



Fish Passage Center

Weekly Report #13 - 24

August 30, 2013

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Summary of Events:

Water Supply

Precipitation throughout the Columbia Basin has varied over August, ranging between 48% and 92% of average at individual sub-basins. Precipitation above The Dalles has been 75% of average over August. Over the 2013 water year, precipitation has ranged between 66% and 102% of average.

Table 1. Summary of August precipitation and cumulative October through August precipitation with respect to average (1971–2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2013		Water Year 2013	
	August 1–28, 2013		October 1, 2012 to August 28, 2013	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia above Coulee	1.74	82	34.5	95
SNAKE RIVER above Ice Harbor	0.47	55	15.4	71
Columbia above The Dalles	0.93	75	21.9	82
Kootenai	2.16	92	38.6	102
Clark Fork	0.81	55	19.4	73
Flathead	1.44	85	32.9	94
Pend Oreille Basin	1.17	74	26.9	85
SNAKE BASIN above Hells Canyon	0.32	48	12.2	68
Salmon River Basin	0.66	54	18.5	66
Clearwater	1.02	74	32.7	82
Willamette River above Portland	0.70	67	55.8	89

Grand Coulee Reservoir is at 1278.5 feet (8-28-13) and has drafted 1.4 feet over the last week. Outflows at Grand Coulee have ranged between 89.7 and 110.8 Kcfs over the last week. The end of August draft elevation at Grand Coulee is 1278 feet, with an additional 0.3 ft draft as part of the Lake Roosevelt Incremental Storage Release Program.

The Libby Reservoir is currently at elevation 2449.3 feet (8-28-13) and has drafted 1.0 foot last week. Outflows at Libby Dam have been reduced from 14.0 to 10.0 Kcfs over the last week. At the 8-20-13 Technical Management Team (TMT) meeting the COE stated that after reaching elevation 2449 ft, outflows will be reduced to 6 Kcfs through September. The end of September target elevation at Libby is 2449 feet.

Hungry Horse is currently at an elevation of 3553.9 feet (8-28-13) and has drafted 0.8 feet over the last week. Outflows at Hungry Horse have been 2.2 Kcfs last week. The end of September draft limit is 3550 feet at Hungry Horse.

Dworshak is currently at an elevation of 1537.3 feet (8-28-13) and has drafted 6.2 feet last week. Outflows from Dworshak have been 7.4–8.6 Kcfs over the last week. The August 31, 2013, draft target at Dworshak is 1535 feet.

The flow objective at Lower Granite over the summer period (June 21st to August 31st) is 50 Kcfs; over the summer period flows at Lower Granite have averaged 30.3 Kcfs and 20.6 Kcfs over the last week.

The flow objective at McNary over the summer period (July 1st to August 31st) is 200 Kcfs; over the summer period flows at McNary have averaged 186.3 Kcfs and over the last week have averaged 138.7 Kcfs.

Spill

Summer Spill began on June 20th at the lower Snake River projects and will extend through August 31st.

Project	Spill Level Day/Night
Lower Granite	18 Kcfs/18 Kcfs
Little Goose	30%/30%
Lower Monumental	17 Kcfs/17 Kcfs
Ice Harbor	30%/30% vs. 45 Kcfs/Gas Cap

Flow in the Snake River has ranged from 17.9 to 22.8 Kcfs over the past week. This means that at times spill levels are likely going to be below the Court-ordered amounts in the table due to low flows and required powerhouse minimum flows at the Snake River projects.

Overall, spill at Lower Granite Dam was greater than the Court-ordered spill levels for most of the week due to repairs being made to the powerhouse roof. During these repairs, daytime spill is all flow in excess of the 5 Kcfs needed to provide station service while nighttime spill is all flow in excess of powerhouse minimum. Unusual low river flows at Snake River projects have caused changes to spill operations at Little Goose, Lower Monumental, and Ice Harbor Dams over the last several days. At Ice Harbor and Lower Monumental Dams, the COE could not maintain RSW spill along with minimum generation flows without causing the projects to draft below Minimum Operating Pool. At these projects, the COE has coordinated modified spill patterns through the TMT process (8-21-13 TMT meeting) that do not utilize the RSWs, but instead primarily attempt to focus limited spill to provide attraction for adult fish passage. At Little Goose and Ice Harbor dams spill levels will be the difference between project inflows and the amount of water needed to provide minimum generation through the powerhouses. At Lower Monumental Dam spill levels were the difference between project inflows and the amount of water needed to provide minimum generation through the powerhouses, except on 8/25 and 8/26 when spill was less than this amount during double testing.

Summer spill for fish passage at the Middle Columbia projects began on July 1st, except at McNary Dam where summer spill began on June 20th and Bonneville Dam where summer spill began on June 16th. Spill will continue through August 31st.

Project	Summer Spill Level Day/Night
McNary	50%/50%
John Day	July 20–August 31: 30%/30%
The Dalles	40%/40%
Bonneville	July 21–August 31: 75 Kcfs/Gas Cap

All the middle Columbia River dams met the Court-ordered summer spill levels described in the table.

There were no TDG exceedences over the past week. Due to low fish numbers, gas bubble trauma monitoring at Snake River sites has been suspended for the 2013 season. However, based on historic data collected since 1995 from the gas bubble trauma (GBT) monitoring program, we would not expect to see fish exhibit signs of GBT at the present TDG levels. Finally, GBT monitoring at McNary and Bonneville dams, continued this week. No fish were detected with signs of GBT at these sites this past week.

Smolt Monitoring

Smolt monitoring is ongoing at all seven SMP dams (BON, JDA, MCN, RIS, LMN, LGS, and LGR). All SMP traps are out of operation for the 2013 season.

Subyearling Chinook continued to be the dominant species of salmonid at all SMP dams over the past week. Passage of subyearlings decreased this week at all SMP sites. Although subyearling Chinook dominated the collections, most of the SMP sites continue to collect a few spring migrants.

High temperature sampling protocols were in effect this week at BON. Under these high temperature sampling protocols, daily index sampling occurred every other day. All fish were bypassed on non-sample days. Passage of subyearling Chinook decreased this week, when compared to last week. This week's daily

average passage index for subyearling Chinook was about 830 per day. Last week's daily average passage index for subyearling Chinook was about 2,150 per day. Sockeye were the only spring migrants that were collected this week. In addition, no pacific lamprey juveniles were collected at BON this week. The high temperature sampling protocols will remain in effect until temperatures decrease to safer levels.

High temperature sampling protocols were in effect this week at JDA. Under these high temperature sampling protocols, the SMP crew at JDA samples only twice a week, for condition only. It is important to note that sampling under the higher temperature protocols at JDA results in bias collection estimates, as sampling is not for the full 24-hours. Therefore, it is not appropriate to compare passage index estimates during this period to those from previous weeks. Subyearling Chinook dominated the bypass samples at JDA this week. In fact, no other species of salmonids were collected in this week's condition samples. However, pacific lamprey macrophthalmia were collected in each of the two condition samples from this week. The high temperature sampling protocols will continue until temperatures decrease to safer levels.

Due to a failed side screen brush in the McNary juvenile bypass channel, the juvenile fish facility was switched to primary bypass on the afternoon of August 22nd. Normal sampling was resumed on the morning of August 28th after repairs were completed. Sampling at MCN for the 2013 season is every-other-day. Since normal sampling has resumed, subyearling Chinook have dominated the bypass sample at MCN. The passage index for subyearling Chinook for the August 29th sample was about 1,150, which is lower than the average daily passage index from the previous week when normal sampling occurred. The only spring migrants that were collected in the August 29th sample were sockeye. Pacific lamprey macrophthalmia continue to be the only species and life-stage of lamprey collected at MCN this season. An estimated 430 pacific lamprey macrophthalmia were collected at MCN in the August 29th sample.

Compared to last week, passage of subyearling Chinook at LGR decreased. This week's daily average

passage index for subyearling Chinook was about 550 per day. Last week's daily average passage index was about 660 per day. The only spring migrants that were collected this week at LGR were coho and sockeye. However, these species were collected in very low numbers this week. Finally, two pacific lamprey ammocoetes and one pacific lamprey macrophthalmia were collected at LGR this week. Due to the possible resampling of PIT-tagged research fish that were released into the gatewells, the estimated year-to-date collection and passage index totals for yearling Chinook, steelhead, subyearling Chinook, and Pacific lamprey macrophthalmia are likely inflated. The FPC is aware of this possible bias and is investigating ways to correct these inflated estimates after the season has ended. However, the magnitude of this bias is relatively low and is unlikely to skew estimates of timing for this species.

Subyearling Chinook passage at LGS this week was very similar to last week's passage. This week's daily average passage index for subyearling Chinook at LGS was about 620 per day. Last week's daily average passage index was about 630 per day. Sockeye and steelhead were the only spring migrants that were collected in this week's samples. However, sockeye and steelhead collections were extremely low this week. Finally, only pacific lamprey macrophthalmia were collected at LGS this week. The daily average collection for Pacific macrophthalmia this week was seven per day.

Normal operations and every-other-day trucking were in effect this week at LMN. Subyearling Chinook dominated the samples at LMN this week. This week's daily average passage index for subyearling Chinook at LMN was about 560 per day. Columnaris levels have been elevated this week, after about two weeks of low levels. Since August 25th, Columnaris levels have been in the 13%–30% range for subyearling Chinook. Subsequent to the higher levels of Columnaris, subyearling Chinook have had elevated levels of mortality, beginning on August 27th. Mortality rates for subyearling Chinook collected between August 27th and August 29th have ranged from 13% to 27%. Steelhead were the only other species of salmonids sampled at LMN this week. Among lamprey species, only pacific

lamprey macrophthalmia were collected this week, but in very low numbers. Given the limited sampling in mid-August, it is not possible to compare this week's passage numbers to that period.

At Rock Island, passage of subyearling Chinook continued to decrease this week, when compared to previous weeks. The daily average passage index for subyearling Chinook at RIS this week was about 18 per day. For the previous week, the daily average passage index for subyearling Chinook was about 46 per day. Passage of sockeye and steelhead remained extremely low this week. Finally, a total of five pacific lamprey macrophthalmia were collected at RIS this week.

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. There were no new releases of juvenile salmonids scheduled for this zone this week. In addition, there are no new releases 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 of juvenile salmonids were scheduled to begin in this zone this week. There are also no releases of juvenile salmonids in this zone over the next two weeks.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. No new releases of juvenile salmonids were scheduled for this zone this week. Furthermore, there are no new releases to this zone scheduled over the next two weeks.

Adult Fish Passage

Daily adult fall Chinook passage numbers at Bonneville Dam ranged between 8,023 and 29,308 last week. The adult fall Chinook count of 148,271 is about 2.9 times greater than the 2012 count of 51,284 and about 2.6 times greater than the 10-year average count

of 56,325. The 2013 Bonneville Dam fall Chinook jack count of 20,464 is about 1.8 times greater than the 2012 count of 11,540 and about 2.4 times greater than the 10-year average count of 8,574. The 2013 McNary Dam adult fall Chinook count of 18,952 is about 1.9 times greater than the 2012 count and 2.4 times larger than the 10-year average. The 2013 McNary Dam jack count of 3,720 is about 2 times greater than the 2012 count and 2.1 times greater than the 10-year average count.

During this time of year, there are times when there are higher steelhead counts at upstream projects compared to downstream projects. The higher counts of steelhead at upstream sites compared to downstream sites in any particular year is because some steelhead spend the winter between sites, for instance between Ice Harbor and Lower Granite, and then resume their migration upstream the following year. Daily steelhead counts at Bonneville Dam ranged from 2,249 to 3,174. The 2013 Bonneville Dam adult steelhead count of 179,309 is about 1.06 times greater than the 2012 count of 169,202, while being about 70.1% of the 10-year average count of 255,927. The 2013 Bonneville Dam adult wild steelhead count of 82,551 is about 1.2 times greater than the 2012 count of 66,260, while having 4,520 fewer fish than the 10-year average count of 87,071. In the Snake River, this year's Lower Granite steelhead count of 12,204 has 191 fewer fish than the 2012 count and is about 60.1% of the 10-year average count of 20,305. The 2013 Lower Granite Dam adult wild steelhead count of 5,813 has 268 more fish than the 2012 count, while being 82.6% of the 10-year average count of 7,035. At Willamette Falls, the 2013 count for steelhead was 17,381 as of August 28th. This year's steelhead count is about 55.7% of the 2012 count of 31,201 and about 67.8% of the 10-year average count of 25,612.

The 2013 adult sockeye count at Bonneville Dam of 185,499 is about 36% of the 2012 count of 515,668, while being 1.04 times greater than the 10-year average count of 177,592. Two of the major spawning sites for sockeye in the Upper Columbia River zone are Lake Wenatchee and Lake Osoyoos (Okanogan basin). The 2013 McNary Dam adult sockeye count of 134,175 is about 36.8% of the 2012 count of 364,134, while being

1.07 times greater than the 10-year average count of 125,774. The Lower Granite Dam 2013 adult sockeye count of 736 is about 1.6 times greater than the 2012 count of 454 and about 1.2 times greater than the 10-year average count of 613.

The 2013 Bonneville Dam adult coho count of 3,614 is about 1.05 times greater than the 2012 count of 3,448, while being about 46.8% of the 10-year average count of 7,725. The 2013 Bonneville Dam coho jack count of 408 has 30 fewer fish than the 2012 count of 438 and has 142 fewer fish than the 10-year average count of 550. As of August 29th at Bonneville Dam, the adult shad count was 3,751,361. This year's shad count is about 1.5 times greater than the 2012 count of 2,432,366 and about 1.3 times greater than the 10-year average count of 2,863,747.

Hatchery Releases Last Two Weeks

Hatchery Release Summary
From: 8/16/2013 to 08/29/13

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: 8/30/2013 to 9/12/2013

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
08/16/2013	132.3	0.1	130.9	0.0	134.1	9.0	129.9	15.6	131.7	25.9	141.1	39.5	141.5	26.3
08/17/2013	96.1	0.1	103.7	0.0	107.1	7.7	109.4	9.4	112.2	21.2	130.3	19.7	127.4	26.5
08/18/2013	96.1	0.1	99.9	0.0	103.5	7.7	101.6	9.0	104.2	20.2	116.4	19.2	112.9	26.2
08/19/2013	109.6	0.1	107.1	0.0	107.9	9.1	104.1	11.2	106.3	0.0	115.8	18.6	114.5	26.4
08/20/2013	119.1	0.1	118.2	0.0	123.7	0.0	128.2	10.8	130.6	0.0	123.2	19.1	121.5	26.1
08/21/2013	109.8	0.1	114.6	0.0	119.7	0.0	124.5	10.6	126.4	0.0	130.3	19.7	128.8	25.3
08/22/2013	110.8	0.1	110.7	0.0	111.6	0.0	112.2	0.0	116.6	0.0	125.7	8.0	123.3	23.9
08/23/2013	97.0	0.1	96.8	0.0	79.8	0.0	77.6	0.0	82.9	1.9	109.6	1.4	111.3	12.1
08/24/2013	89.7	0.1	91.3	0.0	90.7	0.0	91.6	0.0	94.9	0.0	96.4	1.1	90.3	6.1
08/25/2013	100.5	0.0	98.6	0.0	100.4	0.0	100.3	0.0	104.4	0.0	102.1	1.5	93.5	6.7
08/26/2013	104.2	0.1	103.6	0.0	105.9	0.0	110.0	0.0	112.4	0.0	114.2	1.6	107.7	7.1
08/27/2013	109.1	0.1	111.2	0.0	106.8	0.0	108.0	0.0	109.0	0.0	110.3	1.7	105.7	6.4
08/28/2013	102.2	0.2	112.6	0.0	106.7	0.0	106.2	0.0	107.9	0.0	112.5	1.9	109.2	7.7
08/29/2013	107.7	0.1	106.0	0.0	104.6	0.0	107.4	0.0	108.9	0.0	117.7	2.0	112.9	4.5

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

Date	Dworshak		Hells Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
08/16/2013	8.1	0.0	---	---	21.4	15.8	22.3	7.5	22.5	10.1	22.2	11.7
08/17/2013	8.1	0.0	---	---	22.4	14.0	24.2	7.5	22.5	10.1	22.2	11.7
08/18/2013	8.2	0.0	---	---	19.4	7.1	20.4	7.5	23.0	10.7	24.6	14.0
08/19/2013	8.1	0.0	---	---	19.6	10.6	21.6	7.5	20.1	9.7	19.0	8.6
08/20/2013	8.1	0.0	---	---	18.8	10.1	21.0	6.1	21.8	10.8	22.2	12.1
08/21/2013	8.1	0.0	---	---	19.7	11.1	18.9	5.6	19.2	8.2	19.4	9.2
08/22/2013	7.4	0.0	---	---	18.1	9.8	20.3	8.1	19.9	9.4	18.2	7.6
08/23/2013	7.4	0.0	---	---	17.9	8.7	19.8	7.5	19.9	9.5	20.6	10.6
08/24/2013	8.6	0.0	---	---	20.4	7.7	19.8	7.5	21.7	6.6	20.1	10.1
08/25/2013	8.6	0.0	---	---	22.8	9.9	20.9	8.7	21.7	6.7	20.1	10.1
08/26/2013	8.6	0.0	---	---	21.0	12.5	21.6	9.4	22.5	9.3	20.5	10.6
08/27/2013	7.5	0.0	---	---	21.8	12.2	21.9	8.3	22.5	10.0	23.5	13.5
08/28/2013	7.5	0.0	---	---	22.1	12.7	21.6	7.5	22.3	10.0	23.9	13.9
08/29/2013	7.5	0.0	---	---	21.3	11.5	21.0	7.5	19.9	7.3	19.7	9.6

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
08/16/2013	170.2	85.1	163.2	48.6	147.1	59.0	153.5	91.3	0.0	49.7
08/17/2013	159.8	80.2	151.7	45.3	141.6	56.8	152.5	91.8	0.0	48.3
08/18/2013	155.6	77.8	133.8	40.1	124.5	49.5	140.6	91.8	0.0	36.4
08/19/2013	146.2	73.1	142.3	42.6	128.5	51.1	145.5	91.6	0.0	41.6
08/20/2013	147.0	73.6	145.2	43.5	136.0	54.4	151.3	91.7	0.0	47.2
08/21/2013	156.0	78.3	146.4	43.7	132.2	52.8	147.5	91.8	0.0	43.2
08/22/2013	158.7	79.4	148.7	44.4	128.3	51.1	152.4	91.2	0.0	48.8
08/23/2013	145.6	72.9	134.8	40.9	125.2	50.3	139.4	91.2	0.0	35.7
08/24/2013	125.9	63.1	130.2	39.1	117.6	47.3	130.1	84.4	0.0	33.2
08/25/2013	129.4	64.7	110.4	33.0	99.9	39.8	119.8	75.5	0.0	31.9
08/26/2013	141.0	70.5	134.1	40.1	122.8	49.3	122.7	79.2	0.0	31.0
08/27/2013	124.9	62.8	121.7	36.6	113.7	45.6	129.6	85.9	0.0	31.2
08/28/2013	145.1	72.7	132.8	39.7	119.9	48.1	131.1	87.6	0.0	31.1
08/29/2013	140.7	70.5	132.6	39.7	122.8	49.5	137.3	91.3	0.0	33.6

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

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank			
								Rank 1	Rank 2	Rank 3	Rank 4
Lower Granite Dam											
Little Goose Dam											
Lower Monumental Dam											
McNary Dam											
	08/18/13	Chinook + Steelhead	87	0	0	0.00%	0.00%	0	0	0	0
	08/22/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	08/28/13	Chinook + Steelhead	55	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	08/18/13	Chinook + Steelhead	97	0	0	0.00%	0.00%	0	0	0	0
	08/20/13	Chinook + Steelhead	31	0	0	0.00%	0.00%	0	0	0	0
	08/24/13	Chinook + Steelhead	9	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	08/18/13	Chinook + Steelhead	44	0	0	0.00%	0.00%	0	0	0	0

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	Hungry H. Dnst			Boundary				Grand Coulee				Grand C. Tlwr				Chief Joseph				
	24 h		High	#	24 h		High	#	24 h		High	#	24 h		High	#	24 h		High	#
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
8/16	106.7	106.9	107.0	24	---	---	---	0	106.8	107.0	107.3	24	106.7	106.9	107.0	24	107.6	107.8	108.0	24
8/17	105.9	106.2	106.5	24	---	---	---	0	106.4	106.6	106.9	24	106.3	106.7	107.2	24	107.2	107.6	107.9	24
8/18	105.8	106.3	106.7	24	---	---	---	0	106.1	106.4	106.8	24	106.0	106.3	106.7	24	106.8	107.1	107.3	24
8/19	106.0	106.3	106.8	24	---	---	---	0	105.9	106.2	106.3	24	106.0	106.4	106.7	24	107.0	107.4	107.6	24
8/20	106.4	106.7	107.0	24	---	---	---	0	105.5	105.6	106.1	24	105.5	105.9	106.3	24	107.0	107.4	107.7	24
8/21	106.0	106.3	107.0	24	---	---	---	0	105.4	105.7	105.9	24	105.3	105.7	106.0	24	106.9	107.2	107.4	24
8/22	105.9	106.2	106.6	24	---	---	---	0	106.0	106.1	106.2	24	105.3	105.9	106.3	24	106.6	107.1	107.3	24
8/23	105.9	106.1	106.3	24	---	---	---	0	106.1	106.3	106.5	24	105.8	106.1	106.3	24	106.7	107.0	107.4	24
8/24	105.6	106.1	106.5	24	---	---	---	0	106.3	106.4	106.7	24	105.7	106.0	106.3	24	106.5	106.7	107.1	24
8/25	105.7	106.2	106.6	24	---	---	---	0	105.6	106.0	106.5	24	105.3	105.7	105.9	24	105.9	106.1	106.3	24
8/26	104.3	104.9	105.6	24	---	---	---	0	104.7	105.3	105.7	24	104.8	105.1	105.5	24	105.6	105.7	106.0	24
8/27	104.8	105.1	105.1	24	---	---	---	0	104.3	104.6	105.1	24	104.8	105.4	105.7	24	105.4	105.8	106.0	24
8/28	104.9	105.4	106.0	24	---	---	---	0	104.6	105.4	105.9	24	105.3	106.1	108.2	24	105.3	105.5	105.8	24
8/29	105.0	105.7	106.7	23	---	---	---	0	104.9	105.0	105.4	23	104.0	104.2	104.4	23	104.8	104.9	105.1	23

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	Chief J. Dnst			Wells				Wells Dwnstrm				Rocky Reach				Rocky R. Tlwr				
	24 h		High	#	24 h		High	#	24 h		High	#	24 h		High	#	24 h		High	#
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
8/16	107.5	107.8	108.4	24	107.6	107.9	108.3	21	109.7	110.3	110.9	21	109.3	109.4	109.7	24	113.2	114.7	117.7	24
8/17	107.5	107.9	108.9	24	107.1	107.4	108.0	16	109.0	109.3	110.2	16	108.6	108.8	109.1	24	111.5	112.4	113.4	24
8/18	107.0	107.4	108.0	24	106.5	106.9	107.6	17	108.3	108.7	109.8	17	108.1	108.3	108.5	24	110.9	111.9	113.2	24
8/19	106.7	107.0	107.3	24	106.1	106.7	107.1	24	108.0	108.7	109.3	24	107.4	107.6	108.0	24	111.1	112.0	112.8	24
8/20	106.9	107.5	108.3	24	106.0	106.5	107.4	20	106.6	107.1	107.9	20	106.6	106.7	106.9	24	111.2	112.0	113.0	24
8/21	106.7	107.0	107.3	24	106.7	107.4	108.5	21	106.8	107.7	109.0	21	106.5	106.8	106.9	24	111.1	112.0	113.0	24
8/22	106.8	107.2	107.8	24	107.5	107.8	108.9	17	107.7	108.1	109.2	17	106.5	106.7	106.9	24	106.3	106.8	110.0	24
8/23	107.0	107.5	108.1	24	107.2	107.6	108.5	18	107.9	108.6	110.1	18	106.9	107.0	107.2	24	105.9	106.2	106.4	24
8/24	106.6	107.1	107.8	24	106.6	106.8	107.8	18	106.7	107.0	108.1	18	106.7	106.9	107.2	24	105.7	106.2	106.4	24
8/25	106.2	106.6	107.3	24	106.2	106.6	107.3	22	106.4	106.8	107.7	22	106.4	106.5	106.8	24	105.4	105.7	106.0	24
8/26	106.2	106.9	107.7	24	105.4	105.7	106.3	22	105.7	106.1	106.9	22	105.7	105.9	106.2	24	104.8	105.1	105.3	24
8/27	105.8	106.2	106.5	24	105.5	106.0	106.6	20	105.7	106.4	107.0	20	105.6	105.9	106.0	24	104.9	105.3	105.4	24
8/28	105.5	106.0	106.6	24	105.9	106.3	107.0	19	106.0	106.5	107.4	19	105.7	105.7	105.8	24	104.8	105.1	105.2	24
8/29	105.1	105.5	106.2	23	105.2	105.4	105.9	16	105.4	105.6	106.2	16	105.1	105.3	105.4	23	103.9	104.4	104.7	23

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	Rock Island			Rock I. Tlwr				Wanapum				Wanapum Tlwr				Priest Rapids				
	24 h		High	#	24 h		High	#	24 h		High	#	24 h		High	#	24 h		High	#
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
8/16	109.6	110.3	111.7	24	114.7	115.7	117.3	24	109.7	110.0	110.5	24	113.3	113.9	116.3	24	112.7	113.8	114.4	24
8/17	108.6	109.3	110.7	24	113.5	114.2	116.5	24	109.5	109.8	110.0	24	112.2	112.4	112.7	24	110.5	111.2	112.1	24
8/18	108.1	108.6	108.9	24	113.0	113.9	116.4	24	108.3	108.8	109.1	24	111.8	112.2	114.3	24	109.2	109.6	110.2	24
8/19	107.6	108.1	108.7	24	108.1	108.8	113.0	24	108.2	108.6	108.8	24	111.7	111.9	112.3	24	108.0	108.4	109.5	24
8/20	107.1	107.7	108.0	24	107.5	108.1	108.6	24	108.1	108.7	109.4	24	111.1	111.7	112.8	24	108.5	108.9	109.9	24
8/21	106.8	107.5	107.9	24	107.1	107.9	108.7	24	108.4	108.9	109.6	24	110.9	111.1	111.3	24	108.7	109.3	110.1	24
8/22	106.7	107.0	107.9	24	106.8	107.1	108.3	24	108.0	108.8	109.5	24	108.7	109.7	110.6	24	109.2	109.5	109.8	24
8/23	105.7	106.0	106.4	24	105.9	106.3	106.5	24	106.6	107.2	108.2	24	107.0	107.3	107.5	24	106.4	107.2	108.1	24
8/24	105.8	105.9	106.1	24	106.1	106.2	106.4	24	105.2	105.8	106.4	24	106.0	106.3	106.9	24	104.5	105.1	105.6	24
8/25	105.3	105.6	106.1	24	105.7	105.9	106.2	24	105.2	106.1	107.0	24	105.4	105.6	106.0	24	103.3	104.0	104.3	24
8/26	105.0	105.1	105.4	24	105.2	105.4	105.8	24	104.1	104.3	104.9	24	104.8	105.0	105.2	24	103.8	104.2	105.0	24
8/27	104.8	105.2	105.7	24	105.2	105.6	105.9	24	104.7	105.7	106.2	24	104.9	105.5	105.7	24	104.1	104.6	104.8	24
8/28	104.9	105.3	105.4	24	105.2	105.6	105.8	24	---	---	---	0	---	---	---	0	---	---	---	0
8/29	104.3	104.6	105.1	23	104.6	104.8	105.2	23	---	---	---	0	---	---	---	0	---	---	---	0

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

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

Date	<u>Priest R. Dnst</u>			#	<u>Pasco</u>			#	<u>Dworshak</u>			#	<u>Clwrtr-Peck</u>			#	<u>Anatone</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
8/16	114.6	115.1	115.6	24	---	---	---	0	100.9	101.3	101.6	24	102.7	104.0	105.2	24	101.6	102.9	104.3	24
8/17	113.7	114.2	114.6	24	---	---	---	0	100.8	101.2	101.7	24	102.6	103.8	105.1	24	101.7	103.1	104.4	24
8/18	112.6	112.9	113.5	24	---	---	---	0	100.6	100.8	101.3	24	102.4	103.5	104.8	24	101.6	103.1	104.5	24
8/19	112.2	112.5	112.9	24	---	---	---	0	100.7	101.1	101.6	24	102.4	103.7	104.8	24	101.7	103.1	104.5	24
8/20	112.0	112.4	112.9	24	---	---	---	0	100.6	100.9	101.3	24	102.2	103.4	104.5	24	101.5	102.9	104.2	24
8/21	112.6	113.0	113.3	24	---	---	---	0	100.4	100.8	101.2	24	102.0	103.2	104.3	24	101.5	102.9	104.3	24
8/22	113.2	113.4	113.6	24	---	---	---	0	100.5	100.9	101.2	24	101.7	102.6	103.2	24	101.1	102.0	103.5	24
8/23	110.1	111.7	112.7	24	---	---	---	0	100.9	101.2	101.6	24	102.1	103.2	104.6	23	101.8	103.2	104.6	24
8/24	106.9	107.3	107.7	24	---	---	---	0	101.0	101.5	101.9	24	102.0	103.3	104.3	24	101.5	102.9	104.3	24
8/25	106.0	106.6	107.2	24	---	---	---	0	100.7	101.0	101.5	24	101.7	102.8	103.7	24	101.4	102.8	104.3	24
8/26	106.5	107.0	107.6	24	---	---	---	0	100.6	100.9	101.4	24	101.7	102.8	103.7	24	101.3	102.8	104.3	24
8/27	106.6	107.0	107.5	24	---	---	---	0	100.6	101.0	101.3	24	101.8	103.0	104.0	24	101.6	103.1	104.5	24
8/28	---	---	---	0	---	---	---	0	100.8	101.1	101.4	24	101.9	102.9	104.0	24	101.7	102.7	104.1	21
8/29	---	---	---	0	---	---	---	0	100.5	100.8	101.2	23	101.6	102.5	103.3	23	101.3	102.3	103.8	23

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clwrtr-Lewiston</u>			#	<u>Lower Granite</u>			#	<u>L. Granite Tlwr</u>			#	<u>Little Goose</u>			#	<u>L. Goose Tlwr</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
8/16	103.1	103.1	104.3	12	100.6	100.7	100.8	24	119.8	120.2	120.7	24	111.3	111.4	111.6	24	109.1	109.4	110.0	24
8/17	102.6	103.4	103.9	24	100.2	100.3	100.5	24	116.8	119.3	120.8	24	111.2	111.5	111.7	24	109.1	109.7	110.1	24
8/18	102.5	103.8	104.7	24	99.7	99.9	100.2	24	111.8	112.4	113.1	24	113.5	114.9	116.4	24	109.4	109.8	110.3	24
8/19	102.8	104.2	104.9	24	100.0	100.2	100.4	24	115.7	119.8	121.2	24	115.0	115.5	116.0	24	109.9	110.5	110.8	24
8/20	102.9	104.0	104.4	24	100.2	100.4	100.7	24	116.0	119.4	120.5	24	115.7	116.0	116.3	24	110.2	110.5	110.9	24
8/21	102.2	103.3	103.7	24	99.9	100.1	100.4	24	116.4	119.8	120.8	24	115.3	115.6	116.1	24	109.7	110.5	112.1	24
8/22	101.2	102.1	103.1	24	99.9	100.2	100.7	24	115.8	119.0	119.9	24	114.9	115.0	115.3	24	109.6	111.0	111.7	24
8/23	102.1	102.9	103.6	24	100.5	100.9	102.1	24	114.6	118.2	121.1	24	114.5	114.8	115.0	24	109.8	110.0	110.1	24
8/24	102.3	103.3	103.6	24	100.6	100.9	101.1	24	106.5	107.2	108.2	24	112.7	113.0	113.3	24	109.5	110.0	110.6	24
8/25	101.3	102.2	103.0	24	100.3	100.5	100.7	24	108.0	108.3	108.8	24	111.4	111.5	111.8	24	109.1	109.7	110.4	24
8/26	100.8	102.4	103.4	24	99.6	99.8	100.1	24	110.7	113.5	114.3	24	110.9	111.1	111.2	24	108.7	109.2	110.1	24
8/27	101.7	103.5	104.8	22	99.8	100.3	100.5	24	111.2	114.3	114.9	24	110.6	110.7	110.8	24	108.8	109.3	109.9	24
8/28	102.2	103.8	104.9	24	100.1	100.3	100.5	24	111.0	113.5	114.2	24	110.2	110.3	110.6	24	108.2	108.7	109.1	24
8/29	101.1	102.2	103.5	23	99.7	99.8	99.9	23	110.8	113.3	114.9	23	109.0	109.4	110.0	23	107.8	108.2	108.7	23

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

Date	<u>Lower Mon.</u>			#	<u>L. Mon. Tlwr</u>			#	<u>Ice Harbor</u>			#	<u>Ice Harbor Tlwr</u>			#	<u>McNary-Oregon</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
8/16	106.8	107.2	107.4	24	113.0	113.3	113.6	24	109.3	109.5	109.7	24	110.4	110.9	111.6	24	---	---	---	0
8/17	106.8	107.1	107.3	24	113.1	113.5	114.1	24	109.3	109.5	109.7	24	110.4	111.1	111.8	24	---	---	---	0
8/18	106.9	107.0	107.1	24	112.9	113.5	113.7	24	109.5	109.7	109.9	24	110.6	111.3	111.6	24	---	---	---	0
8/19	107.0	107.1	107.2	24	114.3	116.9	118.4	24	109.4	109.5	109.7	24	110.5	111.2	111.8	24	---	---	---	0
8/20	107.2	107.4	107.5	24	115.1	118.4	121.0	24	108.9	109.1	109.2	24	110.8	112.3	113.9	24	---	---	---	0
8/21	107.3	107.4	107.5	24	113.7	117.2	118.3	24	108.9	109.1	109.2	24	109.6	110.7	111.7	24	---	---	---	0
8/22	107.4	107.7	107.8	24	112.1	116.2	118.5	24	109.0	109.2	109.4	24	109.1	110.7	112.4	24	---	---	---	0
8/23	107.2	107.5	107.8	24	112.7	117.2	118.4	24	109.3	109.3	109.4	24	110.7	111.2	111.8	24	---	---	---	0
8/24	107.6	107.8	108.0	24	107.1	107.4	107.8	24	109.2	109.3	109.5	24	110.9	111.6	112.3	24	---	---	---	0
8/25	108.0	108.3	108.8	24	107.2	107.7	108.5	24	109.2	109.4	109.7	24	110.6	111.4	112.3	24	---	---	---	0
8/26	108.0	108.3	108.4	24	110.5	113.9	118.1	24	109.5	109.7	109.9	24	110.5	111.3	111.9	24	---	---	---	0
8/27	108.1	108.2	108.4	24	113.3	113.7	114.2	24	109.3	109.5	109.6	24	110.2	110.9	111.7	24	---	---	---	0
8/28	107.6	107.7	107.9	24	112.8	113.1	113.4	24	108.7	108.9	109.4	24	109.9	110.5	111.1	24	---	---	---	0
8/29	107.1	107.5	107.7	23	112.0	112.5	113.3	23	107.5	107.9	108.2	23	109.8	110.7	111.2	23	---	---	---	0

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>McNary-Wash</u>			#	<u>McNary Tlwr</u>			#	<u>John Day</u>			#	<u>John Day Tlwr</u>			#	<u>The Dalles</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
8/16	109.2	109.4	109.8	24	115.8	116.7	117.0	24	105.5	105.6	105.7	24	113.3	113.9	114.7	24	107.7	108.0	108.2	24
8/17	108.3	108.7	109.4	24	115.4	116.1	116.5	24	105.1	105.3	105.7	24	112.4	112.9	113.4	24	107.6	108.1	108.3	24
8/18	106.8	107.0	107.4	24	113.8	114.6	115.7	24	105.1	105.5	105.9	24	110.6	111.1	111.5	24	107.2	107.5	107.7	24
8/19	106.3	106.7	107.2	24	114.3	114.7	115.1	24	105.4	105.8	106.0	24	111.3	114.1	114.9	24	106.6	107.1	107.3	24
8/20	107.0	107.3	107.7	24	114.3	115.1	115.8	24	105.5	106.1	106.5	24	113.6	114.1	115.1	24	106.6	106.8	106.9	24
8/21	107.8	108.4	109.2	24	115.2	115.4	115.6	24	107.1	107.7	108.5	24	113.6	114.1	114.5	24	108.6	109.3	109.8	24
8/22	107.9	108.2	108.7	24	115.3	115.8	116.2	24	107.4	107.7	108.0	24	113.8	114.0	114.7	24	109.2	109.6	109.8	24
8/23	107.8	108.0	108.6	24	114.8	115.6	116.1	24	105.8	106.0	106.5	24	113.2	113.5	113.8	24	108.3	108.9	109.2	24
8/24	107.4	107.5	107.7	24	113.9	114.5	115.0	24	104.9	105.1	105.3	24	112.7	113.1	113.7	24	106.3	106.5	106.8	24
8/25	106.7	107.1	107.2	24	114.1	114.9	115.6	24	104.2	104.4	104.8	24	112.3	112.7	113.0	24	105.8	106.1	106.4	24
8/26	105.3	105.5	105.6	24	114.5	114.8	115.2	24	104.1	104.5	104.8	24	113.4	114.4	114.9	24	106.3	107.1	107.4	24
8/27	105.7	106.3	106.7	24	114.1	115.2	115.7	24	104.2	104.7	105.0	24	113.3	113.9	114.5	24	108.3	108.9	109.3	24
8/28	105.5	105.9	106.6	24	114.1	115.0	115.5	24	104.4	104.5	104.7	24	113.9	114.3	114.7	24	108.2	108.8	109.3	24
8/29	104.3	104.5	105.1	23	114.0	115.0	115.6	23	104.2	104.3	104.4	23	114.0	114.9	115.4	23	107.4	107.6	107.8	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			#	<u>Bonneville</u>			#	<u>Warrendale</u>			#	<u>Camas\Washougal</u>			#	<u>Cascade Island</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
8/16	113.7	114.6	115.7	24	109.0	109.5	109.8	24	116.7	117.7	118.8	24	114.1	115.7	117.2	24	116.8	118.9	120.5	24
8/17	113.0	113.8	114.1	24	108.3	108.5	108.9	24	116.4	117.4	118.5	24	113.4	115.0	116.4	24	116.8	118.6	120.1	24
8/18	112.5	112.8	113.2	24	107.5	107.8	107.9	24	116.6	117.4	118.3	24	112.8	114.8	116.3	24	116.5	118.5	120.1	24
8/19	111.8	112.4	113.2	24	106.5	106.8	107.2	24	116.3	117.3	118.2	24	113.3	114.7	116.0	24	116.5	118.6	120.3	24
8/20	112.1	112.6	113.1	24	106.0	106.3	106.6	24	115.8	116.6	117.5	24	112.0	113.7	115.0	24	116.7	118.8	120.3	24
8/21	112.9	113.9	114.7	24	106.5	107.1	107.7	24	116.5	117.2	118.3	24	112.9	114.9	116.4	24	116.7	118.8	120.2	24
8/22	114.3	116.1	117.4	24	109.1	110.1	110.6	24	116.7	117.6	118.3	24	113.5	115.2	116.2	24	117.0	118.9	120.6	24
8/23	112.0	112.5	112.7	24	109.2	109.8	110.4	24	116.7	117.6	119.0	24	113.0	114.4	115.2	24	116.6	118.6	120.6	24
8/24	110.3	110.6	111.0	24	107.4	107.7	108.1	24	116.5	117.3	118.6	24	113.7	114.8	115.6	24	115.5	116.6	119.7	24
8/25	108.9	109.3	109.8	24	106.5	106.7	107.1	24	115.7	116.0	116.5	24	112.6	113.3	114.5	24	114.5	114.5	114.6	24
8/26	109.3	110.0	110.5	24	106.3	106.5	106.6	24	115.8	116.3	116.9	24	113.1	113.7	113.8	24	115.1	115.8	119.1	24
8/27	110.3	110.7	111.6	24	107.0	107.6	107.8	24	116.9	117.3	118.0	24	113.6	114.9	115.7	24	115.8	117.7	119.7	24
8/28	110.5	110.7	111.0	24	108.0	108.5	108.7	24	117.0	117.3	118.0	24	114.8	116.0	116.6	24	115.8	117.7	119.7	24
8/29	110.5	110.8	111.1	23	108.0	108.3	108.7	23	117.4	118.1	118.9	23	114.7	115.5	116.0	23	116.0	117.2	119.4	22

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 8/30/2013 7:31

Two-Week Summary of Passage Indices

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

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

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

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

COMBINED YEARLING CHINOOK												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR ^{††} (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
08/16/2013	*	---	---	---	8	0	---	0	---	0	---	
08/17/2013	*	---	---	---	0	0	0	0	0	---	0	
08/18/2013	*	---	---	---	0	0	---	0	---	---	---	
08/19/2013	*	---	---	---	0	0	---	0	0	---	0	
08/20/2013	*	---	---	---	0	0	0	0	---	0	---	
08/21/2013	*	---	---	---	0	0	---	0	0	---	0	
08/22/2013	*	---	---	---	0	0	0	0	---	---	---	
08/23/2013	*	---	---	---	0	0	0	0	0	0	0	
08/24/2013	*	---	---	---	0	0	0	0	---	---	---	
08/25/2013	*	---	---	---	0	0	0	0	---	---	0	
08/26/2013	*	---	---	---	0	0	0	0	---	---	---	
08/27/2013	*	---	---	---	0	0	0	0	---	0	0	
08/28/2013	*	---	---	---	0	0	0	0	---	---	---	
08/29/2013	*	---	---	---	---	0	---	0	0	---	0	
08/30/2013		---	---	---	---	---	---	---	---	---	---	
Total:		0	0	0	8	0	0	0	0	0	0	
# Days:		0	0	0	13	14	9	14	5	4	7	
Average:		0	0	0	1	0	0	0	0	0	0	
YTD		50,632	55,648	26,301	2,797	2,607,089	1,498,294	614,254	28,315	2,123,325	2,056,882	1,881,678

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)	
08/16/2013	*	---	---	---	227	500	---	41	---	391	---	
08/17/2013	*	---	---	---	971	519	67	47	10,754	---	2,089	
08/18/2013	*	---	---	---	1,284	1,093	---	73	---	---	---	
08/19/2013	*	---	---	---	547	716	---	40	5,869	---	3,077	
08/20/2013	*	---	---	---	684	667	29	38	---	953	---	
08/21/2013	*	---	---	---	532	532	---	35	5,209	---	1,286	
08/22/2013	*	---	---	---	405	371	132	51	---	---	---	
08/23/2013	*	---	---	---	426	559	778	32	4,222	202	1,631	
08/24/2013	*	---	---	---	607	505	533	21	---	---	---	
08/25/2013	*	---	---	---	469	330	189	23	---	---	664	
08/26/2013	*	---	---	---	564	652	372	15	---	---	---	
08/27/2013	*	---	---	---	686	834	375	15	---	46	447	
08/28/2013	*	---	---	---	552	647	942	10	---	---	---	
08/29/2013	*	---	---	---	---	832	---	11	1,152	---	574	
08/30/2013		---	---	---	---	---	---	---	---	---	---	
Total:		0	0	0	7,954	8,757	3,417	452	27,206	1,592	9,768	
# Days:		0	0	0	13	14	9	14	5	4	7	
Average:		0	0	0	612	626	380	32	5,441	398	1,395	
YTD		2	61	195	2,668	706,788	624,011	271,150	18,766	3,692,248	2,426,922	4,858,406

Two-Week Summary of Passage Indices

COMBINED COHO											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
08/16/2013 *	---	---	---	---	8	0	---	0	---	0	---
08/17/2013 *	---	---	---	---	0	0	0	0	0	---	0
08/18/2013 *	---	---	---	---	0	0	---	0	---	---	---
08/19/2013 *	---	---	---	---	0	0	---	0	0	---	0
08/20/2013 *	---	---	---	---	0	0	0	0	---	0	---
08/21/2013 *	---	---	---	---	0	0	---	0	0	---	0
08/22/2013 *	---	---	---	---	0	0	0	0	---	---	---
08/23/2013 *	---	---	---	---	0	0	0	0	0	0	0
08/24/2013 *	---	---	---	---	0	0	0	0	---	---	---
08/25/2013 *	---	---	---	---	0	0	0	0	---	---	0
08/26/2013 *	---	---	---	---	2	0	0	0	---	---	---
08/27/2013 *	---	---	---	---	0	0	0	0	---	0	0
08/28/2013 *	---	---	---	---	0	0	0	0	---	---	---
08/29/2013 *	---	---	---	---	---	0	---	0	0	---	0
08/30/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	10	0	0	0	0	0	0
# Days:	0	0	0	0	13	14	9	14	5	4	7
Average:	0	0	0	0	1	0	0	0	0	0	0
YTD	0	0	0	107	61,826	54,077	10,584	49,973	85,380	188,509	770,840

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)
08/16/2013 *	---	---	---	---	0	0	---	2	---	0	---
08/17/2013 *	---	---	---	---	0	2	0	2	0	---	0
08/18/2013 *	---	---	---	---	0	0	---	2	---	---	---
08/19/2013 *	---	---	---	---	0	2	---	1	0	---	0
08/20/2013 *	---	---	---	---	0	0	0	0	---	0	---
08/21/2013 *	---	---	---	---	0	1	---	3	0	---	0
08/22/2013 *	---	---	---	---	0	0	0	0	---	---	---
08/23/2013 *	---	---	---	---	0	2	0	1	0	0	0
08/24/2013 *	---	---	---	---	0	2	0	0	---	---	---
08/25/2013 *	---	---	---	---	0	2	0	0	---	---	0
08/26/2013 *	---	---	---	---	0	0	1	0	---	---	---
08/27/2013 *	---	---	---	---	0	0	0	0	---	0	0
08/28/2013 *	---	---	---	---	0	3	2	1	---	---	---
08/29/2013 *	---	---	---	---	---	3	---	0	0	---	0
08/30/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	0	17	3	12	0	0	0
# Days:	0	0	0	0	13	14	9	14	5	4	7
Average:	0	0	0	0	0	1	0	1	0	0	0
YTD	3,789	40,840	3,547	9,925	2,037,011	1,713,530	610,904	14,984	471,593	732,388	470,306

Two-Week Summary of Passage Indices

COMBINED SOCKEYE											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
08/16/2013 *	---	---	---	---	0	0	---	3	---	39	---
08/17/2013 *	---	---	---	---	3	2	0	2	82	---	0
08/18/2013 *	---	---	---	---	3	1	---	3	---	---	---
08/19/2013 *	---	---	---	---	5	0	---	3	0	---	30
08/20/2013 *	---	---	---	---	0	0	0	4	---	0	---
08/21/2013 *	---	---	---	---	0	1	---	0	0	---	12
08/22/2013 *	---	---	---	---	0	0	0	0	---	---	---
08/23/2013 *	---	---	---	---	0	2	0	0	0	0	0
08/24/2013 *	---	---	---	---	2	0	0	1	---	---	---
08/25/2013 *	---	---	---	---	2	0	0	1	---	---	0
08/26/2013 *	---	---	---	---	2	0	0	0	---	---	---
08/27/2013 *	---	---	---	---	0	2	0	4	---	0	16
08/28/2013 *	---	---	---	---	2	0	0	0	---	---	---
08/29/2013 *	---	---	---	---	---	0	---	0	21	---	0
08/30/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	19	8	0	21	103	39	58
# Days:	0	0	0	0	13	14	9	14	5	4	7
Average:	0	0	0	0	1	1	0	2	21	10	8
YTD	1	0	0	326	54,698	33,009	11,379	25,106	633,794	414,310	396,143

COMBINED LAMPREY JUVENILES											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR [†] (Coll)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)
08/16/2013 *	---	---	---	---	0	8	---	0	---	0	---
08/17/2013 *	---	---	---	---	2	3	0	0	300	---	0
08/18/2013 *	---	---	---	---	0	8	---	0	---	---	---
08/19/2013 *	---	---	---	---	1	4	---	1	5,100	---	0
08/20/2013 *	---	---	---	---	0	14	0	0	---	5	---
08/21/2013 *	---	---	---	---	0	6	---	0	4,320	---	0
08/22/2013 *	---	---	---	---	0	3	0	0	---	---	---
08/23/2013 *	---	---	---	---	0	10	0	1	1,220	5	0
08/24/2013 *	---	---	---	---	2	7	0	1	---	---	---
08/25/2013 *	---	---	---	---	0	12	2	2	---	---	0
08/26/2013 *	---	---	---	---	0	1	2	0	---	---	---
08/27/2013 *	---	---	---	---	0	9	0	0	---	4	0
08/28/2013 *	---	---	---	---	1	1	1	0	---	---	---
08/29/2013 *	---	---	---	---	---	10	---	1	430	---	0
08/30/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	6	96	5	6	11,370	14	0
# Days:	0	0	0	0	13	14	9	14	5	4	7
Average:	0	0	0	0	0	7	1	0	2,274	4	0
YTD	0	8	0	0	4,968	55,263	63,713	184	86,310	173,701	6,179

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:

Two classes of fish counts are shown in these tables:

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.

†† Passage index for yearling Chinook, steelhead, and subyearling Chinook at LGR may be inflated in 2013 due to possible resampling of PIT-tagged research fish

† Caution should be used with interpreting lamprey juvenile collection counts at LGR because of the possibility that lamprey may escape the sample tank before being sampled

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:

8/30/13 7:20 AM

08/16/13 TO 08/30/13

		Species						
Site	Data	CH0	CH1	CO	ST	SO	Grand Total	
LGR	Sum of NumberCollected	3,514		2	3		9	3,528
	Sum of NumberBarged	97		2	2		0	101
	Sum of NumberBypassed	0		0	0		0	0
	Sum of Numbertrucked	3,433		0	1		7	3,441
	Sum of SampleMorts	28		0	0		2	30
	Sum of FacilityMorts	0		0	0		0	0
	Sum of ResearchMorts	0		0	0		0	0
	Sum of TotalProjectMorts	28		0	0		2	30
LGS	Sum of NumberCollected	5,537				10	5	5,552
	Sum of NumberBarged	747				0	0	747
	Sum of NumberBypassed	1				1	1	3
	Sum of Numbertrucked	4,623				6	4	4,633
	Sum of SampleMorts	39				1	0	40
	Sum of FacilityMorts	14				1	0	15
	Sum of ResearchMorts	0				0	0	0
	Sum of TotalProjectMorts	53				2	0	55
LMN	Sum of NumberCollected	1,857				2		1,859
	Sum of NumberBarged	0				0		0
	Sum of NumberBypassed	51				1		52
	Sum of Numbertrucked	1,691				1		1,692
	Sum of SampleMorts	114				0		114
	Sum of FacilityMorts	2				0		2
	Sum of ResearchMorts	0				0		0
	Sum of TotalProjectMorts	116				0		116
MCN	Sum of NumberCollected	13,182					50	13,232
	Sum of NumberBarged	0					0	0
	Sum of NumberBypassed	13,164					50	13,214
	Sum of Numbertrucked	0					0	0
	Sum of SampleMorts	7					0	7
	Sum of FacilityMorts	11					0	11
	Sum of ResearchMorts	0					0	0
	Sum of TotalProjectMorts	18					0	18
Total Sum of NumberCollected		24,090		2	3	12	64	24,171
Total Sum of NumberBarged		844		2	2	0	0	848
Total Sum of NumberBypassed		13,216		0	0	2	51	13,269
Total Sum of Numbertrucked		9,747		0	1	7	11	9,766
Total Sum of SampleMorts		188		0	0	1	2	191
Total Sum of FacilityMorts		27		0	0	1	0	28
Total Sum of ResearchMorts		0		0	0	0	0	0
Total Sum of TotalProjectMorts		215		0	0	2	2	219

YTD Transportation Summary

Source: Fish Passage Center

Updated:

8/30/13 7:20 AM

TO: 08/30/13

		Species						
Site	Data	CH0	CH1	CO	SO	ST	LU	Grand Total
LGR	Sum of NumberCollected	455,833	1,865,129	48,077	42,653	1,444,850		3,856,542
	Sum of NumberBarged	437,793	1,554,582	47,807	42,574	1,087,929		3,170,685
	Sum of NumberBypassed	13,693	308,258	210	52	356,574		678,787
	Sum of NumberTrucked	3,433	0	1	7	0		3,441
	Sum of SampleMorts	534	173	2	5	40		754
	Sum of FacilityMorts	342	2,066	57	15	259		2,739
	Sum of ResearchMorts	38	52	0	0	47		137
	Sum of TotalProjectMorts	914	2,291	59	20	346		3,630
LGS	Sum of NumberCollected	432,098	1,026,511	36,885	22,618	1,174,688		2,692,800
	Sum of NumberBarged	426,163	979,239	36,685	22,607	1,108,345		2,573,039
	Sum of NumberBypassed	252	46,698	200	2	66,202		113,354
	Sum of NumberTrucked	4,623	0	0	4	6		4,633
	Sum of SampleMorts	158	14	0	1	10		183
	Sum of FacilityMorts	374	560	0	4	124		1,062
	Sum of ResearchMorts	0	0	0	0	0		0
	Sum of TotalProjectMorts	532	574	0	5	134		1,245
LMN	Sum of NumberCollected	168,155	470,897	8,000	8,064	459,576	1	1,114,693
	Sum of NumberBarged	151,939	469,284	7,999	8,058	458,179	0	1,095,459
	Sum of NumberBypassed	13,423	1,079	0	2	1,143	134	15,781
	Sum of NumberTrucked	1,691	0	0	0	1	0	1,692
	Sum of SampleMorts	221	16	0	0	18	0	255
	Sum of FacilityMorts	362	518	1	4	235	0	1,120
	Sum of ResearchMorts	0	0	0	0	0	0	0
	Sum of TotalProjectMorts	583	534	1	4	253	0	1,375
MCN	Sum of NumberCollected	1,774,846	1,098,880	43,803	314,577	255,352		3,487,458
	Sum of NumberBarged	0	0	0	0	0		0
	Sum of NumberBypassed	1,774,297	1,098,057	43,799	314,328	255,297		3,485,778
	Sum of NumberTrucked	0	0	0	0	0		0
	Sum of SampleMorts	375	62	1	34	8		480
	Sum of FacilityMorts	174	761	3	215	47		1,200
	Sum of ResearchMorts	0	0	0	0	0		0
	Sum of TotalProjectMorts	549	823	4	249	55		1,680
Total Sum of NumberCollected		2,830,932	4,461,417	136,765	387,912	3,334,466	1	11,151,493
Total Sum of NumberBarged		1,015,895	3,003,105	92,491	73,239	2,654,453	0	6,839,183
Total Sum of NumberBypassed		1,801,665	1,454,092	44,209	314,384	679,216	134	4,293,700
Total Sum of NumberTrucked		9,747	0	1	11	7	0	9,766
Total Sum of SampleMorts		1,288	265	3	40	76	0	1,672
Total Sum of FacilityMorts		1,252	3,905	61	238	665	0	6,121
Total Sum of ResearchMorts		38	52	0	0	47	0	137
Total Sum of TotalProjectMorts		2,578	4,222	64	278	788	0	7,930

Cumulative Adult Passage at Mainstem Dams Through: 08/30

DAM	ENDDA	Spring Chinook						Summer Chinook						Fall Chinook					
		2013		2012		10-Yr Avg.		2013		2012		10-Yr Avg.		2013		2012		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	08/29	83345	33820	158089	7592	141713	20323	93097	26186	81663	12235	87543	17586	1E+05	20464	51284	11540	56325	8574
TDA	08/29	69202	32311	117087	7175	107368	16911	85639	20750	69222	10392	74538	13909	55966	11006	25134	6529	23877	4773
JDA	08/28	56991	28957	107655	6755	92410	15875	74764	19636	60814	10415	67514	14608	25869	5695	11915	3420	11351	3197
MCN	08/29	52176	22279	102763	4787	83990	13854	75741	14808	64428	5104	63310	10848	18952	3720	10174	1869	7812	1736
IHR	08/29	38017	18611	71957	2905	58986	8558	11912	6321	14182	1481	17476	4251	6322	1182	2334	600	1845	462
LMN	08/29	36470	19053	68608	2891	58025	7379	11765	7703	15150	1611	18803	4213	4842	983	1867	522	1300	397
LGS	08/29	35072	19443	68247	3449	53406	8429	10120	7632	14748	1613	17544	4904	3841	721	1337	380	914	178
LGR	08/29	35031	19940	66366	3525	53382	9851	8423	7572	13163	1717	16010	5560	1602	394	990	245	604	153
PRD	08/28	13725	1298	19495	1015	15225	1406	71083	3174	50667	1994	53926	2612	4460	3115	2892	1988	2917	1129
WAN	08/28	13715	1661	19804	973	15699	2278	69983	2189	50588	1515	47124	1979	3158	1581	2689	1451	2158	1278
RIS	08/20	13345	3100	19881	800	14248	2237	68380	3985	52184	3343	51396	5464	988	1760	896	353	545	181
RRH	08/20	6841	2101	6641	459	5306	853	59680	4044	45528	2775	39283	4310	330	663	339	99	188	64
WEL	08/11	7133	2980	5311	700	4618	880	45444	3676	33926	2529	25378	2097	0	0	0	0	0	0
WFA	08/28	27780	1638	35899	1314	46153	1141	0	0	0	0	0	0	70	13	88	21	82	15

DAM	ENDDA	Coho						Sockeye			Steelhead					Lamprey			
		2013		2012		10-Yr Avg.		2013	2012	10-Yr Avg.	2013	2012	10-Yr Avg.	Wild 2013	Wild 2012	10-Yr Avg.	2013	2012	10-Yr Avg.
		Adult	Jack	Adult	Jack	Adult	Jack												
BON	08/29	3614	408	3448	438	7725	550	185499	515668	177592	179309	169202	255927	82551	66260	87071	22295	26426	32110
TDA	08/29	288	77	1243	280	1131	273	161888	410094	146266	73308	104342	113652	38850	44764	43745	7824	5356	7728
JDA	08/28	111	26	328	107	421	128	155361	394137	149051	40199	63387	87216	20107	28870	32624	5124	3766	6510
MCN	08/29	8	4	200	68	112	25	134175	364134	125774	36935	57470	62364	18192	23207	22352	1307	709	2713
IHR	08/29	-39	0	0	0	0	0	895	453	425	25837	10879	34152	8067	3484	9369	239	352	345
LMN	08/29	1	0	0	0	0	0	1013	486	530	19186	11147	33243	7918	4455	10212	89	106	99
LGS	08/29	1	0	0	0	0	0	989	451	508	10422	8316	23369	5073	4213	7603	27	53	91
LGR	08/29	0	0	0	0	0	0	736	454	613	12204	12395	20305	5813	5545	7035	13	36	29
PRD	08/28	0	0	3	0	23	0	163070	408256	154770	5731	8216	8545	0	0	0	4371	2044	2222
WAN	08/28	1	0	1	1	7	0	155692	450192	196434	4944	7748	9076	0	0	0	2050	1041	1198
RIS	08/20	0	0	0	0	0	0	159130	410498	152363	3143	5540	5256	1868	2712	2855	467	127	573
RRH	08/20	0	0	0	0	0	0	131619	363153	129767	2042	4553	3938	1149	2237	2004	369	84	230
WEL	08/11	0	0	0	0	0	0	129184	325199	123187	706	1382	1217	410	702	633	14	0	0
WFA	08/28	11	6	19	68	20	28	0	0	0	17381	31201	25612	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.