14	101.9	102.3	102.8	24	---	---	---	0	104.2	104.4	104.7	24	---	---	---	0	101.0	101.9	103.0	24
9/15	101.9	102.4	103.0	24	---	---	---	0	103.7	104.0	104.4	24	---	---	---	0	101.0	102.1	103.4	23
9/16	102.3	102.9	103.3	24	---	---	---	0	104.0	104.5	104.8	24	---	---	---	0	101.5	102.5	103.9	23
9/17	102.5	103.0	103.7	24	---	---	---	0	99.9	100.4	104.0	24	---	---	---	0	100.8	101.0	101.5	23
9/18	102.0	102.4	103.0	24	---	---	---	0	99.4	99.7	100.1	24	---	---	---	0	100.8	101.6	102.5	24
9/19	101.4	101.7	102.0	24	---	---	---	0	100.3	101.4	102.6	24	---	---	---	0	100.9	101.6	102.5	23
9/20	101.2	101.5	101.8	24	---	---	---	0	103.7	104.3	104.6	24	---	---	---	0	100.9	101.5	102.2	23
9/21	101.7	102.3	102.9	24	---	---	---	0	104.2	104.8	105.1	24	---	---	---	0	101.0	101.7	102.4	24
9/22	---	---	---	0	---	---	---	0	104.4	104.6	104.9	23	---	---	---	0	100.6	100.9	101.5	22

Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clrwr-Lewiston				Lower Granite				L. Granite Tlwr				Little Goose				L. Goose Tlwr			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
9/9	---	---	---	0	---	---	---	0	97.9	98.2	98.4	24	---	---	---	0	93.3	95.3	98.9	24
9/10	---	---	---	0	---	---	---	0	99.5	100.7	101.1	24	---	---	---	0	91.8	92.4	93.1	24
9/11	---	---	---	0	---	---	---	0	99.2	99.7	100.3	24	---	---	---	0	91.9	92.1	92.5	24
9/12	---	---	---	0	---	---	---	0	98.7	99.1	99.5	24	---	---	---	0	100.2	100.3	100.9	13
9/13	---	---	---	0	---	---	---	0	99.3	99.9	100.2	24	---	---	---	0	100.3	100.7	101.2	24
9/14	---	---	---	0	---	---	---	0	99.7	100.5	100.8	24	---	---	---	0	99.8	100.1	100.5	24
9/15	---	---	---	0	---	---	---	0	100.6	101.4	101.8	24	---	---	---	0	99.1	99.4	99.7	24
9/16	---	---	---	0	---	---	---	0	101.4	102.0	102.4	24	---	---	---	0	99.0	99.6	100.0	24
9/17	---	---	---	0	---	---	---	0	100.3	100.6	101.2	24	---	---	---	0	99.2	99.4	99.7	24
9/18	---	---	---	0	---	---	---	0	98.5	98.8	99.3	24	---	---	---	0	98.8	99.1	99.5	24
9/19	---	---	---	0	---	---	---	0	98.4	98.7	98.8	24	---	---	---	0	98.4	98.6	98.7	24
9/20	---	---	---	0	---	---	---	0	98.6	99.0	99.3	24	---	---	---	0	98.4	99.0	99.5	24
9/21	---	---	---	0	---	---	---	0	99.2	99.8	100.1	24	---	---	---	0	98.6	99.1	99.7	24
9/22	---	---	---	0	---	---	---	0	99.4	99.6	99.9	23	---	---	---	0	98.6	98.8	99.2	23

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

Date	Lower Mon.				L. Mon. Tlwr				Ice Harbor				Ice Harbor Tlwr				McNary-Oregon			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
9/9	100.3	100.3	100.7	11	100.0	100.7	101.6	24	---	---	---	0	101.8	102.5	103.0	24	---	---	---	0
9/10	---	---	---	0	100.8	101.6	102.4	24	---	---	---	0	103.0	104.4	105.6	24	---	---	---	0
9/11	---	---	---	0	99.9	100.4	100.9	24	---	---	---	0	101.8	102.4	103.8	24	---	---	---	0
9/12	---	---	---	0	99.8	100.3	100.5	24	---	---	---	0	101.9	102.9	103.5	24	---	---	---	0
9/13	---	---	---	0	100.5	101.0	102.2	24	---	---	---	0	102.0	102.7	103.7	24	---	---	---	0
9/14	---	---	---	0	99.4	99.8	100.1	24	---	---	---	0	101.2	102.0	102.8	24	---	---	---	0
9/15	---	---	---	0	98.6	99.0	99.3	24	---	---	---	0	100.7	101.6	102.4	24	---	---	---	0
9/16	---	---	---	0	99.0	99.4	99.8	24	---	---	---	0	100.4	100.8	101.3	24	---	---	---	0
9/17	---	---	---	0	97.9	98.2	98.4	24	---	---	---	0	99.6	99.9	100.7	24	---	---	---	0
9/18	---	---	---	0	97.7	98.0	98.4	24	---	---	---	0	99.8	100.5	101.9	24	---	---	---	0
9/19	---	---	---	0	97.6	97.9	98.2	24	---	---	---	0	99.0	99.5	100.0	24	---	---	---	0
9/20	---	---	---	0	97.5	97.8	98.1	24	---	---	---	0	99.2	100.0	100.9	24	---	---	---	0
9/21	---	---	---	0	97.7	98.1	98.6	24	---	---	---	0	99.1	99.7	99.8	24	---	---	---	0
9/22	---	---	---	0	96.9	97.1	97.3	23	---	---	---	0	98.8	99.3	100.0	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>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</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>				
9/9	---	---	---	0	101.3	102.0	102.3	24	99.2	99.5	100.1	24	100.2	100.8	101.6	24	98.7	99.0	99.3	24
9/10	---	---	---	0	102.6	103.4	103.9	24	99.9	100.3	100.5	24	99.1	99.9	100.1	24	100.0	100.6	100.9	24
9/11	---	---	---	0	102.2	102.4	102.6	24	99.9	100.1	100.1	24	99.1	99.3	99.5	24	100.3	100.5	100.7	24
9/12	---	---	---	0	101.8	102.3	102.5	24	99.7	100.1	100.3	24	98.9	99.3	99.5	24	99.3	99.5	99.7	24
9/13	---	---	---	0	102.0	102.6	103.2	24	100.3	101.1	101.9	24	98.6	99.1	99.5	24	99.5	99.8	100.1	24
9/14	---	---	---	0	101.7	102.1	102.4	24	99.5	99.8	101.1	24	99.5	99.9	100.1	24	99.5	99.7	99.9	24
9/15	---	---	---	0	101.7	102.1	102.6	24	98.9	98.9	99.2	10	100.4	101.7	112.1	24	99.0	99.0	99.5	13
9/16	---	---	---	0	101.7	102.0	102.3	24	---	---	---	0	100.5	101.0	101.6	24	---	---	---	0
9/17	---	---	---	0	101.3	101.5	101.9	24	---	---	---	0	100.3	100.4	100.7	24	---	---	---	0
9/18	---	---	---	0	101.3	101.8	102.3	24	---	---	---	0	100.4	100.8	101.7	24	---	---	---	0
9/19	---	---	---	0	100.9	101.0	101.1	24	---	---	---	0	100.4	100.9	101.7	24	---	---	---	0
9/20	---	---	---	0	100.9	101.1	101.4	24	---	---	---	0	99.9	100.5	101.1	24	---	---	---	0
9/21	---	---	---	0	100.7	101.0	101.5	24	---	---	---	0	100.4	101.1	101.5	24	---	---	---	0
9/22	---	---	---	0	100.3	100.5	100.8	23	---	---	---	0	100.5	100.9	101.7	23	---	---	---	0

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			<u>Bonneville</u>			<u>Warrendale</u>			<u>CamasWashougal</u>			<u>Cascade Island</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</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>				
9/9	100.3	100.7	100.8	24	99.6	100.0	100.1	24	104.0	105.5	107.4	24	101.6	102.1	102.6	24	108.5	110.0	117.4	24
9/10	101.1	101.5	101.6	24	100.5	100.8	100.9	24	103.8	104.4	105.0	24	102.7	103.8	104.2	24	111.4	114.7	118.8	24
9/11	101.0	101.1	101.4	24	100.3	100.6	100.8	24	103.1	103.5	103.8	24	101.9	102.3	102.6	24	107.3	109.1	117.0	24
9/12	100.5	100.7	100.8	24	100.3	100.7	100.9	24	103.5	103.9	104.6	24	102.2	102.8	103.1	24	112.0	115.1	118.8	24
9/13	100.7	101.2	101.5	24	100.5	100.7	100.9	24	103.4	104.2	105.0	24	102.2	102.7	103.2	24	111.4	113.5	119.6	24
9/14	100.9	101.1	101.1	24	100.0	100.0	100.3	10	104.0	104.7	105.2	24	101.3	101.4	102.4	13	118.4	118.4	120.8	8
9/15	100.5	100.7	100.8	24	---	---	---	0	103.5	104.2	104.6	24	---	---	---	0	---	---	---	0
9/16	100.5	100.8	101.1	24	---	---	---	0	103.9	104.5	105.1	24	---	---	---	0	---	---	---	0
9/17	100.6	100.7	100.8	24	---	---	---	0	103.8	104.0	104.2	24	---	---	---	0	---	---	---	0
9/18	100.7	100.9	101.1	24	---	---	---	0	104.1	104.3	104.5	24	---	---	---	0	---	---	---	0
9/19	99.9	100.3	100.4	24	---	---	---	0	103.4	103.9	105.0	24	---	---	---	0	---	---	---	0
9/20	99.9	100.2	100.4	24	---	---	---	0	102.7	103.1	103.5	24	---	---	---	0	---	---	---	0
9/21	100.1	100.5	100.8	24	---	---	---	0	103.3	104.0	104.6	24	---	---	---	0	---	---	---	0
9/22	100.3	100.3	100.6	23	---	---	---	0	103.2	103.4	103.8	23	---	---	---	0	---	---	---	0

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 9/23/2016 9:11

Two-Week Summary of Passage Indices

* One or more of the sites on this date had an incomplete or biased sample.

See Sampling Comments: <http://www.fpc.org/currentDaily/smpcomments.htm>

For clip information see: <http://www.fpc.org/CurrentDaily/catch.htm>

For sockeye and yearling chinook (Snake only) race information see: <http://www.fpc.org/smoltqueries/currentsmpsubmitdata.asp>

COMBINED YEARLING CHINOOK											
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
09/09/2016	*	---	---	---	---	0	0	0	---	---	0
09/10/2016		---	---	---	---	0	0	0	---	0	0
09/11/2016	*	---	---	---	---	0	0	0	---	---	0
09/12/2016		---	---	---	---	0	0	0	---	0	0
09/13/2016	*	---	---	---	---	0	0	0	---	---	0
09/14/2016		---	---	---	---	1	0	0	---	0	0
09/15/2016	*	---	---	---	---	1	0	0	---	---	0
09/16/2016		---	---	---	---	1	0	0	---	0	0
09/17/2016	*	---	---	---	---	0	0	0	---	---	0
09/18/2016	*	---	---	---	---	0	0	0	---	0	0
09/19/2016	*	---	---	---	---	0	0	0	---	---	0
09/20/2016		---	---	---	---	0	0	0	---	---	0
09/21/2016	*	---	---	---	---	0	0	0	---	---	0
09/22/2016		---	---	---	---	0	0	0	---	0	0
09/23/2016		---	---	---	---	---	---	---	---	---	---
<hr/>											
Total:	0	0	0	0	3	0	0	0	0	0	0
# Days:	0	0	0	0	14	14	14	0	6	4	14
Average:	0	0	0	0	0	0	0	0	0	0	0
YTD	27,295	56,779	16,183	7,757	5,899,063	3,490,956	4,892,142	44,784	2,181,660	1,456,048	2,660,728

COMBINED SUBYEARLING CHINOOK											
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
09/09/2016	*	---	---	---	---	144	440	13	---	---	0
09/10/2016		---	---	---	---	101	326	31	---	16	10
09/11/2016	*	---	---	---	---	102	198	16	---	---	66
09/12/2016		---	---	---	---	73	206	13	---	8	0
09/13/2016	*	---	---	---	---	89	267	16	---	---	82
09/14/2016		---	---	---	---	30	268	14	---	4	0
09/15/2016	*	---	---	---	---	29	179	3	---	---	0
09/16/2016		---	---	---	---	75	375	3	---	4	0
09/17/2016	*	---	---	---	---	80	448	10	---	---	0
09/18/2016	*	---	---	---	---	59	608	7	---	12	89
09/19/2016	*	---	---	---	---	36	482	6	---	---	0
09/20/2016		---	---	---	---	10	476	7	---	---	0
09/21/2016	*	---	---	---	---	21	198	9	---	---	33
09/22/2016		---	---	---	---	7	95	13	---	4	22
09/23/2016		---	---	---	---	---	---	---	---	---	---
<hr/>											
Total:	0	0	0	0	856	4,566	161	0	48	10	400
# Days:	0	0	0	0	14	14	14	0	6	4	14
Average:	0	0	0	0	61	326	12	0	8	3	29
YTD	0	78	698	2,869	1,182,434	883,634	328,313	20,979	4,329,601	939,671	3,126,213

Two-Week Summary of Passage Indices

COMBINED COHO												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
09/09/2016	*	---	---	---	---	0	0	0	---	---	0	0
09/10/2016		---	---	---	---	0	0	0	---	0	0	0
09/11/2016	*	---	---	---	---	0	0	0	---	---	---	0
09/12/2016		---	---	---	---	0	0	0	---	0	0	0
09/13/2016	*	---	---	---	---	0	0	0	---	---	---	0
09/14/2016		---	---	---	---	0	0	0	---	0	0	0
09/15/2016	*	---	---	---	---	0	0	0	---	---	---	0
09/16/2016		---	---	---	---	0	0	0	---	0	---	0
09/17/2016	*	---	---	---	---	0	0	0	---	---	---	0
09/18/2016	*	---	---	---	---	0	0	0	---	0	---	0
09/19/2016	*	---	---	---	---	0	0	0	---	---	---	0
09/20/2016		---	---	---	---	0	0	0	---	---	---	0
09/21/2016	*	---	---	---	---	0	0	0	---	---	---	0
09/22/2016		---	---	---	---	0	0	0	---	0	---	0
09/23/2016		---	---	---	---	---	---	---	---	---	---	---
<hr/>												
Total:		0	0	0	0	0	0	0	0	0	0	0
# Days:		0	0	0	0	14	14	14	0	6	4	14
Average:		0	0	0	0	0	0	0	0	0	0	0
YTD		0	0	0	316	198,074	147,678	60,123	45,366	154,245	58,662	802,520

COMBINED STEELHEAD												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
09/09/2016	*	---	---	---	---	0	1	0	---	---	0	0
09/10/2016		---	---	---	---	1	0	2	---	0	0	0
09/11/2016	*	---	---	---	---	0	1	0	---	---	---	0
09/12/2016		---	---	---	---	0	0	0	---	0	0	0
09/13/2016	*	---	---	---	---	0	0	0	---	---	---	0
09/14/2016		---	---	---	---	0	0	0	---	0	0	0
09/15/2016	*	---	---	---	---	0	0	0	---	---	---	0
09/16/2016		---	---	---	---	0	0	0	---	0	---	0
09/17/2016	*	---	---	---	---	0	0	0	---	---	---	0
09/18/2016	*	---	---	---	---	0	0	0	---	0	---	0
09/19/2016	*	---	---	---	---	0	0	0	---	---	---	0
09/20/2016		---	---	---	---	2	0	0	---	---	---	0
09/21/2016	*	---	---	---	---	1	0	0	---	---	---	0
09/22/2016		---	---	---	---	1	0	0	---	0	---	0
09/23/2016		---	---	---	---	---	---	---	---	---	---	---
<hr/>												
Total:		0	0	0	0	5	2	2	0	0	0	0
# Days:		0	0	0	0	14	14	14	0	6	4	14
Average:		0	0	0	0	0	0	0	0	0	0	0
YTD		755	26,537	3,377	9,186	3,957,236	2,295,506	1,838,113	17,664	735,196	502,821	622,598

Two-Week Summary of Passage Indices

COMBINED SOCKEYE											
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
09/09/2016	*	---	---	---	0	0	0	---	---	0	0
09/10/2016		---	---	---	1	0	0	---	0	0	0
09/11/2016	*	---	---	---	0	0	0	---	---	---	0
09/12/2016		---	---	---	0	0	0	---	0	0	0
09/13/2016	*	---	---	---	0	0	0	---	---	---	0
09/14/2016		---	---	---	0	0	0	---	0	0	0
09/15/2016	*	---	---	---	0	0	0	---	---	---	0
09/16/2016		---	---	---	0	0	0	---	0	---	0
09/17/2016	*	---	---	---	0	0	0	---	---	---	0
09/18/2016	*	---	---	---	0	0	0	---	0	---	0
09/19/2016	*	---	---	---	0	0	0	---	---	---	0
09/20/2016		---	---	---	0	0	0	---	---	---	0
09/21/2016	*	---	---	---	0	0	0	---	---	---	0
09/22/2016		---	---	---	1	0	0	---	0	---	0
09/23/2016		---	---	---	---	---	---	---	---	---	---
<hr/>											
Total:		0	0	0	2	0	0	0	0	0	0
# Days:		0	0	0	14	14	14	0	6	4	14
Average:		0	0	0	0	0	0	0	0	0	0
YTD		1	0	0	133	43,853	32,774	24,148	56,642	861,061	303,206

COMBINED LAMPREY JUVENILES											
	WTB	IMN	GRN	LEW	LGR [†]	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(Samp)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)
09/09/2016	*	---	---	---	1	7	0	---	---	0	0
09/10/2016		---	---	---	0	3	0	---	12	0	0
09/11/2016	*	---	---	---	6	2	0	---	---	---	0
09/12/2016		---	---	---	0	7	0	---	16	0	0
09/13/2016	*	---	---	---	19	6	0	---	---	---	0
09/14/2016		---	---	---	1	8	2	---	20	0	0
09/15/2016	*	---	---	---	40	5	0	---	---	---	0
09/16/2016		---	---	---	12	3	1	---	4	---	0
09/17/2016	*	---	---	---	25	9	1	---	---	---	0
09/18/2016	*	---	---	---	8	19	0	---	0	---	0
09/19/2016	*	---	---	---	42	11	0	---	---	---	0
09/20/2016		---	---	---	1	19	1	---	---	---	0
09/21/2016	*	---	---	---	38	7	0	---	---	---	0
09/22/2016		---	---	---	4	11	1	---	12	---	0
09/23/2016		---	---	---	---	---	---	---	---	---	---
<hr/>											
Total:		0	0	0	197	117	6	0	64	0	0
# Days:		0	0	0	14	14	14	0	6	4	14
Average:		0	0	0	14	8	0	0	11	0	0
YTD		0	5	1	425	34,939	29,723	113	34,668	26,193	10,119

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:

9/23/16 9:09 AM

09/09/16 TO 09/23/16

		Species				
Site	Data	CH0	CH1	ST	SO	Grand Total
LGR	Sum of NumberCollected	856	3	5	2	866
	Sum of NumberBarged	0	0	0	0	0
	Sum of NumberBypassed	0	0	4	0	4
	Sum of Numbertrucked	839	3	1	1	844
	Sum of SampleMorts	17	0	0	1	18
	Sum of FacilityMorts	0	0	0	0	0
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	17	0	0	1	18
LGS	Sum of NumberCollected	4,566		2		4,568
	Sum of NumberBarged	0		0		0
	Sum of NumberBypassed	1		0		1
	Sum of Numbertrucked	4,556		2		4,558
	Sum of SampleMorts	8		0		8
	Sum of FacilityMorts	1		0		1
	Sum of ResearchMorts	0		0		0
	Sum of TotalProjectMorts	9		0		9
LMN	Sum of NumberCollected	161		2		163
	Sum of NumberBarged	0		0		0
	Sum of NumberBypassed	0		0		0
	Sum of Numbertrucked	160		2		162
	Sum of SampleMorts	1		0		1
	Sum of FacilityMorts	0		0		0
	Sum of ResearchMorts	0		0		0
	Sum of TotalProjectMorts	1		0		1
Total Sum of NumberCollected		5,583	3	9	2	5,597
Total Sum of NumberBarged		0	0	0	0	0
Total Sum of NumberBypassed		1	0	4	0	5
Total Sum of Numbertrucked		5,555	3	5	1	5,564
Total Sum of SampleMorts		26	0	0	1	27
Total Sum of FacilityMorts		1	0	0	0	1
Total Sum of ResearchMorts		0	0	0	0	0
Total Sum of TotalProjectMorts		27	0	0	1	28

YTD Transportation Summary

Source: Fish Passage Center

Updated:

9/23/16 9:09 AM

TO: 09/23/16

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	758,510	4,510,008	150,415	33,352	2,986,099	8,438,384
	Sum of NumberBarged	717,253	1,403,213	117,278	31,849	1,110,010	3,379,603
	Sum of NumberBypassed	31,770	3,104,914	33,069	650	1,875,880	5,046,283
	Sum of NumberTrucked	6,825	4	1	1	1	6,832
	Sum of SampleMorts	301	94	1	17	37	450
	Sum of FacilityMorts	2,159	1,361	66	830	103	4,519
	Sum of ResearchMorts	202	422	0	5	68	697
	Sum of TotalProjectMorts	2,662	1,877	67	852	208	5,666
LGS	Sum of NumberCollected	615,269	2,438,124	104,356	22,900	1,600,774	4,781,423
	Sum of NumberBarged	602,659	1,022,201	90,682	22,669	670,896	2,409,107
	Sum of NumberBypassed	2,873	1,415,436	13,600	7	929,747	2,361,663
	Sum of NumberTrucked	8,624	0	0	0	22	8,646
	Sum of SampleMorts	155	23	1	22	12	213
	Sum of FacilityMorts	958	464	73	202	97	1,794
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,113	487	74	224	109	2,007
LMN	Sum of NumberCollected	184,081	3,510,226	40,585	11,370	1,285,420	5,031,682
	Sum of NumberBarged	180,110	1,897,394	34,346	11,348	630,499	2,753,697
	Sum of NumberBypassed	2,568	1,612,351	6,238	0	654,785	2,275,942
	Sum of NumberTrucked	633	1	0	0	14	648
	Sum of SampleMorts	64	127	0	5	23	219
	Sum of FacilityMorts	144	353	1	18	99	615
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	208	480	1	23	122	834
Total Sum of NumberCollected		1,557,860	10,458,358	295,356	67,622	5,872,293	18,251,489
Total Sum of NumberBarged		1,500,022	4,322,808	242,306	65,866	2,411,405	8,542,407
Total Sum of NumberBypassed		37,211	6,132,701	52,907	657	3,460,412	9,683,888
Total Sum of NumberTrucked		16,082	5	1	1	37	16,126
Total Sum of SampleMorts		520	244	2	44	72	882
Total Sum of FacilityMorts		3,261	2,178	140	1,050	299	6,928
Total Sum of ResearchMorts		202	422	0	5	68	697
Total Sum of TotalProjectMorts		3,983	2,844	142	1,099	439	8,507

Cumulative Adult Passage at Mainstem Dams Through: 09/22

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	09/21	137215	11145	220480	13314	146704	24884	119591	10834	161735	17730	95523	21451	394540	45788	730639	56348	412939	61369
TDA	09/22	105504	9999	194116	12307	114381	21222	95764	8800	123915	15458	80170	17256	268151	41227	440985	56321	235262	48025
JDA	09/22	93659	8262	166015	11514	99110	19896	90259	7715	108768	10988	71447	16841	220911	29059	344305	37185	172262	39565
MCN	09/22	82626	7237	156151	8767	89797	16347	83894	6501	96287	8723	67089	12624	184984	17361	281738	23846	138711	24561
IHR	09/22	67484	5029	116462	5745	63912	10829	13980	1538	21408	2807	18404	4767	31454	8940	47187	4308	28322	10373
LMN	09/22	66115	6268	111511	8697	63840	10328	12460	2344	17764	4835	19733	5633	28296	10748	39649	9984	24515	11366
LGS	09/22	62597	6365	105124	8553	59587	11445	12480	1919	15494	4464	18840	6201	26697	7198	39847	5759	22627	8145
LGR	09/22	62050	5480	104873	8379	58449	12640	12075	2107	14958	4222	16726	6692	26079	7088	37524	5155	20451	8543
PRD	09/20	16843	1003	27716	1570	17080	1731	80288	5126	78139	3550	55483	2565	22407	1808	32682	1983	27282	4576
WAN	09/20	17164	919	25982	1077	16645	2069	79255	4110	76636	2180	52935	2019	11515	1242	20412	1276	11992	3069
RIS	09/21	18646	715	31748	1092	17101	2726	79253	3434	88691	2476	55112	5343	7515	1363	14581	1190	7124	2911
RRH	09/21	9449	351	15244	609	7441	1202	58559	2827	76246	1937	44031	3757	5579	971	11850	738	5531	1962
WEL	09/21	11789	833	19971	1520	7481	1542	44646	2492	62129	3311	34173	3761	2038	331	5136	285	2464	1024
WFA	09/21	29294	2123	51046	2042	35288	1298	0	0	0	0	0	0	540	159	779	212	806	195

DAM	ENDDATE	Coho						Sockeye			Steelhead						Lamprey		
		2016		2015		10-Yr Avg.		2016	2015	10-Yr Avg.	2016	2015	10-Yr Avg.	Wild	Wild	10-Yr	2016	2015	10-Yr
		Adult	Jack	Adult	Jack	Adult	Jack												
BON	09/21	26144	3417	22455	2953	66503	3926	342495	510702	285072	160405	240071	321474	45658	88896	107347	52061	38375	22737
TDA	09/22	14601	1478	14891	2338	28372	3011	288394	429760	243357	99248	166324	220926	27779	59392	73022	11437	12267	6436
JDA	09/22	9890	1787	11858	2133	21312	2708	289971	366293	235109	76804	125477	181729	22565	44081	59469	9497	8158	5563
MCN	09/22	6573	782	8089	1854	11667	1922	261693	279419	203203	61835	110573	142456	17194	37618	44448	1550	1684	1472
IHR	09/22	816	88	695	128	1383	176	898	1051	840	41426	65366	95964	10181	18457	24571	859	744	286
LMN	09/22	969	188	329	135	892	179	1024	888	983	36618	60957	91802	9797	18788	25466	238	255	87
LGS	09/22	303	123	442	80	762	161	961	582	929	30480	49211	69403	8887	14714	18965	192	90	31
LGR	09/22	328	57	135	9	313	48	815	430	983	28318	49269	66347	8900	16252	19620	107	52	13
PRD	09/20	681	72	1311	185	2116	259	311072	301247	238396	4989	10893	15644	0	0	0	7680	6461	4272
WAN	09/20	411	36	812	96	946	149	322456	296330	202998	4134	10499	14890	0	0	0	8144	4967	2595
RIS	09/21	182	15	734	35	1283	156	310326	264508	231616	4698	10212	13449	1837	4549	5707	3165	2132	1148
RRH	09/21	9	7	159	14	171	23	235912	216197	197170	3455	7402	10014	1313	3155	3976	3174	2105	980
WEL	09/21	11	6	51	7	42	0	216020	186894	188105	2381	5735	7065	980	2414	2898	4	0	0
WFA	09/21	292	749	166	197	2572	858	0	0	0	26306	7848	22390	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.