



Fish Passage Center

Weekly Report #12 - 23

August 17, 2012

1827 NE 44th Ave., Suite 240
Portland, OR 97213
phone: 503/230-4099
fax: 503/230-7559

Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 0% and 46% of average at individual sub-basins over July. Precipitation above The Dalles has been 17% of average for August 1-13. Over the 2012 water year, precipitation has ranged between 89% and 122% of average.

Table 1. Summary of August precipitation and cumulative October through August 13, 2012 precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2012 August 1-13, 2012		Water Year 2012 October 1, 2011 to August 13, 2012	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	0.18	25	27.27	119
Snake River Above Ice Harbor	0.04	10	15.82	97
Columbia Above The Dalles	0.08	17	23.63	110
Kootenai	0.18	25	28.74	122
Clark Fork	0.05	9	16.83	106
Flathead	0.31	46	24.51	116
Pend Oreille/ Spokane	0.02	3	34.20	117
Central Washington	0.00	0	7.86	93
Snake River Plain	0.05	19	9.28	89
Salmon/Boise/ Payette	0.00	1	17.93	96
Clearwater	0.00	0	31.51	110
SW Washington Cascades/ Cowlitz	0.01	1	69.31	103
Willamette Valley	0.02	3	62.15	109

Grand Coulee Reservoir is at 1283.1 feet (8-16-12) and drafted 1.3 feet over the last week. The end of August draft elevation will be approximately 1279.7 feet at Grand Coulee. Outflows at Grand Coulee have ranged between 151 and 172.8 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2454.7 feet (8-17-12) and has drafted 1.3 feet over the last week. Operators plan to draft Libby to approximately 2452.5 feet by the end of August while gradually reducing outflows to 8.0 Kcfs by early September. Outflows at Libby Dam have ranged between 16.0-18.0 Kcfs last week.

Hungry Horse is currently at an elevation of 3555.7 feet (8-17-12) and has drafted 0.9 feet over the last week. Outflows at Hungry Horse have been 2.9-3.0 Kcfs last week.

Dworshak is currently at an elevation of 1552.6 feet (8-17-12) and has drafted 8.1 feet over the last week for temperature and flow augmentation. Operators plan to draft Dworshak to 1535 feet by the end of August. Outflows from Dworshak have ranged between 11.2-12.6 Kcfs the past week.

The Brownlee Reservoir was at an elevation of 2055.3 feet on August 14th, 2012 drafting 0.4 feet last week. Over the last week, outflows at Brownlee have ranged between 7.8 and 9.7 Kcfs.

The Biological Opinion summer flow objective at Lower Granite (June 21st to August 31st) is 52 Kcfs; over the summer period flows at Lower Granite have been 46.7 Kcfs and 26.8 Kcfs over the last week.

The Summer Biological Opinion Flow Objective is 200 Kcfs at McNary Dam (began July 1st and will end August 31st). Over the summer period, flows at McNary have averaged 287.8 Kcfs and 207.2 Kcfs over the last week.

Spill:

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

Snake River flows have been decreasing over

the past week. At Lower Granite Dam spill did not always meet the Court Ordered summer spill level of 18 Kcfs due to low flows and the allowed operation of one turbine unit as a powerhouse minimum flow. At Little Goose Dam spill met the 30% of instantaneous flow level as specified in the Court Order until August 7, when low flows caused the project to implement the agreed upon low flow spill level of an instantaneous 11.2 Kcfs. The flat spill operation is initiated to maintain compatibility with Lower Granite and Lower Monumental operations. As flows continued to decline the flat spill level was decreased to 9.3 Kcfs beginning on August 10th. At Lower Monumental Dam the summer spill level of 17 Kcfs was not always met due to low flows and powerhouse minimums. At Ice Harbor Dam the Court Order “test-like” conditions were completed as of July 13th and spill reverted back to the 45 Kcfs during the day and gas cap spill during the night. However, due to low flows, spill is presently occurring as all flow in excess of that needed to operate one turbine unit at this project.

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

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

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

Gas bubble trauma samples were taken this past week at Little Goose, McNary, Rock Island and Bonneville dams. There were no signs of GBT detected in the samples this past week. Sampling for GBT has now ended at Little Goose and Lower Monumental dams due to low numbers of fish.

Smolt Monitoring:

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

Subyearling Chinook were the dominant species of salmonid at all SMP dams over the past week. When compared to last week, subyearling Chinook passage decreased at all SMP sites this week except MCN and LGR. Although subyearling Chinook dominate the collections, the SMP sites continue to collect a few spring migrants.

Subyearling Chinook numbers at BON decreased this week, with a daily average passage index of about 4,800 per day, compared to last week’s daily average passage index of over 9,500. As with previous weeks, sockeye and yearling Chinook were the only spring migrants collected at BON this week. Only pacific lamprey macrophthalmia were collected at BON this week. The daily collections for pacific lamprey macrophthalmia ranged from 0 to 20 per day. All but three screens have been pulled from the juvenile bypass system at the second powerhouse. These screens are expected to remain out for the remainder of the 2012 SMP season. The three screens that remain are in units 11, 12, and 18. As of the August 16th sample, the high temperature sampling protocols are in effect at BON. During this time, the SMP crew at BON samples every-other-day, for condition fish only. Pulled screens and sampling under the higher temperature protocols at BON will result in bias collection estimates, as not as many fish will be guided into the juvenile bypass system in the second powerhouse and limited sampling is taking place until temperatures decrease to safer levels.

Passage of subyearling Chinook at JDA continued to decrease this week. The daily average

passage index for subyearling Chinook at JDA this week was about 6,400 per day, compared to over 16,000 per day last week. Some yearling Chinook and sockeye were collected at JDA this week but in very small numbers. Collections of pacific lamprey macrophthalmia decreased this week. The daily average collection for pacific lamprey macrophthalmia at JDA this week was about 160 per day, compared to about 240 per day last week. No pacific lamprey ammocoetes were collected at JDA this week. As of the August 13th sample, the high temperature sampling protocols are in effect at JDA. During this time, the SMP crew at JDA only samples on Tuesday and Thursday, for condition fish only. Sampling under the higher temperature protocols at JDA will result in bias collection estimates, as limited sampling is taking place until temperatures decrease to safer levels.

Passage of subyearling Chinook at MCN increased this week, when compared to last week. The daily average passage index for subyearling Chinook at MCN this week was nearly 50,000 per day, compared to nearly 30,000 per day last week. Sockeye and steelhead were the only spring migrants collected at MCN this week. Passage of pacific lamprey macrophthalmia also decreased this week. This week's daily average collection for pacific lamprey macrophthalmia at MCN was about 70 per day, compared to about 180 per day last week. No pacific lamprey ammocoetes were collected at MCN this week. On August, 15th, the Fish Passage Advisory Committee (FPAC) submitted SOR 2012-4, which requested that the Corps of Engineers (COE) delay the start of truck transportation from McNary Dam until further notice. SOR 2012-4 had unanimous support from all the respective fisheries agencies of FPAC. The justification for SOR 2012-4 was the increased water temperatures at MCN and forecasted high temperatures in the Tri-Cities area over the next several days. The salmon managers were concerned that these high temperatures would not be favorable to collect, hold, and transport juvenile salmonids from MCN. Despite unanimous support from the salmon managers, the COE rejected SOR 2012-4 during a special TMT meeting on August 16th. During this meeting, the COE acknowledged the temperature concerns at MCN but did not believe implementing the SOR was prudent, unless elevated mortalities at MCN are encountered. Therefore, truck transportation from MCN is planned to begin on or around August 18th.

Subyearling Chinook passage at LGR

increased this week, when compared to last week. The daily average passage index for subyearling Chinook at LGR this week was about 880 per day. Last week's daily average passage index for subyearling Chinook was about 740 per day. Some yearling Chinook, coho, sockeye, and steelhead were also collected at LGR this week, but in very small numbers. Dworshak Dam has been spilling up to 3 Kcfs since July 10th, which means that sockeye juveniles collected at LGR may be kokanee from Dworshak reservoir. Only one pacific lamprey ammocoete was sampled at LGR this week. Transportation at LGR is switching from every-day barging to every-other-day trucking. Therefore, fish sampled at LGR will be held for up to 48-hours before they are worked up and reported to the FPC.

When compared to last week, passage of subyearling Chinook at LGS and LMN decreased this week. The daily average passage index for subyearling Chinook at LGS this week was about 680 per day, compared to just over 1,600 per day last week. This week's daily average passage index for subyearling Chinook at LMN was about 100 per day, compared to about 510 per day last week. LGS collected both pacific lamprey ammocoetes and macrophthalmia this week but no lamprey juveniles were collected at LMN this week.

Passage of subyearling Chinook at RIS decreased this week. This week's daily average passage index for subyearling Chinook at RIS was 130 per day, compared to 226 per day last week. Coho, sockeye, and steelhead juveniles were also collected at RIS this week, but in very small numbers. Finally, only two pacific lamprey macrophthalmia were collected at RIS this week.

Hatchery Release:

Snake River Zone: The Snake River Zone encompasses the Snake River and its tributaries from its confluence with the Columbia River to Hells Canyon Dam. There were no new releases of juvenile salmonids scheduled for this zone this week. In addition, there are no releases scheduled for this zone over the next two weeks.

Mid-Columbia Zone: The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. No new releases of juvenile salmonids were scheduled to begin in this zone this week. There are also no releases of juvenile salmonids in this zone over the next two weeks.

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

Adult Fish Passage:

Adult Passage: Fall Chinook began to pass Bonneville Dam on August 1st. Daily counts of fall Chinook at Bonneville Dam ranged from 665 to 814. The adult fall Chinook count of 10,114 has 546 fewer fish than the 2011 count of 10,660 and is about 1.07 times greater than the 10 year average count of 9,482. The 2012 Bonneville Dam fall Chinook jack count of 2,451 is about 78.4% of the 2011 count of 3,126, while being 1.5 times greater than the 10 year average count of 1,572. The 2012 McNary Dam adult fall Chinook count of 2,748 is about 97.3% of the 2011 count, while being 1.5 times larger than the 10 year average. The 2012 McNary Dam 2012 jack count of 513 is about 66.3% of the 2011 count, while being 1.3 times greater than the 10 year average count. Summer Chinook pass Lower Granite Dam through 8/17. As of 8/16/2012, the 2012 adult summer Chinook count at Lower Granite Dam in the Snake River of 13,132 is about 35.8% of the 2011 count and 77% of the 10 year average count. The 2012 Lower Granite summer Chinook jack count of 1,712 is about 10% of the 2011 count and 30.3% of the 10 year average count.

The Bonneville Dam 2012 steelhead count of 141,633 is about 66.8% of the 2011 count of 211,844 and about 67.8% of the 10 year average count of 208,707. The 2012 Bonneville wild adult steelhead count of 57,352 is about 65.3% of the 2011 count of 87,728 and about 74.9% of the 10 year average count of 76,586. In the Snake River, this year's Lower Granite steelhead count of 10,922 is about 48.1% of the 2011 count of 22,713 and 62.5% of the 10 year average of 17,466. The 2012 Lower Granite wild adult steelhead count of 4,898 is about 47.9% of the 2011 count of 10,226 and 81.5% of the 10 year average count of 6,008. At Willamette Falls Dam, the 2012 count for steelhead was 28,866, as of August 10th. This year's steelhead count is about 1.06 times greater than the 2011 count of 27,169 and 1.07 times greater than the 10 year average count of 26,915.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 4 and 23 last week. The 2012 accumulated total adult sockeye count at Bonneville Dam of 515,660, as of 8/16/2012, is about 2.77 times greater than the 2011 count of 185,775 and about 3.94 times greater than the 10 year average count

of 130,975. The 2012 McNary Dam adult sockeye count of 364,113 is about 3.2 times greater than the 2011 count of 113,912 and 3.9 times greater than the 10 year average count of 93,279. Two of the major spawning sites for sockeye in the Upper Columbia River zone are Lake Wenatchee and Lake Osoyoos (Okanogan basin). In the Snake River at Ice Harbor Dam, the 2012 adult sockeye count of 453 is 40% of the 2011 count of 1,132, while being 1.16 times greater than the 10 year average count of 390. The Lower Granite Dam 2012 adult sockeye count of 452 is about 30.3% of the 2011 count of 1,491 and about 78.9% of the 10 year average count of 573.

The 2012 adult coho salmon run at Bonneville Dam is just beginning with 301 adults and 97 jacks counted to date. The 2012 adult coho count has 168 fewer fish than the 2011 count of 469, while having 7 more fish than the 2011 count of 294. As of August 16th at Bonneville Dam, the adult shad count was 2,431,922. This year's shad count is about 2.56 times greater than the 2011 count of 947,736, while being 82.8% of the 10 year average count of 2,936,440.

Hatchery Releases Last Two Weeks

No releases to report.

Hatchery Releases Next Two Weeks

No releases to report.

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

Date	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
08/03/2012	175.4	0.1	173.1	0.0	183.2	10.0	178.8	18.9	179.6	38.4	189.8	49.4	186.1	51.7
08/04/2012	180.9	0.1	180.9	0.0	190.2	13.3	184.3	16.5	186.8	38.3	194.5	65.6	192.5	74.1
08/05/2012	170.6	0.1	174.1	0.0	184.5	13.8	184.3	16.3	187.8	37.5	199.8	69.6	201.3	77.9
08/06/2012	179.8	0.1	174.8	0.0	182.1	10.0	179.4	16.8	180.6	38.0	189.4	56.1	187.9	72.1
08/07/2012	172.8	0.1	174.1	0.0	180.5	10.5	179.2	16.9	181.4	37.9	192.6	66.3	220.4	104.9
08/08/2012	162.2	0.1	160.6	0.0	174.4	10.6	179.3	16.4	182.2	37.0	194.3	63.3	195.1	69.1
08/09/2012	178.1	0.1	172.4	0.0	174.3	14.5	166.9	22.3	166.9	34.9	172.6	37.4	167.5	40.5
08/10/2012	168.3	0.1	170.0	0.0	180.3	11.5	180.6	4.7	185.6	33.0	196.7	71.8	199.9	97.5
08/11/2012	172.8	0.1	165.0	0.0	164.9	10.0	161.6	0.0	163.9	32.8	171.1	34.6	169.1	57.1
08/12/2012	154.3	0.1	160.8	0.0	168.8	10.0	170.5	0.0	174.9	31.5	186.6	47.8	186.9	65.1
08/13/2012	158.8	0.1	161.6	0.0	166.6	10.0	163.2	0.0	164.0	31.7	173.1	32.0	170.5	48.2
08/14/2012	152.5	0.1	151.1	0.0	156.4	10.0	158.3	0.0	161.6	32.2	172.5	37.7	169.1	48.6
08/15/2012	151.0	0.1	144.2	0.0	143.1	10.0	141.1	0.0	144.8	30.1	156.7	23.5	156.4	28.1
08/16/2012	153.5	0.1	155.9	0.0	157.9	13.4	157.7	0.7	157.4	29.2	160.8	40.9	154.6	42.6

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

Date	Dworshak		Hells Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
08/03/2012	12.9	3.1	8.0	11.3	32.5	18.2	31.8	9.5	33.2	17.4	36.3	26.0
08/04/2012	12.1	3.1	7.6	9.8	32.2	18.3	32.3	9.7	33.0	16.5	35.5	25.0
08/05/2012	11.9	3.1	8.4	11.8	29.0	15.9	29.1	8.7	27.5	14.7	27.5	17.3
08/06/2012	11.7	2.8	8.3	11.4	29.9	16.7	28.9	10.0	29.7	16.7	31.2	21.0
08/07/2012	12.1	3.1	8.2	9.7	31.2	18.3	34.5	11.2	32.4	17.0	34.6	24.4
08/08/2012	12.5	3.5	8.6	9.2	28.6	15.8	28.7	11.2	29.1	15.6	30.0	19.7
08/09/2012	12.8	3.4	8.2	9.2	27.4	14.6	29.6	11.2	27.3	13.0	27.3	17.1
08/10/2012	12.6	3.2	8.6	8.9	28.7	15.8	30.6	10.4	30.6	16.8	32.2	22.1
08/11/2012	12.6	3.2	7.6	8.8	29.4	16.5	30.2	9.3	29.6	17.0	30.9	20.7
08/12/2012	12.6	3.2	8.7	8.9	27.8	14.9	28.1	9.3	28.3	16.0	29.9	19.7
08/13/2012	11.2	1.7	9.5	8.9	25.4	16.3	27.3	9.3	25.1	12.6	26.7	16.7
08/14/2012	11.2	1.7	10.3	9.0	25.7	16.3	26.9	9.3	26.3	13.8	28.0	17.8
08/15/2012	11.2	1.8	9.2	8.9	25.8	16.5	27.9	9.3	26.5	13.9	28.7	18.5
08/16/2012	11.2	1.7	---	---	24.9	15.7	26.7	9.3	25.3	12.3	28.4	18.0

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
08/03/2012	255.7	128.5	237.4	71.1	222.1	89.1	240.0	89.7	69.2	68.7
08/04/2012	225.7	113.2	227.9	68.1	211.5	85.1	241.0	89.5	65.8	73.3
08/05/2012	238.4	119.4	224.1	67.0	206.4	82.3	221.2	89.2	55.6	63.9
08/06/2012	228.5	114.2	225.4	67.8	213.1	85.1	219.4	88.9	72.3	45.8
08/07/2012	227.4	113.7	217.3	65.1	203.1	80.8	230.3	88.8	78.1	51.0
08/08/2012	222.2	111.5	212.4	63.5	196.8	78.5	207.0	89.6	60.4	44.6
08/09/2012	217.3	108.8	206.4	61.8	195.8	78.1	211.8	90.1	67.3	42.0
08/10/2012	213.2	106.7	199.3	59.8	183.9	73.3	199.6	89.1	55.5	42.6
08/11/2012	218.5	109.4	209.6	62.5	195.7	78.4	194.1	90.0	45.8	46.0
08/12/2012	219.6	110.1	219.5	65.4	210.4	83.7	225.9	89.2	74.8	49.5
08/13/2012	212.5	106.6	213.6	59.1	201.4	80.4	229.0	88.4	81.7	46.5
08/14/2012	207.3	103.8	189.5	56.6	171.5	68.4	188.2	88.1	46.6	41.2
08/15/2012	201.4	101.0	188.4	56.6	175.8	70.4	189.5	87.4	47.7	42.0
08/16/2012	177.9	89.2	179.0	53.8	168.6	67.2	188.2	89.9	37.8	48.1

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>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
8/3	105.9	106.1	106.3	23	116.1	116.3	116.8	23	117.8	117.9	118.1	24	113.9	114.7	116.0	23	115.4	115.6	115.8	24
8/4	117.7	120.5	120.8	24	115.5	115.8	116.0	23	117.8	118.1	118.5	24	113.9	115.1	115.8	23	115.8	116.3	116.7	24
8/5	120.3	120.5	120.8	24	115.3	115.4	115.6	23	117.8	118.0	118.2	24	114.0	114.9	116.0	23	116.2	116.5	117.0	24
8/6	115.4	120.2	120.3	24	115.2	115.6	115.8	24	117.3	117.5	117.6	24	113.9	114.5	115.1	24	115.2	115.5	115.9	24
8/7	106.0	106.4	106.9	24	115.1	115.6	116.3	22	117.2	117.7	117.9	24	113.8	114.7	115.6	22	115.0	115.4	115.8	24
8/8	106.0	106.3	106.6	24	116.1	116.5	117.0	23	117.3	117.5	117.9	24	113.6	114.3	115.1	23	114.7	114.8	115.2	24
8/9	105.9	106.3	106.6	24	115.5	115.9	116.4	23	116.8	116.9	117.1	24	113.5	114.0	114.6	23	114.3	114.4	114.7	24
8/10	106.4	106.8	107.1	24	115.9	116.4	117.2	22	116.7	116.9	117.1	24	113.2	113.8	115.0	22	114.4	114.8	115.1	24
8/11	106.2	106.5	106.9	24	115.9	116.1	116.3	23	116.4	116.6	116.8	24	112.9	113.6	114.6	23	114.0	114.2	114.5	24
8/12	106.3	106.7	107.0	24	115.8	116.1	116.6	19	116.4	116.7	117.0	24	111.0	112.9	114.3	19	114.2	114.6	114.9	24
8/13	106.5	106.9	107.1	24	115.9	116.5	116.9	22	116.3	116.5	116.9	24	111.8	112.9	114.2	22	114.2	114.4	114.6	24
8/14	106.9	107.2	107.5	24	116.1	116.4	116.9	22	116.4	116.9	117.8	24	111.9	112.6	114.1	22	114.1	114.2	114.4	24
8/15	105.4	106.4	107.3	24	115.3	115.5	115.9	23	115.5	115.7	116.3	24	111.0	112.1	113.3	23	112.8	113.0	113.3	24
8/16	105.2	105.8	106.1	23	114.9	115.1	115.4	22	114.4	114.7	115.1	24	111.4	113.0	113.8	22	---	---	---	0

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>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
8/3	114.4	114.6	114.7	24	114.8	115.1	115.2	24	115.3	115.7	115.9	24	114.4	114.9	115.2	24	111.2	111.6	112.0	24
8/4	114.8	115.3	115.5	24	115.3	115.7	116.0	24	116.0	116.5	116.8	24	114.4	114.8	115.0	24	111.0	111.5	111.8	24
8/5	115.3	115.6	116.5	24	116.0	116.3	116.6	24	116.8	117.1	117.6	24	114.9	115.4	115.7	24	110.4	111.3	111.5	24
8/6	114.4	114.7	115.2	24	115.2	115.6	116.0	24	115.8	116.1	116.5	24	115.5	115.7	115.8	24	111.3	111.8	112.1	24
8/7	114.3	114.7	115.3	24	114.8	115.3	115.5	24	115.3	115.9	116.1	24	114.4	114.7	114.9	24	111.3	112.0	112.3	24
8/8	114.0	114.3	114.6	24	114.5	115.1	115.5	24	115.1	115.7	116.0	24	114.0	114.2	114.4	24	111.4	111.9	112.5	24
8/9	113.5	113.7	114.2	24	113.3	113.7	113.9	24	113.9	114.7	115.3	24	113.1	113.3	113.5	24	110.8	112.2	113.2	24
8/10	113.7	114.2	115.0	24	114.0	114.3	114.7	24	114.9	115.4	115.8	24	112.8	113.4	114.1	24	110.5	111.3	113.1	24
8/11	113.3	113.6	114.6	24	114.2	114.7	115.2	24	114.6	115.3	115.8	24	113.8	114.0	114.2	24	108.9	109.6	110.3	24
8/12	113.7	114.3	115.1	24	114.2	114.6	115.1	24	114.7	115.3	116.0	24	113.4	113.9	114.1	24	109.0	109.5	109.8	24
8/13	113.6	113.9	114.4	24	114.3	114.7	115.1	24	114.7	115.4	115.9	24	113.6	113.9	114.2	24	109.0	109.5	109.9	24
8/14	113.8	114.2	114.8	24	114.2	114.7	115.1	24	114.7	115.3	115.7	24	113.3	113.6	113.9	24	108.9	109.5	109.9	24
8/15	112.5	113.0	113.9	24	112.7	113.0	113.4	24	113.0	113.4	113.8	24	112.5	112.8	113.0	24	109.1	110.9	111.6	24
8/16	112.2	112.5	113.3	24	112.9	113.5	114.1	24	113.8	114.7	115.1	24	112.2	112.6	113.0	24	---	---	---	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>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
8/3	113.9	115.0	115.8	24	117.5	119.2	119.6	24	115.6	116.3	117.0	24	115.3	115.7	116.1	24	114.2	115.5	115.8	24
8/4	114.1	114.8	115.3	24	118.2	119.4	119.8	24	116.6	117.4	118.1	24	116.2	116.8	119.3	24	114.5	115.3	115.8	24
8/5	114.4	115.2	115.6	24	118.2	119.3	119.7	24	117.4	118.3	119.3	24	117.6	119.3	120.7	24	117.6	119.7	120.7	24
8/6	114.7	115.4	116.0	24	118.6	119.6	120.0	24	115.6	116.0	116.3	24	115.6	115.9	118.7	24	114.2	114.8	116.4	24
8/7	114.3	115.1	115.8	24	118.3	119.5	119.8	24	116.9	117.8	118.8	24	117.3	118.7	120.7	24	115.8	117.5	118.9	24
8/8	113.6	114.1	114.4	24	117.9	118.9	119.5	24	114.1	114.6	115.9	24	116.4	118.5	122.1	24	114.5	116.6	118.5	24
8/9	112.7	113.5	114.0	24	117.4	118.8	119.2	24	114.4	116.0	117.3	24	114.4	114.7	115.1	24	112.1	113.2	113.9	24
8/10	112.7	112.9	113.1	24	116.8	117.3	117.8	24	114.2	114.8	116.0	24	116.2	117.0	118.6	24	113.1	114.7	115.8	24
8/11	112.3	113.2	113.7	24	116.6	117.9	118.3	24	114.8	116.2	116.9	24	114.7	115.1	116.3	24	113.5	114.0	114.7	24
8/12	112.4	113.1	113.5	24	116.4	117.6	117.9	24	115.1	115.9	117.2	24	114.9	115.1	115.3	24	114.2	114.9	115.5	24
8/13	112.4	113.1	113.5	24	116.6	117.6	117.9	24	114.9	115.5	116.7	24	115.0	115.1	115.4	17	113.3	114.0	115.1	24
8/14	112.0	112.5	112.8	24	116.0	116.9	117.4	24	113.6	114.5	114.9	24	114.5	114.6	114.8	15	111.6	112.2	113.0	24
8/15	111.2	112.1	112.5	24	113.0	115.0	116.8	24	---	---	---	0	---	---	---	0	---	---	---	0
8/16	111.3	111.8	112.0	24	114.8	115.8	116.0	24	---	---	---	0	---	---	---	0	---	---	---	0

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

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

Date	<u>Priest R. Dnst</u>			<u>Pasco</u>			<u>Dworshak</u>			<u>Clrwrtr-Peck</u>			<u>Anatone</u>							
	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#					
	Avg	Avg		High	hr		Avg	Avg		High	hr		Avg	Avg		High	hr	Avg	Avg	High
8/3	116.5	117.7	118.8	24	113.0	114.1	114.5	24	107.8	108.3	108.7	24	106.2	107.2	108.1	24	101.5	102.7	103.9	24
8/4	117.9	118.3	118.9	24	112.6	113.4	113.9	24	108.3	108.9	109.4	24	106.3	107.4	108.4	24	101.7	103.2	104.5	24
8/5	119.7	120.1	120.5	24	113.5	114.6	115.2	24	108.5	108.9	109.0	24	106.4	107.3	108.2	24	101.8	103.2	104.5	24
8/6	117.6	118.2	118.5	24	114.3	115.0	115.7	24	107.4	108.3	108.9	24	105.3	105.7	106.1	24	101.6	102.9	104.1	24
8/7	118.4	119.0	119.6	24	113.5	114.4	115.0	24	108.1	108.5	108.9	24	105.7	107.0	107.6	24	102.0	103.5	104.9	24
8/8	117.9	118.7	119.2	24	111.7	112.5	114.2	24	108.6	108.8	109.1	24	106.6	107.3	107.8	24	101.1	102.0	103.1	24
8/9	113.9	115.2	118.4	24	111.0	111.9	112.4	24	108.3	108.5	108.8	24	107.5	108.9	109.8	24	101.3	102.9	104.3	24
8/10	117.8	118.9	119.4	24	109.7	111.2	112.5	24	108.0	108.3	108.7	24	107.7	108.9	109.7	24	101.6	103.0	104.4	24
8/11	116.1	117.5	118.9	24	111.2	112.0	112.5	24	107.6	107.9	108.1	24	107.4	108.5	109.3	24	101.6	103.2	104.6	24
8/12	117.5	118.4	119.4	24	110.2	111.4	111.9	24	107.7	108.1	108.3	24	107.5	108.6	109.5	24	102.0	103.5	105.1	24
8/13	115.5	116.4	118.3	24	110.2	110.8	111.6	24	104.1	104.7	107.4	24	104.9	106.0	106.6	24	102.0	103.5	105.0	24
8/14	115.0	116.2	118.2	24	108.7	109.8	110.7	24	104.0	104.4	104.7	24	104.5	105.8	106.8	24	102.0	103.5	105.0	24
8/15	---	---	---	0	107.4	108.1	110.0	24	104.0	104.3	104.6	24	104.3	105.3	106.3	24	101.7	103.0	104.3	24
8/16	---	---	---	0	105.5	106.4	107.3	24	103.6	103.8	104.1	24	103.9	104.9	105.9	24	101.6	103.1	104.5	24

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwrtr-Lewiston</u>			<u>Lower Granite</u>			<u>L. Granite Tlwr</u>			<u>Little Goose</u>			<u>L. Goose Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#					
	Avg	Avg		High	hr		Avg	Avg		High	hr		Avg	Avg		High	hr	Avg	Avg	High
8/3	104.6	106.7	108.2	24	101.2	101.4	101.8	24	115.7	116.1	116.6	24	112.0	112.4	112.8	24	112.8	113.3	113.8	24
8/4	104.7	107.0	108.6	24	101.1	101.2	101.4	24	116.0	116.3	116.9	24	111.1	111.4	111.9	24	112.7	113.1	113.4	24
8/5	104.8	107.0	108.5	24	101.2	101.3	101.5	24	115.5	116.1	117.1	24	112.3	112.8	113.4	24	112.8	113.3	114.0	24
8/6	104.3	106.5	108.3	24	101.3	101.5	101.7	24	115.7	116.2	116.9	24	112.3	112.4	112.6	24	111.1	112.1	112.6	24
8/7	104.8	107.3	109.0	24	101.7	101.9	102.1	24	116.0	116.4	117.5	24	112.0	112.1	112.4	24	110.0	110.5	110.9	24
8/8	104.2	105.9	107.1	24	102.0	102.2	102.7	24	115.0	115.5	116.0	24	111.3	111.6	112.0	24	108.9	109.3	109.6	24
8/9	105.2	107.7	109.3	24	102.6	103.1	103.4	24	115.5	115.9	116.2	24	111.2	111.6	112.2	24	109.2	109.9	110.6	24
8/10	105.1	107.2	108.8	24	102.7	103.1	103.2	24	115.0	115.3	115.9	24	111.3	111.8	112.0	24	109.1	109.4	109.8	24
8/11	104.9	107.0	108.5	24	103.1	103.4	103.7	24	114.5	114.9	116.0	24	111.4	111.6	112.1	24	108.5	109.0	109.5	24
8/12	105.0	107.2	108.8	24	103.2	103.4	103.7	24	114.5	115.2	115.6	24	111.1	111.6	111.9	24	107.0	107.5	108.1	24
8/13	104.6	106.4	107.8	24	103.0	103.2	103.5	24	116.7	118.0	118.6	24	111.3	111.4	111.7	24	108.3	110.0	111.6	24
8/14	103.9	106.0	107.5	24	103.4	103.7	103.9	24	116.6	118.0	118.6	24	111.2	111.5	111.8	24	107.7	108.2	108.5	24
8/15	103.8	105.6	107.0	24	103.1	103.4	103.5	24	116.3	118.1	119.2	24	111.2	111.5	112.1	24	107.9	108.3	108.7	24
8/16	103.7	105.6	107.1	24	102.8	103.0	103.2	24	116.2	118.0	118.9	24	111.2	111.5	111.9	24	107.4	107.8	108.1	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>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#					
	Avg	Avg		High	hr		Avg	Avg		High	hr		Avg	Avg		High	hr	Avg	Avg	High
8/3	110.4	110.7	111.3	24	116.9	117.4	119.1	24	111.9	112.2	112.7	24	113.4	113.8	114.2	24	---	---	---	0
8/4	110.8	111.0	111.1	24	116.3	116.6	117.2	24	112.2	112.5	113.0	24	113.7	114.1	114.8	24	---	---	---	0
8/5	110.6	110.7	110.8	24	115.1	116.3	116.9	24	112.5	112.7	112.9	24	112.2	113.1	114.1	24	---	---	---	0
8/6	110.5	110.7	111.5	24	116.5	116.7	117.2	24	112.4	112.7	113.1	24	113.5	114.2	114.8	24	---	---	---	0
8/7	111.8	112.1	112.6	24	116.3	116.6	117.1	24	113.1	113.8	114.5	24	113.8	114.6	115.1	24	---	---	---	0
8/8	111.1	111.3	111.7	24	115.5	116.0	116.4	24	113.0	113.2	114.1	24	112.9	113.6	114.2	24	---	---	---	0
8/9	110.4	110.5	110.8	24	114.4	115.6	116.6	24	112.3	112.5	112.7	24	111.7	112.7	113.2	24	---	---	---	0
8/10	109.6	109.9	110.4	24	116.0	116.4	116.8	24	112.5	112.6	112.8	24	113.7	114.2	114.6	24	---	---	---	0
8/11	108.3	108.6	109.1	24	116.2	116.4	116.7	24	111.5	111.7	112.2	24	113.4	114.0	114.5	24	---	---	---	0
8/12	108.1	108.2	108.4	24	115.3	116.0	116.5	24	111.1	111.3	111.3	24	113.4	113.9	114.5	24	---	---	---	0
8/13	107.9	108.1	108.4	24	113.0	113.8	114.8	24	111.2	111.5	111.7	24	111.5	112.1	112.9	24	---	---	---	0
8/14	108.1	108.6	109.3	24	113.8	115.0	116.4	24	112.2	112.6	113.0	24	111.5	112.3	113.1	24	---	---	---	0
8/15	108.0	108.1	108.3	24	113.9	115.1	116.2	24	112.5	112.7	113.0	24	111.7	112.3	113.0	24	---	---	---	0
8/16	107.4	107.5	107.7	24	113.2	114.0	115.5	24	112.6	112.8	113.1	24	111.1	111.9	112.7	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>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>AVG</u>	<u>High</u>	
8/3	113.4	114.0	115.0	24	118.6	119.1	119.6	24	107.0	107.8	109.0	24	114.1	115.0	115.5	24	107.9	108.6	109.7	24
8/4	113.7	114.6	115.3	24	117.4	117.8	118.1	24	108.6	109.2	110.1	24	113.8	114.5	115.0	24	109.8	110.1	110.4	24
8/5	114.1	115.1	115.7	24	118.0	118.5	119.0	24	110.3	110.7	111.2	24	114.0	114.5	115.0	24	110.6	110.8	110.9	24
8/6	113.3	114.0	114.8	24	117.9	118.5	118.9	24	110.5	111.1	111.5	24	114.6	115.1	115.4	24	110.4	110.7	110.9	24
8/7	113.9	114.4	114.9	24	117.9	118.5	118.6	24	111.7	112.4	112.9	24	114.6	115.1	116.5	24	110.8	111.0	111.3	24
8/8	113.6	113.9	114.3	24	117.4	118.0	119.4	24	111.0	111.5	112.4	24	115.0	115.6	115.9	24	108.6	109.7	110.7	24
8/9	111.4	112.1	112.8	24	117.6	118.7	119.8	24	109.5	109.8	110.0	24	114.5	115.2	116.5	24	108.8	109.5	110.7	24
8/10	110.2	110.8	111.5	24	117.1	118.3	119.1	24	108.7	109.0	109.4	24	114.2	114.8	115.3	24	109.3	109.9	110.3	24
8/11	111.9	112.1	112.4	24	117.4	118.1	118.8	24	107.8	108.2	108.5	24	114.2	114.8	115.4	24	108.8	109.6	110.2	24
8/12	111.2	112.0	112.6	24	117.2	118.1	118.7	24	107.8	108.1	108.5	24	114.4	115.0	115.4	24	110.1	110.4	110.6	24
8/13	113.0	113.2	113.3	24	117.6	118.6	119.4	24	108.0	108.5	108.8	24	114.2	114.8	115.9	24	109.6	110.0	110.6	24
8/14	112.8	113.1	113.2	24	117.6	118.5	119.3	24	109.5	110.5	111.0	24	114.0	114.6	115.2	24	108.4	108.8	109.2	24
8/15	113.1	113.6	114.2	24	117.2	117.9	118.9	24	110.4	110.9	111.2	24	114.8	115.2	115.6	24	109.1	109.8	111.0	24
8/16	110.2	110.5	111.0	24	115.8	116.2	116.4	24	110.3	110.6	110.9	24	115.0	115.6	115.9	24	111.3	111.4	111.7	24

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			#	<u>Bonneville</u>			#	<u>Warrendale</u>			#	<u>Camas\Washougal</u>			#	<u>Cascade Island</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
8/3	115.2	116.5	117.0	24	110.0	111.0	112.0	24	112.9	113.7	114.2	24	112.1	114.0	115.4	24	117.3	118.6	120.2	24
8/4	116.1	116.8	117.1	24	112.4	113.1	114.4	24	114.3	114.8	115.7	24	111.5	112.5	113.4	24	117.4	118.8	120.3	24
8/5	116.5	117.0	117.5	24	114.8	115.0	115.3	24	115.9	116.6	117.8	24	132.7	154.9	161.4	24	117.4	118.8	120.5	24
8/6	116.6	117.4	117.9	24	112.9	113.3	114.0	24	114.7	115.5	116.6	24	156.2	157.7	160.8	24	117.2	118.5	120.3	24
8/7	116.4	117.2	117.9	24	110.9	111.3	111.6	24	113.0	114.0	115.6	24	130.2	147.8	159.2	24	117.3	118.6	120.1	24
8/8	114.9	115.7	116.6	24	108.3	108.7	109.9	24	112.0	113.0	114.4	24	110.7	112.1	113.5	24	117.4	118.6	120.9	24
8/9	115.2	116.0	117.0	24	108.1	108.3	108.6	24	111.8	112.7	113.9	24	111.0	112.7	114.6	24	117.5	119.0	121.0	24
8/10	115.3	116.2	116.8	24	108.3	108.5	108.7	24	112.3	113.3	114.7	24	110.8	112.5	114.2	24	117.1	118.6	120.2	24
8/11	114.9	115.4	115.7	24	108.8	109.6	110.6	24	115.0	116.8	117.7	24	111.9	114.2	115.8	24	117.2	118.7	120.4	24
8/12	116.2	117.1	117.8	24	112.0	112.5	113.0	24	114.4	115.1	116.2	24	113.1	114.9	116.5	24	117.6	119.1	120.6	24
8/13	115.9	116.6	117.4	24	112.5	112.8	113.1	24	114.3	115.0	115.8	24	112.9	114.5	115.9	24	117.6	118.9	120.6	24
8/14	115.0	115.6	116.1	24	110.3	111.0	111.7	24	113.7	114.4	115.3	24	112.4	113.8	115.1	24	117.2	118.4	120.2	24
8/15	115.2	116.4	116.9	24	109.7	110.0	110.2	24	114.5	115.9	117.3	24	112.7	114.7	116.6	24	117.0	118.2	120.1	24
8/16	116.5	117.2	117.9	24	110.7	111.0	111.6	24	114.1	114.8	115.3	24	111.2	112.2	112.8	24	117.3	118.8	120.1	24

Two-Week Summary of Passage Indices

COMBINED YEARLING CHINOOK												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
08/03/2012	*	---	---	---	---	0	6	0	0	0	72	0
08/04/2012	*	---	---	---	---	0	6	9	0	---	0	0
08/05/2012	*	---	---	---	---	0	3	8	0	0	0	44
08/06/2012	*	---	---	---	---	0	0	9	0	---	0	0
08/07/2012	*	---	---	---	---	0	0	0	0	0	0	0
08/08/2012	*	---	---	---	---	0	0	0	0	---	0	0
08/09/2012	*	---	---	---	---	0	0	0	0	0	14	0
08/10/2012	*	---	---	---	---	0	0	0	0	---	0	0
08/11/2012	*	---	---	---	---	5	0	0	0	0	0	0
08/12/2012	*	---	---	---	---	9	0	0	0	---	0	17
08/13/2012	*	---	---	---	---	0	0	0	0	0	---	0
08/14/2012	*	---	---	---	---	6	5	0	0	---	0	0
08/15/2012	*	---	---	---	---	0	0	0	0	0	---	---
08/16/2012	*	---	---	---	---	0	2	0	0	---	---	---
08/17/2012	*	---	---	---	---	---	---	---	---	0	0	---
<hr/>												
Total:		0	0	0	0	20	22	26	0	0	86	61
# Days:		0	0	0	0	14	14	14	14	8	12	13
Average:		0	0	0	0	1	2	2	0	0	7	5
YTD		58,098	10,919	26,417	13,494	4,042,658	2,266,005	754,588	25,797	2,179,373	4,290,562	2,538,937

COMBINED SUBYEARLING CHINOOK												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
08/03/2012	*	---	---	---	---	767	816	902	165	29,752	19,500	9,908
08/04/2012	*	---	---	---	---	526	1,135	477	232	---	38,165	6,955
08/05/2012	*	---	---	---	---	551	2,035	427	317	10,034	32,428	11,371
08/06/2012	*	---	---	---	---	318	1,305	444	182	---	13,873	14,642
08/07/2012	*	---	---	---	---	590	1,454	433	193	24,848	6,510	12,964
08/08/2012	*	---	---	---	---	1,086	3,053	507	200	---	2,077	8,527
08/09/2012	*	---	---	---	---	1,329	1,510	384	294	55,085	1,275	2,629
08/10/2012	*	---	---	---	---	1,233	1,268	209	200	---	4,030	1,118
08/11/2012	*	---	---	---	---	922	1,232	210	154	44,972	6,087	1,445
08/12/2012	*	---	---	---	---	787	548	104	120	---	13,958	3,596
08/13/2012	*	---	---	---	---	903	648	34	151	23,169	---	6,956
08/14/2012	*	---	---	---	---	818	498	38	110	---	1,619	10,083
08/15/2012	*	---	---	---	---	634	298	26	106	80,897	---	---
08/16/2012	*	---	---	---	---	871	246	50	69	---	---	5,560
08/17/2012	*	---	---	---	---	---	---	---	---	44,919	3,678	---
<hr/>												
Total:		0	0	0	0	11,335	16,046	4,245	2,493	313,676	143,200	95,754
# Days:		0	0	0	0	14	14	14	14	8	12	13
Average:		0	0	0	0	810	1,146	303	178	39,210	11,933	7,366
YTD		0	4	67	327	1,058,564	1,045,811	375,512	27,956	2,918,609	3,840,941	5,510,042

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)	
08/03/2012	*	---	---	---	0	0	0	2	0	0	0	
08/04/2012	*	---	---	---	0	0	0	2	---	0	0	
08/05/2012	*	---	---	---	0	0	0	2	0	0	0	
08/06/2012	*	---	---	---	4	0	0	0	---	0	0	
08/07/2012	*	---	---	---	5	6	0	3	0	0	0	
08/08/2012	*	---	---	---	0	0	0	2	---	0	0	
08/09/2012	*	---	---	---	0	0	0	5	0	0	0	
08/10/2012	*	---	---	---	0	0	0	0	---	0	0	
08/11/2012	*	---	---	---	0	0	0	0	0	0	0	
08/12/2012	*	---	---	---	0	3	0	0	---	0	35	
08/13/2012	*	---	---	---	0	3	0	0	0	---	0	
08/14/2012	*	---	---	---	0	0	0	0	---	0	0	
08/15/2012	*	---	---	---	6	0	0	2	0	---	---	
08/16/2012	*	---	---	---	0	2	0	2	---	---	0	
08/17/2012	*	---	---	---	---	---	---	---	0	0	---	
<hr/>												
Total:		0	0	0	15	14	0	20	0	0	35	
# Days:		0	0	0	14	14	14	14	8	12	13	
Average:		0	0	0	1	1	0	1	0	0	3	
YTD		0	0	0	80	69,790	78,631	19,961	49,617	145,764	287,512	689,839

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)	
08/03/2012	*	---	---	---	0	3	0	7	2	0	0	
08/04/2012	*	---	---	---	0	3	0	0	---	0	0	
08/05/2012	*	---	---	---	0	0	0	2	0	0	0	
08/06/2012	*	---	---	---	0	3	18	2	---	0	0	
08/07/2012	*	---	---	---	5	3	9	0	0	0	0	
08/08/2012	*	---	---	---	0	3	0	2	---	0	0	
08/09/2012	*	---	---	---	4	11	0	0	0	0	0	
08/10/2012	*	---	---	---	0	0	0	2	---	0	0	
08/11/2012	*	---	---	---	0	12	0	0	0	0	0	
08/12/2012	*	---	---	---	0	3	0	0	---	0	0	
08/13/2012	*	---	---	---	0	6	0	0	0	---	0	
08/14/2012	*	---	---	---	0	6	0	0	---	0	0	
08/15/2012	*	---	---	---	0	5	0	0	0	---	---	
08/16/2012	*	---	---	---	6	3	0	0	---	---	0	
08/17/2012	*	---	---	---	---	---	---	---	0	0	---	
<hr/>												
Total:		0	0	0	15	61	27	15	2	0	0	
# Days:		0	0	0	14	14	14	14	8	12	13	
Average:		0	0	0	1	4	2	1	0	0	0	
YTD		2,722	21,612	2,065	2,311	3,538,968	1,490,259	611,055	17,322	543,078	2,834,971	296,204

Two-Week Summary of Passage Indices

COMBINED SOCKEYE												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
08/03/2012	*	---	---	---	---	4	0	0	5	205	0	0
08/04/2012	*	---	---	---	---	5	0	0	4	---	143	0
08/05/2012	*	---	---	---	---	0	6	0	7	0	0	69
08/06/2012	*	---	---	---	---	0	3	0	2	---	0	107
08/07/2012	*	---	---	---	---	0	0	0	0	82	0	0
08/08/2012	*	---	---	---	---	0	0	0	3	---	0	0
08/09/2012	*	---	---	---	---	0	0	0	2	123	29	0
08/10/2012	*	---	---	---	---	4	3	0	5	---	49	0
08/11/2012	*	---	---	---	---	0	0	0	0	41	0	51
08/12/2012	*	---	---	---	---	5	3	0	6	---	0	35
08/13/2012	*	---	---	---	---	4	0	0	0	103	---	18
08/14/2012	*	---	---	---	---	0	3	0	0	---	11	18
08/15/2012	*	---	---	---	---	17	3	0	5	206	---	---
08/16/2012	*	---	---	---	---	0	3	0	3	---	---	18
08/17/2012	*	---	---	---	---	---	---	---	---	0	0	---
<hr/>												
Total:		0	0	0	0	39	24	0	42	760	232	316
# Days:		0	0	0	0	14	14	14	14	8	12	13
Average:		0	0	0	0	3	2	0	3	95	19	24
YTD		5	0	0	475	43,321	37,152	18,243	46,814	1,135,561	850,679	778,681

COMBINED LAMPREY JUVENILES												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR† (Coll)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)	
08/03/2012	*	---	---	---	---	0	4	12	0	100	600	66
08/04/2012	*	---	---	---	---	0	20	0	0	---	250	0
08/05/2012	*	---	---	---	---	0	4	0	0	400	300	29
08/06/2012	*	---	---	---	---	0	2	4	0	---	50	43
08/07/2012	*	---	---	---	---	0	8	0	1	100	50	14
08/08/2012	*	---	---	---	---	0	12	0	0	---	125	4
08/09/2012	*	---	---	---	---	2	12	0	0	120	317	0
08/10/2012	*	---	---	---	---	0	2	0	1	---	259	4
08/11/2012	*	---	---	---	---	0	4	0	0	160	170	16
08/12/2012	*	---	---	---	---	0	6	0	1	---	233	0
08/13/2012	*	---	---	---	---	2	4	0	0	50	---	0
08/14/2012	*	---	---	---	---	0	0	0	0	---	8	20
08/15/2012	*	---	---	---	---	0	2	0	0	0	---	---
08/16/2012	*	---	---	---	---	0	7	0	0	---	---	4
08/17/2012	*	---	---	---	---	---	---	---	---	50	0	---
<hr/>												
Total:		0	0	0	0	4	87	16	3	980	2,362	200
# Days:		0	0	0	0	14	14	14	14	8	12	13
Average:		0	0	0	0	0	6	1	0	123	197	15
YTD		6	0	0	0	6,986	6,404	2,208	126	120,810	502,039	31,833

Two-Week Summary of Passage Indices

* See sampling comments <http://www.fpc.org/currentDaily/smpcomments.htm>

Smolt indices, clipped & unclipped or combined, are presented in the following order: yearling chinook (chinook 1's), subyearling chinook (chinook 0's), steelhead, coho, sockeye, and lamprey juveniles. Two classes of fish counts are shown in these tables:

Two classes of fish counts are shown in these tables:

Collection counts (Coll), which account for sample rates but are not adjusted for flow;

Passage indices (INDEX), which are collection counts divided by the proportion of water passing through the sampled powerhouse.

Passage indices are not population estimates, but are used to adjust collection counts for daily fluctuations in the site's or project's operations.

The classes of counts presented in the report are defined below for each site. Most samples occur over a 24-hr period that spans two calendar days. In this report, the date shown corresponds with the sample end date.

Combined lamprey juvenile collection counts are provided for all sites. Combined lamprey juveniles is a combination of pacific lamprey ammocoetes, brook lamprey ammocoetes, unknown lamprey ammocoetes, pacific lamprey macrophthalmia, and unidentified lamprey species.

† 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.

LGR, LMN, and MCN data collected for the FPC by Washington Dept. of Fish and Wildlife.

LGS and GRN data collected for the FPC by Oregon Dept. of Fish and Wildlife.

IMN data collected for the FPC by the Nez Perce Tribe.

WTB and LEW data collected for the FPC by Idaho Dept. of Fish and Game.

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

8/17/12 11:00 AM

08/03/12 TO 08/17/12

		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
LGR	Sum of NumberCollected	4,784	8	6	6	16	4,820
	Sum of NumberBarged	4,761	8	6	6	11	4,792
	Sum of NumberBypassed	0	0	0	0	3	3
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	16	0	0	0	2	18
	Sum of FacilityMorts	7	0	0	0	0	7
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	23	0	0	0	2	25
LGS	Sum of NumberCollected	10,603	14	9	39	16	10,681
	Sum of NumberBarged	10,526	14	9	39	15	10,603
	Sum of NumberBypassed	0	0	0	0	1	1
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	36	0	0	0	0	36
	Sum of FacilityMorts	41	0	0	0	0	41
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	77	0	0	0	0	77
LMN	Sum of NumberCollected	2,008	12		12		2,032
	Sum of NumberBarged	1,963	12		11		1,986
	Sum of NumberBypassed	16	0		0		16
	Sum of Numbertrucked	0	0		0		0
	Sum of SampleMorts	8	0		0		8
	Sum of FacilityMorts	21	0		1		22
	Sum of ResearchMorts	0	0		0		0
	Sum of TotalProjectMorts	29	0		1		30
MCN	Sum of NumberCollected	131,070				370	131,440
	Sum of NumberBarged	0				0	0
	Sum of NumberBypassed	131,020				370	131,390
	Sum of Numbertrucked	0				0	0
	Sum of SampleMorts	29				0	29
	Sum of FacilityMorts	21				0	21
	Sum of ResearchMorts	0				0	0
	Sum of TotalProjectMorts	50				0	50
Total Sum of NumberCollected		148,465	34	15	57	402	148,973
Total Sum of NumberBarged		17,250	34	15	56	26	17,381
Total Sum of NumberBypassed		131,036	0	0	0	374	131,410
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		89	0	0	0	2	91
Total Sum of FacilityMorts		90	0	0	1	0	91
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		179	0	0	1	2	182

YTD Transportation Summary

Source: Fish Passage Center

Updated:

8/17/12 11:00 AM

TO: 08/17/12

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	666,447	2,693,483	47,647	30,589	2,353,359	5,791,525
	Sum of NumberBarged	652,812	989,041	39,447	29,087	949,611	2,659,998
	Sum of NumberBypassed	11,455	1,702,758	8,165	1,428	1,403,470	3,127,276
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	360	180	2	11	61	614
	Sum of FacilityMorts	1,820	1,429	33	63	182	3,527
	Sum of ResearchMorts	0	75	0	0	35	110
	Sum of TotalProjectMorts	2,180	1,684	35	74	278	4,251
LGS	Sum of NumberCollected	660,764	1,498,494	53,309	25,725	971,229	3,209,521
	Sum of NumberBarged	659,750	1,109,499	51,706	25,027	683,534	2,529,516
	Sum of NumberBypassed	121	388,249	1,601	691	287,507	678,169
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	145	30	0	2	15	192
	Sum of FacilityMorts	748	716	2	5	173	1,644
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	893	746	2	7	188	1,836
LMN	Sum of NumberCollected	249,573	543,398	14,385	13,396	438,636	1,259,388
	Sum of NumberBarged	235,990	531,284	14,356	13,372	428,327	1,223,329
	Sum of NumberBypassed	12,941	11,582	19	13	9,826	34,381
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	105	60	0	3	36	204
	Sum of FacilityMorts	537	472	10	8	150	1,177
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	642	532	10	11	186	1,381
MCN	Sum of NumberCollected	1,153,290	1,040,137	72,876	555,609	247,889	3,069,801
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	1,152,944	1,039,959	72,876	555,534	247,862	3,069,175
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	165	43	0	28	10	246
	Sum of FacilityMorts	181	135	0	47	17	380
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	346	178	0	75	27	626
Total Sum of NumberCollected		2,730,074	5,775,512	188,217	625,319	4,011,113	13,330,235
Total Sum of NumberBarged		1,548,552	2,629,824	105,509	67,486	2,061,472	6,412,843
Total Sum of NumberBypassed		1,177,461	3,142,548	82,661	557,666	1,948,665	6,909,001
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		775	313	2	44	122	1,256
Total Sum of FacilityMorts		3,286	2,752	45	123	522	6,728
Total Sum of ResearchMorts		0	75	0	0	35	110
Total Sum of TotalProjectMorts		4,061	3,140	47	167	679	8,094

Cumulative Adult Passage at Mainstem Dams Through: 08/17

DAM	EndDate	Spring Chinook						Summer Chinook						Fall Chinook					
		2012		2011		10-Yr Avg.		2012		2011		10-Yr Avg.		2012		2011		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	08/16	158075	7591	167097	50945	152015	20110	81663	12235	108279	51451	92437	17241	10114	2451	10660	3126	9482	1572
TDA	08/16	117071	7173	124164	40146	112195	16495	69222	10392	81123	39845	79218	13523	6332	1739	6964	2075	5027	999
JDA	08/16	107655	6755	103401	39823	94492	15370	60814	10415	75375	35544	72273	14191	3654	1043	3619	1474	2645	828
MCN	08/16	102763	4787	101246	31750	86252	13687	64428	5104	74621	28165	68072	11090	2748	513	2825	774	1811	373
IHR	08/16	71957	2905	69306	18161	60108	8392	14182	1481	26758	12378	18923	4410	379	73	371	42	172	25
LMN	08/16	68608	2891	69832	18094	58469	7193	15150	1611	31176	13730	19948	4267	216	55	234	49	93	23
LGS	08/16	68247	3449	67321	23492	54053	8198	14748	1613	42211	18214	18393	5041	56	11	139	17	37	6
LGR	08/16	66366	3525	59342	22063	54084	9639	13132	1712	36679	16419	17054	5646	0	0	0	0	0	0
PRD	08/14	19495	1015	15246	6030	16630	1325	50667	1994	50865	4223	58386	2526	457	191	217	45	242	60
RIS	08/13	19881	800	13089	8394	14658	2236	50954	2666	43294	13799	53824	5219	0	0	0	0	0	0
RRH	08/13	6641	459	6989	3491	5643	822	43813	2230	36878	7532	40474	4026	0	0	0	0	0	0
WEL	08/15	5311	700	4153	3969	4833	817	35308	2702	26942	7260	28773	2045	0	0	0	0	0	0
WFA	08/10	35847	1312	43676	1392	50697	1085	-	-	-	-	-	-	0	0	0	0	0	0

DAM	Coho						Sockeye			Steelhead					
	2012		2011		10-Yr Avg.		2012	2011	10-Yr Avg.	2012	2011	10-Yr Avg.	Wild 2012	Wild 2011	10-Yr Avg.
	Adult	Jack	Adult	Jack	Adult	Jack									
BON	301	97	469	119	294	66	515660	185775	130975	141633	211844	208707	57352	87728	76586
TDA	89	29	41	24	14	2	410050	138281	109310	90310	143218	82671	39471	62762	35177
JDA	10	4	80	48	7	3	394089	143574	113816	57457	100962	61002	26472	46513	25300
MCN	3	0	0	1	0	0	364113	113912	93279	45051	72797	43041	18465	30025	16778
IHR	0	0	0	0	0	0	453	1132	390	9122	41713	23951	3089	13610	7177
LMN	0	0	0	0	0	0	485	1394	486	9477	32410	21358	3917	12254	7346
LGS	0	0	0	0	0	0	451	1435	467	6787	22020	13587	3621	9613	5097
LGR	0	0	0	0	0	0	452	1491	573	10922	22713	17466	4898	10226	6008
PRD	3	0	0	0	1	0	408163	145024	118699	5034	4373	5579	0	0	0
RIS	0	0	0	0	0	0	410251	145942	115680	3904	2933	4082	2033	1740	2419
RRH	0	0	0	0	0	0	362970	131889	94596	3315	2244	2933	1760	1380	1607
WEL	0	0	0	0	0	0	325603	111279	91846	1828	1095	1558	906	573	840
WFA	0	0	12	11	1	0	-	-	-	28866	27169	26915	-	-	-

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: 08/17/12

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

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

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

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank			
								Rank 1	Rank 2	Rank 3	Rank 4
Lower Granite Dam											
Little Goose Dam											
	08/06/12	Chinook + Steelhead	48	0	0	0.00%	0.00%	0	0	0	0
	08/13/12	Chinook + Steelhead	8	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	08/08/12	Chinook + Steelhead	16	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	08/06/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	08/10/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	08/12/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	08/16/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	08/04/12	Chinook + Steelhead	94	0	0	0.00%	0.00%	0	0	0	0
	08/07/12	Chinook + Steelhead	92	0	0	0.00%	0.00%	0	0	0	0
	08/11/12	Chinook + Steelhead	44	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	08/07/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	08/09/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	08/14/12	Chinook + Steelhead	62	0	0	0.00%	0.00%	0	0	0	0