



Fish Passage Center

Weekly Report #12 - 19

July 20, 2012

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 40% and 168% of average at individual sub-basins over the first one-half of July. Precipitation above The Dalles has been 134% of average over July. Over the 2012 water year, precipitation has ranged between 92% and 126% of average.

Table 1. Summary of July precipitation and cumulative October through July 16, 2012 precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2012 July 1-16, 2012		Water Year 2012 October 1, 2011 to July 16, 2012	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	1.16	127	26.25	122
SNAKE RIVER ABOVE ICE HARBOR	0.56	117	15.58	100
Columbia Above The Dalles	0.86	134	23.01	113
Kootenai	1.40	143	27.65	126
Clark Fork	0.77	125	16.50	111
Flathead	1.09	132	23.86	121
Pend Oreille/ Spokane	1.19	168	33.97	122
Central Washington	0.25	133	7.56	93
SNAKE RIVER PLAIN	0.42	137	9.14	92
Salmon/Boise/ Payette	0.39	95	17.90	99
Clearwater	0.59	79	31.06	113
SW Washington Cascades/Cowlitz	0.63	87	68.83	104
Willamette Valley	0.17	40	61.85	110

Table 2 displays the May 29th and July 18th Ensemble Streamflow Prediction (ESP) runoff volume forecasts for multiple reservoirs. The July 18th forecast at The Dalles between January and July is 130,282 Kaf (121% of average).

Table 2. May 29th and July 18th ESP Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.

Location	May 29, 2012 ESP		July 18, 2012 ESP	
	% Average (1971- 2000)	Runoff Volume (Kaf)	% Average (1971 -2000)	Runoff Volume (Kaf)
The Dalles (Jan-July)	109	117424	121	130282
Grand Coulee (Jan-July)	113	71280	130	81486
Libby Res. Inflow, MT (Apr-Aug)	117	7281 7155*	148	9231
Hungry Horse Res. Inflow, MT (Jan-July)	103	2290	124	2749
Lower Granite Res. Inflow (Apr- July)	99	21410	106	22848
Brownlee Res. Inflow (Apr-July)	84	5275	88	5536
Dworshak Res. Inflow (Apr-July)	114	3024 3226*	127	3351

* Denotes COE Forecast

Grand Coulee Reservoir is at 1289.3 feet (7-19-12) and refilled 0.4 feet over the last week. Grand Coulee is currently 0.7 feet from full (1290 feet). Outflows at Grand Coulee have ranged between 232.4 and 252.9 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2459.5 feet (7-19-12) and has drafted 0.4 feet over the last week. Libby is currently slightly above full (2459 feet). Outflows at Libby Dam have ranged between 36.4-43.0 Kcfs last week.

Hungry Horse is currently at an elevation of 3558.7 feet (7-19-12) and has drafted 0.3 feet over the last week. Hungry Horse is currently 1.3 feet from full (3560 feet). Outflows at Hungry Horse have been 3.8-5.9 Kcfs last week.

Dworshak is currently at an elevation of 1589.4 feet (7-19-12) and has drafted 5.7 feet over the last week for temperature and flow augmentation. Dworshak is currently 10.6 feet from full (1600 feet). Outflows from Dworshak have been approximately 13.0 Kcfs over most of the past week, however were decreased to 9.5 Kcfs on July 19, 2012.

The Brownlee Reservoir was at an elevation of 2068.2 feet on July 18th, 2012 drafting 0.8 feet last week. Brownlee is 8.8 feet from full (2077 feet). Over the last week, outflows at Brownlee have ranged between 11.3 and 14.3 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 averaged 60.4 Kcfs and 44.8 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 341.3 Kcfs and 327.3 Kcfs over the last week.

Spill:

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

Snake River flows have steadily declined over the past week and some excess generation spill has occurred. At Lower Granite Dam spill met, or exceeded, the Court Ordered summer spill level of 18 Kcfs. At Little Goose Dam spill met, or exceeded, the 30% of instantaneous flow level as specified in the Court Order, and ranged between 30% and 67% of daily average flow at this project. At Lower Monumental Dam daily average spill to the gas cap

using bulk spill ranged from 16.6 to 19.2 Kcfs. The summer spill level of 17 Kcfs began on June 21st. At Ice Harbor Dam the Court Order “test-like” conditions are in place and have been met or exceeded.

Project	Day/Night Spill
Lower Granite	18 Kcfs/18 Kcfs
Little Goose	30%/30%
Lower Monumental	17 Kcfs/17 Kcfs
Ice Harbor	“Test-Like”: 45 Kcfs/gas cap vs. 30%/30%

Summer spill for fish passage at the Lower Columbia projects began on July 1. Flows remained high in the lower Columbia River for the past week. Spill at McNary Dam changed to the summer level early to accommodate research studies and met, or exceeded, the Court Order as a result of flows in excess of hydraulic capacity due to unit outages and due to spill in excess of generation needs. Spill at John Day Dam continued to the test levels of 30%/30% versus 40%/40%. For the most part, the 30% spill test levels were met at John Day during the past week. However, the 40% level was not achieved for the entire block due to the restriction of spill to address the TDG at The Dalles Dam forebay gage. At The Dalles Dam, spill was slightly less than the 40% over several days of the past week due to the management of spill at The Dalles Dam to control TDG at the Bonneville dam forebay monitor. Spill at Bonneville Dam switched to the summer test levels on June 17th comparing 95 Kcfs for 24 hours versus 85 Kcfs during daytime hours and gas cap spill at night. Spill generally met or exceeded these levels.

Project	Day/Night Spill
McNary	50%/50%
John Day	Testing: 30%/30% vs. 40%/40%
The Dalles	40%/40%
Bonneville	95 Kcfs/95 Kcfs vs. 85 Kcfs/121 Kcfs

Gas bubble trauma samples were taken this past week at Little Goose, Lower Monumental, McNary, Rock Island and Bonneville dams. There were no signs of GBT detected in the samples this past week at little Goose and Lower Monumental dams. At McNary Dam there were no signs of GBT on July 15, but 2% of the fish in the sample with minor signs of GBT on July 19. At Rock Island on July 17th there were 3% of the fish in the sample with minor signs of GBT, and 3% on July 19th. At Bonneville Dam there were no signs of GBT on July 14, but 1% of the fish in the sample with minor signs of GBT on July 19. All incidents were below the action criteria.

Smolt Monitoring:

Smolt monitoring activities are ongoing at all seven SMP dams (BON, JDA, MCN, LGR, LGS, LMN, and RIS). The Imnaha River Trap is the only SMP trap that is still collecting juvenile salmonids for the 2012 season.

Subyearling Chinook were the dominant species of salmonid at all SMP dams over the past week. Very few spring migrants were collected at the SMP sites this week. Subyearling Chinook passage at the SMP sites on the Lower Columbia River (i.e., from MCN to BON) has decreased over the past week. Among the Snake River SMP sites, subyearling Chinook passage increased at LGR and LGS and decreased at LMN this week, when compared to last week. Finally, subyearling Chinook passage at RIS, in the Upper Columbia River, increased this week, when compared to last week.

Subyearling Chinook numbers at BON decreased this week, with a daily average passage index of nearly 73,000 per day, compared to last week's daily average passage index of about 92,500. Only pacific lamprey macrophthalmia were collected at BON this week. The daily collections for pacific lamprey macrophthalmia were variable this week, ranging from 0 to 200 per day.

Passage of subyearling Chinook at JDA decreased this week. The daily average passage index for subyearling Chinook at JDA this week was about 106,000 per day, compared to just over 111,500 per day last week. Collections of pacific lamprey macrophthalmia decreased this week. The daily average collection for pacific macrophthalmia at JDA this week was about 1,400 per day, compared to about 3,500 per day last week. Pacific lamprey ammocoetes were collected on one day (July 17th) this week.

Passage of subyearling Chinook at MCN decreased this week, when compared to last week. The daily average passage index for subyearling Chinook at MCN this week was just over 101,000 per day, compared to over 133,000 per day last week. Passage of pacific lamprey macrophthalmia decreased this week. This week's daily average collection for pacific lamprey macrophthalmia at MCN was about 700 per day, compared to about 1,325 per day last week. No pacific lamprey ammocoetes were collected at MCN this week.

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 over 5,800 per day. Last week's daily average passage index for subyearling Chinook was about 4,700 per day. Finally, both pacific lamprey ammocoetes and pacific lamprey macrophthalmia were collected at LGR this week. However, these collections were variable and there were several days where no lamprey juveniles were collected.

When compared to last week, passage of subyearling Chinook at LGS increased this week. The daily average passage index for subyearling Chinook at LGS this week was about 6,300 per day, compared to nearly 5,100 per day last week. Subyearling Chinook passage at LMN decreased this week. This week's daily average passage index for subyearling Chinook at LMN was about 1,350 per day, compared to nearly 2,500 per day last week. Although lamprey collections at LMN and LGS were low this week, both pacific lamprey ammocoetes and macrophthalmia were collected at LGS and LMN this week.

Passage of subyearling Chinook at RIS increased this week. This week's daily average passage index for subyearling Chinook at RIS was 718 per day, compared to 668 per day last week. There was a hydraulic leak on the afternoon of July 15th, which caused the trap at RIS to shut down for about 20 hours while repairs were made. This resulted in incomplete samples for July 16th and July 17th, which means that the passage estimates on these days may be biased. Finally, only a few pacific lamprey macrophthalmia were collected at RIS this week. In addition, one "unknown" lamprey ammocoete was collected at RIS this week. This ammocoete was likely "unknown" because it was too small to distinguish between Pacific or Brook lamprey.

The most recent data that we have from the Imnaha River Trap this week are from July 13th through July 17th. Both yearling Chinook and steelhead

juveniles were collected on these dates, although in small numbers. The daily collections on these days ranged from 0 to 6 for yearling Chinook and 0 to 1 for steelhead.

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. However, several of the volitional releases of coho juveniles to the Wenatchee River that began in May are scheduled to end in the coming 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:

Daily passage numbers at Bonneville Dam ranged between 587 and 1,080 adult summer Chinook in the last week. The 2012 summer Chinook count of 75,921 is about 76.2% of the 2011 count and 88.2% of the 10 year average count. The 2012 Bonneville Dam summer Chinook jack count of 10,730 is about 22.9% of the 2011 count and 67.6% of the 10 year average count. At McNary Dam 54,021 adult summer Chinook have been counted. The 2012 McNary adult summer Chinook is about 86.9% of the 2011 and 90.1% of the 10 average counts. The McNary jack summer Chinook count of 3,854 is about 15.6% of the 2011 count of 24,632 and about 40.2% of the 10 year average count of 9,590. The 2012 adult summer Chinook count at Lower Granite Dam in the Snake River of 11,240 is about 33.5% of the 2011 count and 70.4% of the 10 year average count. The 2012 Lower Granite summer Chinook jack count of 1,378 is about 9.2% of the 2011 count and 26.6% of the 10 year average count.

The Bonneville Dam 2012 steelhead count of 43,715 is 1.08 times greater than the 2011 count of 40,554, while being about 72% of the 10 year average count of 60,706. The 2012 Bonneville wild adult steelhead count of 19,191 is about 97.3% of the 2011 count of 19,709 and about 71.5% of the 10 year average count of 26,845. In the Snake River, this year's Lower Granite steelhead count of 9,557 is about 72.1% of the 2011 count of 13,246 and 79.1% of the 10 year average of 12,083. The 2012 Lower Granite wild adult steelhead count of 4,181 is about 68.8% of the 2011 count of 6,075, while being about 1.09 times greater than the 10 year average count of 3,842. At Willamette Falls Dam, the 2012 count for steelhead was 28,175, as of July 8th. This year's steelhead count is about 1.08 times greater than the 2011 count of 26,036 and 1.07 times greater than the 10 year average count of 26,254.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 204 and 2,479 last week. The 2012 accumulated total adult sockeye count at Bonneville Dam of 514,450, as of 7/19/2012, is about 2.81 times greater than the 2011 count of 182,852 and about 3.9 times greater than the 10 year average count of 129,932. The 2012 McNary Dam adult sockeye count of 361,028 is about 3.4 times greater than the 2011 count of 106,381 and 3.9 times greater than the 10 year average count of 91,255. 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 375 is 41.2% of the 2011 count of 909, while being 1.03 times greater than the 10 year average count of 364. The Lower Granite Dam 2012 adult sockeye count of 296 is about 31.6% of the 2011 count of 935 and about 63.5% of the 10 year average count of 466.

As of July 19th at Bonneville Dam, the adult shad count was 2,424,054. This year's shad count is about 2.58 times greater than the 2011 count of 939,714, while being 82.8% of the 10 year average count of 2,926,114.

Hatchery Releases Last Two Weeks

Hatchery Release Summary									
From:	7/6/2012		to		07/19/12				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Game	Eagle Hatchery	SO	UN	2013	11,354	07-13-12	07-13-12	Redfish Lake	Salmon River (ID)
Idaho Dept. of Fish and Game Total					11,354				
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2012	3,328,919	06-27-12	07-10-12	Ringold Springs Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					3,328,919				
Yakama Tribe	Cascade Hatchery	CO	UN	2012	65,564	05-13-12	07-14-12	Beaver Creek Acclim Pond	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2012	31,423	05-13-12	07-14-12	Beaver Creek Acclim Pond	Wenatchee River
Yakama Tribe Total					96,987				
Grand Total					3,437,260				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 7/20/2012 to 8/2/2012

Agency Hatchery Species Race MigYr NumRel RelStart RelEnd RelSite RelRiver

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
07/06/2012	245.6	25.7	262.9	108.4	263.7	104.0	269.3	125.9	286.6	104.1	283.4	174.8	280.2	155.1
07/07/2012	236.3	20.1	234.6	80.5	255.2	70.3	254.2	124.2	264.1	85.2	286.8	173.8	291.1	161.3
07/08/2012	244.8	25.7	241.7	76.3	261.4	80.7	255.3	121.2	262.9	76.9	277.8	195.0	283.4	162.1
07/09/2012	248.2	29.9	246.7	81.4	272.5	98.6	264.1	118.2	268.2	80.6	273.1	178.0	279.0	171.6
07/10/2012	244.1	24.3	250.7	94.6	278.0	101.3	268.2	119.6	266.2	76.6	290.7	195.4	294.4	184.1
07/11/2012	234.9	29.6	233.1	77.0	262.0	100.2	256.7	119.9	260.0	73.2	281.7	161.2	289.7	163.6
07/12/2012	245.9	28.4	240.6	96.3	262.4	91.2	255.1	118.4	255.5	65.6	274.7	160.8	275.5	147.3
07/13/2012	252.9	34.4	249.8	118.1	268.5	99.6	265.8	118.6	263.2	70.3	288.7	169.4	284.9	166.5
07/14/2012	243.0	25.0	243.1	97.9	263.2	89.4	268.4	110.6	268.2	66.7	301.0	168.9	302.7	205.7
07/15/2012	242.9	25.0	242.5	95.3	261.9	87.4	265.0	112.0	264.7	72.2	308.3	177.6	320.2	235.2
07/16/2012	241.1	23.2	240.7	104.0	255.2	88.5	265.2	100.2	262.5	60.1	283.8	161.8	282.9	186.7
07/17/2012	232.4	15.1	230.7	93.2	245.7	85.9	252.3	100.2	254.7	57.1	268.3	134.4	269.4	161.5
07/18/2012	233.5	17.3	226.9	79.4	243.4	76.7	242.7	89.2	248.0	55.8	254.4	137.6	257.6	153.3
07/19/2012	242.3	24.7	247.4	91.5	260.2	84.4	260.3	95.4	264.6	58.6	274.6	150.2	273.0	166.0

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
07/06/2012	7.1	0.0	14.4	16.7	48.4	18.6	49.2	14.7	49.8	17.0	52.2	41.9		
07/07/2012	7.1	0.0	13.5	16.2	52.0	18.4	52.1	15.6	51.2	16.6	52.0	20.5		
07/08/2012	7.1	0.0	13.4	12.9	46.7	18.4	47.6	14.4	48.2	16.9	49.2	14.7		
07/09/2012	8.9	0.0	13.4	14.5	46.2	18.4	44.3	13.3	43.3	16.7	45.6	31.0		
07/10/2012	12.5	2.9	13.0	16.3	50.4	21.2	51.3	19.5	51.3	17.0	54.3	41.7		
07/11/2012	12.8	3.3	12.4	17.6	55.9	23.4	55.7	21.0	54.7	18.2	55.2	23.4		
07/12/2012	12.8	3.2	11.2	14.4	50.8	20.4	50.5	15.7	50.7	17.0	52.7	16.1		
07/13/2012	12.9	3.4	10.7	12.9	49.2	22.4	49.1	18.2	47.9	17.4	48.8	32.5		
07/14/2012	12.9	3.4	10.4	11.5	40.7	19.2	40.3	13.6	39.0	17.3	42.8	32.3		
07/15/2012	13.0	3.4	11.6	12.2	42.5	26.5	42.5	28.6	42.0	18.7	43.1	32.3		
07/16/2012	12.9	3.3	11.6	11.4	46.9	22.0	47.8	22.2	47.3	19.2	49.6	39.1		
07/17/2012	12.9	3.3	11.2	13.4	45.3	18.9	45.9	15.1	45.7	16.6	48.8	38.4		
07/18/2012	11.0	1.4	11.6	15.6	44.9	19.8	45.0	15.9	44.4	17.0	46.8	35.8		
07/19/2012	9.6	0.0	---	---	43.9	18.2	44.3	13.3	44.5	16.7	45.9	34.9		

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
07/06/2012	359.7	210.9	363.0	128.6	342.6	124.1	358.7	147.1	94.3	104.9
07/07/2012	327.0	176.9	322.7	96.5	302.2	113.0	333.8	124.0	94.9	102.5
07/08/2012	318.2	169.4	313.0	99.3	298.6	112.6	319.7	115.7	95.3	96.3
07/09/2012	347.7	216.1	342.9	133.2	321.8	114.2	331.9	140.1	89.6	89.8
07/10/2012	340.1	214.1	338.0	125.5	317.1	114.9	334.2	148.7	85.6	87.5
07/11/2012	343.1	216.7	337.6	110.0	322.5	125.1	342.0	155.1	85.4	89.1
07/12/2012	334.1	204.2	327.7	120.1	312.4	127.3	343.1	151.5	84.8	94.4
07/13/2012	338.9	188.9	338.5	131.2	320.5	124.6	331.7	132.8	85.0	101.5
07/14/2012	329.6	179.9	332.9	128.2	316.0	127.0	343.5	139.7	85.0	106.4
07/15/2012	336.7	186.3	319.6	138.5	296.9	124.4	319.3	124.2	83.0	99.7
07/16/2012	357.4	214.9	362.0	118.4	345.1	137.0	358.0	164.3	75.2	106.2
07/17/2012	332.5	197.9	335.4	103.1	319.2	128.1	339.2	142.9	75.5	108.4
07/18/2012	297.3	164.0	295.3	103.3	282.9	113.6	297.8	103.8	75.2	106.4
07/19/2012	298.8	168.4	299.0	89.7	279.6	111.2	298.5	99.0	79.8	107.2

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>Clrwr-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		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
7/6	127.0	128.2	129.4	24	120.9	121.7	122.2	24	101.8	102.4	102.8	24	102.4	103.6	104.6	24	102.9	104.0	105.0	24
7/7	126.2	127.0	127.8	24	120.9	121.2	121.6	24	101.9	102.4	103.0	24	102.8	103.8	104.8	24	102.9	103.9	104.9	24
7/8	126.2	127.5	128.6	24	120.8	121.5	122.4	24	102.0	102.5	103.0	24	103.1	104.3	105.3	24	102.9	104.1	105.3	24
7/9	127.1	128.7	130.5	24	120.6	121.1	121.8	24	101.5	101.8	102.1	24	102.5	103.1	103.6	24	102.2	102.9	103.9	24
7/10	125.6	126.7	127.3	24	120.7	121.1	121.4	24	106.9	108.2	108.9	24	106.0	107.7	108.8	24	102.8	104.1	105.2	24
7/11	125.4	126.0	126.6	24	120.3	120.9	121.4	24	108.2	108.5	108.9	24	107.3	108.4	109.2	24	103.1	104.2	105.2	24
7/12	125.0	125.7	126.2	24	119.9	120.4	121.0	24	108.2	108.5	108.8	24	107.7	108.7	109.5	24	103.1	104.3	105.4	24
7/13	125.0	125.5	125.9	24	119.2	119.6	120.1	24	108.7	109.1	110.4	22	108.0	108.8	109.3	24	102.5	103.5	104.8	22
7/14	125.3	125.6	125.8	24	118.8	119.8	120.4	24	108.5	108.8	109.3	24	107.7	108.6	109.3	24	101.9	102.6	103.3	24
7/15	125.1	125.4	125.6	24	118.3	119.0	119.6	24	108.5	109.0	109.5	24	107.5	108.4	109.5	24	102.1	103.0	103.8	24
7/16	124.6	124.9	125.2	24	118.3	119.1	119.8	24	108.3	108.8	109.2	24	107.2	108.1	108.8	24	102.0	103.1	104.5	24
7/17	124.8	125.1	125.2	24	118.5	119.4	120.0	24	108.5	108.9	109.5	24	107.5	108.5	109.4	24	102.2	103.4	104.8	24
7/18	---	---	---	0	118.3	119.0	119.6	24	105.0	107.8	108.5	24	105.6	106.7	107.9	24	102.2	103.1	104.7	24
7/19	---	---	---	0	117.4	118.1	118.7	24	101.8	102.3	102.8	24	103.5	104.8	105.8	24	102.2	103.0	103.8	24

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwr-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		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
7/6	103.0	105.1	106.5	24	100.7	100.9	101.2	24	115.4	116.1	116.7	24	114.5	115.6	117.3	24	112.8	113.1	113.4	24
7/7	103.2	105.1	106.7	23	101.0	101.5	101.9	24	114.8	115.3	116.0	24	115.3	115.9	117.8	24	112.7	113.2	113.7	24
7/8	103.6	105.4	107.0	22	102.0	102.3	102.9	24	115.4	115.7	116.3	24	116.0	116.7	117.5	24	112.8	113.2	113.5	24
7/9	102.4	103.5	104.8	24	102.8	103.3	103.7	24	115.7	116.1	117.0	24	116.4	117.2	117.9	24	113.1	113.5	113.9	24
7/10	103.9	106.4	107.9	24	102.7	103.1	103.9	24	116.3	117.2	119.0	24	115.6	115.9	116.6	24	113.5	114.3	116.1	24
7/11	105.3	107.4	108.8	24	102.3	102.7	102.8	24	115.2	116.2	117.2	24	114.8	115.0	115.3	24	113.4	114.4	116.3	24
7/12	105.6	107.8	109.3	24	101.4	101.7	102.1	24	114.9	115.6	118.1	24	116.3	117.1	117.7	24	112.7	113.1	113.8	24
7/13	105.1	107.2	109.0	24	101.8	102.4	102.6	24	115.6	116.6	118.5	24	115.2	115.5	116.0	24	113.2	113.9	115.8	24
7/14	104.7	106.2	107.4	24	102.9	103.2	103.5	24	115.7	116.2	118.1	24	115.6	115.7	116.0	24	113.2	113.5	114.0	24
7/15	105.2	107.1	108.0	24	103.1	103.3	103.7	24	119.0	119.4	119.8	24	115.0	115.1	115.3	24	115.1	116.3	117.3	24
7/16	104.9	106.9	108.7	24	102.4	102.6	103.0	24	116.7	117.9	119.3	24	113.4	113.8	114.3	24	114.3	115.7	116.5	24
7/17	105.4	107.6	109.5	24	102.1	102.3	102.5	24	115.7	116.3	118.9	24	112.5	112.7	113.1	24	112.8	113.4	115.1	24
7/18	105.1	107.6	109.3	24	102.3	103.2	103.6	24	116.0	116.9	118.6	24	111.7	111.8	111.9	24	112.6	112.8	113.5	24
7/19	103.9	106.3	107.8	23	102.9	103.1	103.3	24	115.3	115.7	116.4	24	111.6	112.0	112.4	24	112.8	113.2	113.5	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		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
7/6	113.1	113.3	113.5	24	116.6	117.1	118.2	24	112.1	112.8	113.4	24	114.4	115.5	116.3	24	---	---	---	0
7/7	113.2	113.8	114.6	24	116.3	117.1	117.7	24	113.4	113.7	113.9	24	113.5	114.5	116.1	24	---	---	---	0
7/8	114.3	114.8	115.1	24	116.2	116.8	117.1	24	114.3	114.6	114.8	24	113.4	114.0	115.3	24	---	---	---	0
7/9	113.9	114.1	114.2	24	115.9	116.4	117.8	24	114.9	115.2	115.5	24	113.6	114.2	115.5	24	---	---	---	0
7/10	113.1	113.2	113.7	24	116.7	116.9	117.2	24	114.7	114.9	115.0	24	114.2	115.1	115.8	24	---	---	---	0
7/11	112.9	113.1	113.3	24	117.0	117.6	118.4	24	114.4	114.5	114.7	24	113.5	114.4	115.8	24	---	---	---	0
7/12	113.5	114.0	114.4	24	117.4	118.0	119.0	24	114.3	114.5	114.8	24	114.4	115.9	116.3	24	---	---	---	0
7/13	113.9	114.3	114.6	24	116.9	117.5	118.5	24	114.3	114.7	115.2	24	113.8	115.1	115.9	24	---	---	---	0
7/14	113.9	114.1	114.6	24	116.8	117.1	117.4	24	114.6	114.8	115.0	24	113.7	114.1	114.6	24	---	---	---	0
7/15	113.2	113.4	113.7	24	116.7	117.1	117.6	24	114.2	114.3	114.4	24	114.1	114.7	116.2	24	---	---	---	0
7/16	111.4	111.8	112.6	24	117.3	117.8	118.6	24	112.4	112.6	113.4	24	113.9	114.7	115.4	24	---	---	---	0
7/17	111.4	111.7	111.9	24	116.5	117.0	117.4	24	111.8	112.0	112.4	24	113.7	114.3	114.8	24	---	---	---	0
7/18	112.2	113.2	114.5	24	117.2	117.5	118.2	24	111.1	111.5	112.3	24	114.0	114.7	115.5	24	---	---	---	0
7/19	113.2	113.5	113.7	24	116.8	117.5	118.1	24	112.4	113.0	114.2	24	114.0	114.7	115.2	24	---	---	---	0

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>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>
7/6	104.4	104.7	105.0	24	126.4	127.6	128.4	24	118.7	119.1	119.4	24	117.1	117.6	118.0	24	117.4	117.9	118.5	24
7/7	104.3	104.7	104.8	24	126.3	127.5	127.9	23	119.0	119.3	119.5	24	116.4	116.7	116.9	23	117.5	117.7	118.1	24
7/8	104.8	105.0	105.4	24	126.4	126.8	127.4	21	119.7	120.2	120.7	24	117.2	117.9	118.3	21	116.8	117.3	117.7	24
7/9	105.2	105.4	106.0	19	126.7	127.1	127.6	18	120.3	120.6	121.0	24	118.0	118.1	118.4	18	117.4	118.0	118.4	24
7/10	104.6	105.3	105.8	23	126.3	126.8	127.1	22	120.5	120.6	120.8	24	117.8	117.9	118.1	22	117.9	118.3	118.7	24
7/11	104.3	104.8	105.3	24	126.5	127.2	127.9	23	121.0	121.3	121.5	24	118.2	119.0	119.4	23	118.0	118.5	119.1	24
7/12	106.1	106.9	107.6	24	126.4	127.1	128.1	22	121.4	121.7	121.9	24	118.7	119.1	119.7	22	118.1	118.9	119.2	24
7/13	106.8	107.1	107.3	24	126.2	126.8	127.6	23	121.9	122.0	122.4	18	119.6	119.8	120.1	23	118.5	118.7	118.9	24
7/14	107.1	107.2	107.5	24	125.4	126.1	126.5	23	122.0	122.4	123.2	24	118.9	119.2	119.4	23	119.1	119.5	119.8	24
7/15	106.7	106.9	107.2	24	126.2	126.5	126.9	23	122.8	123.0	123.3	24	119.3	119.4	119.6	23	118.6	118.8	119.2	24
7/16	107.1	107.4	107.6	24	121.9	122.6	124.0	21	122.2	122.5	122.8	24	119.0	119.3	119.5	21	118.4	118.9	119.4	24
7/17	107.0	107.2	107.4	24	122.0	122.8	123.4	24	122.4	122.7	122.9	24	118.6	118.9	119.3	24	118.6	118.8	119.0	24
7/18	106.7	107.0	107.4	24	120.0	121.5	125.4	22	122.2	122.4	122.8	24	118.7	119.3	119.6	22	118.4	118.7	119.1	24
7/19	106.7	106.9	107.2	24	120.2	122.4	122.7	22	122.1	122.3	122.6	23	119.0	119.4	119.8	22	118.5	118.9	119.3	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>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>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>
7/6	118.6	119.1	119.9	24	117.9	118.4	119.2	24	128.7	129.9	131.6	24	128.8	129.3	129.6	24	123.7	124.6	125.4	24
7/7	117.4	117.8	118.6	24	117.8	118.6	119.1	24	123.8	124.5	125.8	24	124.8	126.0	127.8	24	125.0	125.6	126.0	24
7/8	117.3	117.7	118.2	24	117.3	117.9	118.4	24	124.6	125.7	126.9	24	122.0	122.4	122.5	20	124.7	124.9	125.9	20
7/9	118.6	119.7	120.1	24	117.1	117.9	118.8	24	126.0	126.9	128.1	24	123.0	123.5	124.1	24	123.8	125.2	126.3	24
7/10	120.1	120.7	123.1	24	118.5	119.4	119.7	24	126.6	127.1	128.5	24	124.0	125.0	125.6	24	123.4	124.2	125.5	24
7/11	118.0	118.6	120.1	24	118.9	119.4	120.5	24	128.1	129.1	130.4	24	125.4	126.2	128.2	24	123.2	124.5	125.5	24
7/12	118.9	119.8	120.9	23	118.3	118.7	119.0	24	127.3	127.9	128.9	24	125.6	126.1	127.8	24	122.9	123.5	124.4	24
7/13	120.4	120.5	121.5	13	119.8	120.7	121.1	24	129.4	130.8	133.0	24	124.5	125.1	125.4	24	123.0	124.0	125.2	24
7/14	119.4	119.8	120.4	24	119.6	120.0	120.6	23	128.5	129.3	131.4	23	126.2	126.8	127.5	24	123.5	124.4	124.8	24
7/15	119.0	119.2	119.4	24	118.7	119.3	120.0	24	127.7	128.5	129.6	24	124.8	125.4	126.2	24	123.7	124.7	125.7	24
7/16	119.2	119.8	120.7	24	118.6	119.5	119.7	24	128.1	129.1	129.6	24	123.9	124.3	124.6	24	121.5	121.9	122.6	24
7/17	118.9	119.2	120.0	24	118.2	118.5	119.3	23	127.8	128.1	128.6	23	124.7	124.9	125.2	24	119.4	121.0	121.7	24
7/18	118.6	118.9	119.9	24	118.5	118.7	118.9	24	126.5	127.1	127.8	24	124.6	124.8	124.9	24	118.7	119.4	119.8	24
7/19	119.1	119.9	120.6	24	118.3	118.9	119.2	24	127.2	128.4	129.1	24	123.0	123.4	123.8	24	119.2	119.7	120.6	24

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>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>
7/6	126.8	127.3	127.6	24	129.7	130.1	130.4	24	128.5	129.7	131.0	24	130.2	133.6	140.1	24	130.5	133.6	137.2	24
7/7	126.0	126.4	126.6	24	129.0	129.5	129.7	24	128.8	129.7	130.5	24	129.7	130.5	133.8	24	127.8	129.2	130.5	24
7/8	123.7	124.2	124.6	20	126.3	127.0	128.5	20	128.3	129.5	130.8	24	132.4	134.7	139.4	24	128.4	130.3	133.1	24
7/9	123.9	124.9	125.5	24	127.0	127.8	128.6	24	125.4	126.4	128.0	24	130.5	136.0	141.8	24	131.0	136.2	138.2	24
7/10	123.9	124.6	125.1	24	127.3	127.8	128.8	24	124.2	125.6	127.6	24	130.9	131.9	133.3	24	126.3	130.2	131.5	24
7/11	124.4	125.3	125.9	24	127.6	128.1	128.5	24	125.3	126.9	128.0	24	127.9	129.8	130.7	24	126.1	128.3	129.7	24
7/12	124.6	125.3	125.9	24	127.6	128.2	128.6	24	126.1	127.6	129.1	24	127.6	129.7	130.2	24	125.4	127.2	128.8	24
7/13	124.4	125.0	125.8	24	127.6	128.3	129.5	24	124.5	125.8	126.7	24	128.6	129.5	130.8	24	126.1	128.5	129.5	24
7/14	125.0	126.0	126.8	24	127.5	128.0	128.8	24	125.4	126.3	127.6	24	128.4	129.0	129.7	24	125.3	126.6	127.2	24
7/15	124.8	125.4	126.1	24	127.7	128.8	129.8	24	123.9	124.5	125.0	24	129.3	129.6	130.2	24	123.6	124.5	125.5	24
7/16	123.5	124.0	124.2	24	125.7	126.2	126.9	24	124.5	125.7	126.6	24	128.2	129.3	130.3	24	124.6	126.5	127.6	24
7/17	123.6	124.1	124.3	24	125.8	126.4	126.7	24	124.1	125.1	126.3	24	124.8	127.5	129.5	24	124.8	127.0	128.2	24
7/18	123.5	124.1	124.6	24	125.6	126.1	126.7	24	---	---	---	0	---	---	---	0	---	---	---	0
7/19	122.6	123.5	124.0	24	124.6	124.9	125.1	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 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>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>	
7/6	119.5	120.3	120.7	24	121.4	122.0	122.7	24	114.7	115.3	115.8	24	119.3	119.8	119.9	24	114.6	115.3	116.0	24
7/7	120.4	121.1	121.9	24	120.1	120.4	120.8	24	117.2	118.3	119.0	24	117.1	118.1	119.1	24	115.0	115.7	116.3	24
7/8	121.0	121.8	122.5	24	119.8	119.9	120.2	24	119.5	120.1	120.7	24	117.2	118.0	119.3	24	116.3	117.0	117.6	24
7/9	119.7	120.0	120.5	24	121.7	122.3	122.7	24	119.9	120.3	120.7	24	119.1	119.4	120.4	24	116.4	117.0	117.5	24
7/10	119.2	119.9	120.4	24	121.3	122.4	122.7	24	118.6	118.9	119.7	24	118.8	119.3	119.5	24	114.7	115.6	116.0	24
7/11	119.2	120.0	120.6	24	121.4	122.2	122.7	24	117.3	117.6	118.0	24	118.2	118.6	119.2	24	115.3	116.3	117.3	24
7/12	119.0	119.6	120.2	24	120.9	121.2	121.4	24	116.6	116.9	117.2	24	118.0	119.2	119.7	24	113.8	114.2	115.3	24
7/13	118.3	118.8	119.1	24	121.1	122.2	122.9	22	116.1	116.6	117.0	21	118.7	119.2	119.5	21	113.6	114.3	115.3	21
7/14	116.7	117.3	117.7	24	120.4	120.7	120.9	24	116.5	116.9	117.4	24	118.5	118.9	119.4	24	114.3	115.0	115.7	24
7/15	116.1	116.6	117.3	24	120.6	120.9	122.6	23	114.5	115.7	116.8	24	118.6	119.0	119.5	24	113.0	113.8	114.9	24
7/16	113.8	114.2	114.7	24	122.6	123.0	123.2	24	112.0	112.6	112.9	24	118.6	118.9	119.4	24	113.2	114.3	115.1	24
7/17	115.0	116.4	116.9	24	121.7	122.6	123.2	24	112.7	113.0	113.8	24	117.5	118.2	118.4	24	112.9	113.4	114.4	24
7/18	116.9	117.3	117.7	24	119.7	120.2	120.5	24	111.3	111.5	112.0	24	117.0	118.1	118.3	24	110.9	111.9	113.9	24
7/19	117.1	117.6	118.0	24	120.1	120.8	121.1	24	113.4	115.0	116.2	24	116.4	117.7	118.8	24	111.0	112.5	113.7	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>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>	
7/6	118.5	118.9	119.3	24	116.4	116.6	116.9	24	118.8	119.1	119.3	24	117.4	118.3	118.9	24	124.4	124.7	125.1	24
7/7	118.6	119.0	119.5	24	116.1	116.4	116.6	24	117.6	117.9	118.6	24	117.3	117.8	118.3	24	122.1	122.8	124.1	24
7/8	119.4	119.9	120.6	24	116.4	116.7	116.9	24	117.5	117.7	117.9	24	116.6	117.6	118.4	24	120.9	121.0	121.1	24
7/9	119.1	119.4	119.6	24	114.9	115.4	115.8	24	117.5	117.9	118.4	24	115.8	116.5	117.2	24	122.7	123.3	123.7	24
7/10	118.2	118.6	118.9	24	112.3	112.6	113.4	24	116.6	117.4	117.7	24	115.2	115.6	116.1	24	122.6	123.6	124.0	24
7/11	119.2	119.8	120.4	24	113.9	114.5	115.2	24	117.7	117.9	118.2	24	116.9	118.1	119.0	24	123.5	123.7	124.0	24
7/12	119.2	120.2	121.7	24	114.9	115.3	115.5	24	118.1	118.5	119.0	24	116.8	117.5	118.0	24	123.5	123.8	124.1	24
7/13	118.2	118.4	119.3	21	113.3	113.6	114.2	20	116.5	117.1	118.0	21	115.3	115.7	116.4	21	122.1	123.2	123.6	21
7/14	119.3	119.8	120.2	24	114.1	114.6	114.9	24	117.0	117.2	117.5	24	115.7	116.5	117.3	24	123.4	123.8	124.2	24
7/15	119.3	120.4	121.1	24	113.9	114.2	114.9	24	116.0	116.3	117.0	24	114.6	115.0	115.8	24	121.2	121.9	123.1	24
7/16	119.2	120.0	121.2	24	115.0	115.9	117.0	24	119.3	119.7	120.2	24	116.3	118.4	119.2	24	123.9	124.1	124.3	24
7/17	118.7	119.4	119.9	24	117.3	117.8	118.2	24	119.4	119.9	120.6	24	117.9	118.7	119.7	24	123.3	124.0	124.3	24
7/18	117.5	118.2	119.3	24	112.8	113.3	114.9	24	114.9	115.7	118.3	24	115.2	116.3	116.7	24	119.9	120.5	122.9	24
7/19	117.3	118.2	119.4	24	112.3	113.2	114.4	24	114.0	114.4	114.9	24	112.8	113.3	113.7	24	119.1	119.4	119.7	24

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)
07/06/2012 *	---	8	---	---	6	0	8	3	246	595	0
07/07/2012 *	---	---	---	---	8	14	52	0	---	513	666
07/08/2012	---	---	---	---	0	0	84	0	0	457	16
07/09/2012 *	---	6	---	---	0	0	31	0	---	458	0
07/10/2012	---	3	---	---	9	5	15	0	0	616	0
07/11/2012 *	---	11	---	---	0	16	16	0	---	157	0
07/12/2012 *	---	10	---	---	8	7	30	0	0	385	0
07/13/2012 *	---	6	---	---	0	58	46	0	---	0	0
07/14/2012	---	---	---	---	0	0	8	0	0	0	0
07/15/2012 *	---	---	---	---	10	0	0	0	---	0	0
07/16/2012 *	---	0	---	---	0	32	8	---	0	0	0
07/17/2012 *	---	3	---	---	0	19	8	0	---	413	0
07/18/2012	---	---	---	---	0	0	8	0	0	0	0
07/19/2012 *	---	---	---	---	0	0	8	0	---	0	0
07/20/2012	---	---	---	---	---	---	---	---	---	---	0
Total:	0	47	0	0	41	151	322	3	246	3,594	682
# Days:	0	8	0	0	14	14	14	13	7	14	15
Average:	0	6	0	0	3	11	23	0	35	257	45
YTD	58,098	10,889	26,417	13,494	4,042,634	2,265,886	754,384	25,797	2,179,371	4,290,258	2,538,762

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)
07/06/2012 *	---	0	---	---	3,967	5,678	1,683	425	162,997	85,137	79,899
07/07/2012 *	---	---	---	---	3,235	5,299	4,255	462	---	110,515	75,609
07/08/2012	---	---	---	---	4,259	5,650	4,638	671	89,620	95,708	66,151
07/09/2012 *	---	1	---	---	3,002	3,307	1,820	737	---	72,173	77,741
07/10/2012	---	0	---	---	3,387	3,783	2,091	783	153,490	99,059	110,321
07/11/2012 *	---	0	---	---	9,478	3,091	998	728	---	127,643	121,411
07/12/2012 *	---	0	---	---	5,283	8,816	1,673	874	127,145	190,381	116,127
07/13/2012 *	---	0	---	---	3,538	9,021	1,466	729	---	143,389	104,197
07/14/2012	---	---	---	---	3,091	3,535	1,634	796	59,601	102,625	96,877
07/15/2012 *	---	---	---	---	4,649	5,851	517	568	---	79,353	74,747
07/16/2012 *	---	0	---	---	7,331	6,751	1,051	---	124,332	91,883	58,504
07/17/2012 *	---	0	---	---	10,517	8,082	1,948	596	---	89,911	62,039
07/18/2012	---	---	---	---	6,531	5,438	1,502	633	119,465	109,505	59,409
07/19/2012 *	---	---	---	---	5,052	5,325	1,361	984	---	123,992	52,849
07/20/2012	---	---	---	---	---	---	---	---	---	---	55,064
Total:	0	1	0	0	73,320	79,627	26,637	8,986	836,650	1,521,274	1,210,945
# Days:	0	8	0	0	14	14	14	13	7	14	15
Average:	0	0	0	0	5,237	5,688	1,903	691	119,521	108,662	80,730
YTD	0	3	67	327	1,017,597	1,001,124	363,021	18,689	1,900,134	2,644,232	4,920,171

Two-Week Summary of Passage Indices

COMBINED COHO											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/06/2012	*	---	0	---	0	43	0	3	0	0	0
07/07/2012	*	---	---	---	0	0	0	3	---	0	0
07/08/2012		---	---	---	0	0	0	7	0	0	0
07/09/2012	*	---	0	---	0	0	0	5	---	0	0
07/10/2012		---	0	---	0	0	0	7	0	165	0
07/11/2012	*	---	0	---	0	0	0	7	---	0	0
07/12/2012	*	---	0	---	0	0	0	7	0	0	0
07/13/2012	*	---	0	---	0	0	0	0	---	0	0
07/14/2012		---	---	---	0	0	0	0	0	0	0
07/15/2012	*	---	---	---	0	0	0	2	---	0	0
07/16/2012	*	---	0	---	0	0	0	---	0	0	0
07/17/2012	*	---	0	---	0	0	0	6	---	0	327
07/18/2012		---	---	---	0	0	0	8	0	0	0
07/19/2012	*	---	---	---	0	0	0	8	---	0	0
07/20/2012		---	---	---	---	---	---	---	---	---	0
Total:		0	0	0	0	43	0	63	0	165	327
# Days:		0	8	0	0	14	14	13	7	14	15
Average:		0	0	0	0	3	0	5	0	12	22
YTD		0	0	0	80	69,763	78,611	19,953	49,510	145,761	287,207

COMBINED STEELHEAD											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/06/2012	*	---	1	---	39	129	56	13	246	0	296
07/07/2012	*	---	---	---	81	143	59	10	---	150	333
07/08/2012		---	---	---	79	186	107	5	0	0	0
07/09/2012	*	---	1	---	25	201	31	21	---	153	0
07/10/2012		---	1	---	74	109	15	5	0	0	0
07/11/2012	*	---	2	---	74	49	16	7	---	157	0
07/12/2012	*	---	3	---	24	37	25	13	0	0	0
07/13/2012	*	---	1	---	0	131	15	4	---	0	0
07/14/2012		---	---	---	38	49	8	6	0	0	0
07/15/2012	*	---	---	---	10	17	0	6	---	0	0
07/16/2012	*	---	1	---	25	0	8	---	0	0	321
07/17/2012	*	---	0	---	9	16	0	20	---	0	0
07/18/2012		---	---	---	0	64	8	22	0	220	12
07/19/2012	*	---	---	---	0	29	8	14	---	0	0
07/20/2012		---	---	---	---	---	---	---	---	---	0
Total:		0	10	0	478	1,160	356	146	246	680	962
# Days:		0	8	0	14	14	14	13	7	14	15
Average:		0	1	0	34	83	25	11	35	49	64
YTD		2,722	21,599	2,065	2,311	3,538,899	1,490,057	610,976	17,234	543,076	2,834,971

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)	
07/06/2012	*	---	0	---	---	0	0	0	0	246	297	0
07/07/2012	*	---	---	---	---	0	0	0	10	---	299	333
07/08/2012		---	---	---	---	0	0	0	5	448	229	351
07/09/2012	*	---	0	---	---	0	0	0	0	---	218	0
07/10/2012		---	0	---	---	0	0	0	2	0	240	0
07/11/2012	*	---	0	---	---	0	0	0	0	---	225	0
07/12/2012	*	---	0	---	---	0	0	0	2	560	882	0
07/13/2012	*	---	0	---	---	0	0	0	2	---	0	0
07/14/2012		---	---	---	---	0	0	0	4	464	192	0
07/15/2012	*	---	---	---	---	0	0	0	0	---	2,405	630
07/16/2012	*	---	0	---	---	0	0	0	---	0	243	0
07/17/2012	*	---	0	---	---	9	16	0	0	---	0	0
07/18/2012		---	---	---	---	0	0	0	0	247	0	0
07/19/2012	*	---	---	---	---	0	0	0	0	---	204	0
07/20/2012		---	---	---	---	---	---	---	---	---	---	0
Total:		0	0	0	0	9	16	0	25	1,965	5,434	1,314
# Days:		0	8	0	0	14	14	14	13	7	14	15
Average:		0	0	0	0	1	1	0	2	281	388	88
YTD		5	0	0	475	43,236	37,113	18,243	46,692	1,132,680	849,717	777,461

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)	
07/06/2012	*	---	0	---	---	0	40	0	1	1,300	6,625	200
07/07/2012	*	---	---	---	---	5	10	0	0	---	5,743	0
07/08/2012		---	---	---	---	5	0	0	0	1,000	5,140	120
07/09/2012	*	---	0	---	---	0	10	0	1	---	2,300	0
07/10/2012		---	0	---	---	10	40	0	1	1,000	1,827	0
07/11/2012	*	---	0	---	---	0	40	0	2	---	1,800	12
07/12/2012	*	---	0	---	---	0	5	0	3	2,000	800	0
07/13/2012	*	---	0	---	---	0	100	5	0	---	1,429	200
07/14/2012		---	---	---	---	0	40	0	0	800	614	100
07/15/2012	*	---	---	---	---	0	0	0	1	---	0	8
07/16/2012	*	---	0	---	---	5	20	5	---	900	2,292	0
07/17/2012	*	---	0	---	---	5	20	5	1	---	3,000	0
07/18/2012		---	---	---	---	5	30	0	2	400	1,143	8
07/19/2012	*	---	---	---	---	0	70	5	1	---	1,571	0
07/20/2012		---	---	---	---	---	---	---	---	---	---	0
Total:		0	0	0	0	35	425	20	13	7,400	34,284	648
# Days:		0	8	0	0	14	14	14	13	7	14	15
Average:		0	0	0	0	3	30	1	1	1,057	2,449	43
YTD		6	0	0	0	6,955	6,169	2,176	113	114,030	476,481	31,069

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:

7/20/12 10:02 AM

		07/06/12	TO	07/20/12				
		Species						
Site	Data	CH0	CH1	CO	ST	SO	Grand Total	
LGR	Sum of NumberCollected	40,675	24			274	5	40,978
	Sum of NumberBarged	40,367	19			269	2	40,657
	Sum of NumberBypassed	6	0			0	0	6
	Sum of Numbertrucked	0	0			0	0	0
	Sum of SampleMorts	136	2			3	0	141
	Sum of FacilityMorts	166	3			2	3	174
	Sum of ResearchMorts	0	0			0	0	0
	Sum of TotalProjectMorts	302	5			5	3	315
LGS	Sum of NumberCollected	50,155	90	30		781	10	51,066
	Sum of NumberBarged	49,917	88	30		778	9	50,822
	Sum of NumberBypassed	5	0	0		0	0	5
	Sum of Numbertrucked	0	0	0		0	0	0
	Sum of SampleMorts	34	0	0		0	1	35
	Sum of FacilityMorts	199	2	0		3	0	204
	Sum of ResearchMorts	0	0	0		0	0	0
	Sum of TotalProjectMorts	233	2	0		3	1	239
LMN	Sum of NumberCollected	17,017	210			232		17,459
	Sum of NumberBarged	16,547	210			230		16,987
	Sum of NumberBypassed	351	0			2		353
	Sum of Numbertrucked	0	0			0		0
	Sum of SampleMorts	18	0			0		18
	Sum of FacilityMorts	101	0			0		101
	Sum of ResearchMorts	0	0			0		0
	Sum of TotalProjectMorts	119	0			0		119
MCN	Sum of NumberCollected	335,615	100			100	800	336,615
	Sum of NumberBarged	0	0			0	0	0
	Sum of NumberBypassed	335,570	100			100	800	336,570
	Sum of Numbertrucked	0	0			0	0	0
	Sum of SampleMorts	11	0			0	0	11
	Sum of FacilityMorts	34	0			0	0	34
	Sum of ResearchMorts	0	0			0	0	0
	Sum of TotalProjectMorts	45	0			0	0	45
Total Sum of NumberCollected		443,462	424	30		1,387	815	446,118
Total Sum of NumberBarged		106,831	317	30		1,277	11	108,466
Total Sum of NumberBypassed		335,932	100	0		102	800	336,934
Total Sum of Numbertrucked		0	0	0		0	0	0
Total Sum of SampleMorts		199	2	0		3	1	205
Total Sum of FacilityMorts		500	5	0		5	3	513
Total Sum of ResearchMorts		0	0	0		0	0	0
Total Sum of TotalProjectMorts		699	7	0		8	4	718

YTD Transportation Summary

Source: Fish Passage Center

Updated:

7/20/12 10:02 AM

TO: 07/20/12

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	646,825	2,693,473	47,635	30,550	2,353,326	5,771,809
	Sum of NumberBarged	633,306	989,031	39,435	29,057	949,578	2,640,407
	Sum of NumberBypassed	11,454	1,702,758	8,165	1,422	1,403,470	3,127,269
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	300	180	2	9	61	552
	Sum of FacilityMorts	1,765	1,429	33	62	182	3,471
	Sum of ResearchMorts	0	75	0	0	35	110
	Sum of TotalProjectMorts	2,065	1,684	35	71	278	4,133
LGS	Sum of NumberCollected	632,164	1,498,421	53,296	25,699	971,108	3,180,688
	Sum of NumberBarged	631,410	1,109,428	51,693	25,003	683,414	2,500,948
	Sum of NumberBypassed	118	388,249	1,601	689	287,507	678,164
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	66	30	0	2	15	113
	Sum of FacilityMorts	570	714	2	5	172	1,463
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	636	744	2	7	187	1,576
LMN	Sum of NumberCollected	243,459	543,297	14,381	13,396	438,603	1,253,136
	Sum of NumberBarged	230,032	531,183	14,352	13,372	428,299	1,217,238
	Sum of NumberBypassed	12,901	11,582	19	13	9,825	34,340
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	77	60	0	3	35	175
	Sum of FacilityMorts	449	472	10	8	147	1,086
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	526	532	10	11	182	1,261
MCN	Sum of NumberCollected	721,775	1,040,136	72,875	554,339	247,888	2,637,013
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	721,599	1,039,959	72,875	554,264	247,862	2,636,559
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	94	43	0	28	10	175
	Sum of FacilityMorts	82	134	0	47	16	279
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	176	177	0	75	26	454
Total Sum of NumberCollected		2,244,223	5,775,327	188,187	623,984	4,010,925	12,842,646
Total Sum of NumberBarged		1,494,748	2,629,642	105,480	67,432	2,061,291	6,358,593
Total Sum of NumberBypassed		746,072	3,142,548	82,660	556,388	1,948,664	6,476,332
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		537	313	2	42	121	1,015
Total Sum of FacilityMorts		2,866	2,749	45	122	517	6,299
Total Sum of ResearchMorts		0	75	0	0	35	110
Total Sum of TotalProjectMorts		3,403	3,137	47	164	673	7,424

Cumulative Adult Passage at Mainstem Dams Through: 07/20

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	07/19	158075	7591	167097	50945	152015	20110	75921	10730	99630	46907	86080	15862	0	0	0	0	0	0
TDA	07/19	117071	7173	124164	40146	112195	16495	61882	8392	72380	34942	72598	12057	0	0	0	0	0	0
JDA	07/19	107655	6755	103401	39823	94492	15370	52914	8511	66692	30579	65451	12328	0	0	0	0	0	0
MCN	07/19	102763	4787	101246	31750	86252	13687	54021	3854	62166	24632	59930	9590	0	0	0	0	0	0
IHR	07/19	71957	2905	69306	18161	60108	8392	13195	1311	25015	11598	18041	4209	0	0	0	0	0	0
LMN	07/19	68608	2891	69832	18094	58469	7193	13957	1347	29310	12961	18923	3996	0	0	0	0	0	0
LGS	07/19	68247	3449	67321	23492	54053	8198	12510	1340	38625	16882	17170	4700	0	0	0	0	0	0
LGR	07/19	66366	3525	59342	22063	54084	9639	11240	1378	33591	14959	15967	5183	0	0	0	0	0	0
PRD	07/14	19495	1015	15246	6030	16630	1325	29124	524	25707	1910	40045	1321	0	0	0	0	0	0
RIS	07/16	19881	800	13089	8394	14658	2236	27663	703	19292	7523	35734	2900	0	0	0	0	0	0
RRH	07/16	6641	459	6989	3491	5643	822	16891	545	13247	3414	22860	1881	0	0	0	0	0	0
WEL	07/15	5311	700	4153	3969	4833	817	10113	631	4800	1073	13066	537	0	0	0	0	0	0
WFA	07/17	34935	1220	41837	1284	50037	1026	-	-	-	-	-	-	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	0	0	0	0	0	0	514450	182852	129932	43715	40554	60706	19191	19709	26845
TDA	0	0	0	0	0	0	408541	134788	108215	20665	16810	30741	9572	8340	14507
JDA	0	0	0	0	0	0	391934	138166	111943	13388	11871	24448	6608	5872	10359
MCN	-1	0	0	0	0	0	361028	106381	91255	9248	8918	14297	3723	3831	5369
IHR	0	0	0	0	0	0	375	909	364	5279	6218	8547	1774	2008	2593
LMN	0	0	0	0	0	0	392	1082	442	6068	6352	8359	2657	2874	2930
LGS	0	0	0	0	0	0	336	1039	404	4795	7688	5885	2642	3804	2310
LGR	0	0	0	0	0	0	296	935	466	9557	13246	12083	4181	6075	3842
PRD	0	0	0	0	0	0	332382	90759	102665	783	253	847	0	0	0
RIS	0	0	0	0	0	0	309666	77560	96660	656	220	676	394	148	453
RRH	0	0	0	0	0	0	251475	61926	75307	1007	648	681	752	546	438
WEL	0	0	0	0	0	0	167669	27882	62365	253	140	209	162	109	129
WFA	0	0	0	0	0	0	-	-	-	28175	26036	26254	-	-	-

PRD does not post wild steelhead numbers.

These numbers were collected from USACE, Grant PUD, Douglas PUD, Chelan PUD, ODFW and DART.

Wild steelhead numbers are included in the total. Wild Steelhead are defined as unclipped fish.

Historic counts (pre-1996) were obtained from CRITFC and compiled by the FPC.

Historic counts 1997 to present were obtained from the Corps of Engineers.

Page last updated on: 07/20/12

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											
	07/09/12	Chinook + Steelhead	84	1	1	1.19%	0.00%	1	0	0	0
	07/16/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	07/11/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/18/12	Chinook + Steelhead	69	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	07/09/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/13/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/15/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/19/12	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0
Bonneville Dam											
	07/07/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/10/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/14/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/17/12	Chinook + Steelhead	100	2	1	1.00%	0.00%	1	0	0	0
Rock Island Dam											
	07/06/12	Chinook + Steelhead	100	8	7	7.00%	0.00%	6	1	0	0
	07/07/12	Chinook + Steelhead	100	4	4	4.00%	0.00%	4	0	0	0
	07/10/12	Chinook + Steelhead	100	3	3	3.00%	0.00%	3	0	0	0
	07/12/12	Chinook + Steelhead	101	6	6	5.94%	0.00%	6	0	0	0
	07/17/12	Chinook + Steelhead	100	3	3	3.00%	0.00%	2	1	0	0
	07/19/12	Chinook + Steelhead	100	3	3	3.00%	0.00%	3	0	0	0