Fish Passage Center

Weekly Report #11 - 23

August 19, 2011

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 0% and 173% of average at individual sub-basins over August. Precipitation above The Dalles has been 50% of average over August. Over the 2011 water year, precipitation has ranged between 102% and 141% of average.

Table 1. Summary of August 1-15 precipitation and cumulative October through August 15 precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2011 August 1-15, 2011		Water Year 2011 October 1, 2010 to August 15, 2011	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	0.37	45	26.24	114
Snake River Above Ice Harbor	0.40	97	20.41	124
Columbia Above The Dalles	0.29	50	25.51	119
Kootenai	0.42	52	25.77	109
Clark Fork	0.22	34	18.97	118
Flathead	0.16	20	25.67	121
Pend Oreille/Spokane	0.05	8	33.37	114
Central Washington	0.00	1	9.30	109
Snake River Plain	0.34	121	12.78	122
Salmon/Boise/Payette	0.11	32	20.60	110
Clearwater	0.09	16	35.87	124
SW Washington Cascades/Cowlitz	0.00	0	72.53	107
Willamette Valley	0.00	0	62.24	109

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 91.2 Kcfs and 37.4 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 280.9 Kcfs and 204.4 Kcfs last week.

Grand Coulee Reservoir is at 1286.6 feet (8-18-11) and has drafted 2.2 feet over the last week. The August 31st draft elevation at Grand Coulee is 1280 feet. Outflows at Grand Coulee have ranged between 128 and 153 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2451.1 feet (8-18-11) and has drafted 1.4 feet last week. Outflows at Libby Dam have decreased from 16.0 Kcfs to 14.6 Kcfs over the last week. The COE plans to target elevation 2449 feet by the end of September.

Hungry Horse is currently at an elevation of 3557.7 feet (8-18-11) and has drafted 1.0 feet last week. Outflows at Hungry Horse have been 4.0 Kcfs last week. The BOR plans to target elevation 3550 feet by the end of September.

Dworshak is currently at an elevation of 1562.5 feet (8-18-11) and has drafted 10 feet last week. Outflows from Dworshak have been 13.2-13.9 Kcfs last week. The temperature of the water being released from Dworshak is being managed so the fore-bay at Lower Granite Dam does not exceed tempera-tures standards.

The Brownlee Reservoir was at an elevation of 2057.35 feet on August 18th, 2011 drafting 0.35 feet last week. Over the last week, outflows at Brownlee have ranged between 12.3-16.8 Kcfs.

Spill:

Spill levels transitioned from spring to summer levels for fish passage on June 21st at the lower Snake River projects. Flows continued to decrease over the past week.

Spill occurred at Dworshak Dam this past week, as the project continues to draft to the end of August target elevation of 1535 feet that, because of total dissolved gas restriction on the amount of spill, will be met sometime in September. Excess spill has occurred at Lower Granite Dam on some days due to a powerhouse outage for transmission line repairs. Over the past week, daily average flows at Lower Granite Dam have ranged from 35.5 to 40 Kcfs, and daily average spill has been 18.4 to 30.3 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 July 13, spill levels at Ice Harbor 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, except when flows were too low to maintain the spill levels and powerhouse minimum flows. Daily average spill ranged from 25.7 to 31.1 Kcfs.

Project	Day/Night Spill
Lower Granite	18 Kcfs/18 Kcfs
Little Goose	30%/30%
Lower Monumental	17 Kcfs/17 Kcfs
Ice Harbor	**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 at McNary Dam has met the Court Ordered 50% of daily average flow. Spill levels at John Day are now meeting post-test conditions of 30% of total river flow. At The Dalles Dam, spill met the 40% of instantaneous flow Court Order over the past week. Finally, at Bonneville Dam spill met the Court ordered summer operations.

Project	Day/Night Spill
McNary	50%/50%
John Day	**Post-test:** 30%/30%
The Dalles	40%/40%
Bonneville	**July 20th - August 31:** 75 Kcfs day/GasCap night.

Projects are now in compliance with the 115/120% total dissolved gas criteria, with the exception of one day when the Lower Granite tailrace was 0.1% above the criteria. Two fish were observed

with minor signs of gas bubble trauma this past week at McNary Dam in the sample taken on August 15th, and one fish in the sample on the 18th. At Rock Island Dam, one fish was observed with minor signs of gas bubble trauma in the sample taken on August 16th.

Smolt Monitoring:

Smolt monitoring was ongoing at all SMP sites this past week. The transport sites have transitioned to truck transport this past week, with the last barges leaving on August 15. Subyearling Chinook predominated in the collections at all dams over the past week. And subyearling Chinook passage indices were up slightly at Snake River sites but down at all Columbia Rivers sites over the past week. 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 pass through the system.

Subyearling Chinook smolts continued to predominate in the passage indices this week at Lower Granite Dam and the passage indices while low moved up on average over the previous week. Subyearling indices averaged nearly 750 per day over the past week compared 400 per day the previous week. Small numbers of all spring migrants continue to be collected sporadically. Little Goose and Lower Monumental dams showed similar patterns in passage with subyearling Chinook predominating, followed by small but steady numbers of coho, while steelhead, sockeye and yearling Chinook have been sporadically sampled.

Sampling at Rock Island Dam is ongoing. Subyearling Chinook predominated in the samples over the past week. Subyearling Chinook collections decreased this week with the index averaging 100 per day this week compared to 150 per day last week. All spring migrant indices averaged 10 or fewer fish per day last week.

McNary Dam moved to every day sampling with the beginning of collections for transportation on July 20. Subyearling Chinook continue to predominate in passage at the project, with the average passage index at 20,000 per day this week compared to 40,000 last week. McNary has been alternately barging and trucking smolts over the past two weeks.

At John Day Dam passage indices declined for subyearling Chinook over the past week, with the indices averaging 8,000 per day this week compared to 21,000 per day last week.

At Bonneville Dam the COE has been repairing diffuser screens in the Washington Shore Adult ladder since August 10 and have prioritized Powerhouse 1 for power production. By shifting flows to Powerhouse 1 they hope to decrease impact of closing the Washington ladder on adult passage. At the same time collections at the SMP facility in Powerhouse 2 have been greatly affected since flows to that powerhouse have been minimal. As a result passage indices at Bonneville were quite low over the past week with numbers dropping to less than 200 per day on August 15. However, indices over the past week do not reflect total passage and will likely rebound when Powerhouse 2 operates normally again.

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:

Fall Chinook began to pass Bonneville Dam on August 1st . Daily counts of fall Chinook at Bonneville Dam ranged from 677 to 1,285. The 2011 adult fall Chinook count of 11,945 is about 1.12 times greater than the 2010 count and 1.14 times greater than the 10 average. The 2011 Bonneville Dam fall Chinook jack count of 3,366 is about 2.14 times greater than the 2010 count and 1.99 times greater than the 10 year average. The 2011 McNary Dam adult fall Chinook count of 3,284 is about 1.96 times greater than the 2010 count and about 1.63 times greater than the 10 year average. The 2011 fall Chinook jack McNary Dam jack count of 861 is about

3.4 times greater than the 2010 count and about 2.04 times greater than the 10 year average.

During this time of year, there are times when there are higher steelhead counts at upstream projects compared to downstream projects. The higher counts of steelhead at upstream sites compared to downstream sites in any particular year is because some steelhead spend the winter between sites, for instance between Ice Harbor and Lower Granite, and then start their migration upstream the following year. The summer steelhead run is delineated according to dates of passage past Bonneville Dam and is made up of two components. A-run steelhead are considered those that pass Bonneville Dam from the first of June through August 25th and B-run steelhead pass Bonneville from August 26th through October. The 2011 A-run adult steelhead count at Bonneville of 213,972 is about 76.6% of the 2010 count of 279,156 and 94.5% of the 10 year average count of 226,453.

The Bonneville Dam 2011 steelhead count of 217,832 is about 75.9% of the 2010 count of 286,810 and about 94.2% of the 10 year average count of 231,238. In the Snake River, this year's Lower Granite steelhead count of 26,918 is about 93.2% of the 2010 count, while being about 1.4 times greater than the 10 year average count of 17,120. The 2011 LGR wild steelhead count as of August 17th was 10,704. The 2011 Rock Island Dam adult steelhead count of 4,040 is about 38.9% of the 2010 count and 76.9% of the 10 year average. At Willamette Falls Dam, the 2011 count for steelhead was 27,228, as of August 12th. This year's steelhead count is about 85.8% of the 2010 count and about 97.2% of the 10 year average.
The 2011 adult sockeye count at Bonneville Dam of 185,775 is about 48.1% of the 2010 count, while being about 1.5 times greater than the 10 year average. The 2011 adult sockeye count at McNary Dam of 113,917 is about 40.9% of the 2010 count, while being 1.24 times greater than the 10 year average. 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 zone at Ice Harbor Dam, the 2011 adult sockeye count of 1,132 is about 87% of the 2010 count of 1,300, while being about 4.04 times greater than the 10 year average count of 280. The Lower Granite Dam 2011 adult sockeye count of 1,493 is about 69.9% of the 2010 count of 2,136 and about 3.5 times greater than the 10 year average of 427.

The 2011 Bonneville Dam adult coho salmon count of 841 is about 2.19 times greater than the 2010 count of 384 and 2.25 times greater than the 10 year average count of 373. The 2011 Bonneville Dam coho jack count of 142 is about 2.73 times greater than the 2010 count and 1.75 times greater than the 10 year average. As of August 17th at Bonneville Dam, the adult Shad count was 947,794 which was about 90.9% of the 2010 count of 1,042,308 and about 30.8% of the 10 year average count of 3,071,495.

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
8/5	106.7	106.9	107.2	24	113.3	113.7	114.5	21	115.8	115.9	116.3	24	112.9	113.4	113.9	21	114.5	114.9	115.3	24
8/6	106.8	107.2	107.5	23	112.8	113.3	113.7	19	115.4	115.7	115.9	24	113.1	113.4	114.0	19	114.3	114.6	115.0	24
8/7	106.7	107.1	107.4	24	113.9	114.8	115.4	21	115.3	115.6	115.9	24	112.8	113.4	113.8	21	113.8	114.2	114.5	24
8/8	106.5	106.8	107.1	24	114.0	114.7	115.2	21	115.3	115.5	115.6	24	112.8	113.5	114.0	21	113.8	114.2	114.6	24
8/9	106.7	107.0	107.4	23	112.9	113.3	114.3	19	114.9	115.3	115.6	24	113.7	114.6	115.3	19	113.6	114.0	114.3	24
8/10	106.9	107.2	107.7	24	112.8	113.4	114.0	21	115.3	115.5	115.5	24	114.3	114.8	115.1	21	113.1	113.3	113.6	24
8/11	106.4	106.7	107.2	22	112.5	112.8	113.5	18	114.8	115.0	115.2	24	113.7	114.0	114.5	18	112.5	112.7	112.9	24
8/12	106.0	106.3	106.6	24	112.5	113.2	113.7	23	114.6	114.8	115.0	24	113.3	113.9	114.5	23	111.8	111.9	112.1	24
8/13	106.3	106.6	106.8	24	113.1	113.7	114.4	23	114.7	115.0	115.2	24	113.3	113.9	114.4	23	112.2	112.5	112.8	24
8/14	106.3	106.7	106.9	24	113.1	113.3	113.7	22	114.7	114.9	115.1	24	113.4	114.1	115.0	22	112.0	112.4	112.8	24
8/15	105.7	106.0	106.3	24	111.9	112.4	113.0	24	114.0	114.2	114.5	24	112.5	113.3	114.4	24	111.4	111.7	111.9	24
8/16	105.3	105.6	106.0	23	111.2	111.4	111.8	19	113.5	113.6	113.9	24	112.3	112.8	113.3	19	110.8	111.2	111.4	24
8/17	105.5	106.1	106.5	23	110.7	111.1	111.3	22	113.3	113.5	113.6	24	112.1	112.6	113.3	22	111.2	111.4	111.6	24
8/18	105.6	105.8	106.0	24	110.6	111.1	111.6	22	113.2	113.4	113.6	24	111.9	112.6	113.4	22	110.7	110.8	111.1	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
8/5	113.8	114.5	116.0	24	114.2	114.7	115.0	23	115.3	115.9	116.4	23	114.0	114.5	114.9	24	113.8	114.5	115.0	24
8/6	113.4	113.8	114.0	24	113.9	114.5	115.1	24	116.7	118.1	125.0	24	113.6	113.9	114.2	24	114.2	114.8	114.9	24
8/7	113.3	113.8	114.0	24	113.6	114.1	114.7	23	114.7	115.4	116.0	23	113.8	114.6	114.8	24	114.0	114.5	114.8	24
8/8	113.4	113.9	114.6	24	113.5	114.0	114.5	24	114.6	115.4	115.8	24	113.5	113.8	114.2	24	113.3	113.9	114.3	24
8/9	113.4	113.9	115.0	24	113.6	114.1	114.7	23	114.7	115.4	116.2	23	112.5	113.1	113.3	24	113.1	113.4	114.0	24
8/10	112.5	113.1	113.9	24	113.4	114.0	114.6	24	114.6	115.3	116.1	24	112.4	112.9	113.2	24	113.1	113.5	113.7	24
8/11	112.0	112.6	113.3	24	112.0	112.3	112.6	23	113.3	113.8	114.3	23	112.1	112.5	112.9	24	112.9	113.1	113.4	24
8/12	111.3	111.8	112.3	24	111.9	112.1	112.9	22	113.3	113.8	114.8	22	111.8	112.3	112.6	24	113.1	113.7	114.1	24
8/13	111.9	112.4	113.8	24	111.9	112.4	112.9	23	113.2	114.0	114.5	23	112.1	112.7	113.0	24	110.5	110.9	112.9	24
8/14	112.4	113.0	114.0	24	111.1	111.6	112.2	23	112.8	113.4	114.0	23	111.3	111.6	112.3	24	109.0	109.3	109.6	24
8/15	111.2	111.8	112.1	24	110.6	111.0	111.4	23	112.2	112.7	113.4	23	110.1	110.4	111.0	24	107.9	108.1	108.7	24
8/16	110.5	110.9	111.8	24	110.3	110.6	111.0	24	111.9	112.7	113.2	24	109.8	110.4	110.9	24	107.2	107.8	108.4	24
8/17	110.6	111.1	111.6	24	110.5	110.9	111.5	23	112.3	113.1	113.7	23	110.6	111.1	111.4	24	108.0	108.4	108.6	24
8/18	110.0	110.5	110.8	24	110.3	110.7	111.2	24	112.6	113.2	113.8	24	110.3	110.7	110.9	24	108.4	108.9	109.8	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
8/5	113.3	113.8	114.2	24	117.2	117.7	119.1	24	113.7	114.3	114.9	24	120.8	121.6	122.0	24	112.9	113.7	114.8	24
8/6	113.0	113.4	113.9	24	117.0	117.4	117.8	24	113.3	114.0	115.4	24	126.6	128.9	129.8	24	112.4	113.1	114.2	24
8/7	112.8	113.8	114.8	24	116.8	117.8	118.6	24	113.7	114.3	115.0	24	129.8	130.0	130.2	24	112.7	113.6	114.7	24
8/8	112.8	113.3	113.9	24	116.7	117.3	117.7	24	113.5	113.8	114.2	24	113.9	114.1	114.6	17	112.4	112.9	113.7	24
8/9	112.1	112.4	112.8	24	116.5	116.9	117.3	24	112.7	113.1	113.4	24	113.4	113.7	113.9	24	112.1	112.8	113.8	24
8/10	111.5	111.9	112.4	24	115.6	116.2	116.6	24	112.3	112.5	112.9	24	113.0	113.3	113.5	24	111.2	111.6	112.5	24
8/11	111.6	112.0	112.4	24	115.8	116.4	116.7	24	110.8	111.2	111.8	24	112.0	112.3	112.4	24	110.2	111.0	111.7	24
8/12	111.7	112.3	112.7	24	115.9	116.5	116.7	24	111.1	111.6	111.9	24	113.5	114.2	115.1	24	111.3	112.6	113.3	24
8/13	111.3	111.6	112.1	24	115.7	116.0	116.4	24	111.8	112.1	112.4	24	113.3	113.5	113.7	24	112.8	113.4	114.0	24
8/14	110.3	110.7	111.2	24	115.8	116.2	116.3	24	111.5	111.6	111.9	24	112.9	113.1	113.2	24	111.4	112.0	113.1	24
8/15	109.0	109.2	109.4	24	114.1	114.4	115.2	24	110.2	110.5	111.3	24	111.3	111.7	112.9	24	109.8	110.1	110.4	24
8/16	108.6	109.2	109.7	24	113.9	114.6	115.0	24	109.7	110.4	111.1	24	111.7	112.0	112.2	24	110.2	111.5	112.2	24
8/17	109.5	110.2	110.8	24	114.5	115.4	115.9	24	110.2	110.5	110.9	24	112.0	112.2	112.5	24	111.1	112.1	113.6	24
8/18	109.4	110.1	110.7	24	114.6	115.5	115.8	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
8/5	114.4	114.9	115.9	24	111.5	112.4	113.0	24	108.8	109.1	109.4	24	107.8	108.6	109.5	24	101.2	102.2	103.3	24
8/6	114.4	114.9	115.4	24	110.3	111.1	111.7	24	108.1	108.6	109.0	24	107.5	108.4	109.3	24	102.1	103.5	104.8	24
8/7	114.9	115.1	115.4	24	110.4	111.5	112.2	24	108.0	108.3	108.6	24	107.2	108.1	108.8	24	102.3	104.1	105.7	24
8/8	114.2	114.5	114.7	24	110.6	111.3	112.0	24	108.9	109.5	111.2	24	107.6	108.9	110.4	24	102.3	104.0	105.4	24
8/9	113.8	114.1	114.4	24	109.7	110.5	111.4	24	108.7	109.1	110.1	24	107.7	108.6	109.3	24	102.6	104.3	106.0	24
8/10	113.9	114.1	114.2	24	109.3	110.4	111.2	24	108.3	108.8	109.2	24	107.3	108.1	108.9	24	102.6	104.4	106.1	24
8/11	112.8	113.4	114.2	24	109.1	109.7	110.3	24	108.9	109.2	109.7	24	106.7	107.7	108.6	24	102.1	103.3	104.6	24
8/12	114.1	114.9	115.9	24	109.3	110.7	111.6	24	109.3	109.7	110.0	24	107.4	108.4	109.1	24	102.3	103.8	105.2	24
8/13	114.6	115.1	115.9	24	110.3	111.3	112.1	24	109.1	109.5	109.9	24	107.6	108.5	109.4	24	102.3	103.6	105.2	24
8/14	113.2	113.4	113.5	24	109.0	109.6	110.3	24	107.9	108.6	109.3	24	106.4	107.3	108.3	24	102.1	103.4	104.9	24
8/15	112.3	112.5	113.0	24	108.2	108.8	109.2	24	107.6	108.1	108.6	24	106.1	106.8	107.5	24	101.5	102.6	104.3	24
8/16	112.4	113.0	114.4	24	108.4	109.5	110.1	24	107.2	108.0	108.2	24	105.7	106.5	107.0	24	102.0	103.7	105.6	24
8/17	114.8	115.2	115.7	24	109.2	110.4	111.3	24	107.9	108.7	109.2	24	106.1	106.9	107.4	24	102.3	103.7	105.4	24
8/18	---	---	---	0	109.9	110.5	111.1	24	108.4	108.8	109.4	24	106.6	107.4	108.0	24	102.0	103.4	105.2	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
8/5	105.4	107.5	108.9	24	102.9	103.1	103.4	24	119.6	120.0	120.6	24	114.7	115.5	116.2	24	113.0	113.4	113.6	24
8/6	105.3	107.5	109.1	24	102.2	102.5	103.0	24	119.2	119.6	120.7	24	115.4	115.6	116.0	24	113.2	113.5	113.7	24
8/7	105.1	107.3	108.9	24	101.5	101.7	102.3	24	119.6	119.9	120.4	24	114.7	114.9	115.5	24	112.9	113.1	113.4	24
8/8	105.1	107.4	109.0	24	101.4	101.7	101.9	24	119.4	119.7	120.3	24	114.4	114.7	115.2	24	112.6	112.9	113.3	24
8/9	105.3	107.5	109.2	24	102.5	102.9	103.3	24	118.1	119.1	119.6	24	114.5	115.0	115.4	24	113.1	113.6	114.6	24
8/10	105.1	107.4	109.3	24	102.9	103.1	103.3	24	118.2	119.3	119.6	24	114.0	114.5	115.0	24	113.5	114.4	115.9	24
8/11	104.9	107.1	108.8	24	102.6	102.7	102.9	24	116.8	117.1	117.8	24	112.2	112.9	114.7	24	112.8	113.1	113.6	24
8/12	105.4	107.8	109.6	24	102.5	102.6	102.8	24	117.8	118.8	119.8	24	111.9	112.4	113.0	24	112.5	112.8	113.2	24
8/13	105.5	107.9	109.7	24	102.7	102.8	103.0	24	117.7	118.7	119.5	24	113.5	113.7	114.0	24	112.8	113.1	113.5	24
8/14	105.0	107.2	108.8	24	102.3	102.6	102.8	24	116.2	116.5	117.1	24	112.7	113.0	113.5	24	112.5	112.8	113.5	24
8/15	103.9	106.0	107.3	24	102.1	102.3	102.7	24	118.8	120.1	120.5	24	111.4	112.2	113.0	24	112.4	113.0	114.6	24
8/16	104.3	106.8	108.6	24	102.5	102.7	102.9	24	119.7	120.0	120.9	24	109.7	109.9	110.4	24	111.9	112.3	112.6	24
8/17	104.4	106.8	108.5	24	102.6	102.8	103.1	24	118.6	119.6	120.2	24	109.3	110.0	111.1	24	111.7	112.3	112.8	24
8/18	104.3	106.7	108.4	24	102.0	102.2	102.7	24	116.5	116.8	117.3	24	110.6	110.8	110.9	24	112.1	112.7	113.1	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
8/5	115.0	115.2	115.6	24	117.2	117.5	118.0	24	113.0	113.2	113.4	24	113.1	114.1	115.2	24	---	---	---	0
8/6	113.3	113.4	113.9	24	117.1	117.5	117.9	24	112.5	112.8	113.1	24	113.4	114.2	114.8	24	---	---	---	0
8/7	112.1	112.4	113.0	24	116.7	117.2	117.7	24	112.7	112.9	113.2	24	113.4	114.3	114.8	24	---	---	---	0
8/8	111.1	111.5	111.9	24	116.8	117.1	117.5	24	112.7	113.0	113.2	24	113.7	114.6	115.1	24	---	---	---	0
8/9	111.6	111.9	112.1	24	116.3	116.8	117.2	24	112.2	112.7	113.2	24	113.3	113.8	114.2	24	---	---	---	0
8/10	110.5	110.9	112.0	24	116.8	117.2	117.6	24	111.3	111.7	112.0	24	113.0	113.3	113.5	24	---	---	---	0
8/11	110.2	110.3	110.4	24	116.3	116.7	117.0	24	110.7	111.1	111.5	24	113.2	113.7	114.3	24	---	---	---	0
8/12	110.2	110.4	110.5	24	116.7	117.0	117.6	24	110.8	111.0	111.5	24	113.1	113.7	114.3	24	---	---	---	0
8/13	110.6	110.8	110.9	24	116.2	116.6	117.1	24	110.5	111.0	111.3	24	113.3	114.0	114.6	24	---	---	---	0
8/14	110.5	110.6	110.8	24	116.1	116.3	116.4	24	110.7	110.9	111.1	24	113.8	114.5	114.9	24	---	---	---	0
8/15	109.8	110.1	110.5	24	116.0	116.4	117.1	24	109.9	110.4	111.0	24	113.2	113.8	114.6	24	---	---	---	0
8/16	109.2	109.4	109.5	24	116.5	117.0	117.5	24	110.0	110.2	110.3	24	113.6	114.2	114.6	24	---	---	---	0
8/17	109.4	109.6	109.8	24	116.0	116.4	116.8	24	109.8	110.0	110.2	24	113.6	114.2	114.8	24	---	---	---	0
8/18	109.4	109.7	110.2	24	116.2	116.4	116.6	24	109.5	109.8	110.5	24	113.5	114.0	114.5	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
8/5	112.5	112.9	113.8	24	117.5	117.9	118.3	24	108.1	108.4	108.7	24	112.2	112.8	113.1	24	107.6	108.1	109.1	24
8/6	111.2	111.5	111.9	24	117.5	117.8	118.1	24	107.6	107.8	108.1	24	112.9	113.5	114.6	24	106.7	107.1	107.4	24
8/7	110.0	110.5	110.8	24	117.1	117.4	118.0	24	107.0	107.3	107.6	24	113.0	113.5	114.2	24	106.9	107.3	107.8	24
8/8	109.4	109.7	109.9	24	117.4	117.6	117.8	24	106.6	106.9	107.2	24	112.2	113.5	114.3	24	106.9	107.3	107.7	24
8/9	109.1	109.4	109.6	24	116.6	116.9	117.3	24	105.3	105.6	106.3	24	111.8	112.7	113.2	24	106.0	106.3	107.4	24
8/10	108.1	108.6	109.1	24	116.4	116.8	117.1	24	103.9	104.1	104.4	24	111.7	112.9	113.5	24	105.4	105.7	106.1	24
8/11	107.1	107.3	107.5	24	116.7	117.3	118.1	24	103.4	103.7	104.0	24	112.1	113.3	114.8	24	105.9	106.3	107.1	24
8/12	108.8	109.4	109.9	24	117.0	118.0	118.7	24	103.8	104.4	104.8	24	112.2	113.8	114.5	24	107.0	107.3	108.0	24
8/13	109.1	109.3	109.6	24	116.2	116.5	116.8	24	104.0	104.1	104.3	24	110.9	111.9	113.0	24	106.6	107.4	107.8	24
8/14	108.3	108.5	108.7	24	116.0	116.3	116.5	24	103.3	103.5	103.7	24	111.3	112.1	112.6	24	105.0	105.5	105.7	24
8/15	106.9	107.2	107.7	24	116.2	116.4	116.6	24	102.9	103.3	103.6	24	112.3	113.1	113.7	24	105.2	105.5	106.3	24
8/16	107.4	107.6	107.8	24	116.3	116.7	117.0	24	103.8	104.7	105.4	24	112.1	112.8	113.5	24	106.4	106.9	107.8	24
8/17	107.5	108.0	108.2	24	116.5	116.9	117.3	24	104.9	105.2	105.6	24	113.0	113.6	114.2	24	107.5	107.8	108.1	24
8/18	108.6	109.0	109.4	24	116.5	116.9	117.2	24	104.0	104.2	104.4	24	113.7	114.2	114.5	24	106.5	107.0	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
8/5	114.4	114.9	115.5	24	108.6	108.9	109.6	24	114.1	115.3	117.0	24	110.9	112.5	114.0	24	---	---	---	0
8/6	113.6	113.8	114.0	24	107.4	107.8	108.2	24	114.9	116.2	117.7	24	110.8	112.6	114.5	24	---	---	---	0
8/7	113.6	113.9	114.3	24	106.2	106.5	106.7	24	113.7	115.4	117.3	24	111.0	112.6	114.5	24	---	---	---	0
8/8	114.1	114.5	114.9	24	105.8	106.1	106.2	24	112.2	113.9	115.9	24	109.3	110.5	111.9	24	---	---	---	0
8/9	113.5	113.8	114.3	24	105.9	106.1	106.3	24	112.4	113.9	115.7	24	108.4	110.2	111.7	24	---	---	---	0
8/10	113.2	113.8	114.8	24	105.5	105.8	105.9	24	113.2	116.1	118.4	24	110.5	113.2	115.9	24	---	---	---	0
8/11	113.5	114.4	115.1	24	106.0	106.5	106.8	24	111.1	112.1	113.6	24	110.4	112.9	115.1	24	---	---	---	0
8/12	114.7	115.9	116.8	24	108.0	108.6	108.7	24	111.5	112.2	113.1	24	111.5	113.5	115.4	24	---	---	---	0
8/13	114.0	114.8	115.2	24	108.3	108.8	109.2	24	111.5	112.7	113.6	24	110.9	112.5	113.5	24	---	---	---	0
8/14	112.8	113.6	114.3	24	107.2	107.4	107.9	24	112.2	113.5	115.5	24	112.0	114.0	115.9	24	---	---	---	0
8/15	113.4	114.3	114.8	24	106.1	106.5	106.8	24	111.5	113.4	115.6	24	112.7	114.8	116.8	24	---	---	---	0
8/16	114.3	115.2	115.7	24	108.5	109.6	110.4	24	112.4	113.3	114.7	24	112.3	114.7	116.8	24	---	---	---	0
8/17	114.8	115.4	115.8	24	110.3	110.6	110.9	24	113.9	115.3	116.6	24	112.5	114.8	117.0	24	---	---	---	0
8/18	114.2	114.9	115.6	24	108.3	108.8	109.6	24	112.7	114.2	115.5	24	111.8	113.9	115.9	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
Little Goose Dam											
	08/08/11	Chinook + Steelhead	17	0	0	0.00%	0.00%	0	0	0	0
	08/15/11	Chinook + Steelhead	9	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	08/10/11	Chinook + Steelhead	14	0	0	0.00%	0.00%	0	0	0	0
	08/17/11	Chinook + Steelhead	19	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	08/08/11	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	08/11/11	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0
	08/15/11	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0
	08/18/11	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
Bonneville Dam											
	08/06/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	08/09/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	08/13/11	Chinook + Steelhead	1	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	08/09/11	Chinook + Steelhead	57	1	1	1.75%	0.00%	1	0	0	0
	08/11/11	Chinook + Steelhead	77	0	0	0.00%	0.00%	0	0	0	0
	08/16/11	Chinook + Steelhead	55	1	1	1.82%	0.00%	1	0	0	0
	08/18/11	Chinook + Steelhead	98	0	0	0.00%	0.00%	0	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
08/05/2011	133.2	0.1	136.7	0.0	138.5	10.0	139.0	12.0	143.0	26.1	154.3	20.0	147.6	25.5
08/06/2011	137.3	0.1	142.4	0.0	151.2	18.4	154.0	12.0	159.2	25.8	157.7	27.7	149.2	37.4
08/07/2011	133.6	0.1	135.1	0.0	144.4	10.0	147.6	13.0	153.2	26.1	165.7	33.8	164.3	38.0
08/08/2011	136.7	0.1	138.7	0.0	141.8	10.0	142.0	11.7	144.9	26.3	149.8	20.2	146.9	28.3
08/09/2011	143.5	0.1	138.4	0.0	143.4	10.0	142.7	12.9	147.4	26.3	153.8	23.7	151.6	29.3
08/10/2011	143.5	0.3	142.2	0.0	147.2	10.0	150.7	11.8	153.6	26.3	163.2	29.3	160.7	34.6
08/11/2011	152.8	0.2	149.5	0.0	153.3	10.2	152.3	12.4	153.2	26.3	161.2	30.8	158.6	35.9
08/12/2011	148.2	0.1	146.9	0.0	155.7	10.6	161.5	14.3	161.0	26.2	173.5	51.6	172.6	41.3
08/13/2011	128.0	0.1	133.5	0.0	133.4	9.2	131.2	0.0	135.5	24.8	143.1	20.6	142.4	28.6
08/14/2011	131.4	0.1	122.8	0.0	129.4	10.7	131.0	0.5	133.5	28.1	145.5	21.2	145.2	29.4
08/15/2011	137.5	0.1	139.1	0.0	145.1	10.0	145.7	0.0	151.1	26.4	156.7	20.0	154.0	27.4
08/16/2011	153.0	0.1	154.7	0.0	154.9	10.0	151.0	0.0	153.8	26.3	159.5	30.4	155.7	34.4
08/17/2011	147.0	0.1	148.3	0.0	149.4	10.6	150.1	0.9	154.7	27.5	161.0	28.8	160.6	47.2
08/18/2011	146.8	0.1	151.6	0.0	153.6	13.6	151.2	5.2	153.7	28.1	158.8	28.3	156.4	34.6

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
08/05/2011	13.3	3.6	14.7	13.9	40.9	35.4	40.0	12.0	40.3	16.8	41.4	31.3
08/06/2011	13.4	3.7	13.8	14.0	41.2	35.7	42.7	12.8	42.7	17.0	44.2	34.2
08/07/2011	13.4	3.7	14.8	13.9	40.3	35.0	42.0	12.7	41.9	16.7	43.2	33.0
08/08/2011	13.4	3.6	14.9	17.5	40.6	35.1	42.3	12.7	40.8	17.0	42.5	32.3
08/09/2011	13.2	3.4	14.6	17.3	43.0	31.8	44.9	14.2	45.7	16.7	47.5	37.4
08/10/2011	13.0	3.2	13.3	14.6	44.0	26.8	46.1	13.8	43.9	16.9	44.7	34.7
08/11/2011	12.9	3.1	13.6	13.8	36.6	19.3	36.4	10.9	34.8	16.5	36.3	26.3
08/12/2011	13.2	3.4	13.3	14.7	39.0	21.8	40.3	12.0	41.0	17.1	41.3	31.1
08/13/2011	13.2	3.4	13.5	13.5	40.0	22.6	39.5	11.8	39.0	16.4	41.3	31.1
08/14/2011	13.5	3.6	13.7	13.2	35.8	18.6	36.7	11.0	37.1	17.0	38.3	28.2
08/15/2011	13.4	3.6	14.2	12.3	36.3	28.0	36.9	11.0	35.3	16.5	35.8	25.9
08/16/2011	13.4	3.5	15.5	16.8	35.7	30.3	39.5	11.8	40.3	16.9	40.9	30.9
08/17/2011	13.4	3.5	14.0	14.3	38.7	30.1	38.9	11.6	38.2	17.0	40.0	29.9
08/18/2011	13.9	3.9	---	---	35.5	18.4	36.2	10.9	35.2	17.0	35.7	25.7

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
08/05/2011	208.1	120.4	205.1	61.7	194.1	77.5	207.5	91.3	20.9	82.9
08/06/2011	201.4	114.6	181.5	54.3	171.0	68.3	181.5	91.0	7.0	71.0
08/07/2011	201.9	101.4	188.3	56.3	181.4	72.3	197.1	91.2	20.5	73.0
08/08/2011	213.1	119.8	210.0	62.5	197.5	79.0	221.9	91.2	32.7	85.5
08/09/2011	213.9	107.2	197.2	59.1	186.0	74.4	201.4	91.9	25.0	72.1
08/10/2011	211.2	105.8	208.3	62.0	194.3	77.0	200.1	93.0	47.3	47.4
08/11/2011	215.0	108.0	208.6	62.6	196.4	78.6	205.0	92.5	81.8	18.3
08/12/2011	222.2	110.1	208.1	62.3	200.3	80.3	221.6	93.3	88.9	27.0
08/13/2011	181.0	90.7	166.1	49.8	161.0	64.4	195.9	93.0	80.6	9.9
08/14/2011	188.4	93.5	164.3	49.2	149.3	59.6	165.9	93.3	56.8	3.4
08/15/2011	205.2	103.2	199.8	60.0	188.7	75.4	188.2	92.7	75.9	7.2
08/16/2011	209.4	103.6	198.3	59.4	189.2	75.9	206.4	95.8	78.8	19.5
08/17/2011	217.0	108.5	204.8	61.2	194.9	77.9	204.5	95.9	80.7	16.1
08/18/2011	207.9	104.6	199.2	59.7	189.8	75.8	206.3	96.3	65.5	32.1

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)
08/05/2011	---	---	---	---	0	0	20	0	0	0	0
08/06/2011	---	---	---	---	0	0	11	0	62	0	0
08/07/2011	---	---	---	---	0	0	0	3	0	0	0
08/08/2011	---	---	---	---	0	0	0	0	0	0	0
08/09/2011	---	---	---	---	0	0	20	0	0	0	0
08/10/2011	---	---	---	---	0	0	0	0	0	0	0
08/11/2011	---	---	---	---	5	0	0	0	0	0	0
08/12/2011	---	---	---	---	0	0	0	0	0	0	0
08/13/2011	---	---	---	---	0	0	36	0	0	0	0
08/14/2011	---	---	---	---	0	0	21	0	0	0	0
08/15/2011	---	---	---	---	0	0	0	0	0	0	0
08/16/2011	---	---	---	---	0	0	7	0	0	0	0
08/17/2011	---	---	---	---	0	0	0	0	20	0	0
08/18/2011	---	---	---	---	---	0	---	0	0	0	0
08/19/2011	---	---	---	---	---	---	---	---	---	---	---
Total:	**0**	**0**	**0**	**0**	**5**	**0**	**115**	**3**	**82**	**0**	**0**
# Days:	**0**	**0**	**0**	**0**	**13**	**14**	**13**	**14**	**14**	**14**	**14**
Average:	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**6**	**0**	**0**
YTD	**31,090**	**30,210**	**12,492**	**18,836**	**3,831,084**	**2,528,593**	**1,236,873**	**26,463**	**1,979,496**	**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)
08/05/2011	---	---	---	---	294	2,759	2,829	125	74,719	31,739	13,986
08/06/2011	---	---	---	---	656	1,507	2,184	204	59,798	20,944	15,692
08/07/2011	---	---	---	---	411	1,678	932	193	45,549	20,240	17,662
08/08/2011	---	---	---	---	272	902	545	153	23,270	24,202	14,160
08/09/2011	---	---	---	---	362	785	643	95	37,457	20,866	11,167
08/10/2011	---	---	---	---	351	981	365	98	38,267	14,160	11,581
08/11/2011	---	---	---	---	675	450	320	127	25,012	12,697	6,822
08/12/2011	---	---	---	---	614	283	299	129	34,039	13,607	4,118
08/13/2011	---	---	---	---	726	192	1,065	84	23,582	13,215	4,377
08/14/2011	---	---	---	---	997	269	821	80	13,175	3,811	937
08/15/2011	---	---	---	---	779	245	327	100	8,372	6,340	188
08/16/2011	---	---	---	---	1,081	182	174	73	9,562	6,277	703
08/17/2011	---	---	---	---	318	472	231	86	24,490	7,417	2,126
08/18/2011	---	---	---	---	---	516	---	155	22,511	5,197	1,894
08/19/2011	---	---	---	---	---	---	---	---	---	---	---
Total:	**0**	**0**	**0**	**0**	**7,536**	**11,221**	**10,735**	**1,702**	**439,803**	**200,712**	**105,413**
# Days:	**0**	**0**	**0**	**0**	**13**	**14**	**13**	**14**	**14**	**14**	**14**
Average:	**0**	**0**	**0**	**0**	**580**	**802**	**826**	**122**	**31,415**	**14,337**	**7,530**
YTD	**9**	**38**	**12**	**163**	**1,154,055**	**1,355,202**	**366,142**	**30,450**	**5,452,582**	**3,225,770**	**5,161,029**

Two-Week Summary of Passage Indices

COMBINED COHO

	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
08/05/2011	---	---	---	---	92	40	129	0	0	0	0
08/06/2011	---	---	---	---	0	46	74	0	0	0	0
08/07/2011	---	---	---	---	16	57	30	0	59	96	0
08/08/2011	---	---	---	---	0	35	10	0	0	0	0
08/09/2011	---	---	---	---	0	20	46	4	117	0	63
08/10/2011	---	---	---	---	6	15	20	0	0	0	0
08/11/2011	---	---	---	---	5	14	21	1	0	0	0
08/12/2011	---	---	---	---	8	20	22	0	51	57	0
08/13/2011	---	---	---	---	32	11	21	0	0	0	32
08/14/2011	---	---	---	---	28	13	28	0	51	0	0
08/15/2011	---	---	---	---	30	11	8	0	0	0	0
08/16/2011	---	---	---	---	7	10	6	1	20	0	0
08/17/2011	---	---	---	---	7	9	7	0	0	0	0
08/18/2011	---	---	---	---	---	6	---	0	0	0	0
08/19/2011	---	---	---	---	---	---	---	---	---	---	---
Total:	**0**	**0**	**0**	**0**	**231**	**307**	**422**	**6**	**298**	**153**	**95**
# Days:	**0**	**0**	**0**	**0**	**13**	**14**	**13**	**14**	**14**	**14**	**14**
Average:	**0**	**0**	**0**	**0**	**18**	**22**	**32**	**0**	**21**	**11**	**7**
YTD	**0**	**0**	**0**	**218**	**83,747**	**81,586**	**19,864**	**46,400**	**188,189**	**476,908**	**439,906**

COMBINED STEELHEAD

	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
08/05/2011	---	---	---	---	18	11	10	0	0	0	0
08/06/2011	---	---	---	---	0	17	0	0	0	0	0
08/07/2011	---	---	---	---	0	0	10	0	0	0	0
08/08/2011	---	---	---	---	0	0	0	0	0	0	0
08/09/2011	---	---	---	---	0	0	0	1	0	0	0
08/10/2011	---	---	---	---	6	0	0	1	0	72	0
08/11/2011	---	---	---	---	0	0	0	0	0	0	0
08/12/2011	---	---	---	---	0	0	0	0	0	0	0
08/13/2011	---	---	---	---	0	0	0	0	0	0	0
08/14/2011	---	---	---	---	0	1	0	1	0	0	0
08/15/2011	---	---	---	---	0	0	0	0	0	0	0
08/16/2011	---	---	---	---	7	0	4	1	20	0	0
08/17/2011	---	---	---	---	0	3	0	1	0	0	0
08/18/2011	---	---	---	---	---	0	---	0	0	0	0
08/19/2011	---	---	---	---	---	---	---	---	---	---	---
Total:	**0**	**0**	**0**	**0**	**31**	**32**	**24**	**5**	**20**	**72**	**0**
# Days:	**0**	**0**	**0**	**0**	**13**	**14**	**13**	**14**	**14**	**14**	**14**
Average:	**0**	**0**	**0**	**0**	**2**	**2**	**2**	**0**	**1**	**5**	**0**
YTD	**1,080**	**13,882**	**4,071**	**2,934**	**4,118,577**	**2,033,083**	**838,173**	**28,468**	**608,082**	**2,620,215**	**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)
08/05/2011		---	---	---	---	18	11	0	3	128	0	0
08/06/2011		---	---	---	---	0	17	0	14	370	96	65
08/07/2011		---	---	---	---	0	0	0	6	177	96	120
08/08/2011		---	---	---	---	0	6	0	3	155	0	0
08/09/2011		---	---	---	---	0	9	0	4	234	0	0
08/10/2011		---	---	---	---	0	12	0	4	154	0	12
08/11/2011		---	---	---	---	0	6	0	3	103	0	0
08/12/2011		---	---	---	---	0	0	0	10	102	0	0
08/13/2011		---	---	---	---	5	0	0	1	0	82	0
08/14/2011		---	---	---	---	0	3	0	9	103	0	0
08/15/2011		---	---	---	---	0	6	8	0	102	0	0
08/16/2011		---	---	---	---	7	0	0	3	20	24	0
08/17/2011		---	---	---	---	7	3	4	10	82	0	0
08/18/2011		---	---	---	---	---	3	---	3	20	47	0
08/19/2011		---	---	---	---	---	---	---	---	---	---	---
Total:		**0**	**0**	**0**	**0**	**37**	**76**	**12**	**73**	**1,750**	**345**	**197**
# Days:		**0**	**0**	**0**	**0**	**13**	**14**	**13**	**14**	**14**	**14**	**14**
Average:		**0**	**0**	**0**	**0**	**3**	**5**	**1**	**5**	**125**	**25**	**14**
YTD		**0**	**0**	**1**	**0**	**119,338**	**44,423**	**31,325**	**18,735**	**324,857**	**363,637**	**113,908**

				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)
08/05/2011		---	---	---	---	0	212	0	0	175	67	0
08/06/2011		---	---	---	---	0	40	0	0	50	267	0
08/07/2011		---	---	---	---	0	32	0	1	125	333	4
08/08/2011		---	---	---	---	0	6	0	0	225	267	0
08/09/2011		---	---	---	---	2	8	0	0	100	450	25
08/10/2011		---	---	---	---	4	6	0	1	175	50	50
08/11/2011		---	---	---	---	0	2	0	1	100	280	25
08/12/2011		---	---	---	---	0	8	0	1	25	153	0
08/13/2011		---	---	---	---	0	2	0	0	75	86	0
08/14/2011		---	---	---	---	0	1	0	1	0	86	0
08/15/2011		---	---	---	---	0	8	0	0	0	217	0
08/16/2011		---	---	---	---	1	14	0	0	70	134	0
08/17/2011		---	---	---	---	0	6	0	0	60	83	8
08/18/2011		---	---	---	---	---	1	---	0	80	17	4
08/19/2011		---	---	---	---	---	---	---	---	---	---	---
Total:		**0**	**0**	**0**	**0**	**7**	**346**	**0**	**5**	**1,260**	**2,490**	**116**
# Days:		**0**	**0**	**0**	**0**	**13**	**14**	**13**	**14**	**14**	**14**	**14**
Average:		**0**	**0**	**0**	**0**	**1**	**25**	**0**	**0**	**90**	**178**	**8**
YTD		**0**	**0**	**0**	**0**	**10,539**	**17,605**	**746**	**324**	**163,202**	**493,787**	**26,022**

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: 8/19/11 11:04 AM

08/05/11 TO 08/19/11

		Species					
Site	Data	**CH0**	**CH1**	CO	ST	SO	**Grand Total**
LGR	Sum of NumberCollected	2,211	2	62	5	6	2,286
	Sum of NumberBarged	2,055	1	66	4	4	2,130
	Sum of NumberBypassed	2	0	0	0	0	2
	Sum of Numbertrucked	189	0	2	1	2	194
	Sum of SampleMorts	32	0	0	0	0	32
	Sum of FacilityMorts	3	1	2	0	0	6
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	35	1	2	0	0	38
LGS	Sum of NumberCollected	7,800		214	23	52	8,089
	Sum of NumberBarged	7,943		190	20	47	8,200
	Sum of NumberBypassed	0		0	0	0	0
	Sum of Numbertrucked	422		13	2	2	439
	Sum of SampleMorts	79		1	0	3	83
	Sum of FacilityMorts	87		0	0	1	88
	Sum of ResearchMorts	0		0	0	0	0
	Sum of TotalProjectMorts	166		1	0	4	171
LMN	Sum of NumberCollected	6,259	66	247	14	6	6,592
	Sum of NumberBarged	6,714	68	279	12	3	7,076
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	207	4	5	0	2	218
	Sum of SampleMorts	22	0	2	0	0	24
	Sum of FacilityMorts	124	0	2	0	1	127
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	146	0	4	0	1	151
MCN	Sum of NumberCollected	197,215	35	135	10	785	198,180
	Sum of NumberBarged	80,913	24	60	8	408	81,413
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	102,780	9	75	0	363	103,227
	Sum of SampleMorts	101	0	0	0	0	101
	Sum of FacilityMorts	2,470	2	0	2	4	2,478
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2,571	2	0	2	4	2,579
Total Sum of NumberCollected		213,485	103	658	52	849	215,147
Total Sum of NumberBarged		97,625	93	595	44	462	98,819
Total Sum of NumberBypassed		2	0	0	0	0	2
Total Sum of Numbertrucked		103,598	13	95	3	369	104,078
Total Sum of SampleMorts		234	0	3	0	3	240
Total Sum of FacilityMorts		2,684	3	4	2	6	2,699
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		2,918	3	7	2	9	2,939

YTD Transportation Summary

Source: Fish Passage Center Updated: 8/19/11 11:04 AM

TO: 08/19/11

		Species					
Site	Data	**CH0**	**CH1**	CO	SO	ST	**Grand Total**
LGR	Sum of NumberCollected	726,083	2,716,906	54,574	78,045	2,713,298	6,288,906
	Sum of NumberBarged	641,690	1,705,111	40,040	35,412	1,437,012	3,859,265
	Sum of NumberBypassed	81,889	1,009,672	14,509	42,055	1,275,909	2,424,034
	Sum of NumberTrucked	189	0	2	2	1	194
	Sum of SampleMorts	251	101	2	72	41	467
	Sum of FacilityMorts	2,049	1,781	21	504	272	4,627
	Sum of ResearchMorts	15	241	0	0	58	314
	Sum of TotalProjectMorts	2,315	2,123	23	576	371	5,408
LGS	Sum of NumberCollected	729,998	1,449,324	41,364	24,271	1,132,399	3,377,356
	Sum of NumberBarged	725,204	1,344,369	40,927	18,893	893,350	3,022,743
	Sum of NumberBypassed	92	103,168	401	5,227	238,633	347,521
	Sum of NumberTrucked	422	0	13	2	2	439
	Sum of SampleMorts	308	52	1	12	10	383
	Sum of FacilityMorts	3,294	1,735	2	133	403	5,567
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	3,602	1,787	3	145	413	5,950
LMN	Sum of NumberCollected	246,956	854,165	13,176	21,051	565,775	1,701,123
	Sum of NumberBarged	236,788	636,755	12,003	18,832	459,659	1,364,037
	Sum of NumberBypassed	8,523	215,901	1,254	1,964	103,437	331,079
	Sum of NumberTrucked	207	4	5	2	0	218
	Sum of SampleMorts	60	3	3	0	5	71
	Sum of FacilityMorts	1,378	1,499	13	253	872	4,015
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,438	1,502	16	253	877	4,086
MCN	Sum of NumberCollected	2,230,877	952,682	71,790	136,144	295,989	3,687,482
	Sum of NumberBarged	1,060,689	24	260	2,793	108	1,063,874
	Sum of NumberBypassed	975,593	949,771	71,277	132,464	295,663	2,424,768
	Sum of NumberTrucked	142,398	9	75	463	0	142,945
	Sum of SampleMorts	778	187	8	41	13	1,027
	Sum of FacilityMorts	40,468	2,691	170	373	205	43,907
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	41,246	2,878	178	414	218	44,934
Total Sum of NumberCollected		3,933,914	5,973,077	180,904	259,511	4,707,461	15,054,867
Total Sum of NumberBarged		2,664,371	3,686,259	93,230	75,930	2,790,129	9,309,919
Total Sum of NumberBypassed		1,066,097	2,278,512	87,441	181,710	1,913,642	5,527,402
Total Sum of NumberTrucked		143,216	13	95	469	3	143,796
Total Sum of SampleMorts		1,397	343	14	125	69	1,948
Total Sum of FacilityMorts		47,189	7,706	206	1,263	1,752	58,116
Total Sum of ResearchMorts		15	241	0	0	58	314
Total Sum of TotalProjectMorts		48,601	8,290	220	1,388	1,879	60,378

Cumulative Adult Passage at Mainstem Dams Through: 08/18

		Spring Chinook						Summer Chinook						Fall Chinook					
		2011		2010		10-Yr Avg.		2011		2010		10-Yr Avg.		2011		2010		10-Yr Avg.	
DAM	EndDat	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	**08/17**	**167097**	**50945**	**244384**	**12612**	**174444**	**16431**	**108279**	**51451**	**97604**	**15603**	**89217**	**13568**	**11945**	**3366**	**10639**	**1572**	**10494**	**1689**
TDA	**08/17**	**124164**	**40146**	**189839**	**11546**	**130174**	**13470**	**81127**	**39844**	**81292**	**12528**	**78252**	**10628**	**7720**	**2310**	**4474**	**837**	**5599**	**1067**
JDA	**08/17**	**103401**	**39823**	**179446**	**11794**	**110572**	**12004**	**74073**	**34571**	**70955**	**12475**	**71151**	**11642**	**4087**	**1675**	**2161**	**500**	**2893**	**892**
MCN	**08/17**	**101245**	**31750**	**153500**	**9185**	**102003**	**11175**	**74621**	**28165**	**66526**	**8063**	**67398**	**9237**	**3284**	**861**	**1679**	**253**	**2009**	**422**
IHR	**08/17**	**69306**	**18161**	**101188**	**6047**	**70295**	**6879**	**26758**	**12378**	**29583**	**3503**	**17776**	**3412**	**437**	**50**	**273**	**38**	**186**	**28**
LMN	**08/17**	**69832**	**18094**	**97334**	**5898**	**69566**	**5561**	**31176**	**13730**	**35097**	**4362**	**18759**	**3055**	**320**	**55**	**159**	**30**	**103**	**34**
LGS	**08/17**	**67321**	**23492**	**92985**	**5461**	**64800**	**6145**	**42211**	**18214**	**32410**	**3968**	**15770**	**3504**	**247**	**31**	**71**	**12**	**52**	**8**
LGR	**08/17**	**59342**	**22063**	**94203**	**6409**	**65342**	**7745**	**36764**	**16425**	**28778**	**5294**	**14775**	**4385**	**0**	**0**	**0**	**0**	**0**	**0**
PRD	**08/15**	**15246**	**6030**	**30539**	**932**	**20141**	**818**	**50865**	**4223**	**49265**	**1217**	**58614**	**2426**	**412**	**67**	**347**	**23**	**572**	**141**
RIS	**08/17**	**13089**	**8394**	**29684**	**1513**	**17327**	**1572**	**44432**	**14299**	**47220**	**4018**	**55301**	**5331**	**0**	**0**	**0**	**0**	**0**	**0**
RRH	**08/17**	**6989**	**3491**	**8660**	**523**	**6536**	**525**	**38322**	**7853**	**33781**	**1672**	**41573**	**3969**	**0**	**0**	**0**	**0**	**0**	**0**
WEL	**08/15**	**4153**	**3969**	**7596**	**661**	**5414**	**510**	**26652**	**7240**	**25156**	**1395**	**28973**	**1685**	**0**	**0**	**0**	**0**	**0**	**0**
WFA	**08/12**	**43704**	**1396**	**65252**	**1752**	**51616**	**1089**	**-**	**-**	**-**	**-**	**-**	**-**	**0**	**0**	**0**	**0**	**21**	**0**

	Coho						Sockeye			Steelhead			
	2011		2010		10-Yr Avg.								
DAM	Adult	Jack	Adult	Jack	Adult	Jack	2011	2010	10-Yr Avg.	2011	2010	10-Yr Avg.	Wild 2011
BON	**841**	**142**	**384**	**52**	**373**	**81**	**185775**	**386506**	**123895**	**217832**	**286810**	**231238**	**89516**
TDA	**63**	**27**	**8**	**0**	**21**	**4**	**138277**	**325117**	**105743**	**147153**	**139938**	**88463**	**64045**
JDA	**80**	**55**	**8**	**4**	**5**	**1**	**143116**	**324107**	**110239**	**94580**	**99390**	**63000**	**42490**
MCN	**1**	**2**	**2**	**0**	**0**	**0**	**113917**	**278787**	**91596**	**75326**	**82873**	**45582**	**30880**
IHR	**0**	**0**	**0**	**0**	**0**	**0**	**1132**	**1300**	**280**	**42728**	**52523**	**24503**	**13840**
LMN	**0**	**0**	**0**	**0**	**0**	**0**	**1394**	**1652**	**349**	**34589**	**46515**	**22373**	**12915**
LGS	**0**	**0**	**0**	**0**	**0**	**0**	**1435**	**1652**	**335**	**23110**	**28012**	**13775**	**9995**
LGR	**0**	**0**	**0**	**0**	**0**	**0**	**1493**	**2136**	**427**	**23918**	**28881**	**17120**	**10704**
PRD	**0**	**0**	**0**	**2**	**1**	**0**	**145028**	**357037**	**115291**	**4743**	**13995**	**6411**	**0**
RIS	**0**	**0**	**0**	**0**	**0**	**0**	**146039**	**338245**	**111583**	**4040**	**10384**	**5255**	**2346**
RRH	**0**	**0**	**0**	**0**	**1**	**0**	**132008**	**295530**	**88064**	**2917**	**6987**	**3732**	**1710**
WEL	**0**	**0**	**0**	**0**	**0**	**0**	**111279**	**291540**	**88129**	**1095**	**3220**	**1701**	**573**
WFA	**19**	**27**	**25**	**22**	**4**	**3**	**0**	**0**	**-**	**27228**	**31732**	**28015**	**-**

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: 08/19/11

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