



Fish Passage Center

Weekly Report #11 - 27

September 16, 2011

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Summary of Events:

NOTE: This is the last weekly report of the season; bi-weekly reports begin September 30th through the end of October.

Water Supply: Precipitation throughout the Columbia Basin has varied between 0% and 15% of average at individual sub-basins over September. Precipitation above The Dalles has been 9% of average over September. Over the 2011 water year, precipitation has ranged between 102% and 120% of average.

Table 1. Summary of September 1-12 precipitation and cumulative October through September 12 precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2011 September 1-12, 2011		Water Year 2011 October 1, 2010 to September 12, 2011	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	0.08	12	26.41	107
Snake River Above Ice Harbor	0.05	12	20.57	119
Columbia Above The Dalles	0.04	9	25.66	113
Kootenai	0.08	13	25.82	102
Clark Fork	0.01	2	19.14	111
Flathead	0.05	8	25.83	114
Pend Oreille/ Spokane	0.01	2	33.40	110
Central Washington	0.00	0	9.32	105
Snake River Plain	0.05	15	12.97	117
Salmon/Boise/ Payette	0.02	6	20.69	106
Clearwater	0.00	1	36.00	120
SW Washington Cascades/Cowlitz	0.00	0	72.74	104
Willamette Valley	0.00	0	62.33	106

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) was 55 Kcfs; over the entire summer period flows at Lower Granite averaged 81.2 Kcfs.

The summer flow objective period began at McNary Dam on July 1st and ended on August 31st with a flow objective of 200 Kcfs. Over the entire summer flow period, flows at McNary averaged 261.2 Kcfs.

Grand Coulee Reservoir is currently at 1282.6 feet (9-15-11) and refilled 1.3 feet over the last week. Outflows at Grand Coulee have ranged between 65.0 and 80.6 Kcfs.

The Libby Reservoir is currently at elevation 2447.4 feet (9-15-11) and has held steady last week. Outflows at Libby Dam have been 6.0 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3552.7 feet (9-15-11) and has drafted 1.1 feet last week. Outflows at Hungry Horse have been 3.0-3.5 Kcfs last week. The BOR plans to target elevation 3550 feet by the end of September.

Dworshak is currently at an elevation of 1521.8 feet on September 15th, 2011 and drafted 5.6 feet over the last week. Outflows from Dworshak have been reduced from 10.5 Kcfs to 4.8 Kcfs over the last week. The COE plans reduce outflows at Dworshak to the 1.5 Kcfs minimum once elevation 1520 feet is reached.

The Brownlee Reservoir was at an elevation of 2040.5 feet on September 15th, 2011, drafting 10.8 feet last week. Over the last week, outflows at Brownlee have ranged between 15.2-26.4 Kcfs.

Smolt Monitoring:

Sampling continued at all SMP monitoring sites at dams except John Day Dam. Sampling at John Day and Bonneville dams has been altered due to river temperatures exceeding 70 degrees Fahrenheit, although temperatures have dropped rapidly over the past week. The transport sites have transitioned to truck transport with the last barges leaving on August 15. Subyearling Chinook continued to predominate in the collections at all dams over the past week. Subyearling Chinook passage indices were similar to last week with relatively low numbers at the Snake River and at Rock Island dams and the highest numbers in the McNary Dam to Bonneville Dam reach.

Subyearling Chinook juvenile salmon numbers increased over the past week at Lower Granite Dam where the passage index averaged nearly 400 per day over the past week compared 90 per day the previous week. Small numbers of all spring migrants continue

to be collected sporadically. Little Goose and Lower Monumental dams also had subyearling Chinook predominating in the indices, followed by small but steady numbers of juvenile coho salmon.

McNary Dam went to full flow bypass over the past week as the COE tried to move large areas of debris away from the powerhouse. Debris jammed up the bypass system on September 13 forcing the COE to shut it down temporarily while the jam was removed. The COE has been unsuccessful in spilling the debris so far. The last attempt was on September 15. No samples were taken over the past week so no data are available. However, PIT-tag detections were ongoing and it appears based on that data that subyearling summer Chinook from the Upper Columbia are passing in good numbers as well as small numbers of surrogate PIT-tagged fish from the Snake River.

At John Day Dam sampling was modified due to temperatures exceeding 70 degrees Fahrenheit on September 8. During high temperature periods sampling at John Day consists of condition sampling every third day. John Day Dam returned to every day sampling September 12 in time to sample three final days before the scheduled end of sampling on September 15.

At Bonneville Dam normal sampling has been ongoing since September 1. Sampling during high temperatures at Bonneville consists of every-other-day condition monitoring. The average index for subyearling Chinook at Bonneville Dam decreased this week to 1,200 per day compared to 1,600.

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 counting began at Bonneville Dam on August 1st. Daily counts of fall Chinook adults at Bonneville Dam have ranged between 12,455 to 17,068 over the last week. The 2011 adult fall Chinook count of 262,251 is about 86% of the 2010 count and 90% of the 10 year average count. The 2011 Bonneville Dam fall Chinook jack count of 40,662 is about 122% of the 2010 count and 134% of the 10 year average. The 2011 McNary Dam adult fall Chinook count of 62,593 is about 78% of the 2010 count and about 104% the 10 year average. The 2011 McNary Dam fall Chinook jack count of 12,883 is about 129% of the 2010 count and about 109% of 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 B-run adult steelhead count at Bonneville of 67,438 is about 95% of the 2010 count of 71,166.

The Bonneville Dam 2011 total steelhead count of 329,880 is about 88% of the 2010 count of 375,268 and about 93% of the 10 year average count of 356,249. In the Snake River, this year's Lower Granite steelhead count of 74,307 is about 102% of the 2010 count and 162% of the 10 year average count. The 2011 LGR wild steelhead count as of September 15th was 24,876. The 2011 Rock Island Dam adult steelhead count of 13,376 is about 79% of the 2010 count and 107% of the 10 year average. At Willamette Falls Dam, the 2011 count for steelhead was 27,518, as of September 14th. This year's steelhead count is about 86% of the 2010 count and about 97% of the 10 year average.

The 2011 adult sockeye count at Bonneville Dam of 185,796 is about 48% of the 2010 count, while being about 150% of the 10 year average. The 2011

adult sockeye count at McNary Dam of 113,947 is about 41% of the 2010 count and 124% of 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 1,141 is about 88% of the 2010 count of 1,302, and 408% of the 10 year average count of 280. The Lower Granite Dam 2011 adult sockeye count of 1,501 is about 68% of the 2010 count of 2,195 and 352% of the 10 year average of 427.

The 2011 Bonneville Dam adult coho salmon count of 78,286 is about 221% of the 2010 count of 35,479 and 125% of the 10 year average count of 62,419. The 2011 Bonneville Dam coho jack count of 2,076 is about 87% of the 2010 count, while being 70% of the 10 year average count.

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

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
9/2	105.5	105.9	106.7	24	107.7	108.2	108.7	23	107.7	107.9	108.4	24	107.4	108.0	109.7	23	106.5	106.8	107.1	24
9/3	104.7	105.0	105.2	23	106.9	107.5	108.4	21	107.3	107.7	107.9	24	106.8	107.6	108.9	21	106.2	106.7	107.0	23
9/4	104.8	105.4	106.0	22	107.8	108.3	109.0	21	107.8	108.1	108.3	24	106.8	107.3	108.0	21	107.0	107.7	108.0	24
9/5	105.0	105.5	105.9	24	108.1	108.4	109.0	21	107.9	108.1	108.4	24	107.4	107.9	109.2	21	107.7	108.1	108.5	24
9/6	104.2	104.5	104.8	23	107.6	108.0	108.4	22	107.1	107.5	107.7	24	108.1	108.8	110.0	22	107.5	107.7	108.0	24
9/7	103.7	104.0	104.4	24	107.6	108.0	108.5	21	106.8	107.2	107.4	24	107.9	108.2	108.8	21	107.8	108.2	108.5	24
9/8	103.4	103.6	103.8	23	107.7	108.1	108.4	20	106.5	106.8	107.0	24	107.8	108.3	108.9	20	107.9	108.4	108.8	24
9/9	103.3	103.9	104.2	24	107.9	108.2	108.8	20	106.7	107.0	107.7	24	108.0	108.4	109.3	20	107.0	107.2	107.5	24
9/10	103.6	104.1	104.2	24	108.1	108.5	109.0	22	106.0	106.2	106.6	24	108.0	108.5	109.1	22	106.9	107.4	107.7	24
9/11	103.9	104.4	105.0	22	107.2	107.7	108.3	20	105.9	106.3	106.9	24	107.4	108.2	109.0	20	107.0	107.7	108.3	24
9/12	103.9	104.2	104.5	24	106.5	107.0	107.6	21	106.1	106.4	106.8	24	108.1	108.4	108.9	21	107.4	107.8	108.3	24
9/13	103.6	103.8	104.1	23	106.3	106.7	107.4	21	105.4	105.6	106.1	24	107.9	108.3	109.8	21	107.0	107.4	107.5	24
9/14	103.5	103.7	103.8	23	106.7	107.3	108.0	19	105.9	106.3	106.6	24	108.3	108.7	109.3	19	107.5	107.9	108.2	24
9/15	103.6	103.9	104.3	24	106.8	107.3	107.9	21	105.5	105.7	106.4	24	108.1	108.6	109.6	21	107.6	108.3	117.3	24

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
9/2	107.2	107.8	108.7	24	106.1	106.6	107.0	24	105.7	106.4	107.0	24	105.7	105.8	106.1	24	102.6	103.1	103.8	24
9/3	107.3	108.5	110.5	23	105.9	106.8	107.5	23	105.6	106.4	106.9	23	105.4	105.7	106.3	24	102.2	102.7	103.0	24
9/4	108.2	109.9	111.7	24	106.9	107.9	108.5	24	106.8	107.8	108.5	24	105.7	106.3	106.8	24	102.6	102.9	103.4	24
9/5	108.9	109.7	111.8	24	107.9	108.6	109.1	24	107.6	108.8	109.3	24	106.3	106.7	107.5	24	102.5	102.8	103.3	24
9/6	107.5	108.2	108.7	24	107.3	108.0	108.7	24	107.1	108.0	108.7	24	105.5	105.5	106.1	10	102.1	102.1	102.7	10
9/7	108.1	108.8	109.3	24	107.5	108.3	108.7	24	107.4	108.3	108.9	24	---	---	---	0	---	---	---	0
9/8	108.4	109.0	109.5	24	107.5	108.4	108.8	24	107.6	108.4	108.8	24	---	---	---	0	---	---	---	0
9/9	107.9	108.8	109.8	24	107.9	109.1	109.7	23	108.2	109.1	109.8	23	---	---	---	0	---	---	---	0
9/10	107.6	108.3	109.4	24	108.8	109.9	110.7	23	108.9	109.8	110.7	23	---	---	---	0	---	---	---	0
9/11	108.2	109.2	110.2	24	108.5	109.2	109.8	23	108.5	109.2	110.0	23	---	---	---	0	---	---	---	0
9/12	107.7	108.3	108.9	24	107.9	108.3	109.0	23	107.5	108.2	109.0	23	---	---	---	0	---	---	---	0
9/13	107.4	108.1	109.0	24	107.5	108.0	108.3	23	107.3	107.9	108.3	23	---	---	---	0	---	---	---	0
9/14	108.0	108.7	109.7	24	108.0	108.6	109.1	22	107.7	108.5	109.2	22	---	---	---	0	---	---	---	0
9/15	108.0	108.5	109.4	24	107.4	107.4	107.9	9	106.9	106.9	107.8	9	---	---	---	0	---	---	---	0

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
9/2	105.0	105.4	105.9	24	104.0	105.4	106.3	24	103.2	104.1	104.9	24	103.8	104.1	104.5	24	103.0	103.5	104.3	21
9/3	105.0	105.3	105.7	24	105.3	105.6	105.9	24	100.9	104.3	105.5	24	104.5	105.4	105.7	24	101.6	101.7	103.7	13
9/4	105.3	105.6	105.7	24	105.7	105.9	106.1	24	102.2	106.3	107.3	24	106.0	106.4	106.6	24	---	---	---	0
9/5	105.4	105.6	105.9	24	105.6	105.8	105.9	24	104.2	106.0	107.9	24	106.2	106.4	106.6	24	---	---	---	0
9/6	104.9	104.9	105.1	10	105.0	105.0	105.2	10	103.2	105.3	106.2	24	104.9	105.1	105.3	24	105.3	105.6	106.5	16
9/7	---	---	---	0	---	---	---	0	105.3	106.4	107.9	24	105.5	106.0	106.5	24	104.8	105.3	105.6	24
9/8	---	---	---	0	---	---	---	0	105.1	105.6	106.5	24	105.2	105.4	105.5	24	105.2	105.5	105.8	24
9/9	---	---	---	0	---	---	---	0	104.3	105.6	107.1	24	105.3	105.8	106.0	24	105.1	105.7	106.2	24
9/10	---	---	---	0	---	---	---	0	104.4	106.8	107.7	24	106.1	106.6	106.8	24	105.9	106.5	106.8	24
9/11	---	---	---	0	---	---	---	0	105.0	106.5	107.3	24	106.6	107.0	107.3	24	105.8	106.6	107.9	24
9/12	---	---	---	0	---	---	---	0	104.0	105.2	106.0	24	106.3	106.7	107.5	24	103.8	104.2	105.2	24
9/13	---	---	---	0	---	---	---	0	103.0	104.3	104.9	24	105.5	105.7	106.5	24	102.8	103.4	104.8	24
9/14	---	---	---	0	---	---	---	0	105.0	106.1	107.0	24	106.9	108.2	118.9	24	102.7	103.6	104.9	24
9/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0

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

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

Date	<u>Priest R. Dnst</u>			#	<u>Pasco</u>			#	<u>Dworshak</u>			#	<u>Clrwtr-Peck</u>			#	<u>Anatone</u>			#
	<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>	
	Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr	
9/2	103.8	104.1	104.4	24	103.5	103.6	104.1	24	108.7	109.2	109.6	24	106.6	107.1	107.6	24	101.7	103.3	105.1	24
9/3	103.9	104.4	105.0	24	102.8	103.4	103.8	24	109.0	109.4	110.0	24	106.8	107.4	107.7	24	101.9	103.8	105.7	24
9/4	104.9	105.3	105.8	24	103.2	104.1	104.5	24	103.0	104.5	108.8	24	105.3	107.0	107.9	24	102.4	104.3	106.5	24
9/5	106.0	106.5	106.9	24	103.6	104.2	104.7	24	101.3	101.8	102.1	24	101.9	102.9	103.8	24	102.3	104.1	106.5	24
9/6	105.1	105.6	105.9	24	103.3	104.2	104.8	24	100.8	101.1	101.4	24	101.5	102.4	103.3	24	101.8	103.4	105.3	24
9/7	105.1	105.6	105.8	24	103.4	104.1	104.4	24	100.8	101.0	101.4	24	101.4	102.4	103.3	23	102.3	104.0	106.3	24
9/8	105.4	105.8	106.0	24	103.5	104.2	104.6	24	100.8	101.1	101.4	24	101.4	102.3	103.2	23	102.0	103.0	104.3	24
9/9	105.3	105.7	105.9	24	103.8	104.8	105.3	24	101.0	101.2	101.5	24	101.5	102.4	103.3	22	102.1	103.1	104.2	24
9/10	105.7	106.1	106.5	24	104.4	105.1	105.6	24	101.5	101.7	102.1	24	101.7	102.8	103.9	24	102.3	103.4	104.5	24
9/11	106.2	106.8	107.3	24	104.1	104.6	104.8	24	101.5	101.8	102.2	24	101.8	102.8	103.9	24	114.5	122.8	123.0	24
9/12	106.1	106.6	107.0	24	104.0	104.6	105.0	24	101.1	101.5	101.9	24	101.5	102.6	103.7	24	121.8	122.7	122.9	24
9/13	105.1	105.4	105.6	24	103.9	104.6	104.9	24	101.2	101.5	101.9	24	101.8	103.0	104.4	22	122.1	122.8	123.2	24
9/14	105.4	106.2	109.5	24	104.2	104.7	105.2	24	101.8	102.1	102.6	24	102.0	103.3	104.5	24	122.0	122.5	123.0	24
9/15	---	---	---	0	102.8	103.4	104.0	24	101.5	101.8	102.2	24	101.8	102.7	103.9	24	121.5	121.5	121.7	10

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwtr-Lewiston</u>			#	<u>Lower Granite</u>			#	<u>L. Granite Tlwr</u>			#	<u>Little Goose</u>			#	<u>L. Goose Tlwr</u>			#
	<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>	
	Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr	
9/2	103.9	105.5	106.9	24	100.9	101.2	101.7	24	100.8	101.0	101.5	24	106.4	106.8	107.2	24	104.1	104.6	104.8	24
9/3	103.8	105.9	107.4	24	100.4	100.6	100.8	24	100.2	100.6	100.9	24	105.5	105.8	105.9	24	103.5	104.3	104.7	24
9/4	104.2	106.1	107.6	24	100.9	101.2	101.4	24	101.0	101.5	102.0	24	106.1	106.4	107.1	24	104.5	105.2	105.8	24
9/5	102.3	104.0	105.2	24	101.2	101.5	101.7	24	101.1	101.3	101.7	24	105.6	105.7	105.9	24	104.5	105.1	105.8	24
9/6	101.8	103.6	104.9	24	100.9	101.2	101.8	24	100.7	101.0	101.1	24	104.6	104.8	105.2	24	103.4	103.8	104.1	24
9/7	102.2	103.8	105.1	22	101.6	101.8	102.2	24	101.2	101.6	102.0	24	103.7	103.9	104.4	24	101.3	101.8	102.2	24
9/8	102.0	103.5	104.8	24	102.4	102.9	103.8	24	101.4	101.7	102.1	24	102.9	103.2	103.4	24	100.6	101.7	104.4	24
9/9	102.0	103.6	104.9	23	102.7	102.9	103.1	24	101.6	102.0	102.4	24	102.0	102.5	103.3	24	98.7	99.3	99.7	24
9/10	102.2	103.8	105.2	23	102.9	103.3	103.7	24	101.9	102.4	102.6	24	100.9	101.2	101.3	24	98.7	99.2	99.4	24
9/11	102.2	103.7	105.1	23	103.5	103.9	104.2	24	102.4	102.6	102.9	24	100.1	100.5	101.2	24	98.1	98.8	99.1	24
9/12	101.9	103.5	104.9	23	102.8	103.0	103.3	24	101.8	102.0	102.3	24	100.0	100.3	100.6	24	99.1	99.8	100.2	24
9/13	102.0	103.6	104.9	23	102.4	102.8	103.5	24	101.4	101.7	102.1	24	100.3	100.3	100.6	11	99.5	100.6	101.2	24
9/14	102.4	104.1	105.4	23	103.2	103.9	104.2	24	102.2	102.8	103.3	24	---	---	---	0	101.5	102.1	102.5	24
9/15	101.6	102.3	103.5	21	102.1	102.8	103.5	24	101.1	101.7	102.5	24	---	---	---	0	100.9	101.3	101.9	24

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

Date	<u>Lower Mon.</u>			#	<u>L. Mon. Tlwr</u>			#	<u>Ice Harbor</u>			#	<u>Ice Harbor Tlwr</u>			#	<u>McNary-Oregon</u>			#
	<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>	
	Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr	
9/2	107.1	107.5	108.0	24	105.9	106.2	106.9	24	107.6	107.9	108.3	24	107.5	108.0	108.6	24	---	---	---	0
9/3	106.0	106.2	106.3	24	105.5	106.2	107.1	24	107.5	107.8	108.0	24	107.2	107.8	108.2	24	---	---	---	0
9/4	106.0	106.3	106.5	24	129.2	141.8	143.1	24	107.9	108.1	108.3	24	107.6	108.2	108.6	24	---	---	---	0
9/5	107.2	107.3	107.4	24	139.8	140.4	141.0	24	108.1	108.3	108.6	24	107.9	108.4	108.8	24	---	---	---	0
9/6	106.3	106.6	106.9	24	123.1	138.1	138.6	24	106.2	106.8	107.5	24	129.5	144.9	146.1	24	---	---	---	0
9/7	105.0	105.2	105.4	24	105.2	105.9	108.2	24	104.6	104.8	105.2	24	105.3	105.8	106.5	24	---	---	---	0
9/8	104.7	105.0	105.1	24	104.9	105.7	106.6	24	104.4	104.5	104.7	24	104.8	105.1	105.5	24	---	---	---	0
9/9	104.3	104.6	104.8	24	105.6	106.6	110.1	24	104.8	105.1	105.4	24	104.9	105.3	105.8	24	---	---	---	0
9/10	105.0	105.2	105.3	24	105.4	106.0	106.5	24	105.0	105.3	105.6	24	105.2	105.5	106.2	24	---	---	---	0
9/11	104.3	104.6	105.0	24	104.3	104.9	105.8	24	104.8	105.1	105.5	24	105.2	105.8	106.2	24	---	---	---	0
9/12	103.1	103.4	103.7	24	103.2	103.7	104.2	24	104.3	104.5	104.7	24	104.8	105.2	105.4	24	---	---	---	0
9/13	101.4	101.5	102.1	15	101.4	101.9	103.6	24	104.1	104.4	104.8	24	105.3	106.2	108.9	24	---	---	---	0
9/14	---	---	---	0	101.7	102.7	106.6	24	104.4	104.4	105.0	10	105.6	106.4	107.9	24	---	---	---	0
9/15	---	---	---	0	100.8	101.0	101.2	24	---	---	---	0	104.7	105.2	106.5	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

Date	<u>McNary-Wash</u>				<u>McNary Tlwr</u>				<u>John Day</u>				<u>John Day Tlwr</u>				<u>The Dalles</u>			
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24h</u>	<u>12h</u>		<u>#</u>	<u>24h</u>	<u>12h</u>		<u>#</u>	<u>24h</u>	<u>12h</u>		<u>#</u>
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>AVG</u>	<u>High</u>	<u>hr</u>
9/2	103.1	103.3	104.0	24	102.7	102.8	102.9	24	102.8	103.2	104.0	24	103.5	104.0	104.7	24	102.9	103.6	105.3	24
9/3	102.7	103.0	103.7	24	102.4	102.8	103.1	24	103.0	104.0	104.6	24	103.4	103.9	104.7	24	102.1	102.7	103.0	24
9/4	102.9	103.2	103.6	24	102.9	103.4	103.7	24	103.3	104.1	105.1	24	104.2	104.6	105.8	24	102.6	103.1	103.5	24
9/5	103.8	104.3	105.0	24	103.3	103.8	104.1	24	101.9	102.3	103.6	24	103.6	104.4	105.0	24	103.0	103.4	104.0	24
9/6	103.8	104.4	105.0	24	104.7	106.4	126.1	24	101.1	101.5	101.9	24	102.4	102.6	102.9	24	101.7	102.0	102.5	24
9/7	104.6	105.3	105.6	24	104.9	106.2	118.1	24	102.5	103.6	107.0	24	102.7	103.1	103.4	24	101.5	102.0	102.4	24
9/8	103.7	104.0	104.3	24	103.3	103.4	103.6	24	105.1	105.8	106.9	24	103.9	104.3	104.8	24	102.1	102.6	102.9	24
9/9	103.7	104.0	104.4	24	103.5	103.9	104.2	24	105.1	105.5	105.7	24	104.3	104.6	104.8	24	103.2	104.2	104.4	24
9/10	104.3	104.6	105.0	24	104.0	104.4	104.7	24	104.8	105.0	105.9	24	104.4	104.8	105.0	24	104.7	105.2	105.7	24
9/11	104.1	104.5	104.9	24	104.0	104.3	104.6	24	104.0	104.1	104.4	24	104.5	105.0	105.4	24	104.4	104.7	105.2	24
9/12	104.4	104.8	105.3	24	103.9	104.2	104.6	24	102.9	103.1	103.3	24	103.0	103.4	103.6	24	102.9	103.2	103.9	24
9/13	104.3	104.8	105.1	24	104.4	105.3	109.5	24	102.0	102.0	102.3	13	102.4	103.0	103.6	24	101.8	102.0	102.3	24
9/14	104.8	104.8	105.3	13	104.5	105.1	105.4	24	---	---	---	0	103.2	103.4	103.7	24	101.1	101.1	101.2	8
9/15	---	---	---	0	106.6	110.0	124.8	24	---	---	---	0	102.5	102.9	103.2	24	---	---	---	0

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>				<u>Bonneville</u>				<u>Warrendale</u>				<u>Camas\Washougal</u>				<u>Cascade Island</u>			
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24h</u>	<u>12h</u>		<u>#</u>	<u>24h</u>	<u>12h</u>		<u>#</u>	<u>24h</u>	<u>12h</u>		<u>#</u>
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
9/2	104.7	105.4	106.1	24	104.6	105.0	105.4	24	105.8	106.5	106.9	24	104.5	105.6	106.3	24	---	---	---	0
9/3	103.2	103.8	104.2	24	104.6	105.3	105.6	24	105.8	106.2	106.9	24	104.6	104.8	105.2	24	---	---	---	0
9/4	104.2	104.5	104.6	24	102.3	102.7	102.8	24	104.1	104.1	105.0	11	103.4	104.2	104.5	24	---	---	---	0
9/5	104.2	104.5	104.9	24	103.2	103.5	103.8	24	105.2	105.8	106.9	20	104.3	105.2	105.7	24	---	---	---	0
9/6	103.0	103.3	103.7	24	102.6	103.0	103.3	24	104.4	105.0	105.9	24	104.7	105.5	106.0	24	---	---	---	0
9/7	102.6	103.1	103.6	24	102.5	102.7	103.0	24	104.1	104.5	105.0	24	104.6	105.3	105.8	24	---	---	---	0
9/8	103.0	103.4	103.7	24	102.3	102.6	102.9	24	104.0	104.4	104.7	24	103.8	104.6	105.1	24	---	---	---	0
9/9	103.7	104.5	104.9	24	102.4	102.6	102.9	24	104.2	104.6	104.9	24	104.2	105.4	106.1	24	---	---	---	0
9/10	105.3	105.9	106.4	24	102.7	103.2	103.6	24	104.7	105.1	105.7	24	104.5	105.5	106.1	24	---	---	---	0
9/11	105.0	105.5	105.9	24	103.1	103.3	103.5	24	104.5	104.8	105.2	24	104.2	104.8	105.3	24	---	---	---	0
9/12	103.5	103.9	104.4	24	102.1	102.3	102.5	24	103.6	104.0	104.2	24	103.3	104.1	104.6	24	---	---	---	0
9/13	102.8	103.2	103.3	24	101.1	101.4	101.7	24	102.7	102.9	103.4	24	102.1	102.6	103.3	24	---	---	---	0
9/14	102.3	102.7	103.0	24	100.5	100.5	100.8	11	102.3	102.5	102.8	23	101.2	101.4	102.4	13	---	---	---	0
9/15	101.6	101.9	102.5	24	---	---	---	0	101.5	101.8	102.1	24	---	---	---	0	---	---	---	0

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

Date	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
09/02/2011	83.7	0.1	79.6	0.0	75.6	0.0	81.8	0.0	82.3	0.0	85.5	1.4	81.7	0.8
09/03/2011	70.8	0.1	73.2	0.0	69.7	0.0	69.3	0.0	73.0	0.0	67.2	1.8	63.2	0.8
09/04/2011	65.6	0.1	65.7	0.0	64.9	0.0	65.6	0.0	67.6	0.0	67.9	2.0	64.9	0.9
09/05/2011	58.3	0.1	61.0	0.0	59.4	0.0	58.1	0.0	61.8	0.0	71.9	2.0	68.7	1.2
09/06/2011	100.3	0.1	94.5	0.0	95.8	0.0	94.5	0.0	94.7	0.0	97.3	1.8	94.5	0.9
09/07/2011	97.4	0.1	96.3	0.0	97.1	0.0	98.6	0.0	100.0	0.0	106.2	1.9	99.2	1.2
09/08/2011	78.8	0.1	74.0	0.0	82.3	0.0	86.7	0.0	88.0	0.0	107.4	1.7	108.0	1.1
09/09/2011	80.6	0.1	79.1	0.0	78.4	0.0	80.7	0.0	81.8	0.0	84.3	1.5	81.8	0.7
09/10/2011	69.3	0.1	71.6	0.0	74.3	0.0	75.1	0.0	79.2	0.0	85.4	1.7	83.9	0.7
09/11/2011	72.0	0.1	71.3	0.0	71.8	0.0	73.9	0.0	77.4	0.0	77.7	1.7	74.3	0.8
09/12/2011	70.9	0.1	72.0	0.0	68.4	0.0	67.5	0.0	69.6	0.0	71.6	1.7	71.5	1.1
09/13/2011	76.5	0.1	78.7	0.0	78.5	0.0	80.8	0.8	79.0	0.0	73.4	3.6	67.4	0.7
09/14/2011	75.5	0.1	75.6	0.0	76.3	0.0	79.0	0.1	81.8	0.0	88.7	3.5	82.3	5.1
09/15/2011	65.0	0.1	60.6	0.0	63.9	0.0	66.6	0.0	68.7	0.0	76.2	2.6	75.8	1.0

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

Date	Dworshak		Brownlee Canyon		Hells Granite		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
09/02/2011	13.8	3.4	14.0	12.9	35.0	0.0	28.2	0.0	28.0	0.0	25.3	0.0		
09/03/2011	14.0	3.5	13.7	13.6	36.4	0.1	29.5	0.0	28.0	0.0	27.4	0.0		
09/04/2011	12.5	2.0	14.2	13.8	36.9	0.0	32.9	0.0	34.6	0.0	33.6	0.0		
09/05/2011	10.4	0.0	14.5	14.4	33.1	0.0	33.1	0.0	35.9	0.0	38.8	0.0		
09/06/2011	10.5	0.0	15.7	18.4	34.2	0.0	35.7	0.0	37.1	0.0	36.8	0.0		
09/07/2011	10.5	0.0	15.1	19.7	36.8	0.0	28.9	0.0	28.4	0.0	27.4	0.0		
09/08/2011	10.5	0.0	14.8	26.0	40.8	0.0	39.7	0.0	39.4	0.0	38.4	0.0		
09/09/2011	10.5	0.0	15.4	---	45.1	0.0	40.5	0.0	43.6	0.0	43.3	0.0		
09/10/2011	8.2	0.0	15.3	25.1	41.5	0.0	40.1	0.0	40.4	0.0	38.7	0.0		
09/11/2011	8.2	0.0	15.9	26.6	38.8	0.0	29.9	0.0	28.0	0.0	27.1	0.0		
09/12/2011	8.4	0.0	17.8	---	42.0	0.0	42.0	0.0	43.4	0.0	39.3	0.0		
09/13/2011	6.7	0.0	---	26.9	38.6	0.0	35.8	0.0	37.3	0.2	41.0	0.0		
09/14/2011	5.9	0.0	---	26.9	40.8	0.0	40.9	0.0	41.6	0.1	41.0	0.0		
09/15/2011	4.8	0.0	---	---	35.2	0.0	38.9	0.0	40.5	0.0	41.4	0.0		

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

Date	McNary		John Day		The Dalles		Bonneville			
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
09/02/2011	132.1	0.0	122.1	0.9	123.2	0.0	116.8	1.3	24.6	83.5
09/03/2011	104.2	0.0	100.0	0.9	101.6	0.0	113.4	1.4	24.3	80.3
09/04/2011	101.4	0.0	96.7	0.8	97.7	0.0	102.4	1.3	21.9	71.8
09/05/2011	118.3	0.0	115.0	0.9	116.3	0.0	121.6	1.3	51.8	61.1
09/06/2011	113.5	3.8	116.1	0.9	117.9	0.0	128.7	1.4	61.3	58.6
09/07/2011	128.7	0.0	124.0	0.8	124.3	0.0	131.2	1.4	64.2	58.2
09/08/2011	129.9	0.1	120.4	0.8	123.5	0.0	129.4	1.5	61.3	59.2
09/09/2011	136.3	0.0	139.1	0.9	139.5	0.0	145.8	1.4	74.0	63.0
09/10/2011	123.0	0.0	117.6	0.9	120.9	0.0	133.5	1.3	67.4	57.4
09/11/2011	110.2	0.0	107.0	0.9	110.2	0.0	118.3	1.3	53.8	55.8
09/12/2011	126.7	0.0	129.2	0.9	128.4	0.0	136.0	2.0	65.9	60.7
09/13/2011	107.3	0.6	102.7	1.0	108.4	0.0	118.4	1.3	53.0	56.7
09/14/2011	114.3	0.0	104.3	1.2	104.6	0.0	111.3	1.3	48.9	53.7
09/15/2011	122.2	5.6	111.3	1.2	109.7	0.0	112.8	1.4	48.1	56.0

Two-Week Summary of Passage Indices

COMBINED YEARLING CHINOOK												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
09/02/2011	*	---	---	---	---	2	0	1	---	0	0	0
09/03/2011	*	---	---	---	---	0	0	0	---	0	---	13
09/04/2011	*	---	---	---	---	2	1	3	---	0	---	0
09/05/2011	*	---	---	---	---	0	0	0	---	0	---	0
09/06/2011	*	---	---	---	---	0	0	0	---	0	0	0
09/07/2011	*	---	---	---	---	0	1	0	---	0	---	0
09/08/2011	*	---	---	---	---	0	1	2	---	0	0	0
09/09/2011	*	---	---	---	---	0	0	2	---	0	---	0
09/10/2011	*	---	---	---	---	0	0	3	---	---	0	0
09/11/2011	*	---	---	---	---	1	1	0	---	---	---	0
09/12/2011	*	---	---	---	---	0	0	0	---	---	---	0
09/13/2011	*	---	---	---	---	0	1	1	---	---	0	0
09/14/2011	*	---	---	---	---	1	0	1	---	---	0	0
09/15/2011	*	---	---	---	---	---	1	---	---	---	0	0
09/16/2011	*	---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	6	6	13	0	0	0	13
# Days:		0	0	0	0	13	14	13	0	8	7	14
Average:		0	0	0	0	0	0	1	0	0	0	1
YTD		31,090	30,210	12,492	18,836	3,831,090	2,528,603	1,236,925	26,463	1,979,496	2,936,420	1,322,317

COMBINED SUBYEARLING CHINOOK												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
09/02/2011	*	---	---	---	---	76	37	25	---	25,725	660	3,592
09/03/2011	*	---	---	---	---	73	26	20	---	19,750	---	1,651
09/04/2011	*	---	---	---	---	74	40	20	---	14,000	---	1,782
09/05/2011	*	---	---	---	---	71	48	151	---	2,950	---	1,089
09/06/2011	*	---	---	---	---	59	104	182	---	5,800	396	1,109
09/07/2011	*	---	---	---	---	96	216	298	---	9,623	---	857
09/08/2011	*	---	---	---	---	161	170	345	---	8,740	1,217	1,054
09/09/2011	*	---	---	---	---	210	256	599	---	3,940	---	830
09/10/2011	*	---	---	---	---	222	313	293	---	---	167	537
09/11/2011	*	---	---	---	---	363	208	193	---	---	---	414
09/12/2011	*	---	---	---	---	573	81	166	---	---	---	347
09/13/2011	*	---	---	---	---	585	122	160	---	---	158	301
09/14/2011	*	---	---	---	---	465	85	99	---	---	1,537	256
09/15/2011	*	---	---	---	---	---	129	---	---	---	3,460	238
09/16/2011	*	---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	3,028	1,835	2,551	0	90,528	7,595	14,057
# Days:		0	0	0	0	13	14	13	0	8	7	14
Average:		0	0	0	0	233	131	196	0	11,316	1,085	1,004
YTD		9	38	12	163	1,160,575	1,361,407	371,865	31,133	5,773,500	3,296,722	5,201,601

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)	
09/02/2011	*	---	---	---	---	0	4	2	---	0	0	0
09/03/2011	*	---	---	---	---	1	5	0	---	0	---	0
09/04/2011	*	---	---	---	---	3	4	1	---	0	---	0
09/05/2011	*	---	---	---	---	1	6	3	---	0	---	0
09/06/2011	*	---	---	---	---	1	5	4	---	0	0	0
09/07/2011	*	---	---	---	---	1	5	1	---	0	---	0
09/08/2011	*	---	---	---	---	2	5	0	---	20	0	0
09/09/2011	*	---	---	---	---	1	12	2	---	0	---	0
09/10/2011	*	---	---	---	---	2	4	2	---	---	0	0
09/11/2011	*	---	---	---	---	1	3	0	---	---	---	0
09/12/2011	*	---	---	---	---	1	3	2	---	---	---	8
09/13/2011	*	---	---	---	---	5	3	2	---	---	0	0
09/14/2011	*	---	---	---	---	11	4	0	---	---	0	0
09/15/2011	*	---	---	---	---	---	5	---	---	---	0	0
09/16/2011	*	---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	30	68	19	0	20	0	8
# Days:		0	0	0	0	13	14	13	0	8	7	14
Average:		0	0	0	0	2	5	1	0	3	0	1
YTD		0	0	0	218	83,885	81,836	19,958	46,400	188,209	477,004	439,939

		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)	
09/02/2011	*	---	---	---	---	0	0	0	---	0	0	0
09/03/2011	*	---	---	---	---	0	1	0	---	0	---	0
09/04/2011	*	---	---	---	---	0	0	0	---	0	---	0
09/05/2011	*	---	---	---	---	2	1	0	---	0	---	0
09/06/2011	*	---	---	---	---	1	1	0	---	0	0	0
09/07/2011	*	---	---	---	---	0	1	1	---	0	---	0
09/08/2011	*	---	---	---	---	0	3	1	---	0	0	0
09/09/2011	*	---	---	---	---	0	1	0	---	0	---	0
09/10/2011	*	---	---	---	---	1	2	0	---	---	0	11
09/11/2011	*	---	---	---	---	1	1	1	---	---	---	0
09/12/2011	*	---	---	---	---	0	0	1	---	---	---	0
09/13/2011	*	---	---	---	---	0	1	0	---	---	0	0
09/14/2011	*	---	---	---	---	0	0	1	---	---	0	0
09/15/2011	*	---	---	---	---	---	1	---	---	---	0	0
09/16/2011	*	---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	5	13	5	0	0	0	11
# Days:		0	0	0	0	13	14	13	0	8	7	14
Average:		0	0	0	0	0	1	0	0	0	0	1
YTD		1,080	13,882	4,071	2,934	4,118,589	2,033,109	838,182	28,473	608,082	2,620,215	246,508

Two-Week Summary of Passage Indices

COMBINED SOCKEYE											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
09/02/2011 *	---	---	---	---	1	3	0	---	0	11	8
09/03/2011 *	---	---	---	---	0	0	0	---	50	---	13
09/04/2011 *	---	---	---	---	0	0	0	---	50	---	0
09/05/2011 *	---	---	---	---	2	0	0	---	0	---	14
09/06/2011 *	---	---	---	---	2	2	0	---	0	0	0
09/07/2011 *	---	---	---	---	1	0	0	---	41	---	0
09/08/2011	---	---	---	---	2	2	0	---	20	14	10
09/09/2011 *	---	---	---	---	2	1	0	---	0	---	0
09/10/2011 *	---	---	---	---	1	0	0	---	---	0	0
09/11/2011 *	---	---	---	---	0	0	0	---	---	---	0
09/12/2011 *	---	---	---	---	1	0	0	---	---	---	0
09/13/2011 *	---	---	---	---	2	0	0	---	---	0	0
09/14/2011 *	---	---	---	---	1	0	0	---	---	0	0
09/15/2011 *	---	---	---	---	---	0	---	---	---	0	0
09/16/2011	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	15	8	0	0	161	25	45
# Days:	0	0	0	0	13	14	13	0	8	7	14
Average:	0	0	0	0	1	1	0	0	20	4	3
YTD	0	0	1	0	119,362	44,449	31,325	18,763	325,841	364,035	114,157

COMBINED LAMPREY JUVENILES											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR [†] (Coll)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)
09/02/2011 *	---	---	---	---	4	0	0	---	104	4	0
09/03/2011 *	---	---	---	---	3	0	0	---	50	---	0
09/04/2011 *	---	---	---	---	1	0	0	---	50	---	0
09/05/2011 *	---	---	---	---	1	1	0	---	0	---	0
09/06/2011 *	---	---	---	---	0	1	0	---	20	3	5
09/07/2011 *	---	---	---	---	0	0	0	---	20	---	0
09/08/2011	---	---	---	---	2	0	0	---	0	0	0
09/09/2011 *	---	---	---	---	0	2	0	---	0	---	0
09/10/2011 *	---	---	---	---	0	4	0	---	---	0	0
09/11/2011 *	---	---	---	---	0	1	0	---	---	---	0
09/12/2011 *	---	---	---	---	0	0	0	---	---	---	0
09/13/2011 *	---	---	---	---	1	0	0	---	---	0	4
09/14/2011 *	---	---	---	---	0	1	0	---	---	0	0
09/15/2011 *	---	---	---	---	---	0	---	---	---	0	0
09/16/2011	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	12	10	0	0	244	7	9
# Days:	0	0	0	0	13	14	13	0	8	7	14
Average:	0	0	0	0	1	1	0	0	31	1	1
YTD	0	0	0	0	10,562	17,637	748	327	164,356	494,478	26,086

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 macrophthalmia.

† 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 = $\text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$

LGS (Index) = Little Goose Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$

LMN (Index) = Lower Monumental Dam Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$

RIS (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{ \text{Powerhouse 2 Flow} / (\text{Powerhouse 1 \& 2 Flow} + \text{Spill}) \}$

MCN (Index) = McNary Dam Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$

JDA (Index) = John Day Dam Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$

BO2 (Index) = Bonneville Dam Second Powerhouse Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{ \text{Powerhouse 2 Flow} / (\text{Powerhouse 1 \& 2 Flow} + \text{Spill}) \}$

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:

9/16/11 9:38 AM

		09/02/11 TO 09/16/11					
		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
LGR	Sum of NumberCollected	3,028	6	30	5	15	3,084
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	1,090	0	0	2	0	1,092
	Sum of Numbertrucked	1,906	6	31	2	15	1,960
	Sum of SampleMorts	93	0	0	1	0	94
	Sum of FacilityMorts	2	0	0	0	0	2
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	95	0	0	1	0	96
LGS	Sum of NumberCollected	1,834	6	68	13	8	1,929
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	1,730	4	65	11	8	1,818
	Sum of SampleMorts	24	0	2	1	0	27
	Sum of FacilityMorts	12	1	0	0	0	13
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	36	1	2	1	0	40
LMN	Sum of NumberCollected	2,550	13	19	5		2,587
	Sum of NumberBarged	0	0	0	0		0
	Sum of NumberBypassed	0	0	0	3		3
	Sum of Numbertrucked	2,337	13	20	2		2,372
	Sum of SampleMorts	285	0	0	0		285
	Sum of FacilityMorts	0	0	0	0		0
	Sum of ResearchMorts	0	0	0	0		0
	Sum of TotalProjectMorts	285	0	0	0		285
MCN	Sum of NumberCollected	89,806		20		160	89,986
	Sum of NumberBarged	0		0		0	0
	Sum of NumberBypassed	0		0		0	0
	Sum of Numbertrucked	98,029		20		160	98,209
	Sum of SampleMorts	13		0		0	13
	Sum of FacilityMorts	496		0		0	496
	Sum of ResearchMorts	0		0		0	0
	Sum of TotalProjectMorts	509		0		0	509
Total Sum of NumberCollected		97,218	25	137	23	183	97,586
Total Sum of NumberBarged		0	0	0	0	0	0
Total Sum of NumberBypassed		1,090	0	0	5	0	1,095
Total Sum of Numbertrucked		104,002	23	136	15	183	104,359
Total Sum of SampleMorts		415	0	2	2	0	419
Total Sum of FacilityMorts		510	1	0	0	0	511
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		925	1	2	2	0	930

YTD Transportation Summary

Source: Fish Passage Center

Updated:

9/16/11 9:38 AM

TO: 09/16/11

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	730,681	2,716,912	54,653	78,064	2,713,306	6,293,616
	Sum of NumberBarged	641,690	1,705,111	40,040	35,412	1,437,012	3,859,265
	Sum of NumberBypassed	82,979	1,009,672	14,509	42,055	1,275,913	2,425,128
	Sum of NumberTrucked	3,541	6	81	20	4	3,652
	Sum of SampleMorts	390	101	2	73	42	608
	Sum of FacilityMorts	2,051	1,781	21	504	272	4,629
	Sum of ResearchMorts	30	241	0	0	58	329
	Sum of TotalProjectMorts	2,471	2,123	23	577	372	5,566
LGS	Sum of NumberCollected	734,873	1,449,333	41,558	24,293	1,132,421	3,382,478
	Sum of NumberBarged	725,531	1,344,369	40,943	18,896	893,351	3,023,090
	Sum of NumberBypassed	93	103,168	401	5,227	238,633	347,522
	Sum of NumberTrucked	5,377	7	204	23	22	5,633
	Sum of SampleMorts	409	52	3	14	11	489
	Sum of FacilityMorts	3,336	1,736	2	133	403	5,610
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	3,745	1,788	5	147	414	6,099
LMN	Sum of NumberCollected	251,173	854,197	13,234	21,051	565,782	1,705,437
	Sum of NumberBarged	236,788	636,755	12,003	18,832	459,659	1,364,037
	Sum of NumberBypassed	8,578	215,901	1,254	1,964	103,442	331,139
	Sum of NumberTrucked	4,049	36	60	2	2	4,149
	Sum of SampleMorts	380	3	6	0	5	394
	Sum of FacilityMorts	1,378	1,499	13	253	872	4,015
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,758	1,502	19	253	877	4,409
MCN	Sum of NumberCollected	2,434,283	952,682	71,810	136,704	295,989	3,891,468
	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	355,553	9	95	1,032	0	356,689
	Sum of SampleMorts	820	187	8	41	13	1,069
	Sum of FacilityMorts	41,628	2,691	170	374	205	45,068
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	42,448	2,878	178	415	218	46,137
Total Sum of NumberCollected		4,151,010	5,973,124	181,255	260,112	4,707,498	15,272,999
Total Sum of NumberBarged		2,664,698	3,686,259	93,246	75,933	2,790,130	9,310,266
Total Sum of NumberBypassed		1,067,243	2,278,512	87,441	181,710	1,913,651	5,528,557
Total Sum of NumberTrucked		368,520	58	440	1,077	28	370,123
Total Sum of SampleMorts		1,999	343	19	128	71	2,560
Total Sum of FacilityMorts		48,393	7,707	206	1,264	1,752	59,322
Total Sum of ResearchMorts		30	241	0	0	58	329
Total Sum of TotalProjectMorts		50,422	8,291	225	1,392	1,881	62,211

Cumulative Adult Passage at Mainstem Dams Through: 09/15

DAM	EndDate	Spring Chinook						Summer Chinook						Fall Chinook					
		2011		2010		10-Yr Avg.		2011		2010		10-Yr Avg.		2011		2010		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	09/14	167097	50945	244384	12612	174444	16431	108279	51451	97604	15603	89217	13568	262251	40662	305002	33432	291891	30425
TDA	09/14	124164	40146	189839	11546	130174	13470	81127	39844	81292	12528	78252	10628	120756	27149	145717	21436	129407	20688
JDA	09/15	103401	39823	179446	11794	110572	12004	74073	34571	70955	12475	71151	11642	89238	23689	100777	17774	88421	17549
MCN	09/15	101245	31750	153500	9185	102003	11175	74621	28165	66526	8063	67398	9237	62593	12883	80404	10002	60071	11866
IHR	09/15	69306	18161	101188	6047	70295	6879	26758	12378	29583	3503	17776	3412	15374	6157	24995	4609	11066	4911
LMN	09/15	69832	18094	97334	5898	69566	5561	31176	13730	35097	4362	18759	3055	12830	4031	19729	5955	9246	4172
LGS	09/15	67321	23492	92985	5461	64800	6145	42211	18214	32410	3968	15770	3504	10746	3239	17614	3145	7524	2735
LGR	09/15	59342	22063	94203	6409	65342	7745	36764	16425	28778	5294	14778	4385	9042	2986	15805	3791	6001	3073
PRD	09/14	15246	6030	30539	932	20141	818	50865	4223	49265	1217	58614	2426	11296	2383	8651	1426	12632	2399
RIS	09/14	13089	8394	29684	1513	17327	1572	44432	14299	47220	4018	55301	5331	4085	2667	3030	1412	4781	1300
RRH	09/14	6989	3491	8660	523	6536	525	38861	8131	34173	1724	42074	4056	3639	1800	2517	831	3511	954
WEL	09/14	4153	3969	7596	661	5414	510	29491	8443	27052	1898	31529	2157	1289	883	1407	570	1949	672
WFA	09/14	43748	1399	65293	1758	51657	1104	-	-	-	-	-	-	438	131	444	50	441	35

DAM	Coho						Sockeye			Steelhead			
	2011		2010		10-Yr Avg.		2011	2010	10-Yr Avg.	2011	2010	10-Yr Avg.	Wild 2011
	Adult	Jack	Adult	Jack	Adult	Jack							
BON	78286	2076	35479	2397	62419	2965	185796	386524	123898	329880	375268	356249	118756
TDA	22406	2282	13017	1255	11433	1480	138289	325131	105743	226115	252204	204270	84687
JDA	14800	1431	6752	676	8631	1385	143137	324124	110255	164835	188289	170562	62203
MCN	8191	904	3955	336	3255	451	113947	278800	91599	147727	158610	119576	51745
IHR	738	153	279	20	245	14	1141	1302	280	100480	107139	74593	27297
LMN	294	42	262	41	144	10	1395	1655	349	88248	97394	64603	25535
LGS	229	97	226	35	96	14	1436	1659	335	73425	73321	48158	23339
LGR	84	16	40	20	27	4	1501	2195	427	74307	73047	45912	24876
PRD	795	186	150	13	433	76	145070	357058	115345	15692	21517	14720	0
RIS	348	86	98	21	213	55	146110	338302	111637	13376	16922	12534	6518
RRH	48	12	21	10	15	3	132096	295625	88146	9497	12800	9124	4407
WEL	11	0	2	0	0	0	111507	291747	88339	6382	7977	6146	2712
WFA	195	319	3185	365	777	124	-	-	-	27518	32049	28501	-

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: 09/16/11

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