Fish Passage Center

Weekly Report #11 - 20

July 29, 2011

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 34% and 183% of average at individual sub-basins over July. Precipitation above The Dalles has been 96% of average over July. Over the 2011 water year, precipitation has ranged between 109% and 127% of average.

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

Location	Water Year 2011 July 1-25, 2011		Water Year 2011 October 1, 2010 to July 25, 2011	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	1.87	131	25.91	118
Snake River Above Ice Harbor	0.35	47	19.90	126
Columbia Above The Dalles	0.96	96	25.12	121
Kootenai	2.16	141	25.76	114
Clark Fork	0.78	81	18.63	123
Flathead	1.29	101	25.62	127
Pend Oreille/ Spokane	0.78	70	33.49	118
Central Washington	0.24	82	9.30	113
Snake River Plain	0.21	43	12.38	123
Salmon/Boise/ Payette	0.22	34	20.41	112
Clearwater	0.65	55	35.39	127
SW Washington Cascades/Cowlitz	1.14	102	72.36	109
Willamette Valley	1.23	183	61.98	110

Table 2 displays the June Final and July Final runoff volume forecasts for multiple reservoirs. The July Final forecast at The Dalles between January and July is 142000 Kaf (132% of average).

Table 2. June Final and July Final Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.

Location	June Final		July Final	
	% Average (1971 -2000)	Probable Runoff Volume (Kaf)	% Average (1971 -2000)	Probable Runoff Volume (Kaf)
The Dalles (Jan-July)	131	141000	132	142000
Grand Coulee (Jan-July)	124	78300	126	79500
Libby Res. Inflow, MT (Apr-Aug)	127	7930 8099*	129	8090
Hungry Horse Res. Inflow, MT (Jan-July)	153	3410	154	3430
Lower Granite Res. Inflow (Apr- July)	156	33700	159	34200
Brownlee Res. Inflow (Apr-July)	177	11200	173	10900
Dworshak Res. Inflow (Apr-July)	143	3770 3813*	149	3940

* Denotes COE Forecast

The flow objective at Lower Granite over the summer period (June 21st to August 31st) is 55 Kcfs; over the summer period flows at Lower Granite have averaged 117.5 Kcfs and 64.1 Kcfs over the last week.

The summer flow objective period began at McNary Dam on July 1st with a flow objective of 200 Kcfs. Over the summer flow period, flows at McNary have averaged 330.6 Kcfs and 263.6 Kcfs last week.

Grand Coulee Reservoir is at 1289.8 feet (7-28-11) and has held steady over the last week. The August 31st draft elevation at Grand Coulee is 1280 feet. Outflows at Grand Coulee have ranged between 153.8 and 172.3 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2452.3 feet (7-28-11) and has refilled 2.5 feet last week. Outflows at Libby Dam have been 10.9-14.0 Kcfs last week. The COE plans to target elevation 2449 feet by the end of September.

Hungry Horse is currently at an elevation of 3558.8 feet (7-28-11) and has refilled 0.8 feet last week. Outflows at Hungry Horse have been 4.0-6.1 Kcfs last week.

Dworshak is currently at an elevation of 1589.5 feet (7-28-11) and has drafted 5.4 feet last week. Outflows from Dworshak have been 13.9 Kcfs last week. The COE plans to draft Dworshak to elevation 1535 feet by early September.

The Brownlee Reservoir was at an elevation of 2064.1 feet on July 28th, 2011 drafting 5.7 feet last week. Over the last week, outflows at Brownlee have ranged between 20.2-26.6 Kcfs.

Spill:

Spill levels transitioned from spring to summer levels for fish passage on June 21st at the lower Snake River projects. Flows have decreased steadily over the past week. By week's end hydroelectric projects in the FCRPS were spilling to the Biological Opinion summer spill requirements.

Spill has occurred at Dworshak Dam this past week as the project is drafting to the end of August target elevation of 1535 feet. Over the past week, daily average flows at Lower Granite Dam have ranged from 54.8 to 71.6 Kcfs, and spill has been a consistent 18.4 to 18.9 Kcfs. At Little Goose Dam, spill met the 30% of instantaneous flow Court Order through the week. At Lower Monumental Dam spill met the Court ordered 17 Kcfs over the past week.

Beginning April 28th, the Court Order spill operations at Ice Harbor called for an alternating schedule of 45 Kcfs spill during the day and gas cap spill at night versus 30% if instantaneous flow, on 2-day alternating blocks until mid-July. Beginning July 13, spill levels were changed to the 45 Kcfs/gas cap levels, which will continue through the rest of the summer period. Over the past week spill levels have met the Court Order and spill has ranged from 46.8 to 55.2 Kcfs.

Project	Day/Night Spill
Lower Granite	18 Kcfs/18 Kcfs
Little Goose	30%/30%
Lower Monumental	17 Kcfs/17 Kcfs
Ice Harbor	**April 28-July 12:** 45 Kcfs/gas cap vs. 30%/30% **July 13 – August 31**: 45 Kcfs / gas cap

Summer spill levels were initiated at McNary Dam on June 20th and at Bonneville Dam on June 16th. Summer spill season began at John Day and The Dalles dams on July 1st. Spill has ceased at Grand Coulee Dam and Chief Joseph Dam by week's end. Chief Joseph is being managed by BPA based on running reserves and unit availability.

Spill at McNary Dam has met the Court Ordered 50% of daily average flow. The planned test at John Day Dam was designed to start on the evening of April 27th. Under this test, spill at John Day Dam alternates between 30% and 40% of instantaneous flow, roughly every two days. However, due to high flows the test conditions were not implementable and the test was not conducted. Spill levels at John Day are now meeting post-test conditions of 30% of total river flow. At The Dalles Dam, spill met the Court Order over the past week. Finally, at Bonneville Dam, spill exceeded the summer operations from July 25th to July 29th due to a restricted powerhouse capacity, with spill ranging from a daily average of 87.9 Kcfs to 139.4 Kcfs.

Project	Day/Night Spill
McNary	50%/50%
John Day	**Pre-test:** 30%/30% **Testing:** 30%/30% vs. 40%/40%
The Dalles	40%/40%
Bonneville	**June 16 to July 20**: alternate between 95 Kcfs/95 Kcfs and 85 Kcfs/121 Kcfs. **July 20th - August 31:** 75 Kcfs day/GasCap night.

TDG levels this past week have decreased considerably at the FCRPS project tailraces, and projects are now all in compliance with the 115/120% criteria. Gas Bubble Trauma monitoring at McNary Dam showed GBT in 2% of the fish examined on July 25th, with Rank 1 signs. Incidence of GBT at Rock Island Dam was 1% in the sample taken on July 26th. No other projects reported signs of GBT this past week.

Smolt Monitoring:

Smolt monitoring was ongoing at all SMP sites this past week. Subyearling Chinook continued to predominate in the collections at all dams over the past week. The numbers of spring migrant salmonids and lamprey have continued to decline or remain very low over the past few weeks. The largest numbers of subyearling Chinook are now passing the Lower Columbia dams in the reach from McNary Dam to Bonneville Dam as both wild Hanford subyearlings and large hatchery releases from the mid-Columbia River pass through the system.

At Lower Granite Dam subyearling Chinook smolts continued to predominate in the passage indices this week with the indices staying relatively similar to last week. Subyearling indices averaged 4,300 per day this week compared to just over 6,000 per day last week. Coho was the second most predominant species, having had passage indices averaging just over 100 per day this week compared to 50 last week; yearling Chinook average weekly indices dropped from 30 to near zero; sockeye indices stayed near 50 per day this week. Little Goose and Lower Monumental dams showed similar patterns in passage with subyearling Chinook predominating, followed by coho, sockeye and steelhead. Yearling Chinook indices at both Little Goose and Lower Monumental dams were near zero.

Sampling at Rock Island Dam is ongoing. Subyearling Chinook predominated in the samples over the past week. Subyearling Chinook collections increased this week with the index averaging 620 per day compared to 400 per day last week. All spring migrant indices averaged 10 or fewer fish per day last week.

Sampling at McNary Dam moved to every day sampling with the beginning of collections for transportation on July 20. The first barge load of smolts was shipped on July 21 this year. Subyearling Chinook were the predominate species passing the project this past week, with the average passage index at 167,000 per day this week compared to 165,000 last week. Indices for all spring migrants, except sockeye, continued to go down over the past week with indices for those species less than 10 by July 20. Sockeye indices rose slightly over the past week with the index averaging nearly 500 per day this week compared to under 400 per day last week. Only a single PIT-tagged sockeye was detected at McNary in the past two weeks and that was from the Salmon River Basin.

At John Day Dam passage indices declined for all spring migrant species while subyearling Chinook indices remained relatively high. Subyearling Chinook passage indices averaged 71,000 per day this week compared to 74,000 per day last week. Lamprey collections remained steady this past week at about 270 per day.

At Bonneville Dam the COE completed reinstalling screens at Powerhouse 2 on July 20. Due to debris and high flows in the spring the COE was unable to keep the screens clean so that they removed the screens until flows subsided. It was anticipated that there might be an increase in subyearling Chinook collections once the screens are installed. But the subyearling index remained relatively flat last week with the week's average at just over 50,000 while this week's average rose to 68,000 per day.

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

Adult Passage:

Daily passage numbers at Bonneville Dam ranged between 590 and 785 adult summer Chinook in the last week. The 2011 summer Chinook count of 106,178 is 1.10 times greater than the 2010 count and about 1.21 times greater than the 10 year average. The 2011 Bonneville Dam summer Chinook jack count of 50,508 is 3.27 times greater than the 2010 count and 3.80 times greater than the 10 year average count. At McNary Dam 68,373 adult summer Chinook have been counted. The 2011 McNary adult summer Chinook is about 1.07 times greater than the 2010 count and the 10 average count. The 2011 McNary Dam summer Chinook jack count of 26,515 is about 3.47 times greater than the 2010 count of 7,640 and about 3.08 times greater than the 10 year average count of 8,607. The 2011 adult summer Chinook count at Lower Granite Dam in the Snake River of 34,932 is about 1.25 times greater than the 2010 count and 2.44 times greater than the 10 year average count. The 2011 Lower Granite summer Chinook jack count of 15,919 is about 3.13 times greater than the 2010 count and 3.76 times greater than the 10 year average count.

The Bonneville Dam 2011 steelhead count of 84,065 is about 48.4% of the 2010 count of 173,634 and about 76.3% of the 10 year average count of 110,144. At Rock Island Dam, as of July 25th, 534 adult steelhead had been counted and at Rock Reach Dam 823 had been counted. In the Snake River, this year's Lower Granite steelhead count of 14,978 is about 77.9% of the 2010 count of 19,235, while being 1.15 times greater than the 10 year average of 13,022. The 2011 Lower Granite wild steelhead count as of July 28th was 6,799. At Willamette Falls Dam, the 2011 count for steelhead was 26,037, as of July 26th. This year's steelhead count is about 83.1% of the 2010 count of 31,311 and about 94.2% of the 10 year average count of 27,650 at Willamette Falls Dam for the same date range.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 119 and 345 last week. The 2011 adult sockeye count at Bonneville Dam of 185,346 is about 47.9% of the 2010 count of 386,273, while being 1.50 times greater than the 10 year average count of 123,727. The 2011 McNary Dam adult sockeye count of 112,899 is about 40.5% of the 2010 count, while being 1.23 times greater than the 10 year average count. Two of the major spawning sites for sockeye in the Upper Columbia River zone are Lake Wenatchee and Lake Osoyoos (Okanogan basin). In the Snake River at Ice Harbor Dam, the 2011 adult sockeye count of 1,093 is 85.2% of the 2010 count, while being 3.92 times greater than the 10 year average count. The Lower Granite Dam 2011 adult sockeye count of 1,413 is about 71.5% of the 2010 count, while being 3.45 times greater than the 10 year average count.

As of July 28th at Bonneville Dam, the adult Shad count was 944,504. This year's shad count is about 90.7% of the 2010 count of 1,041,037 and about 30.8% of the 10 year average count of 3,067,875.

Hatchery Releases Last Two Weeks

No releases to report.

Hatchery Releases Next Two Weeks

No releases to report.

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
7/15	106.6	106.7	106.9	23	123.2	124.0	124.9	20	122.1	122.3	122.4	24	120.7	121.1	121.5	20	119.2	119.6	120.2	24
7/16	106.3	106.7	107.1	23	121.4	121.8	122.4	17	121.9	122.3	122.7	24	120.6	120.8	121.1	17	118.2	118.4	118.8	24
7/17	106.7	107.3	107.5	24	121.3	122.0	122.6	22	121.5	121.8	122.3	24	120.3	120.7	121.6	23	117.8	118.0	118.3	24
7/18	106.9	107.3	107.4	24	121.7	122.8	123.5	23	121.4	121.7	122.0	24	119.9	120.2	120.6	23	117.8	118.2	118.3	24
7/19	107.2	107.6	108.1	24	121.1	121.5	122.1	20	121.6	121.9	122.1	24	119.7	119.9	120.4	20	117.8	118.2	118.3	24
7/20	106.1	106.3	106.5	24	121.9	122.6	123.1	23	121.0	121.3	121.8	24	119.1	119.5	120.0	23	117.0	117.3	117.6	24
7/21	105.5	105.6	105.8	24	120.9	121.2	121.5	22	121.4	121.6	121.8	24	120.3	120.8	123.2	22	117.2	117.4	117.5	24
7/22	105.4	105.6	105.9	23	120.0	120.4	120.6	21	121.2	121.4	121.7	24	119.2	119.7	120.2	21	117.4	118.0	118.7	24
7/23	105.0	105.2	105.4	23	119.1	119.5	120.3	21	120.4	120.7	121.2	24	118.6	119.0	119.3	21	116.9	117.2	117.5	24
7/24	105.0	105.5	105.7	23	119.2	119.8	120.2	22	119.9	120.1	120.3	24	118.5	119.0	119.6	22	117.4	117.9	118.2	24
7/25	105.8	106.3	106.8	24	118.7	118.9	119.2	21	119.9	120.2	120.5	24	118.7	119.0	119.8	21	117.1	117.4	117.7	24
7/26	105.8	105.9	106.0	24	117.9	118.4	119.4	21	119.8	120.3	120.5	24	117.1	117.7	119.6	21	116.8	117.0	117.3	24
7/27	105.6	105.8	106.0	24	116.9	117.3	118.1	23	119.8	119.9	120.4	24	116.2	116.7	117.8	23	116.5	116.8	117.0	24
7/28	105.3	105.6	105.8	24	117.4	118.3	119.0	24	119.2	119.4	119.5	24	115.6	116.1	116.6	24	116.7	117.0	117.4	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
7/15	114.8	115.6	118.1	24	117.2	117.8	118.4	24	122.2	124.2	125.5	24	120.6	121.3	121.7	24	120.2	121.1	122.1	24
7/16	115.6	116.6	118.2	24	116.0	116.5	117.3	24	119.9	120.4	120.6	24	120.1	121.5	122.9	24	118.1	118.6	119.0	24
7/17	114.8	115.4	116.3	24	115.7	116.4	117.2	24	119.3	120.0	121.9	24	118.1	118.5	118.8	24	117.0	117.3	117.5	24
7/18	114.2	115.0	115.4	24	115.5	115.8	116.0	24	119.8	121.0	121.6	24	117.2	117.7	118.0	24	117.0	117.6	118.3	24
7/19	113.8	114.7	115.4	24	115.0	115.4	115.6	24	120.1	120.9	121.5	24	117.2	118.4	118.9	24	116.8	117.2	118.0	24
7/20	114.0	114.6	115.0	24	114.6	114.9	115.2	24	124.6	127.7	128.8	24	116.8	118.0	119.1	24	116.1	116.7	118.3	24
7/21	113.2	114.1	114.4	24	115.0	115.2	115.5	21	122.0	122.1	122.2	21	120.6	123.0	124.5	24	117.4	118.4	119.0	24
7/22	115.3	116.2	116.5	24	114.0	114.3	114.7	24	121.6	121.8	122.0	24	114.5	114.7	114.9	24	114.8	115.2	116.2	24
7/23	113.6	115.7	116.5	24	115.1	115.5	116.0	24	121.5	121.9	122.4	24	115.3	116.2	116.9	24	115.6	116.2	117.0	24
7/24	114.5	116.5	118.4	24	115.7	116.6	116.9	23	121.8	122.4	122.7	24	116.5	117.1	118.1	24	116.8	117.4	118.0	24
7/25	115.0	115.7	116.4	24	115.6	116.4	117.0	23	120.1	121.7	121.9	23	117.7	118.3	119.2	24	117.3	118.5	119.4	24
7/26	115.3	115.6	115.9	24	114.8	115.2	115.4	24	115.7	116.1	116.9	24	116.2	116.7	117.1	24	115.5	116.3	117.9	24
7/27	115.1	115.5	115.8	24	114.9	115.1	115.4	24	115.3	115.9	116.3	24	113.7	114.5	114.9	24	115.4	115.9	116.5	24
7/28	115.4	116.0	116.9	24	114.9	115.2	115.4	24	114.4	114.6	114.9	24	114.6	115.2	115.5	24	114.9	115.7	116.1	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
7/15	120.3	121.6	122.6	24	122.6	123.6	124.3	24	119.9	121.1	121.6	24	120.8	122.6	123.3	24	120.9	122.3	122.9	24
7/16	118.8	119.4	120.0	24	121.3	121.9	122.4	24	120.8	121.3	121.7	24	118.3	118.5	118.6	24	117.7	118.5	121.0	24
7/17	117.0	117.6	118.5	24	120.3	121.4	122.1	24	120.2	120.9	122.1	24	118.3	118.5	118.6	24	117.2	118.1	118.6	24
7/18	116.8	117.8	118.5	24	120.3	121.2	121.8	24	117.2	117.5	118.2	24	117.7	118.0	118.1	24	116.3	117.2	117.7	24
7/19	116.0	116.6	117.0	24	119.0	119.4	119.7	24	115.2	115.8	116.7	24	116.8	117.4	117.9	24	114.3	115.0	116.2	24
7/20	116.0	117.1	118.4	24	119.7	120.9	121.6	24	114.1	114.6	115.0	24	115.7	116.0	116.2	24	113.9	114.5	115.1	24
7/21	118.7	120.7	121.9	24	121.7	123.3	124.5	24	114.9	115.1	115.3	24	117.1	117.4	117.4	24	114.3	114.8	115.1	24
7/22	113.9	114.6	116.0	24	117.6	118.6	120.3	24	114.9	115.4	116.3	24	115.5	116.1	116.7	24	114.3	115.1	116.2	24
7/23	114.8	115.5	116.0	24	117.9	118.7	119.4	24	116.8	117.5	118.4	24	116.0	116.3	116.7	24	114.7	116.3	117.2	24
7/24	116.1	116.7	117.2	24	119.2	119.9	120.3	24	116.9	118.3	118.9	24	116.4	116.7	117.1	24	115.6	116.6	117.0	24
7/25	117.0	117.3	117.7	24	120.0	120.4	120.8	24	116.5	116.8	117.8	24	116.4	116.6	116.7	24	114.5	115.0	116.1	24
7/26	115.6	116.4	117.9	24	119.4	120.4	121.3	24	114.7	115.1	115.6	24	115.1	115.4	115.6	24	113.3	113.6	114.2	24
7/27	113.6	114.4	114.8	24	117.8	118.3	119.3	24	114.1	114.8	115.5	24	115.0	115.6	116.1	24	112.2	113.0	113.4	24
7/28	113.7	115.2	116.2	24	117.7	119.0	120.0	24	---	---	---	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

	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
7/15	121.9	122.5	123.1	24	117.6	118.8	119.5	24	108.6	109.0	112.5	24	104.5	105.4	106.0	24	104.2	105.3	106.0	24
7/16	120.5	120.9	121.7	24	116.9	117.5	118.1	24	108.1	108.3	108.6	24	104.4	104.7	105.0	24	103.4	103.8	104.2	24
7/17	120.0	120.4	120.9	24	115.5	116.2	116.9	24	108.6	108.8	109.2	24	105.0	105.9	106.5	24	103.9	104.9	105.7	24
7/18	119.8	120.3	120.6	24	115.0	116.0	116.6	24	108.6	108.8	109.0	24	105.2	105.9	106.6	24	103.6	104.5	105.3	24
7/19	118.9	119.2	119.7	24	113.8	114.3	115.0	24	107.9	108.2	108.7	24	104.8	105.1	105.7	24	102.7	103.0	103.1	24
7/20	118.8	119.3	119.5	24	113.4	114.8	115.6	24	107.6	107.8	108.0	24	104.7	105.5	106.0	24	103.1	104.1	104.9	24
7/21	119.3	119.5	119.7	24	114.0	114.5	114.7	24	108.0	108.2	108.4	24	105.1	105.8	106.4	24	103.2	104.0	104.8	24
7/22	117.9	118.6	119.2	24	113.9	114.7	115.3	24	107.6	107.9	108.2	24	105.1	105.8	106.3	24	102.9	103.7	104.4	24
7/23	117.2	117.7	118.7	24	113.5	114.0	114.3	24	107.4	107.7	107.9	24	104.9	105.8	106.4	24	102.9	103.9	104.7	24
7/24	119.2	119.7	120.5	24	113.8	114.9	115.7	24	107.8	108.0	108.4	24	105.4	106.4	107.1	24	103.3	104.3	105.2	24
7/25	118.2	118.9	119.5	24	114.6	114.9	115.4	24	108.2	108.8	112.8	24	105.9	106.8	108.2	24	102.9	103.6	104.8	24
7/26	116.2	116.9	117.2	24	113.1	113.9	114.6	24	107.9	108.1	108.2	24	105.8	106.6	107.3	24	102.7	103.8	104.9	24
7/27	116.9	117.3	117.9	24	112.1	112.8	113.2	24	107.4	107.8	108.1	24	105.7	106.4	107.2	24	102.3	103.3	104.3	24
7/28	---	---	---	0	112.6	113.7	114.5	24	107.4	107.6	107.7	24	105.6	106.5	107.2	24	102.4	103.6	104.8	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
7/15	103.6	105.2	106.3	24	103.0	103.2	103.4	24	111.4	111.8	112.1	24	110.0	110.5	110.8	24	113.0	113.4	113.5	24
7/16	103.1	103.9	104.4	24	103.4	103.6	103.7	24	112.1	112.7	118.0	24	110.6	110.9	111.2	24	113.4	113.8	115.3	24
7/17	104.0	105.7	106.9	24	103.8	104.0	104.3	24	111.5	112.0	112.8	24	110.6	111.0	111.3	24	113.5	113.7	113.8	24
7/18	104.1	105.8	106.9	24	103.0	103.2	103.6	24	111.6	112.1	112.8	24	110.2	110.4	110.8	24	113.6	114.0	114.2	24
7/19	103.2	104.1	104.6	24	103.0	103.3	103.5	24	111.7	112.1	112.7	24	110.0	110.4	110.6	24	113.3	113.5	113.8	24
7/20	103.8	105.6	106.9	24	102.9	103.2	103.3	24	113.1	114.1	114.9	24	108.6	109.1	109.4	24	113.5	113.8	114.2	24
7/21	104.0	105.5	106.5	24	103.1	103.2	103.6	24	113.3	113.6	113.9	24	108.5	108.7	109.0	24	113.5	114.0	114.1	24
7/22	104.1	105.7	106.8	24	102.6	102.9	103.3	24	113.2	113.5	114.0	24	107.9	108.3	108.6	24	113.4	113.6	113.8	24
7/23	104.1	106.0	107.4	24	103.2	103.4	103.7	24	113.6	113.9	114.5	24	108.7	109.2	109.4	24	113.9	114.1	114.4	24
7/24	104.6	106.8	108.3	24	102.9	103.2	103.4	24	112.8	113.3	114.2	24	109.8	110.2	110.7	24	114.1	114.3	114.7	24
7/25	104.6	106.4	107.7	24	103.0	103.4	103.8	24	113.8	114.4	114.9	24	110.5	110.8	111.3	24	114.8	115.1	115.3	24
7/26	104.5	106.2	107.1	24	102.9	103.1	103.3	24	114.8	115.2	116.0	24	110.8	111.3	111.5	24	112.9	113.9	115.1	24
7/27	104.3	106.1	107.4	24	102.9	103.3	103.9	24	115.1	115.6	116.0	24	110.4	110.6	111.3	24	111.8	112.2	112.4	24
7/28	104.4	106.5	108.0	24	102.7	103.0	103.8	24	115.3	115.8	116.4	24	110.0	110.2	110.3	24	111.4	111.5	111.7	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
7/15	113.7	114.0	114.2	24	117.7	118.0	118.4	24	113.3	113.6	113.8	24	117.0	117.2	117.5	24	---	---	---	0
7/16	113.6	113.8	114.0	24	117.7	118.1	120.2	24	113.8	114.0	114.1	24	116.8	117.1	117.5	24	---	---	---	0
7/17	113.6	113.8	113.9	24	117.6	118.2	118.8	23	114.0	114.1	114.3	24	116.3	116.6	117.0	24	---	---	---	0
7/18	113.4	113.4	113.5	24	117.1	117.6	118.1	21	113.5	113.7	113.9	24	116.3	116.7	117.0	24	---	---	---	0
7/19	113.0	113.4	113.5	24	117.0	117.0	117.9	12	113.0	113.5	114.0	24	116.0	116.1	116.4	24	---	---	---	0
7/20	111.6	111.8	111.9	24	117.0	117.4	117.9	24	111.6	111.7	111.9	24	116.2	116.5	116.7	24	---	---	---	0
7/21	111.8	111.9	112.0	24	117.5	117.7	118.1	20	111.7	111.9	112.0	24	116.0	116.2	116.4	24	---	---	---	0
7/22	111.4	111.6	111.7	24	116.2	116.5	117.2	13	111.7	111.8	112.0	24	116.0	116.2	116.5	24	---	---	---	0
7/23	111.3	111.4	111.5	24	117.3	117.6	118.6	24	111.3	111.5	111.7	24	115.9	116.1	116.4	24	---	---	---	0
7/24	111.9	112.3	112.7	24	117.7	117.9	118.2	24	112.3	112.7	113.0	24	116.1	116.5	116.9	24	---	---	---	0
7/25	113.2	113.5	113.6	24	117.4	117.7	118.2	24	113.4	113.6	114.0	24	116.3	116.7	117.3	24	---	---	---	0
7/26	113.5	113.6	113.8	24	117.1	117.4	117.9	24	112.5	112.9	113.1	24	116.4	116.8	117.3	24	---	---	---	0
7/27	112.4	112.7	113.3	24	116.7	117.0	117.4	24	112.0	112.2	112.4	24	115.6	116.1	116.5	24	---	---	---	0
7/28	111.8	112.3	112.5	24	117.1	117.7	118.4	24	112.0	112.3	112.4	24	115.4	116.0	116.6	24	---	---	---	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
7/15	114.5	115.6	116.7	24	124.5	124.7	124.9	24	112.1	112.5	112.9	24	118.7	118.9	119.3	24	114.1	115.2	115.6	24
7/16	116.3	116.7	117.1	24	123.4	123.9	124.7	24	111.7	111.9	112.0	24	117.8	118.1	118.9	24	113.7	114.1	115.1	24
7/17	116.0	116.4	117.0	24	122.9	123.3	123.7	24	111.8	112.5	112.8	24	115.3	116.3	116.7	24	112.2	112.9	113.5	24
7/18	114.8	115.2	115.9	24	123.3	124.0	125.0	24	113.0	113.7	114.1	24	115.7	117.0	119.1	24	111.5	112.5	113.0	24
7/19	112.7	113.2	114.3	24	123.4	123.8	125.0	24	112.9	113.7	114.2	24	117.4	117.7	118.8	24	112.4	113.2	113.6	24
7/20	111.2	111.8	112.6	24	122.7	123.1	123.6	24	110.7	110.9	111.2	24	117.1	117.8	118.7	24	111.7	112.6	113.1	24
7/21	111.7	112.0	112.2	24	120.5	121.9	122.1	24	109.6	109.8	110.2	24	114.5	115.5	116.4	24	110.5	111.7	112.7	24
7/22	111.2	111.7	112.4	24	118.4	118.9	119.2	24	108.3	108.6	109.0	24	114.8	115.6	116.6	24	109.0	109.4	109.9	24
7/23	112.4	113.7	115.3	24	119.8	121.2	121.4	24	108.9	109.8	110.9	24	115.1	116.6	117.6	24	109.8	110.7	111.5	24
7/24	114.6	115.6	115.9	24	119.9	120.9	121.6	24	110.7	111.0	111.2	24	114.9	116.2	117.0	24	111.5	112.0	112.5	24
7/25	114.2	114.6	115.3	24	118.7	119.0	119.2	24	109.9	110.2	110.8	24	114.6	115.3	117.0	24	109.2	110.4	112.0	24
7/26	113.3	113.8	114.2	24	117.5	117.8	118.5	24	110.3	110.9	111.3	24	113.9	114.8	115.2	24	108.7	109.5	109.8	24
7/27	112.6	113.1	113.7	24	117.6	118.0	118.3	24	109.5	109.8	110.2	24	112.9	113.8	114.6	24	108.5	108.9	109.4	24
7/28	112.4	113.0	113.5	24	118.3	118.7	119.3	24	109.1	109.5	109.7	24	114.0	114.9	115.7	24	109.6	110.5	111.0	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
7/15	118.7	119.4	119.7	24	116.9	117.4	117.7	24	119.4	119.6	120.0	24	117.8	118.9	120.0	24	---	---	---	0
7/16	118.3	118.6	119.5	24	116.3	116.5	117.1	24	117.6	118.2	119.2	24	116.8	117.3	117.7	24	---	---	---	0
7/17	117.0	117.6	117.9	24	115.3	115.9	116.0	24	116.5	116.8	117.0	24	114.3	114.7	115.4	24	---	---	---	0
7/18	116.6	117.1	117.5	24	113.3	113.6	114.2	24	115.4	115.7	115.9	24	113.9	114.3	114.7	24	---	---	---	0
7/19	116.9	117.2	117.8	24	112.3	112.9	113.5	24	116.0	116.5	117.0	24	112.9	113.4	113.9	24	---	---	---	0
7/20	117.0	117.9	118.5	24	112.5	112.8	113.0	24	115.1	115.5	115.7	24	113.5	114.4	115.2	24	---	---	---	0
7/21	117.0	117.4	118.5	24	112.5	112.7	113.2	24	114.3	114.9	115.7	24	112.6	113.2	113.9	24	---	---	---	0
7/22	115.7	116.3	116.6	24	111.9	112.1	112.4	24	113.8	114.6	116.0	24	112.2	113.5	115.0	24	---	---	---	0
7/23	116.6	117.9	118.5	24	112.5	113.5	114.0	24	114.4	115.3	116.3	24	112.9	114.8	116.3	24	---	---	---	0
7/24	117.5	118.3	118.8	24	114.2	114.8	115.6	24	115.5	116.1	117.4	24	113.9	115.5	117.1	24	---	---	---	0
7/25	116.2	116.9	118.4	24	112.4	113.8	115.7	24	117.0	117.7	118.5	24	113.1	114.3	115.3	24	---	---	---	0
7/26	115.5	116.1	116.5	24	110.3	110.5	110.9	24	117.2	117.9	119.3	24	114.8	115.6	116.5	24	---	---	---	0
7/27	115.4	115.6	115.8	24	109.1	109.4	109.7	24	116.0	116.2	116.4	24	113.3	114.2	114.8	24	---	---	---	0
7/28	116.3	116.9	117.6	24	110.1	110.9	111.1	24	116.2	116.6	117.2	24	113.5	114.8	115.6	24	---	---	---	0

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											
	07/18/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	07/20/11	Chinook + Steelhead	46	1	1	2.17%	0.00%	1	0	0	0
	07/27/11	Chinook + Steelhead	36	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	07/21/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/25/11	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0
	07/28/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	07/16/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/19/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/23/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/26/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	07/21/11	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	07/26/11	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0

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
07/15/2011	197.0	25.0	189.7	55.8	211.4	46.6	219.2	62.2	223.6	46.7	231.9	102.4	235.2	102.4
07/16/2011	184.7	13.0	179.0	59.0	196.7	39.5	202.0	31.7	203.9	44.6	213.2	73.7	211.3	101.1
07/17/2011	174.0	2.8	173.6	58.8	186.5	33.3	191.7	28.0	196.3	43.8	207.3	84.3	209.9	89.0
07/18/2011	176.2	12.9	179.5	49.2	192.0	35.1	199.9	46.2	203.5	41.3	222.5	87.4	226.3	106.2
07/19/2011	183.9	20.0	178.4	50.5	198.2	45.0	205.1	41.8	208.7	39.2	206.4	81.1	207.4	105.4
07/20/2011	178.3	15.7	170.6	53.5	184.1	49.3	191.3	33.1	198.5	45.6	221.2	81.1	224.9	113.0
07/21/2011	177.6	17.1	175.5	50.6	187.1	21.4	190.5	17.9	193.0	44.6	198.5	80.5	198.8	110.7
07/22/2011	170.9	3.2	169.9	46.7	181.2	27.7	181.4	26.8	183.9	39.8	197.7	62.8	198.5	80.8
07/23/2011	172.3	3.4	166.6	42.7	181.4	27.2	186.5	37.9	190.9	38.3	194.1	57.4	190.0	57.3
07/24/2011	170.3	1.5	177.4	46.0	188.6	29.9	191.2	36.5	194.5	37.5	207.3	72.7	210.1	79.6
07/25/2011	159.7	0.2	157.6	23.8	170.9	18.2	175.0	41.2	179.6	36.7	190.1	55.6	192.6	71.1
07/26/2011	153.8	0.1	155.9	0.0	162.5	12.5	168.0	27.9	165.9	36.3	172.7	48.6	171.1	56.4
07/27/2011	159.4	0.1	160.0	0.0	172.2	16.1	174.9	26.4	179.8	34.7	173.3	50.6	190.8	77.7
07/28/2011	160.8	0.2	156.0	0.0	162.3	11.7	161.6	17.5	166.9	33.7	173.1	39.1	171.1	41.2

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
07/15/2011	13.5	4.2	24.6	25.4	89.5	18.5	87.2	26.1	86.8	17.0	92.2	61.3
07/16/2011	13.9	4.4	22.8	25.9	86.8	19.8	85.7	26.3	84.8	17.4	89.5	62.0
07/17/2011	14.0	4.5	22.7	25.5	83.8	18.5	82.7	24.9	81.3	17.0	85.3	58.5
07/18/2011	14.0	4.5	21.8	25.3	81.2	18.5	79.4	23.7	80.2	17.0	84.4	56.8
07/19/2011	14.0	4.5	19.9	25.6	80.0	18.5	79.0	23.6	78.5	16.9	83.0	56.5
07/20/2011	13.9	4.4	19.6	24.4	72.3	18.6	70.6	21.0	69.4	16.9	74.5	51.1
07/21/2011	14.0	4.5	18.4	25.7	75.9	18.6	76.4	23.0	74.5	16.9	78.7	53.8
07/22/2011	13.9	4.4	18.2	25.8	71.6	18.5	68.4	20.4	68.9	16.6	73.8	52.2
07/23/2011	13.9	4.4	18.5	26.5	70.5	18.5	69.2	20.8	69.8	17.0	75.1	55.2
07/24/2011	13.8	4.3	17.8	25.6	69.4	18.4	69.5	21.0	68.6	17.0	72.2	52.2
07/25/2011	13.7	4.3	16.1	23.5	62.5	18.7	60.0	17.8	59.0	17.0	63.1	48.7
07/26/2011	13.9	4.4	15.1	19.3	62.1	18.9	60.8	18.0	60.4	16.9	64.0	48.2
07/27/2011	13.9	4.3	15.2	20.7	54.8	18.7	54.6	16.3	54.2	17.0	59.1	46.8
07/28/2011	13.9	4.2	---	---	58.1	18.6	58.2	17.4	57.6	16.8	62.5	47.7

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
07/15/2011	334.4	207.4	350.1	139.1	331.7	129.8	344.2	147.0	75.6	109.2
07/16/2011	295.9	171.8	299.1	115.6	289.7	116.6	304.0	106.6	75.9	109.1
07/17/2011	288.4	165.1	281.0	84.1	269.5	107.4	291.0	95.6	75.0	108.0
07/18/2011	295.9	179.6	298.7	96.1	289.2	114.1	301.6	99.9	76.4	112.9
07/19/2011	298.0	188.4	295.8	118.9	279.2	111.6	301.1	123.4	58.2	107.1
07/20/2011	290.3	173.5	296.1	113.1	283.7	113.1	294.9	104.2	68.6	109.7
07/21/2011	274.8	151.2	267.9	80.6	262.3	105.1	278.4	95.0	82.6	88.4
07/22/2011	277.3	151.3	272.2	81.6	259.7	103.9	281.7	87.9	83.2	98.3
07/23/2011	272.0	134.4	267.7	80.3	255.3	102.2	268.1	89.8	79.9	86.0
07/24/2011	272.4	136.4	257.8	77.0	244.3	97.4	266.8	89.6	77.3	87.5
07/25/2011	273.3	148.9	258.5	77.3	244.5	97.7	258.5	130.2	43.4	72.5
07/26/2011	245.5	126.3	243.3	73.0	236.2	94.3	255.9	139.4	37.3	66.7
07/27/2011	247.9	123.8	243.3	72.8	226.5	90.7	249.3	133.0	37.1	66.7
07/28/2011	256.5	128.5	250.5	74.9	238.1	94.5	249.3	132.7	36.7	67.5

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)
07/15/2011	*	---	---	---	---	0	0	0	0	---	0	0
07/16/2011	*	---	---	---	---	26	0	30	0	5	0	0
07/17/2011	*	---	---	---	---	0	29	15	2	---	0	263
07/18/2011	*	---	---	---	---	0	14	15	0	0	204	0
07/19/2011	*	---	---	---	---	0	0	8	0	---	0	0
07/20/2011	*	---	---	---	---	0	0	14	0	0	0	0
07/21/2011	*	---	---	---	---	0	0	13	0	0	0	0
07/22/2011		---	---	---	---	13	0	26	0	0	0	0
07/23/2011		---	---	---	---	0	14	53	0	0	0	0
07/24/2011		---	---	---	---	0	0	13	0	0	0	0
07/25/2011		---	---	---	---	0	0	95	0	0	0	0
07/26/2011		---	---	---	---	0	0	14	0	0	0	0
07/27/2011		---	---	---	---	0	0	0	---	0	0	26
07/28/2011		---	---	---	---	0	0	0	0	0	0	0
07/29/2011		---	---	---	---	---	---	---	---	---	0	0
Total:		**0**	**0**	**0**	**0**	**39**	**57**	**296**	**2**	**5**	**204**	**289**
# Days:		**0**	**0**	**0**	**0**	**14**	**14**	**14**	**13**	**11**	**15**	**15**
Average:		**0**	**0**	**0**	**0**	**3**	**4**	**21**	**0**	**0**	**14**	**19**
YTD		**31,090**	**30,210**	**12,492**	**18,836**	**3,831,079**	**2,528,593**	**1,236,709**	**26,457**	**1,979,315**	**2,936,420**	**1,322,276**

				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)
07/15/2011	*	---	---	---	---	8,585	8,268	2,412	472	---	76,287	51,908
07/16/2011	*	---	---	---	---	6,312	11,266	3,215	467	167,169	61,873	70,025
07/17/2011	*	---	---	---	---	6,082	7,147	2,407	319	---	62,861	48,814
07/18/2011	*	---	---	---	---	6,481	4,886	3,482	335	201,581	70,271	39,115
07/19/2011	*	---	---	---	---	4,100	6,251	4,437	177	---	110,433	54,974
07/20/2011	*	---	---	---	---	3,942	3,432	3,605	309	150,391	73,606	59,448
07/21/2011	*	---	---	---	---	6,604	5,916	5,517	396	137,693	86,226	96,614
07/22/2011		---	---	---	---	5,859	8,011	5,443	549	149,445	76,233	49,618
07/23/2011		---	---	---	---	4,691	7,153	4,185	640	159,889	101,091	90,517
07/24/2011		---	---	---	---	5,047	12,784	3,727	862	225,165	65,033	75,421
07/25/2011		---	---	---	---	4,160	9,572	4,848	890	187,342	62,010	71,296
07/26/2011		---	---	---	---	2,009	3,682	1,513	392	191,542	56,810	47,228
07/27/2011		---	---	---	---	1,769	4,342	1,998	---	114,703	51,771	45,896
07/28/2011		---	---	---	---	2,299	4,770	1,824	515	191,116	46,192	35,902
07/29/2011		---	---	---	---	---	---	---	---	---	53,821	27,691
Total:		**0**	**0**	**0**	**0**	**67,940**	**97,480**	**48,613**	**6,323**	**1,876,036**	**1,054,518**	**864,467**
# Days:		**0**	**0**	**0**	**0**	**14**	**14**	**14**	**13**	**11**	**15**	**15**
Average:		**0**	**0**	**0**	**0**	**4,853**	**6,963**	**3,472**	**486**	**170,549**	**70,301**	**57,631**
YTD		**9**	**38**	**12**	**163**	**1,129,476**	**1,320,156**	**347,385**	**26,510**	**4,115,148**	**2,814,062**	**4,862,653**

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)
07/15/2011	*	---	---	---	---	38	43	7	2	---	0	0
07/16/2011	*	---	---	---	---	0	43	0	8	0	241	0
07/17/2011	*	---	---	---	---	154	14	0	0	---	0	0
07/18/2011	*	---	---	---	---	0	57	8	0	0	0	0
07/19/2011	*	---	---	---	---	26	43	8	0	---	0	0
07/20/2011	*	---	---	---	---	105	43	0	0	0	0	0
07/21/2011	*	---	---	---	---	67	29	13	2	0	0	0
07/22/2011		---	---	---	---	40	129	26	2	0	0	0
07/23/2011		---	---	---	---	94	43	26	0	0	0	0
07/24/2011		---	---	---	---	274	115	0	0	0	0	0
07/25/2011		---	---	---	---	152	86	0	2	0	0	290
07/26/2011		---	---	---	---	173	57	14	0	225	0	0
07/27/2011		---	---	---	---	73	100	28	---	0	0	0
07/28/2011		---	---	---	---	154	57	29	2	0	0	0
07/29/2011		---	---	---	---	---	---	---	---	---	0	0
Total:		**0**	**0**	**0**	**0**	**1,350**	**859**	**159**	**18**	**225**	**241**	**290**
# Days:		**0**	**0**	**0**	**0**	**14**	**14**	**14**	**13**	**11**	**15**	**15**
Average:		**0**	**0**	**0**	**0**	**96**	**61**	**11**	**1**	**20**	**16**	**19**
YTD		**0**	**0**	**0**	**218**	**81,974**	**80,945**	**19,123**	**46,380**	**187,479**	**476,659**	**439,564**

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)
07/15/2011	*	---	---	---	---	89	43	15	4	---	0	0
07/16/2011	*	---	---	---	---	103	130	8	13	3	0	0
07/17/2011	*	---	---	---	---	26	0	15	4	---	0	0
07/18/2011	*	---	---	---	---	51	14	15	10	0	0	0
07/19/2011	*	---	---	---	---	26	31	8	5	---	0	0
07/20/2011	*	---	---	---	---	53	14	55	2	3	238	0
07/21/2011	*	---	---	---	---	27	43	39	3	0	0	0
07/22/2011		---	---	---	---	54	14	0	0	234	192	0
07/23/2011		---	---	---	---	54	72	0	6	0	0	0
07/24/2011		---	---	---	---	27	0	0	8	0	0	0
07/25/2011		---	---	---	---	28	0	14	0	0	0	0
07/26/2011		---	---	---	---	14	3	0	2	0	0	0
07/27/2011		---	---	---	---	29	0	16	---	0	0	0
07/28/2011		---	---	---	---	0	14	0	0	0	0	0
07/29/2011		---	---	---	---	---	---	---	---	---	0	0
Total:		**0**	**0**	**0**	**0**	**581**	**378**	**185**	**57**	**240**	**430**	**0**
# Days:		**0**	**0**	**0**	**0**	**14**	**14**	**14**	**13**	**11**	**15**	**15**
Average:		**0**	**0**	**0**	**0**	**42**	**27**	**13**	**4**	**22**	**29**	**0**
YTD		**1,080**	**13,882**	**4,071**	**2,934**	**4,118,523**	**2,032,988**	**838,140**	**28,452**	**607,987**	**2,620,143**	**246,497**

Two-Week Summary of Passage Indices

				COMBINED SOCKEYE								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
07/15/2011	*	---	---	---	---	89	43	22	9	---	0	0
07/16/2011	*	---	---	---	---	0	43	23	15	530	241	0
07/17/2011	*	---	---	---	---	103	29	8	9	---	0	263
07/18/2011	*	---	---	---	---	77	72	23	8	726	204	261
07/19/2011	*	---	---	---	---	26	72	23	3	---	221	0
07/20/2011	*	---	---	---	---	26	72	0	10	8	238	0
07/21/2011	*	---	---	---	---	67	29	52	14	983	224	0
07/22/2011		---	---	---	---	67	72	66	12	701	0	0
07/23/2011		---	---	---	---	81	14	26	13	0	0	287
07/24/2011		---	---	---	---	82	86	13	2	202	0	305
07/25/2011		---	---	---	---	55	57	14	9	205	204	290
07/26/2011		---	---	---	---	87	29	28	8	901	0	372
07/27/2011		---	---	---	---	29	0	43	---	416	0	0
07/28/2011		---	---	---	---	0	43	15	14	0	0	0
07/29/2011		---	---	---	---	---	---	---	---	---	143	0
Total:		**0**	**0**	**0**	**0**	**789**	**661**	**356**	**126**	**4,672**	**1,475**	**1,778**
# Days:		**0**	**0**	**0**	**0**	**14**	**14**	**14**	**13**	**11**	**15**	**15**
Average:		**0**	**0**	**0**	**0**	**56**	**47**	**25**	**10**	**425**	**98**	**119**
YTD		**0**	**0**	**1**	**0**	**119,255**	**44,223**	**31,290**	**18,588**	**320,923**	**362,720**	**113,559**

				COMBINED LAMPREY JUVENILES								
		WTB	IMN	GRN	LEW	LGR†	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)
07/15/2011	*	---	---	---	---	330	50	0	0	---	1,143	0
07/16/2011	*	---	---	---	---	820	60	0	0	200	0	67
07/17/2011	*	---	---	---	---	180	50	0	0	---	143	104
07/18/2011	*	---	---	---	---	260	90	0	0	100	286	0
07/19/2011	*	---	---	---	---	100	40	0	0	---	143	0
07/20/2011	*	---	---	---	---	0	100	0	1	500	143	0
07/21/2011	*	---	---	---	---	20	70	0	1	200	0	0
07/22/2011		---	---	---	---	40	70	0	0	200	143	0
07/23/2011		---	---	---	---	10	10	0	0	300	286	0
07/24/2011		---	---	---	---	30	10	0	0	300	429	0
07/25/2011		---	---	---	---	40	10	0	0	200	143	0
07/26/2011		---	---	---	---	30	0	0	1	100	429	0
07/27/2011		---	---	---	---	0	50	0	---	100	429	0
07/28/2011		---	---	---	---	0	30	0	0	100	300	0
07/29/2011		---	---	---	---	---	---	---	---	---	100	0
Total:		**0**	**0**	**0**	**0**	**1,860**	**640**	**0**	**3**	**2,300**	**4,117**	**171**
# Days:		**0**	**0**	**0**	**0**	**14**	**14**	**14**	**13**	**11**	**15**	**15**
Average:		**0**	**0**	**0**	**0**	**133**	**46**	**0**	**0**	**209**	**274**	**11**
YTD		**0**	**0**	**0**	**0**	**10,482**	**15,441**	**746**	**319**	**161,042**	**490,364**	**25,902**

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, and pacific lamprey macropthalmia.

† 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/Washington Dept. of Fish and Wildlife.
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.

Two Week Transportation Summary

Source: Fish Passage Center Updated: 7/29/11 12:00 PM

07/15/11 TO 07/29/11

		Species					
Site	Data	**CH0**	**CH1**	CO	ST	SO	**Grand Total**
LGR	Sum of NumberCollected	51,230	30	980	440	590	53,270
	Sum of NumberBarged	50,973	28	979	435	587	53,002
	Sum of NumberBypassed	17	0	0	0	0	17
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	43	0	0	0	0	43
	Sum of FacilityMorts	182	2	1	5	3	193
	Sum of ResearchMorts	15	0	0	0	0	15
	Sum of TotalProjectMorts	240	2	1	5	3	251
LGS	Sum of NumberCollected	67,986	40	600	264	460	69,350
	Sum of NumberBarged	67,653	39	600	263	454	69,009
	Sum of NumberBypassed	5	0	0	0	0	5
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	73	1	0	1	0	75
	Sum of FacilityMorts	255	0	0	0	6	261
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	328	1	0	1	6	336
LMN	Sum of NumberCollected	36,936	225	118	141	268	37,688
	Sum of NumberBarged	36,672	224	117	136	267	37,416
	Sum of NumberBypassed	78	1	0	3	0	82
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	15	0	0	0	0	15
	Sum of FacilityMorts	171	0	1	2	1	175
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	186	0	1	2	1	190
MCN	Sum of NumberCollected	833,771		100	102	2,006	835,979
	Sum of NumberBarged	521,777		100	100	1,489	523,466
	Sum of NumberBypassed	196,938		0	0	500	197,438
	Sum of Numbertrucked	0		0	0	0	0
	Sum of SampleMorts	247		0	0	0	247
	Sum of FacilityMorts	22,242		0	2	19	22,263
	Sum of ResearchMorts	0		0	0	0	0
	Sum of TotalProjectMorts	22,489		0	2	19	22,510
Total Sum of NumberCollected		989,923	295	1,798	947	3,324	996,287
Total Sum of NumberBarged		677,075	291	1,796	934	2,797	682,893
Total Sum of NumberBypassed		197,038	1	0	3	500	197,542
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		378	1	0	1	0	380
Total Sum of FacilityMorts		22,850	2	2	9	29	22,892
Total Sum of ResearchMorts		15	0	0	0	0	15
Total Sum of TotalProjectMorts		23,243	3	2	10	29	23,287

YTD Transportation Summary

Source: Fish Passage Center Updated: 7/29/11 12:00 PM

TO: 07/29/11

		Species					
Site	Data	**CH0**	**CH1**	CO	SO	ST	**Grand Total**
LGR	Sum of NumberCollected	716,770	2,716,904	53,854	78,009	2,713,278	6,278,815
	Sum of NumberBarged	632,683	1,705,110	39,325	35,379	1,436,994	3,849,491
	Sum of NumberBypassed	81,884	1,009,672	14,509	42,055	1,275,909	2,424,029
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	190	101	1	72	41	405
	Sum of FacilityMorts	1,998	1,780	19	503	271	4,571
	Sum of ResearchMorts	15	241	0	0	58	314
	Sum of TotalProjectMorts	2,203	2,122	20	575	370	5,290
LGS	Sum of NumberCollected	707,646	1,449,324	40,950	24,144	1,132,336	3,354,400
	Sum of NumberBarged	704,299	1,344,369	40,548	18,776	893,290	3,001,282
	Sum of NumberBypassed	92	103,168	401	5,227	238,633	347,521
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	189	52	0	9	10	260
	Sum of FacilityMorts	3,066	1,735	1	132	403	5,337
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	3,255	1,787	1	141	413	5,597
LMN	Sum of NumberCollected	235,296	854,066	12,715	21,029	565,755	1,688,861
	Sum of NumberBarged	225,656	636,663	11,552	18,813	459,641	1,352,325
	Sum of NumberBypassed	8,444	215,898	1,254	1,964	103,437	330,997
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	29	3	0	0	5	37
	Sum of FacilityMorts	1,167	1,499	11	252	872	3,801
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,196	1,502	11	252	877	3,838
MCN	Sum of NumberCollected	1,623,062	952,647	71,555	134,359	295,979	3,077,602
	Sum of NumberBarged	521,777	0	100	1,489	100	523,466
	Sum of NumberBypassed	975,593	949,771	71,257	132,464	295,663	2,424,748
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	623	187	8	40	13	871
	Sum of FacilityMorts	32,502	2,689	170	368	203	35,932
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	33,125	2,876	178	408	216	36,803
Total Sum of NumberCollected		3,282,774	5,972,941	179,074	257,541	4,707,348	14,399,678
Total Sum of NumberBarged		2,084,415	3,686,142	91,525	74,457	2,790,025	8,726,564
Total Sum of NumberBypassed		1,066,013	2,278,509	87,421	181,710	1,913,642	5,527,295
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		1,031	343	9	121	69	1,573
Total Sum of FacilityMorts		38,733	7,703	201	1,255	1,749	49,641
Total Sum of ResearchMorts		15	241	0	0	58	314
Total Sum of TotalProjectMorts		39,779	8,287	210	1,376	1,876	51,528

Cumulative Adult Passage at Mainstem Dams Through: 07/28

		Spring Chinook						Summer Chinook						Fall Chinook					
		2011		2010		10-Yr Avg.		2011		2010		10-Yr Avg.		2011		2010		10-Yr Avg.	
DAM	EndDate	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	**07/28**	**167097**	**50945**	**244384**	**12612**	**174444**	**16431**	**106178**	**50508**	**96535**	**15423**	**87846**	**13294**	**0**	**0**	**0**	**0**	**0**	**0**
TDA	**07/28**	**124164**	**40146**	**189839**	**11546**	**130174**	**13470**	**77599**	**37933**	**79398**	**12237**	**76127**	**10217**	**0**	**0**	**0**	**0**	**0**	**0**
JDA	**07/28**	**103401**	**39823**	**179446**	**11794**	**110572**	**12004**	**71734**	**33190**	**69234**	**12113**	**68943**	**11063**	**0**	**0**	**0**	**0**	**0**	**0**
MCN	**07/28**	**101245**	**31750**	**153500**	**9185**	**102003**	**11175**	**68373**	**26515**	**63728**	**7640**	**63911**	**8607**	**0**	**0**	**0**	**0**	**0**	**0**
IHR	**07/28**	**69306**	**18161**	**101188**	**6047**	**70295**	**6879**	**25685**	**12094**	**28851**	**3406**	**17434**	**3365**	**0**	**0**	**0**	**0**	**0**	**0**
LMN	**07/28**	**69832**	**18094**	**97334**	**5898**	**69566**	**5561**	**30136**	**13447**	**34510**	**4258**	**18334**	**2957**	**0**	**0**	**0**	**0**	**0**	**0**
LGS	**07/28**	**67321**	**23492**	**92985**	**5461**	**64800**	**6145**	**40474**	**17747**	**31262**	**3782**	**15278**	**3404**	**0**	**0**	**0**	**0**	**0**	**0**
LGR	**07/28**	**59342**	**22063**	**94203**	**6409**	**65342**	**7745**	**34932**	**15919**	**28017**	**5082**	**14326**	**4236**	**0**	**0**	**0**	**0**	**0**	**0**
PRD	**07/25**	**15246**	**6030**	**30539**	**932**	**20141**	**818**	**38572**	**2573**	**43718**	**745**	**50421**	**1656**	**0**	**0**	**0**	**0**	**0**	**0**
RIS	**07/25**	**13089**	**8394**	**29684**	**1513**	**17327**	**1572**	**29842**	**10290**	**39725**	**2607**	**45321**	**3642**	**0**	**0**	**0**	**0**	**0**	**0**
RRH	**07/25**	**6989**	**3491**	**8660**	**523**	**6536**	**525**	**22534**	**5343**	**26033**	**882**	**31322**	**2548**	**0**	**0**	**0**	**0**	**0**	**0**
WEL	**07/22**	**4153**	**3969**	**7596**	**661**	**5414**	**510**	**11857**	**2479**	**17869**	**611**	**18865**	**787**	**0**	**0**	**0**	**0**	**0**	**0**
WFA	**07/26**	**42028**	**1289**	**64867**	**1617**	**51353**	**1050**	**-**	**-**	**-**	**-**	**-**	**-**	**0**	**0**	**0**	**0**	**-**	**-**

	Coho						Sockeye			Steelhead			
	2011		2010		10-Yr Avg.				10-Yr			10-Yr	Wild
DAM	Adult	Jack	Adult	Jack	Adult	Jack	2011	2010	Avg.	2011	2010	Avg.	2011
BON	**4**	**0**	**0**	**0**	**0**	**0**	**185346**	**386273**	**123727**	**84065**	**173634**	**110144**	**42334**
TDA	**2**	**0**	**0**	**0**	**0**	**0**	**137764**	**324865**	**105605**	**42460**	**108937**	**55112**	**22154**
JDA	**0**	**0**	**5**	**2**	**1**	**0**	**142664**	**323804**	**110021**	**27311**	**77844**	**41181**	**14343**
MCN	**0**	**0**	**0**	**0**	**0**	**0**	**112899**	**278358**	**91386**	**16601**	**49205**	**26570**	**7282**
IHR	**0**	**0**	**0**	**0**	**0**	**0**	**1093**	**1283**	**279**	**10527**	**29585**	**14151**	**3550**
LMN	**0**	**0**	**0**	**0**	**0**	**0**	**1327**	**1612**	**347**	**9625**	**23225**	**12811**	**4049**
LGS	**0**	**0**	**0**	**0**	**0**	**0**	**1344**	**1534**	**326**	**9864**	**12203**	**7642**	**4754**
LGR	**0**	**0**	**0**	**0**	**0**	**0**	**1413**	**1977**	**410**	**14978**	**19235**	**13022**	**6799**
PRD	**0**	**0**	**0**	**2**	**0**	**0**	**138433**	**354576**	**113733**	**711**	**4426**	**2185**	**0**
RIS	**0**	**0**	**0**	**0**	**0**	**0**	**131021**	**333369**	**109278**	**534**	**2647**	**1473**	**349**
RRH	**0**	**0**	**0**	**0**	**1**	**0**	**113696**	**288702**	**85428**	**823**	**1806**	**1137**	**641**
WEL	**0**	**0**	**0**	**0**	**0**	**0**	**71593**	**272094**	**80769**	**196**	**662**	**385**	**143**
WFA	**0**	**0**	**0**	**0**	**-**	**-**	**-**	**-**	**-**	**26037**	**31311**	**27650**	**-**

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.

Page last updated on: 07/29/11

BON counts from January 1, 2011 to March 14, 2011 (historical counts begin March 15):

Year	Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
2011	49	1	1,419	600
2010	39	0	2,318	657