Fish Passage Center

Weekly Report #12 - 25

August 31, 2012

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 1% and 33% of average at individual sub-basins over August. Precipitation above The Dalles has been 21% of average for August 1-27. Over the 2012 water year, precipitation has ranged between 87% and 119% of average.

Table 1. Summary of August precipitation and cumulative October through August 27, 2012 precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2012 August 1-27, 2012		Water Year 2012 October 1, 2011 to August 27, 2012	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	0.43	29	27.52	116
Snake River Above Ice Harbor	0.09	13	15.88	95
Columbia Above The Dalles	0.21	21	23.76	108
Kootenai	0.49	33	29.05	119
Clark Fork	0.19	17	16.97	103
Flathead	0.43	31	24.64	113
Pend Oreille/ Spokane	0.13	12	34.32	115
Central Washington	0.02	5	7.87	91
Snake River Plain	0.05	14	9.34	87
Salmon/Boise/ Payette	0.06	10	17.99	94
Clearwater	0.01	1	31.52	108
SW Washington Cascades/Cowlitz	0.02	3	69.33	102
Willamette Valley	0.03	3	62.17	108

Grand Coulee Reservoir is at 1279.3 feet (8-30-12) and drafted 1.1 feet over the last week. The end of August draft elevation will be approximately 1279.7 feet at Grand Coulee. Outflows at Grand Coulee have ranged between 114.2 and 154.8 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2451.9 feet (8-30-12) and has drafted 1.3 feet over the last week. Operators plan to gradually reduce outflows to 8.0 Kcfs by early September. Outflows at Libby Dam were 12 Kcfs last week.

Hungry Horse is currently at an elevation of 3553.6 feet (8-30-12) and has drafted 1 foot over the last week. Outflows at Hungry Horse have been 2.2 and 2.6 Kcfs last week.

Dworshak is currently at an elevation of 1535.7 feet (8-30-12) and has drafted 8.3 feet over the last week for temperature and flow augmentation. Operators plan to draft Dworshak to 1535 feet by the end of August. Outflows from Dworshak have ranged between 8.7 and 9.6 Kcfs the past week.

The Brownlee Reservoir remained steady over the past week with an elevation of 2056.7 feet on August 30th, 2012. Over the last week, outflows at Brownlee have ranged between 7.4 and 12 Kcfs.

The Biological Opinion summer flow objective at Lower Granite (June 21st to August 31st) is 52 Kcfs; over the summer period flows at Lower Granite have 42.6 Kcfs and 23.7 Kcfs over the last week.

The Summer Biological Opinion Flow Objective is 200 Kcfs at McNary Dam (began July 1st and will end August 31st). Over the summer period, flows at McNary have averaged 266.3 Kcfs and 171.4 Kcfs over the last week.

Spill:

The summer spill program began on June 21 in the Snake River and July 1 at the lower Columbia River projects, at projects where dates were not modified for research purposes.

Snake River flows have continued to decrease over the past week. At Lower Granite Dam spill did not always meet the Court Ordered summer spill level of 18 Kcfs due to low flows and the allowed operation of one turbine unit as a powerhouse minimum flow. At Little Goose Dam a flat spill operation was initiated to maintain compatibility with Lower Granite and Lower Monumental operations. The flat spill level was reduced from 9.3 to 7.5 Kcfs. At Lower Monumental Dam the summer spill level of 17 Kcfs was not always met due to low flows and powerhouse minimums. At Ice Harbor Dam the Court Order "test-like" conditions were completed as of July 13th and spill reverted back to the 45 Kcfs during the day and gas cap spill during the night. However, due to low flows, spill is presently occurring as all flow in excess of that needed to operate one turbine unit at this project.

Project	Day/Night Spill
Lower Granite	18 Kcfs/18 Kcfs
Little Goose	30%/30%
Lower Monumental	17 Kcfs/17 Kcfs
Ice Harbor	45 Kcfs/gas cap

Summer spill for fish passage at the Lower Columbia projects began on July 1. Flows declined steadily in the lower Columbia River over the past week. Spill at McNary Dam changed to the summer level of 50% early to accommodate research studies and met the Court Order over the past week. Spill at John Day Dam met the 30% instantaneous spill level. At The Dalles Dam, spill met the 40% daily spill level over the past week. Spill at Bonneville Dam completed the summer test levels comparing 95 Kcfs for 24 hours versus 85 Kcfs during daytime hours and gas cap spill at night on July 20th. Spill from July 21st to the end of August will be 75 Kcfs during the day and gas cap spill at night. Spill met these levels. The 2012 planned summer spill program will end at midnight on August 31st, 2012.

Project	Day/Night Spill
McNary	50%/50%
John Day	30%/30%
The Dalles	40%/40%
Bonneville	75 Kcfs/gas cap

Gas bubble trauma samples were taken this past week at McNary and Bonneville dams. There was one fish detected with minor signs of GBT detected in the samples this past week at Bonneville Dam on August 28th. Sampling for GBT has ended at the other dams due to low numbers of fish.

Smolt Monitoring:

Smolt monitoring activities are ongoing at all seven SMP dams (BON, JDA, MCN, LGR, LGS, LMN, and RIS).

Subyearling Chinook were the dominant species of salmonid at all SMP dams over the past week. When compared to last week, subyearling Chinook passage decreased all SMP sites this week except at JDA. However, the increase in subyearling Chinook passage at JDA this week is likely due to the fact that normal sampling operations were resumed at this project, after about two weeks of reduced sampling due to high temperatures. Although subyearling Chinook dominate the collections, some of the SMP sites continue to collect a small number of spring migrants.

High temperature sampling protocols were terminated on the morning of August 23rd, as temperatures at BON returned to safe levels. The August 24th sample was the first full sample with normal sampling operations since August 14th at BON. Despite the switch to normal sampling operations this week, subyearling Chinook numbers at BON decreased this week, with a daily average passage index of about 3,525 per day, compared to last week's daily average passage index of about 5,700. As with last week, sockeye were the only spring migrants collected at BON this week and only pacific lamprey macropthalmia were collected at BON this week. The daily collections for pacific lamprey macropthalmia ranged from 0 to 14 per day. All but three screens have been pulled from the juvenile bypass system at the second powerhouse. These screens are expected to remain out for the remainder of the 2012 SMP season. The three screens that remain are in units 11, 12, and 18. Pulled screens will likely result in bias collection estimates, as not as many fish will be

guided into the juvenile bypass system in the second powerhouse.

High temperature sampling protocols remained in effect at JDA until the morning of August 25th. The August 26th sample was the first full sample with normal sampling operations since August 13th at JDA. With full sample operations back in effect this week, the daily average passage index for subyearling Chinook at JDA increased this week. The daily average passage index for subyearling Chinook at JDA this week was about 10,300 per day, compared to about 4,100 per day last week. Sockeye were the only spring migrants that were collected at JDA this week. Furthermore, both pacific lamprey ammocoetes and macropthalmia were collected at JDA this week.

Passage of subyearling Chinook at MCN decreased this week, when compared to last week. The daily average passage index for subyearling Chinook at MCN this week was about 10,700 per day, compared to nearly 37,500 per day last week. As with last week, sockeye were the only spring migrants collected at MCN this week. Daily average collections of pacific lamprey macropthalmia were similar this week to those from last week. This week's daily average collection for pacific lamprey macropthalmia at MCN was about 32 per day, compared to about 36 per day last week. No pacific lamprey ammocoetes were collected at MCN this week. A power outage at MCN on the morning of Friday, August 24th caused the project to terminate the loading of transportation trucks and initiate primary bypass until power was restored. Fish collection was restored later that afternoon. Fish that were to be loaded for transport on Friday were held until Saturday, where they were loaded onto the truck for transport. Transportation from MCN has continued every day since then.

Subyearling Chinook passage at LGR decreased this week, when compared to last week. The daily average passage index for subyearling Chinook at LGR this week was about 180 per day. Last week's daily average passage index for subyearling Chinook was about 400 per day. Some coho, sockeye, and steelhead were also collected at LGR this week, but in very small numbers. Dworshak Dam had voluntary spill of up to 3 Kcfs from July 10th through August 17th, which means that sockeye juveniles collected at LGR over this period may be kokanee from Dworshak reservoir. Two pacific lamprey ammocoetes were sampled in the August 27th sample. These were the only lamprey juveniles that were sampled at LGR this week.

When compared to last week, passage of subyearling Chinook at LGS decreased while that for LMN remained very similar. The daily average passage index for subyearling Chinook at LGS this week was about 80 per day, compared to about 380 per day last week. This week's daily average passage index for subyearling Chinook at LMN was about 20 per day, compared to about 26 per day last week. Very few spring migrants were collected at LGS and LMN this week. Finally, LGS collected both pacific lamprey ammocoetes and macropthalmia this week while only one pacific lamprey ammocoete was collected at LMN this week.

Passage of subyearling Chinook at RIS continued to decrease this week. This week's daily average passage index for subyearling Chinook at RIS was about 40 per day, compared to 60 per day last week. Sockeye and steelhead were the only species of salmonid that were collected at RIS this week, but in very small numbers. Finally, both pacific lamprey ammocoetes and macropthalmia were collected at RIS this week. Today's sample (Friday, August 31st) is the last sample for the 2012 SMP season from RIS.

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 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:

Counting of fall Chinook at Bonneville Dam (BON) began on August 1st. When compared to last

week, the daily counts for fall Chinook at BON have increased this week. Over the past week, daily counts of fall Chinook at BON have ranged from 3,174 to 7,375. The cumulative adult fall Chinook count for 2012 so far is 58,491, which is about 1.2 times greater than the 2011 count at this time and about 79.7% of the 10-year average count. Fall Chinook jack counts have also increased over the past week. Daily counts of fall Chinook jacks at BON have ranged between 738 to 1,565 this week. The cumulative fall Chinook jack count at BON for 2012 so far is 13,105, which is about 1.3 times greater than the 2011 count at this time and 1.4 times greater than the 10-year average count. Counting for fall Chinook at McNary Dam (MCN) began on August 9th. The cumulative adult fall Chinook count at MCN for 2012 so far is 11,688 is about 96% of the 2011 count and about 1.2 times the 10-year average. The cumulative fall Chinook jack count for 2012 is 2,099, which is about 83% of the 2011 count and about 1.1 times 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, particularly in the Snake River. These higher steelhead counts at upstream sites are due to the fact that some steelhead adults over-winter in the mainstem, for instance between Ice Harbor and Lower Granite, and then resume their migration upstream the following year. This week's daily steelhead counts at BON have remained similar to last week's daily counts. Daily steelhead counts at BON have ranged from 1,441 to 2,588 per day. The cumulative adult steelhead at BON for 2012 is 169,655, which is about 61.5% of the 2011 count and 62.1% of the 10-year average count. The 2012 cumulative wild adult steelhead count at BON is 66,309, which is about 63% of the 2011 count and 72% of the 10 year average count. The cumulative adult steelhead count at Lower Granite Dam (LGR) is 12,496, which is about 35% of the 2011 count and 56% of the 10 year average count. For wild steelhead, the 2012 cumulative count at LGR is 5,580, which is 39% of the 2011 count and nearly 74% of the 10 year average count. At Willamette Falls Dam, the cumulative 2012 count for steelhead so far is 28,938, as of August 26th. The 2012 steelhead count is about 1.06 times greater than the 2011 and 10-year average counts.

Adult sockeye returns for 2012 are virtually over for the Columbia River basin. Over the past week, only two sockeye adults have been counted at BON. The cumulative adult sockeye count at BON is 515,668, which is about 2.9 times greater than the 2011 count and 3.9 times greater than the 10-year average count. The vast majority of returning sockeye adults are destined to spawn in the Upper Columbia, mainly in Lake Wenatchee and Osoyoos Lake. The 2012 cumulative adult sockeye count at Rock Island Dam (RIS) is 410,547, as of August 27th) is 410,547, which is 2.8 times the 2011 count and 3.5 times the 10-year average. Some of the returning sockeye adults are of Snake River origin, from the Stanley Basin in Idaho. The cumulative 2012 adult sockeye count at LGR is 456, which is 30% of the 2011 count and 80% of the 10-year average count.

Coho adults began arriving at BON in late July. When compared to last week, the daily counts of adult coho at BON have increased this week. This week's daily adult coho counts have ranged from 282 to 734. So far, 4,182 adult coho have been counted at BON in 2012. This cumulative count is 45% of the 2011 count and the 10-year average. The cumulative count for coho jacks at BON is 488, which is about 81% of the 2011 count and 79% of the 10-year average count. Finally, the 2012 cumulative shad count at BON is 2,432,384. This year's cumulative shad count is about 2.6 times greater than the 2011 and 83% of the 10-year average count.

Hatchery Releases Last Two Weeks

No releases to report.

Hatchery Releases Next Two Weeks

No releases to report.

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

	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
08/17/2012	156.4	0.1	150.3	0.0	153.9	10.0	155.2	0.0	157.4	28.6	167.2	33.9	167.5	36.7
08/18/2012	149.2	0.1	149.9	0.0	152.5	13.8	150.0	0.0	149.7	26.8	157.9	35.8	158.2	49.7
08/19/2012	155.3	0.1	157.9	0.0	165.0	15.3	166.1	12.3	168.5	0.5	179.7	50.0	183.3	56.0
08/20/2012	139.9	0.1	148.0	0.0	146.0	25.3	147.9	2.5	152.2	0.0	158.2	32.4	160.1	45.1
08/21/2012	155.4	0.1	151.0	0.0	152.3	39.8	152.0	13.5	152.1	0.0	163.2	30.7	163.9	56.8
08/22/2012	149.2	0.1	145.4	0.0	149.9	37.8	150.7	8.8	154.1	0.0	164.2	17.3	159.6	50.9
08/23/2012	148.1	0.1	145.6	0.0	148.8	24.4	148.9	8.7	151.1	0.0	159.9	21.5	159.6	43.1
08/24/2012	142.3	0.1	132.6	0.0	137.2	1.9	139.4	0.7	145.3	0.0	154.3	5.3	150.8	17.3
08/25/2012	134.3	0.1	130.5	0.0	132.3	0.0	133.1	0.0	138.9	0.0	151.7	2.0	146.7	7.4
08/26/2012	114.3	0.1	112.9	0.0	119.5	0.0	126.5	0.0	126.1	0.0	147.5	1.9	143.9	7.4
08/27/2012	125.1	0.1	119.1	0.0	119.5	0.0	117.2	0.0	120.2	0.0	137.2	1.3	135.5	6.3
08/28/2012	134.6	0.1	135.9	0.0	132.3	0.0	133.0	0.0	135.5	0.0	135.4	1.6	128.2	6.9
08/29/2012	146.6	0.1	143.2	0.0	135.9	5.7	133.7	0.0	138.3	0.0	134.7	1.9	129.6	7.0
08/30/2012	154.9	0.1	146.9	0.0	147.4	12.6	143.8	0.0	147.0	0.0	150.9	11.4	143.3	7.5

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

	Dworshak		Brownlee	Hells Canyon	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
Date	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
08/17/2012	11.0	1.6	10.1	8.9	26.4	13.6	28.8	9.3	26.9	13.9	26.2	15.3
08/18/2012	9.5	0.0	9.7	9.4	25.3	12.2	25.4	9.3	26.2	13.4	27.7	17.3
08/19/2012	9.5	0.0	10.9	8.9	23.2	10.4	25.1	9.3	23.8	11.5	25.1	14.5
08/20/2012	9.5	0.0	10.3	10.3	23.0	10.4	24.6	9.3	24.3	12.1	24.6	14.1
08/21/2012	9.6	0.0	10.5	9.2	26.5	13.9	27.6	9.3	27.0	14.7	28.1	17.8
08/22/2012	9.6	0.0	10.5	9.2	24.3	11.6	26.1	9.3	25.3	12.6	28.0	17.7
08/23/2012	9.6	0.0	10.3	9.8	24.2	11.4	25.5	9.3	25.3	12.4	25.6	15.3
08/24/2012	9.6	0.0	9.1	9.6	24.2	11.4	24.1	9.3	23.2	10.5	25.4	15.3
08/25/2012	9.6	0.0	9.0	9.2	24.2	11.4	27.1	9.3	26.1	13.4	26.4	16.2
08/26/2012	9.6	0.0	9.7	9.3	23.9	11.3	26.4	9.3	25.1	12.4	26.4	15.9
08/27/2012	8.7	0.0	9.7	10.3	23.4	10.8	23.8	9.3	23.8	11.1	25.3	15.1
08/28/2012	8.7	0.0	10.1	11.2	22.9	10.2	23.4	8.5	23.3	10.8	23.9	13.8
08/29/2012	8.7	0.0	10.0	9.7	23.4	10.7	24.5	7.5	23.0	10.4	24.2	14.0
08/30/2012	8.7	0.0	---	---	25.2	12.5	27.2	7.6	27.6	14.0	28.7	18.3

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

	McNary		John Day		The Dalles		Bonneville			
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
08/17/2012	208.2	104.3	196.4	59.0	183.0	73.0	181.0	89.3	17.6	61.7
08/18/2012	200.9	100.4	191.5	57.5	178.0	71.2	194.8	89.7	27.1	65.5
08/19/2012	193.0	96.7	176.0	53.0	160.7	64.4	176.1	90.2	10.4	63.0
08/20/2012	203.0	101.8	197.6	59.3	183.4	73.6	193.4	89.3	26.0	65.6
08/21/2012	190.6	95.6	174.4	52.4	163.6	65.4	182.6	89.6	15.0	65.6
08/22/2012	202.5	101.5	200.5	60.0	187.3	74.8	197.6	89.6	29.9	65.7
08/23/2012	195.7	98.3	179.7	53.9	162.5	65.1	182.5	90.8	21.0	58.3
08/24/2012	191.8	96.1	197.0	59.1	183.0	73.2	189.9	92.0	24.4	61.1
08/25/2012	188.2	94.2	180.8	54.5	169.6	67.7	184.3	92.2	14.4	65.3
08/26/2012	171.7	86.0	150.6	45.0	139.1	55.6	162.1	91.4	1.0	57.3
08/27/2012	184.8	92.5	180.5	54.3	165.5	66.1	183.1	91.2	47.1	32.4
08/28/2012	159.0	79.5	142.1	42.6	134.3	53.7	155.6	90.6	17.8	34.8
08/29/2012	168.6	84.4	171.7	51.4	157.9	63.2	163.3	91.1	26.2	33.6
08/30/2012	173.1	86.8	157.9	47.3	148.8	59.4	155.1	91.1	9.9	41.7

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

	Hungry H. Dnst				Boundary				Grand Coulee				Grand C. Tlwr				Chief Joseph			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
8/17	105.6	106.0	106.3	24	114.2	114.6	114.9	20	114.3	114.7	115.0	24	111.8	112.5	113.5	20	113.3	113.5	113.8	24
8/18	105.5	105.9	106.5	24	114.8	115.1	115.6	24	114.2	114.8	115.1	24	111.5	112.8	114.0	24	113.3	113.6	113.9	24
8/19	105.6	106.0	106.3	24	115.0	115.4	115.7	23	114.2	114.5	114.8	24	112.0	112.9	113.8	23	113.0	113.1	113.4	24
8/20	105.8	106.2	106.6	24	114.4	114.8	115.1	21	113.5	113.8	114.2	24	110.9	111.7	112.8	21	112.8	113.0	113.5	24
8/21	105.9	106.3	106.8	24	114.2	114.4	114.8	19	113.2	113.5	114.0	24	111.9	112.4	113.3	19	112.4	112.6	112.8	24
8/22	105.7	105.8	106.0	24	113.7	114.0	114.4	22	113.0	113.3	113.7	24	111.1	111.8	112.6	22	111.7	111.9	112.3	24
8/23	105.6	106.1	106.5	24	113.9	114.0	114.1	20	112.9	113.3	113.7	24	110.7	111.7	112.6	20	111.2	111.4	111.7	24
8/24	105.5	105.8	106.0	24	112.6	113.1	114.1	19	111.9	112.2	112.8	24	110.4	111.0	111.8	19	110.6	110.9	111.1	24
8/25	105.0	105.2	105.6	24	111.8	112.0	112.3	21	111.8	112.2	112.8	23	110.4	111.2	111.9	21	110.6	110.8	111.0	24
8/26	104.9	105.4	105.7	24	111.7	111.9	112.3	22	112.0	112.6	113.3	24	110.2	110.7	111.4	22	111.3	111.7	112.0	24
8/27	104.7	105.1	105.7	24	111.2	111.4	111.6	22	111.5	111.9	112.2	24	110.2	110.7	111.2	22	110.7	111.0	111.3	24
8/28	104.2	104.5	105.0	24	111.7	111.8	112.5	19	111.0	111.3	111.6	24	109.7	110.3	111.1	19	110.2	110.7	111.2	22
8/29	104.1	104.8	105.3	24	111.1	111.6	112.6	23	110.9	111.2	111.7	24	109.4	109.9	110.5	23	109.7	109.9	110.1	18
8/30	103.7	104.2	104.7	24	110.9	111.2	111.3	23	110.5	111.1	114.4	24	109.2	109.7	110.1	23	109.3	109.4	109.7	24

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

	Chief J. Dnst				Wells				Wells Dwnstrm				Rocky Reach				Rocky R. Tlwr			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
8/17	112.5	112.8	113.3	24	113.2	113.7	114.2	24	113.9	114.6	115.1	24	112.5	113.1	113.3	24	111.3	111.8	112.2	24
8/18	113.0	113.4	113.7	24	113.8	114.4	115.0	24	114.5	115.4	116.1	24	113.5	113.8	114.1	24	112.2	112.8	113.2	24
8/19	112.3	112.6	113.3	24	113.5	113.8	114.3	24	114.9	115.4	116.5	24	113.2	113.5	113.9	24	113.8	115.0	115.4	24
8/20	111.9	112.1	112.3	24	112.8	113.0	113.6	24	116.3	119.6	121.7	24	113.3	113.4	113.6	24	112.7	113.3	115.0	24
8/21	111.5	111.8	112.0	24	112.5	112.9	113.5	24	119.8	121.6	122.4	24	113.4	113.7	114.5	24	113.9	115.3	117.3	24
8/22	110.7	110.9	111.1	24	111.4	111.7	112.0	24	118.8	121.2	121.6	24	116.1	116.7	117.1	24	115.6	116.5	117.5	24
8/23	110.2	110.5	110.8	24	110.9	111.5	112.5	24	116.6	120.7	123.7	24	116.8	117.6	117.8	24	116.3	117.0	118.2	24
8/24	109.4	109.8	110.1	24	109.4	109.8	110.3	24	110.2	111.5	116.4	24	115.4	116.4	116.7	24	114.5	115.4	118.1	24
8/25	109.4	109.9	110.3	24	110.2	111.0	111.9	24	110.0	111.1	111.9	24	111.1	111.5	112.5	24	110.4	110.9	112.3	24
8/26	110.2	110.8	111.3	24	110.8	111.6	112.4	24	110.6	111.5	112.4	24	108.7	109.1	109.5	24	108.1	108.5	109.1	24
8/27	109.6	110.1	110.5	24	110.1	110.6	111.2	24	109.9	110.5	111.1	24	108.4	108.6	109.0	24	107.5	107.7	108.0	24
8/28	109.1	109.8	110.4	22	110.0	110.6	111.2	24	109.8	110.6	111.2	24	108.2	108.3	108.5	24	107.4	107.6	107.7	24
8/29	108.7	109.0	109.2	18	108.8	109.2	109.6	24	109.5	110.6	112.8	24	107.7	107.9	108.1	24	106.9	107.2	107.4	24
8/30	108.2	108.7	109.1	24	109.4	109.8	110.4	24	111.3	113.3	115.0	24	107.8	108.3	108.7	24	107.0	107.5	107.9	24

Total Dissolved Gas Saturation at Mid Columbia River Sites

	Rock Island				Rock I. Tlwr				Wanapum				Wanapum Tlwr				Priest Rapids			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
8/17	111.3	111.8	112.4	24	114.9	115.8	116.1	24	114.2	114.7	115.0	24	114.3	114.8	115.0	24	114.5	115.7	116.3	24
8/18	112.1	113.0	113.5	24	114.8	116.2	116.9	24	115.0	115.5	116.0	24	115.1	115.8	117.0	24	114.2	114.5	115.1	24
8/19	112.4	112.9	113.2	24	112.5	113.0	115.4	24	115.1	115.5	116.3	24	114.8	115.4	117.0	24	114.7	115.5	117.3	24
8/20	112.4	112.9	113.2	24	112.3	112.7	112.8	24	113.7	113.9	114.5	24	114.0	114.2	114.6	24	113.0	113.4	113.9	24
8/21	112.0	112.6	113.2	24	111.9	112.5	113.0	24	112.5	112.9	113.4	24	112.9	113.3	113.8	24	112.4	112.8	113.0	24
8/22	113.8	115.2	116.3	24	113.7	115.0	116.0	24	109.8	110.2	111.0	24	110.2	111.0	112.2	24	110.1	110.5	111.2	24
8/23	114.5	115.3	116.2	24	114.5	115.2	116.0	24	108.8	109.0	109.1	24	110.8	112.5	114.5	24	108.8	109.1	109.6	24
8/24	114.3	115.3	116.0	24	114.0	115.0	115.5	24	108.0	108.5	108.9	24	108.3	109.1	110.1	24	107.3	107.6	107.9	24
8/25	111.5	111.9	112.9	24	111.3	111.6	112.9	24	110.7	111.7	112.2	24	111.2	112.3	112.5	24	108.0	108.4	108.8	24
8/26	108.6	109.0	110.5	24	108.6	109.0	110.5	24	113.0	113.8	114.4	24	113.0	113.6	113.9	24	110.4	111.3	112.2	24
8/27	107.4	107.9	108.3	24	103.9	107.2	107.8	24	111.5	112.1	113.5	24	111.1	111.5	112.6	24	110.1	110.4	110.5	24
8/28	133.5	148.0	148.2	24	106.6	107.7	108.2	24	108.8	109.3	110.0	24	108.8	109.3	110.1	24	109.1	109.5	109.9	24
8/29	125.1	142.6	147.8	24	106.8	107.5	107.9	24	106.1	106.5	107.1	24	106.2	106.5	107.1	24	106.9	107.1	107.3	24
8/30	107.1	107.6	108.0	24	107.1	107.6	107.8	24	106.5	107.2	107.7	24	106.9	107.9	109.3	24	105.9	106.3	106.4	24

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

	Priest R. Dnst				Pasco				Dworshak				Clrwtr-Peck				Anatone			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
8/17	115.7	116.5	117.4	24	106.6	108.0	108.8	24	103.2	103.5	103.7	24	103.4	104.4	105.4	24	101.7	103.2	104.6	24
8/18	116.3	116.9	117.8	24	106.4	107.3	108.1	24	101.4	101.8	102.6	24	101.3	102.0	102.6	22	101.8	103.2	104.6	24
8/19	116.7	117.1	117.4	24	104.6	105.4	106.4	24	101.4	101.7	102.1	24	99.9	100.8	101.6	24	101.4	102.7	104.1	24
8/20	115.2	116.1	116.7	24	103.8	104.1	104.4	24	101.2	101.5	101.8	24	98.9	99.9	100.8	23	101.3	102.7	104.3	24
8/21	115.0	115.2	115.5	24	101.0	101.7	101.9	24	101.3	101.6	101.9	24	98.3	98.7	99.7	21	101.1	102.2	103.5	24
8/22	113.5	114.0	115.2	24	100.9	101.1	101.3	24	101.1	101.4	101.7	24	98.2	98.5	99.2	16	100.7	101.9	103.3	24
8/23	111.9	112.4	113.3	24	103.0	108.0	110.6	23	101.3	101.8	102.7	24	98.2	98.2	99.3	12	100.8	102.0	103.4	24
8/24	109.0	109.9	110.9	24	107.0	107.8	108.2	24	100.8	101.1	101.4	24	98.0	98.0	98.7	11	100.4	101.5	102.6	24
8/25	109.2	110.0	110.4	24	107.0	107.8	108.3	24	101.2	101.7	102.1	24	98.9	99.2	99.8	14	101.2	102.7	104.0	24
8/26	111.6	111.9	112.2	24	107.2	108.0	108.6	24	101.4	101.6	101.8	24	98.4	99.1	99.5	24	101.2	102.2	103.3	24
8/27	111.3	111.6	112.0	24	107.4	108.5	109.0	24	100.8	101.0	101.4	24	97.6	97.7	98.2	16	100.8	102.0	103.2	24
8/28	109.8	110.3	110.6	24	108.1	108.9	109.7	24	100.9	101.3	101.7	24	96.8	96.8	97.4	3	101.2	102.4	103.6	24
8/29	107.3	107.7	108.1	24	106.4	106.9	107.1	24	100.6	100.9	101.2	24	96.3	96.3	96.3	1	100.8	102.0	103.3	24
8/30	106.6	107.0	107.3	24	105.9	106.5	107.0	24	100.6	100.9	101.2	24	102.7	102.9	103.9	14	101.9	103.6	105.3	24

Total Dissolved Gas Saturation Data at Snake River Sites

	Clrwtr-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		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
8/17	103.5	105.5	107.0	24	102.6	102.8	103.0	24	114.7	115.3	116.1	24	111.3	111.5	111.9	24	107.5	108.0	108.4	24
8/18	103.3	105.1	106.5	24	103.1	103.5	104.4	24	114.5	115.8	116.4	24	112.5	112.8	112.9	24	107.2	107.8	108.3	24
8/19	103.0	104.9	106.3	24	103.2	103.4	103.8	24	112.6	112.9	113.2	24	113.0	113.3	113.6	24	107.2	107.9	108.4	24
8/20	102.9	104.7	106.1	24	102.5	102.6	102.9	24	112.7	113.2	113.8	24	113.1	113.3	113.4	24	108.1	109.1	109.6	24
8/21	102.8	104.4	105.7	24	102.3	102.5	102.7	24	114.8	115.9	116.3	24	113.1	113.3	113.5	24	109.5	110.1	111.1	24
8/22	102.6	104.3	105.7	23	101.7	101.8	102.0	24	112.9	113.6	114.3	24	113.2	113.7	114.0	24	108.4	108.6	109.0	24
8/23	102.3	104.1	105.5	24	101.8	102.1	102.4	24	113.0	113.5	114.2	24	112.0	112.6	113.6	24	108.0	108.6	109.4	24
8/24	102.0	103.7	105.0	23	101.2	101.4	101.7	24	112.9	113.7	114.3	24	111.3	111.9	112.4	24	106.7	107.3	107.7	24
8/25	102.2	104.1	105.4	24	101.8	102.0	102.4	24	113.1	113.6	114.1	24	108.9	109.2	109.4	24	107.5	107.8	108.2	24
8/26	102.0	103.2	104.2	23	101.7	101.8	102.0	24	113.4	113.8	114.1	24	108.0	108.3	108.6	24	106.5	107.0	107.6	24
8/27	102.0	103.9	105.2	24	100.5	100.6	101.2	24	112.3	113.0	113.5	24	108.2	108.3	108.4	24	106.3	106.8	108.1	24
8/28	102.4	104.0	105.5	23	99.8	100.0	100.3	24	111.9	112.9	114.1	24	107.5	107.7	108.0	24	105.8	106.1	106.2	24
8/29	102.1	103.7	105.2	24	99.7	100.0	100.3	24	112.5	114.3	116.2	24	106.8	106.9	107.0	24	105.7	106.3	106.9	24
8/30	102.3	104.1	105.8	23	99.9	100.4	100.7	24	114.9	115.7	116.6	24	105.8	106.1	106.3	24	107.7	109.1	111.0	24

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

	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		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
8/17	107.0	107.1	107.3	24	113.7	114.6	116.2	24	112.3	112.5	112.8	24	111.1	111.8	112.6	24	---	---	---	0
8/18	106.8	107.1	107.5	24	114.1	115.3	116.0	24	111.5	111.7	112.0	24	112.6	113.4	113.6	24	---	---	---	0
8/19	107.6	107.9	108.1	24	112.9	113.2	113.5	24	110.7	110.9	111.2	24	111.6	112.3	113.4	24	---	---	---	0
8/20	107.6	107.7	107.8	24	113.1	113.5	114.0	24	110.3	110.5	110.6	24	111.5	112.3	113.3	24	---	---	---	0
8/21	107.9	108.1	108.4	24	114.7	116.0	116.9	24	110.4	110.5	110.7	24	111.7	112.9	114.3	24	---	---	---	0
8/22	107.5	107.8	108.1	24	113.3	113.6	115.1	24	110.2	110.4	110.7	24	111.0	112.0	115.0	24	---	---	---	0
8/23	107.4	107.6	107.8	24	113.4	113.9	114.3	24	110.5	110.6	110.8	24	110.7	111.2	111.9	24	---	---	---	0
8/24	106.3	106.6	106.7	24	112.5	112.8	113.2	24	109.0	109.2	109.6	24	110.7	111.5	113.1	24	---	---	---	0
8/25	106.0	106.2	106.3	24	113.9	115.0	115.9	24	109.4	109.6	109.8	24	111.2	112.2	113.1	24	---	---	---	0
8/26	106.9	107.1	107.2	24	113.3	113.6	114.0	24	109.8	109.9	110.0	24	111.5	112.7	113.6	24	---	---	---	0
8/27	106.3	106.4	106.5	24	112.9	113.2	113.6	24	108.7	108.8	109.3	24	110.7	111.4	112.0	24	---	---	---	0
8/28	105.9	106.2	106.3	24	112.8	113.2	113.6	24	108.4	108.5	108.7	24	110.3	110.8	111.5	24	---	---	---	0
8/29	105.2	105.4	105.4	24	112.5	113.0	115.2	24	108.1	108.3	108.5	24	110.2	110.9	111.6	24	---	---	---	0
8/30	105.3	105.5	105.7	24	114.5	115.9	116.7	24	108.5	108.8	109.1	23	111.7	112.5	113.3	23	---	---	---	0

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

	McNary-Wash				McNary Tlwr				John Day				John Day Tlwr				The Dalles			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr
8/17	110.3	110.5	110.8	24	116.8	117.1	117.5	20	110.8	111.3	111.9	24	113.8	114.6	115.2	24	111.9	112.1	112.4	24
8/18	109.7	109.9	110.4	24	116.9	117.1	117.7	14	110.9	111.2	111.7	24	115.1	115.6	116.0	24	111.3	111.8	112.5	24
8/19	109.9	110.4	110.6	24	115.9	117.4	118.2	24	110.6	110.9	111.2	24	114.2	114.7	115.4	24	109.4	110.1	110.8	24
8/20	111.3	111.6	111.8	24	116.5	116.9	117.1	24	109.3	109.5	110.1	24	114.1	114.6	115.3	24	108.4	108.8	109.3	24
8/21	110.8	111.2	111.3	24	116.3	116.7	117.3	24	108.3	108.6	108.9	24	114.2	114.6	114.9	24	108.0	108.9	109.6	24
8/22	108.7	109.0	109.2	24	116.1	117.0	117.3	23	106.4	106.7	107.2	24	114.3	114.9	115.6	24	106.6	107.1	107.8	24
8/23	108.5	109.2	109.3	24	115.7	116.2	116.6	24	104.8	105.1	105.7	24	113.5	113.9	114.3	24	105.9	106.8	107.7	24
8/24	105.9	106.3	106.8	24	115.7	116.3	116.9	24	103.3	103.7	104.4	24	113.0	113.3	113.6	24	104.8	105.7	107.4	24
8/25	107.2	107.7	108.4	24	115.9	116.5	117.1	24	104.3	104.9	105.6	24	112.9	113.4	113.9	24	108.0	108.2	108.5	24
8/26	107.1	107.5	108.3	24	114.6	114.9	115.2	24	104.5	104.8	105.1	24	113.1	113.7	114.3	24	107.8	108.5	108.7	24
8/27	106.5	106.8	107.4	24	115.2	115.6	116.2	24	103.4	103.6	103.9	24	112.8	113.3	113.6	24	106.0	106.2	106.6	24
8/28	106.4	106.7	106.9	24	114.7	115.0	115.4	24	103.4	103.6	103.9	24	112.8	113.4	113.9	24	106.9	107.2	107.3	24
8/29	105.1	105.5	106.1	24	114.7	115.2	116.3	24	103.2	103.5	103.7	24	113.2	113.6	114.1	24	105.7	106.0	106.5	24
8/30	106.6	107.4	108.0	24	115.6	116.1	116.6	24	104.3	105.0	105.3	24	113.2	113.9	114.2	24	107.3	107.6	107.7	24

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

	The Dalles Dnst				Bonneville				Warrendale				Camas\Washougal				Cascade Island			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
8/17	116.6	117.6	118.2	24	113.5	114.2	114.6	24	117.2	118.0	118.6	24	114.0	116.7	118.7	24	117.4	118.7	119.9	22
8/18	116.4	116.7	116.9	24	113.7	114.3	114.7	24	116.0	116.7	117.8	24	113.2	114.2	115.9	24	117.4	118.7	120.0	24
8/19	114.8	115.4	115.9	24	110.0	111.3	112.1	24	115.7	116.6	117.5	24	112.4	113.7	115.0	24	117.0	118.4	119.4	24
8/20	114.4	115.3	115.6	24	107.3	107.6	107.8	24	114.0	115.5	116.7	24	112.0	113.2	114.6	24	116.9	118.4	119.9	24
8/21	113.9	114.3	114.5	24	107.1	107.3	107.5	24	113.9	114.7	115.8	24	110.2	111.5	112.7	24	116.7	118.3	119.8	24
8/22	113.0	113.7	114.7	24	106.2	106.4	106.6	24	113.6	115.5	116.8	24	110.3	112.0	113.6	24	116.9	118.3	119.8	24
8/23	112.4	112.9	113.2	24	105.5	105.8	106.1	24	112.7	114.3	116.0	24	109.4	110.7	112.2	24	116.6	117.7	120.3	22
8/24	112.3	113.2	113.7	24	105.5	106.0	106.6	24	113.8	115.6	117.0	24	109.9	112.8	115.1	24	116.6	117.1	120.4	17
8/25	114.2	115.2	116.0	24	107.7	108.3	109.8	24	114.5	115.6	117.0	24	111.0	112.5	113.9	24	117.1	118.6	120.3	23
8/26	113.5	114.3	115.0	24	110.7	111.2	111.4	24	115.7	116.6	118.0	24	111.4	113.1	114.5	24	116.1	116.5	120.9	16
8/27	112.8	113.8	114.3	24	107.9	108.2	109.0	24	113.9	116.6	118.3	24	112.8	115.0	117.0	24	117.2	119.0	120.8	24
8/28	113.2	113.8	114.5	24	107.4	107.7	107.9	24	114.2	115.1	116.9	24	112.1	113.8	115.1	24	116.6	118.4	119.8	24
8/29	112.9	113.4	114.1	24	107.4	107.7	108.0	24	114.8	116.2	117.0	24	112.5	114.6	116.4	24	116.6	118.6	120.2	24
8/30	113.9	114.8	115.2	24	108.5	109.2	109.5	24	115.8	116.5	117.3	24	113.3	114.9	116.0	24	117.0	119.3	121.7	24

Two-Week Summary of Passage Indices

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)
08/17/2012	*	---	---	---	---	0	0	0	0	0	0	---
08/18/2012	*	---	---	---	---	2	1	0	0	0	---	0
08/19/2012	*	---	---	---	---	0	0	0	0	0	---	---
08/20/2012	*	---	---	---	---	2	0	0	0	0	---	0
08/21/2012	*	---	---	---	---	0	0	0	0	0	0	---
08/22/2012	*	---	---	---	---	0	0	0	0	0	---	0
08/23/2012	*	---	---	---	---	0	0	0	0	0	---	---
08/24/2012	*	---	---	---	---	0	0	0	0	0	0	0
08/25/2012	*	---	---	---	---	0	0	0	0	0	---	0
08/26/2012	*	---	---	---	---	0	0	0	0	0	0	0
08/27/2012	*	---	---	---	---	0	0	0	0	0	0	0
08/28/2012	*	---	---	---	---	0	0	0	0	0	0	0
08/29/2012	*	---	---	---	---	0	0	0	0	0	0	0
08/30/2012	*	---	---	---	---	0	0	0	0	0	0	0
08/31/2012	*	---	---	---	---	---	0	---	---	---	0	0
Total:		**0**	**0**	**0**	**0**	**4**	**1**	**0**	**0**	**0**	**0**	**0**
# Days:		**0**	**0**	**0**	**0**	**14**	**15**	**14**	**14**	**14**	**9**	**11**
Average:		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
YTD		**58,098**	**10,919**	**26,417**	**13,494**	**4,042,662**	**2,266,006**	**754,588**	**25,797**	**2,179,373**	**4,290,562**	**2,538,937**

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)
08/17/2012	*	---	---	---	---	515	279	22	23	44,919	3,678	---
08/18/2012	*	---	---	---	---	452	443	25	80	39,987	---	4,404
08/19/2012	*	---	---	---	---	388	363	38	49	28,613	---	---
08/20/2012	*	---	---	---	---	346	343	20	39	27,097	---	7,634
08/21/2012	*	---	---	---	---	276	169	30	70	32,420	4,589	---
08/22/2012	*	---	---	---	---	430	411	18	75	44,707	---	4,974
08/23/2012	*	---	---	---	---	425	657	28	89	44,467	---	---
08/24/2012	*	---	---	---	---	283	204	14	55	15,065	7,280	3,348
08/25/2012	*	---	---	---	---	211	95	15	31	3,393	---	3,509
08/26/2012	*	---	---	---	---	182	72	17	23	10,480	19,089	4,730
08/27/2012	*	---	---	---	---	227	72	22	34	7,623	12,025	4,756
08/28/2012	*	---	---	---	---	126	74	15	41	19,448	8,475	3,175
08/29/2012	*	---	---	---	---	93	21	31	67	7,790	7,307	3,332
08/30/2012	*	---	---	---	---	149	12	20	47	11,293	7,704	1,822
08/31/2012	*	---	---	---	---	---	31	---	---	---	9,094	2,515
Total:		**0**	**0**	**0**	**0**	**4,103**	**3,246**	**315**	**723**	**337,302**	**79,241**	**44,199**
# Days:		**0**	**0**	**0**	**0**	**14**	**15**	**14**	**14**	**14**	**9**	**11**
Average:		**0**	**0**	**0**	**0**	**293**	**216**	**23**	**52**	**24,093**	**8,805**	**4,018**
YTD		**0**	**4**	**67**	**327**	**1,062,667**	**1,049,057**	**375,827**	**28,679**	**3,210,992**	**3,916,504**	**5,554,241**

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)
08/17/2012	*	---	---	---	---	3	0	0	0	0	0	---
08/18/2012	*	---	---	---	---	0	1	0	1	0	---	0
08/19/2012	*	---	---	---	---	2	2	0	0	0	---	---
08/20/2012	*	---	---	---	---	2	0	2	0	0	---	0
08/21/2012	*	---	---	---	---	2	3	0	0	0	0	---
08/22/2012	*	---	---	---	---	0	0	0	0	0	---	0
08/23/2012	*	---	---	---	---	0	0	0	0	0	---	---
08/24/2012	*	---	---	---	---	6	0	0	0	0	0	0
08/25/2012	*	---	---	---	---	0	0	0	0	0	---	0
08/26/2012	*	---	---	---	---	0	0	0	0	0	0	0
08/27/2012	*	---	---	---	---	2	0	0	0	0	0	0
08/28/2012	*	---	---	---	---	4	0	0	0	0	0	0
08/29/2012	*	---	---	---	---	0	0	0	0	0	0	0
08/30/2012	*	---	---	---	---	2	0	0	0	0	0	0
08/31/2012	*	---	---	---	---	---	0	---	---	---	0	0
Total:		**0**	**0**	**0**	**0**	**23**	**6**	**2**	**1**	**0**	**0**	**0**
# Days:		**0**	**0**	**0**	**0**	**14**	**15**	**14**	**14**	**14**	**9**	**11**
Average:		**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**
YTD		**0**	**0**	**0**	**80**	**69,813**	**78,637**	**19,963**	**49,618**	**145,764**	**287,512**	**689,839**

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)
08/17/2012	*	---	---	---	---	8	3	0	0	0	0	---
08/18/2012	*	---	---	---	---	4	7	0	1	0	---	0
08/19/2012	*	---	---	---	---	0	5	0	0	0	---	---
08/20/2012	*	---	---	---	---	2	5	0	0	0	---	0
08/21/2012	*	---	---	---	---	4	3	0	0	0	0	---
08/22/2012	*	---	---	---	---	2	0	2	0	0	---	0
08/23/2012	*	---	---	---	---	2	5	0	0	0	---	---
08/24/2012	*	---	---	---	---	0	2	0	2	0	0	0
08/25/2012	*	---	---	---	---	0	5	0	0	0	---	0
08/26/2012	*	---	---	---	---	0	2	0	0	0	0	0
08/27/2012	*	---	---	---	---	0	2	0	0	0	0	0
08/28/2012	*	---	---	---	---	2	5	0	0	0	0	0
08/29/2012	*	---	---	---	---	0	3	0	0	0	0	0
08/30/2012	*	---	---	---	---	2	0	2	3	0	0	0
08/31/2012	*	---	---	---	---	---	0	---	---	---	0	0
Total:		**0**	**0**	**0**	**0**	**26**	**47**	**4**	**6**	**0**	**0**	**0**
# Days:		**0**	**0**	**0**	**0**	**14**	**15**	**14**	**14**	**14**	**9**	**11**
Average:		**0**	**0**	**0**	**0**	**2**	**3**	**0**	**0**	**0**	**0**	**0**
YTD		**2,722**	**21,612**	**2,065**	**2,311**	**3,538,994**	**1,490,306**	**611,059**	**17,328**	**543,078**	**2,834,971**	**296,204**

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)
08/17/2012	*	---	---	---	---	3	3	0	1	0	0	---
08/18/2012	*	---	---	---	---	0	0	0	3	0	---	0
08/19/2012	*	---	---	---	---	6	6	0	0	0	---	---
08/20/2012	*	---	---	---	---	0	3	0	2	103	---	0
08/21/2012	*	---	---	---	---	2	2	0	6	0	0	---
08/22/2012	*	---	---	---	---	2	2	0	2	0	---	0
08/23/2012	*	---	---	---	---	8	3	0	5	103	---	---
08/24/2012	*	---	---	---	---	2	5	0	2	0	0	0
08/25/2012	*	---	---	---	---	4	5	2	3	0	---	0
08/26/2012	*	---	---	---	---	2	3	0	3	0	96	38
08/27/2012	*	---	---	---	---	4	0	0	0	0	96	0
08/28/2012	*	---	---	---	---	2	0	0	2	0	0	0
08/29/2012	*	---	---	---	---	2	0	0	3	0	0	30
08/30/2012	*	---	---	---	---	8	0	0	3	52	0	17
08/31/2012	*	---	---	---	---	---	3	---	---	---	0	0
Total:		**0**	**0**	**0**	**0**	**45**	**35**	**2**	**35**	**258**	**192**	**85**
# Days:		**0**	**0**	**0**	**0**	**14**	**15**	**14**	**14**	**14**	**9**	**11**
Average:		**0**	**0**	**0**	**0**	**3**	**2**	**0**	**3**	**18**	**21**	**8**
YTD		**5**	**0**	**0**	**475**	**43,366**	**37,187**	**18,245**	**46,849**	**1,135,819**	**850,871**	**778,766**

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)
08/17/2012	*	---	---	---	---	2	3	0	0	50	0	---
08/18/2012	*	---	---	---	---	0	1	0	0	50	---	0
08/19/2012	*	---	---	---	---	0	2	0	1	50	---	---
08/20/2012	*	---	---	---	---	0	5	0	2	0	---	0
08/21/2012	*	---	---	---	---	2	1	0	1	0	0	---
08/22/2012	*	---	---	---	---	0	5	0	1	50	---	8
08/23/2012	*	---	---	---	---	2	1	0	2	50	---	---
08/24/2012	*	---	---	---	---	0	1	0	0	100	17	14
08/25/2012	*	---	---	---	---	0	0	0	0	0	---	0
08/26/2012	*	---	---	---	---	0	1	0	0	2	134	10
08/27/2012	*	---	---	---	---	2	1	0	0	50	67	10
08/28/2012	*	---	---	---	---	0	1	0	1	50	100	0
08/29/2012	*	---	---	---	---	0	2	0	0	25	75	0
08/30/2012	*	---	---	---	---	0	4	1	1	0	50	4
08/31/2012	*	---	---	---	---	---	5	---	---	---	100	0
Total:		**0**	**0**	**0**	**0**	**8**	**33**	**1**	**9**	**477**	**543**	**46**
# Days:		**0**	**0**	**0**	**0**	**14**	**15**	**14**	**14**	**14**	**9**	**11**
Average:		**0**	**0**	**0**	**0**	**1**	**2**	**0**	**1**	**34**	**60**	**4**
YTD		**6**	**0**	**0**	**0**	**6,994**	**6,437**	**2,209**	**135**	**121,237**	**502,582**	**31,879**

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 macropthalmia, and unidentified lamprey species.
† 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.
WTB and LEW data collected for the FPC by Idaho Dept. of Fish and Game.

Two Week Transportation Summary

Source: Fish Passage Center Updated: 8/31/12 12:23 PM

08/17/12 TO 08/31/12

		Species					
Site	Data	**CH0**	**CH1**	CO	ST	SO	**Grand Total**
LGR	Sum of NumberCollected	2,034	2	11	12	22	2,081
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	0	0	0	3	1	4
	Sum of Numbertrucked	2,005	2	9	9	15	2,040
	Sum of SampleMorts	29	0	2	0	6	37
	Sum of FacilityMorts	0	0	0	0	0	0
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	29	0	2	0	6	37
LGS	Sum of NumberCollected	2,045	1	4	29	20	2,099
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	2,029	1	4	29	19	2,082
	Sum of SampleMorts	12	0	0	0	0	12
	Sum of FacilityMorts	4	0	0	0	1	5
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	16	0	0	0	1	17
LMN	Sum of NumberCollected	155		1	2	1	159
	Sum of NumberBarged	0		0	0	0	0
	Sum of NumberBypassed	0		0	1	0	1
	Sum of Numbertrucked	134		1	0	1	136
	Sum of SampleMorts	20		0	1	0	21
	Sum of FacilityMorts	1		0	0	0	1
	Sum of ResearchMorts	0		0	0	0	0
	Sum of TotalProjectMorts	21		0	1	0	22
MCN	Sum of NumberCollected	164,050				125	164,175
	Sum of NumberBarged	0				0	0
	Sum of NumberBypassed	21,795				0	21,795
	Sum of Numbertrucked	141,462				124	141,586
	Sum of SampleMorts	19				0	19
	Sum of FacilityMorts	774				1	775
	Sum of ResearchMorts	0				0	0
	Sum of TotalProjectMorts	793				1	794
Total Sum of NumberCollected		168,284	3	16	43	168	168,514
Total Sum of NumberBarged		0	0	0	0	0	0
Total Sum of NumberBypassed		21,795	0	0	4	1	21,800
Total Sum of Numbertrucked		145,630	3	14	38	159	145,844
Total Sum of SampleMorts		80	0	2	1	6	89
Total Sum of FacilityMorts		779	0	0	0	2	781
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		859	0	2	1	8	870

YTD Transportation Summary

Source: Fish Passage Center Updated: 8/31/12 12:23 PM

TO: 08/31/12

		Species					
Site	Data	**CH0**	**CH1**	CO	SO	ST	**Grand Total**
LGR	Sum of NumberCollected	668,481	2,693,485	47,658	30,611	2,353,371	5,793,606
	Sum of NumberBarged	652,812	989,041	39,447	29,087	949,611	2,659,998
	Sum of NumberBypassed	11,455	1,702,758	8,165	1,429	1,403,473	3,127,280
	Sum of NumberTrucked	2,005	2	9	15	9	2,040
	Sum of SampleMorts	389	180	4	17	61	651
	Sum of FacilityMorts	1,820	1,429	33	63	182	3,527
	Sum of ResearchMorts	0	75	0	0	35	110
	Sum of TotalProjectMorts	2,209	1,684	37	80	278	4,288
LGS	Sum of NumberCollected	662,809	1,498,495	53,313	25,745	971,258	3,211,620
	Sum of NumberBarged	659,750	1,109,499	51,706	25,027	683,534	2,529,516
	Sum of NumberBypassed	121	388,249	1,601	691	287,507	678,169
	Sum of NumberTrucked	2,029	1	4	19	29	2,082
	Sum of SampleMorts	157	30	0	2	15	204
	Sum of FacilityMorts	752	716	2	6	173	1,649
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	909	746	2	8	188	1,853
LMN	Sum of NumberCollected	249,728	543,398	14,386	13,397	438,638	1,259,547
	Sum of NumberBarged	235,990	531,284	14,356	13,372	428,327	1,223,329
	Sum of NumberBypassed	12,941	11,582	19	13	9,827	34,382
	Sum of NumberTrucked	134	0	1	1	0	136
	Sum of SampleMorts	125	60	0	3	37	225
	Sum of FacilityMorts	538	472	10	8	150	1,178
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	663	532	10	11	187	1,403
MCN	Sum of NumberCollected	1,317,340	1,040,137	72,876	555,734	247,889	3,233,976
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	1,174,739	1,039,959	72,876	555,534	247,862	3,090,970
	Sum of NumberTrucked	141,462	0	0	124	0	141,586
	Sum of SampleMorts	184	43	0	28	10	265
	Sum of FacilityMorts	955	135	0	48	17	1,155
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,139	178	0	76	27	1,420
Total Sum of NumberCollected		2,898,358	5,775,515	188,233	625,487	4,011,156	13,498,749
Total Sum of NumberBarged		1,548,552	2,629,824	105,509	67,486	2,061,472	6,412,843
Total Sum of NumberBypassed		1,199,256	3,142,548	82,661	557,667	1,948,669	6,930,801
Total Sum of NumberTrucked		145,630	3	14	159	38	145,844
Total Sum of SampleMorts		855	313	4	50	123	1,345
Total Sum of FacilityMorts		4,065	2,752	45	125	522	7,509
Total Sum of ResearchMorts		0	75	0	0	35	110
Total Sum of TotalProjectMorts		4,920	3,140	49	175	680	8,964

Cumulative Adult Passage at Mainstem Dams Through: 08/31

		Spring Chinook						Summer Chinook						Fall Chinook					
		2012		2011		10-Yr Avg.		2012		2011		10-Yr Avg.		2012		2011		10-Yr Avg.	
DAM	EndDate	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	**08/30**	**158075**	**7591**	**167097**	**50945**	**152015**	**20110**	**81663**	**12235**	**108279**	**51451**	**92437**	**17241**	**58491**	**13105**	**50858**	**9860**	**73401**	**9032**
TDA	**08/30**	**117071**	**7173**	**124164**	**40146**	**112195**	**16495**	**69222**	**10392**	**81123**	**39845**	**79218**	**13523**	**28961**	**7547**	**26546**	**6353**	**29977**	**4969**
JDA	**08/30**	**107655**	**6755**	**103401**	**39823**	**94492**	**15370**	**60814**	**10415**	**75375**	**35544**	**72273**	**14191**	**15792**	**4548**	**16820**	**4901**	**17372**	**3982**
MCN	**08/30**	**102763**	**4787**	**101246**	**31750**	**86252**	**13687**	**64428**	**5104**	**74621**	**28165**	**68072**	**11090**	**11688**	**2099**	**12187**	**2544**	**9763**	**1986**
IHR	**08/30**	**71957**	**2905**	**69306**	**18161**	**60108**	**8392**	**14182**	**1481**	**26758**	**12378**	**18923**	**4410**	**2762**	**719**	**3573**	**563**	**2062**	**528**
LMN	**08/30**	**68608**	**2891**	**69832**	**18094**	**58469**	**7193**	**15150**	**1611**	**31176**	**13730**	**19948**	**4267**	**2225**	**636**	**2635**	**441**	**1429**	**438**
LGS	**08/29**	**68247**	**3449**	**67321**	**23492**	**54053**	**8198**	**14748**	**1613**	**42211**	**18214**	**18393**	**5041**	**1337**	**380**	**2238**	**287**	**865**	**145**
LGR	**08/30**	**66366**	**3525**	**59342**	**22063**	**54084**	**9639**	**13163**	**1717**	**36764**	**16425**	**17083**	**5652**	**1092**	**269**	**1718**	**241**	**639**	**163**
PRD	**08/28**	**19495**	**1015**	**15246**	**6030**	**16630**	**1325**	**50667**	**1994**	**50865**	**4223**	**58386**	**2526**	**2892**	**1988**	**3896**	**953**	**3053**	**943**
RIS	**08/27**	**19881**	**800**	**13089**	**8394**	**14658**	**2236**	**52184**	**3343**	**44432**	**14299**	**54861**	**5446**	**1967**	**1012**	**1939**	**1257**	**1638**	**488**
RRH	**08/27**	**6641**	**459**	**6989**	**3491**	**5643**	**822**	**45528**	**2775**	**38861**	**8131**	**42042**	**4317**	**1531**	**545**	**1534**	**704**	**1240**	**302**
WEL	**08/29**	**5311**	**700**	**4153**	**3969**	**4833**	**817**	**38588**	**3271**	**29821**	**8465**	**31187**	**2517**	**220**	**26**	**55**	**52**	**170**	**42**
WFA	**08/26**	**35899**	**1314**	**43748**	**1399**	**50770**	**1108**	**-**	**-**	**-**	**-**	**-**	**-**	**87**	**17**	**92**	**13**	**56**	**10**

	Coho						Sockeye			Steelhead					
	2012		2011		10-Yr Avg.				10-Yr			10-Yr	Wild 2012	Wild 2011	Wild 10-
DAM	Adult	Jack	Adult	Jack	Adult	Jack	2012	2011	Avg.	2012	2011	Avg.			Yr
BON	**4182**	**488**	**9369**	**602**	**9260**	**618**	**515668**	**185796**	**130980**	**169655**	**275708**	**273124**	**66309**	**104782**	**91922**
TDA	**1518**	**345**	**2411**	**577**	**1234**	**281**	**410096**	**138290**	**109313**	**105367**	**185197**	**119988**	**44830**	**75321**	**45407**
JDA	**741**	**216**	**1710**	**376**	**665**	**173**	**394140**	**143603**	**113827**	**64951**	**137005**	**93748**	**29426**	**58217**	**34690**
MCN	**267**	**85**	**615**	**100**	**133**	**25**	**364133**	**113937**	**93284**	**55192**	**112932**	**63118**	**22276**	**42662**	**22664**
IHR	**2**	**0**	**18**	**7**	**1**	**0**	**453**	**1139**	**390**	**11384**	**65577**	**36009**	**3601**	**19228**	**10027**
LMN	**0**	**0**	**3**	**1**	**0**	**0**	**486**	**1394**	**486**	**11333**	**55289**	**30010**	**4514**	**18302**	**9670**
LGS	**0**	**0**	**0**	**0**	**0**	**0**	**451**	**1435**	**467**	**8316**	**35982**	**19183**	**4213**	**13793**	**6687**
LGR	**0**	**0**	**0**	**0**	**0**	**0**	**456**	**1500**	**573**	**12496**	**35315**	**22362**	**5580**	**14453**	**7572**
PRD	**3**	**0**	**1**	**0**	**24**	**0**	**408256**	**145068**	**118727**	**8216**	**9936**	**8605**	**-**	**-**	**-**
RIS	**0**	**0**	**0**	**0**	**0**	**0**	**410547**	**146091**	**115761**	**7172**	**7463**	**6733**	**3308**	**4012**	**3701**
RRH	**0**	**0**	**0**	**0**	**0**	**0**	**363234**	**132083**	**94719**	**5847**	**5313**	**4991**	**2741**	**2775**	**2514**
WEL	**0**	**0**	**0**	**0**	**0**	**0**	**325999**	**111494**	**92020**	**3719**	**3302**	**3060**	**1725**	**1562**	**1529**
WFA	**19**	**67**	**75**	**137**	**13**	**21**	**-**	**-**	**-**	**28938**	**27405**	**27202**	**-**	**-**	**-**

PRD and WFA do 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.

Page last updated on: 08/31/12

BON counts from January 1, 2012 to March 14, 2012 (historical counts begin March 15):

Year	Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
2012	12	1	1,471	497
2011	47	0	1,370	580

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											
	08/20/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	08/23/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	08/27/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	08/30/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	08/19/12	Chinook + Steelhead	44	0	0	0.00%	0.00%	0	0	0	0
	08/21/12	Chinook + Steelhead	54	0	0	0.00%	0.00%	0	0	0	0
	08/25/12	Chinook + Steelhead	46	0	0	0.00%	0.00%	0	0	0	0
	08/28/12	Chinook + Steelhead	41	1	1	2.44%	0.00%	1	0	0	0
Rock Island Dam											