



Fish Passage Center

Weekly Report #13 - 14

June 21, 2013

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 over June, ranging between 29% and 159% of average at individual sub-basins over June. Precipitation above The Dalles has been 86% of average over June. Over the 2013 water year, precipitation has ranged between 69% and 109% of average.

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

Location	Water Year 2013 June 1-19, 2013		Water Year 2013 October 1, 2012 to June 19, 2013	
	Observed (inches)	% Average	Observed (inches)	% Average
	Columbia Above Coulee	2.48	121	30.7
Sneke River Above Ice Harbor	0.52	50	14.1	73
Columbia Above The Dalles	1.13	86	19.8	85
Kootenai	3.66	159	33.9	109
Clark Fork	1.38	89	17.6	78
Flathead	2.08	105	30.1	101
Pend Oreille Basin	1.84	104	24.5	90
Sneke Basin abv Hells Canyon	0.23	29	11.2	71
Salmon River Basin	0.85	54	16.7	69
Clearwater	1.58	84	30.6	86
Willamette River abv Portland	0.76	49	53.9	90

Snowpack in the Columbia River for basins above the Snake River confluence is now at 124% of average, for Snake River Basins the average snowpack is now 8% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is currently 4% of average.

Table 2 displays the April 7th and June 16th ESP runoff volume forecasts for multiple reservoirs. The June 16th forecast at The Dalles between January and July is 94,049 Kaf (93% of average).

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

Location	April 7, 2013 ESP		June 16, 2013 ESP	
	% Average (1971- 2000)	Runoff Volume (Kaf)	% Average (1971- 2000)	Runoff Volume (Kaf)
The Dalles (Jan-July)	93	94287	93	94049
Grand Coulee (Jan-July)	101	60415	102	60877
Libby Res. Inflow, MT (Apr-Aug)	102	6001 *6189	111	6512 **6464
Hungry Horse Res. Inflow, MT (Jan-July)	99	2084	105	2197
Lower Granite Res. Inflow (Apr- July)	83	16485	69	13785
Brownlee Res. Inflow (Apr-July)	62	3376	45	2456
Dworshak Res. Inflow (Apr-July)	96	2319 *2036	85	2067 **2158

* Denotes COE April Forecast

** Denotes COE June Forecast

Grand Coulee Reservoir is at 1287.2 feet (6-20-13) and refilled held steady over the last week. Outflows at Grand Coulee have ranged between 117.7 and 143.9 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2442.1 feet (6-20-13) and has refilled 6.7 feet last week. Outflows at Libby Dam have been 16.0 to 20.3 Kcfs over the last week; inflows to Libby have ranged from 29.6 Kcfs to 64.8 Kcfs over the same period.

Hungry Horse is currently at an elevation of 3556.7 feet (6-20-13) and has refilled 2.9 feet last week. Outflows at Hungry Horse Dam have ranged from 4.9 Kcfs to 7.5 Kcfs over the last week; inflows to Hungry Horse have ranged from 8.8 Kcfs to 13.6 Kcfs over the same period.

Dworshak is currently at an elevation of 1599.8 feet (6-20-13) and has held steady last week. Outflows from Dworshak have varied between 5.3-9.6 Kcfs over

the last week. Inflows to Dworshak have ranged between 5.3 Kcfs to 10.1 Kcfs last week.

The Brownlee Reservoir was at an elevation of 2077 feet on June 20th, 2013 refilling 0.5 feet over the last week. Over the last week, inflows at Brownlee have ranged between 8.7 and 9.3 Kcfs.

The Biological Opinion flow period began on April 3rd in the lower Snake River (Lower Granite). According to the April Final Water Supply Forecast, the flow objective this spring is 85 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 67.9 Kcfs from April 3rd-June 20th. Over the last week flows at Lower Granite have averaged 50.0 Kcfs.

Based on the April Final Water Supply Forecast, the Spring Biological Opinion Flow Objectives will be 226 Kcfs at McNary Dam (began April 10th) and 135 Kcfs at Priest Rapids Dam (began April 10th). Flows at McNary Dam have averaged 261.0 Kcfs between April 10th and June 20th. Over the last week flows at McNary have averaged 224.4 Kcfs. Flows at Priest Rapids Dam have averaged 183 Kcfs between April 10th and June 20th. Over the last week flows have averaged 162.9 Kcfs at Priest Rapids.

Spill: Spring spill for fish passage began on April 3rd and ended June 20th at the lower Snake River projects.

Project	Spill Level Day/Night
Lower Granite	20 Kcfs/20 Kcfs
Little Goose	30%/30%
Lower Monumental	Gas Cap/Gas Cap
Ice Harbor	April 28–June 20: 30%/30% vs. 45 kcf/Gas Cap

Flow in the Snake River continued to decrease over the past week. All the lower Snake River dams met the Court Order spring spill levels described in the table. The spill caps at Lower Monumental Dam increased from 23 to 26 Kcfs over the past week. Summer spill levels began at midnight on June 21st.

Spring spill for fish passage at the Lower Columbia projects began on April 10th.

Project	Spill Level Day/Night
McNary	40%/40%
John Day	Testing: 30%/30% vs. 40%/40%
The Dalles	40%/40%
Bonneville	100 Kcfs/100 Kcfs

Flow in the lower Columbia River has remained relatively steady over the past week. At McNary Dam spill met, or exceeded, the Court Order spill of 40% of instantaneous flow. At John Day Dam the COE implemented the test conditions of 30% versus 40%. At The Dalles Dam spill met the Court Order spill of 40% of instantaneous flow. At Bonneville Dam spill switched to the summer spill levels on June 16th, earlier than the other lower Columbia projects. Spill was 100 Kcfs instantaneously until June 16th, and then changed to alternating every two days between 95 Kcfs day and night and 85 Kcfs during the day and 121 Kcfs during nighttime hours.

In the past week, TDG estimates were below the 115/120% TDG standards. Based on historic data collected since 1995 through the gas bubble trauma (GBT) monitoring program, we would not expect to see fish exhibit signs of GBT at the present TDG levels. Consistent with historic data, no fish were detected with signs of GBT this past week.

Smolt Monitoring: Smolt monitoring is ongoing at all seven SMP dams (BON, JDA, MCN, RIS, LMN, LGS, and LGR). The Imnaha River Trap is the only trap that continues to operate for the 2013 season.

Passage of all spring migrant salmonid species decreased this week at BON, when compared to last week. This week's daily average passage indices for yearling Chinook, coho, sockeye, and steelhead at BON were about 800, 1,100, 100, and 1,600 per day, respectively. This week's daily average passage index for subyearling Chinook was about 7,000, which was a 6% increase over last week's daily average passage index of about 6,600 per day. Finally, only pacific lamprey macrophthalmia were collected at BON this week. Pacific macrophthalmia were collected all seven days of sampling, with a daily average collection for the week of 46 per day.

Subyearling Chinook dominated the bypass sample at JDA this week. This week's daily average passage index for subyearling Chinook was about 23,100 per day, which is an increase over last week's daily average passage index of about 12,800 per day. Passage of yearling Chinook decreased this week, as did indices for steelhead, sockeye, and coho. Passage of yearling Chinook decreased this week. This week's daily average passage index for yearling Chinook at JDA was about 1,200 per day. Last week's daily average passage index for yearling Chinook was just

under 3,000 per day. This week's daily average passage indices for steelhead, sockeye, and coho at JDA were about 400, 100, and 200 per day, respectively. Last week's daily average passage indices were about 800 for steelhead, 500 for sockeye, and 1,000 for coho. Finally, only pacific lamprey macrophthalmia were sampled at JDA this week. Passage of pacific lamprey macrophthalmia increased this week, when compared to last week. The daily average collection for pacific lamprey macrophthalmia this week was about 2,900 per day. Last week's daily average collection was about 2,500 per day.

Sampling at MCN for the 2013 season is every-other-day. Passage of nearly all salmonid species decreased this week, when compared to last week. However, subyearling Chinook passage increased. This week's daily average passage index for subyearling Chinook at MCN was over 101,000 per day. Last week's daily average passage index for subyearling Chinook was about 29,000 per day. Pacific lamprey macrophthalmia continue to be the only species and life-stage of lamprey collected at MCN this season. This week's daily average collection for pacific lamprey macrophthalmia was about 700 which is similar to last week's daily average collection of about 700 per day. The sample that ended on June 20 was not a full sample. Sampling was halted twice during the normal 24-hour sample. At midnight the bypass was switched to primary bypass due to the lack of a separator technician for that shift. Then at 0800 an "extreme" water surge in the bypass channel flooded the separator and the bypass was again returned to primary bypass until the source of the surge was identified. According to the COE "... Investigation revealed that the surge had resulted from a severe water fluctuation in the juvenile collection channel in the powerhouse. The surge occurred when an electrician was working on the switching mechanisms for the two side dewatering valves in the collection channel, which control the water level in the juvenile channel. So the sample for June 20 represents a biased sample due a shortened time period of sampling (approximately 16.75 hours).

Subyearling Chinook continued to dominate the bypass samples at LGR this week. This week's daily average passage index for subyearling Chinook was about 7,900 per day, which was much lower than last week's daily average passage index of about 25,100 per day. Passage of all other juvenile salmonids decreased, or was very low this past week. This week's

daily average passage indices for yearling Chinook and steelhead at LGR were about 60 and 300 per day, respectively. Last week's daily average passage indices were about 200 for yearling Chinook and 1,700 for steelhead. Passage of coho and sockeye was very low this week at LGR. This week's daily average passage indices for coho and sockeye at LGR were 5 and 7 per day, respectively. An estimated 10 lamprey juveniles were collected at LGR this week on June 14. Finally, due to the possible resampling of PIT-tagged research fish that are released into the gatewells, daily estimates of yearling Chinook, steelhead, and subyearling Chinook collection and passage indices may have been inflated. The FPC is aware of this possible bias and is investigating ways to correct these inflated estimates after the research has ended. However, the magnitude of this bias is relatively low and is unlikely to skew estimates of timing for these two species.

Passage of subyearling Chinook at LGS decreased substantially this week. This week's daily average passage index for subyearling Chinook at LGS was about 9,900 per day. Last week's daily average passage index was about 26,600 per day. Yearling Chinook, coho, and steelhead passage at LGS continued to decrease this week, when compared to last week. The largest decrease among these species was for yearling sockeye. The daily average passage index for sockeye decreased to 0 per day. Last week's daily average passage index for sockeye was about 36 per day. Finally, only pacific lamprey macrophthalmia were collected at LGS this week. Pacific lamprey macrophthalmia were collected on all dates sampled in the past week.

Similar to LGS, passage of spring migrants continued to decrease at LMN this week. The largest percentage decreases in passage at LMN this week was for coho. This week's daily average passage index for coho at LMN was about 3 per day. Last week's daily average passage index for coho was about 37 per day. Yearling Chinook passage at LMN this week was lower than last week with the index averaging 116. As with LGR and LGS, subyearling Chinook continued to predominate in passage at LMN this week. This week's daily average passage index for subyearling Chinook at LMN was about 4,600 per day. Last week's daily average passage index was only about 14,500 per day. Only pacific lamprey macrophthalmia were collected at LMN this week. This week's daily average collection for pacific lamprey macrophthalmia was 52 per day.

This week's collections at RIS were dominated by subyearling Chinook. And, when compared to last week, subyearling Chinook passage increased this week. This week's daily average passage index for subyearling Chinook at RIS was about 150 per day. Last week's daily average passage index for subyearling Chinook was about 100 per day. Passage of yearling Chinook, coho, sockeye, and steelhead all decreased this week, when compared to last week. This week's daily average passage indices for yearling Chinook, coho, sockeye, and steelhead at RIS were about 9, 36, 3, and 8 per day, respectively. Last week's daily average passage indices were about 30 for yearling Chinook, 89 for coho, 3 for sockeye, and 33 for steelhead. Finally, only two pacific lamprey macropthalmia were collected this week, one each on June 15 and June 20.

As with previous weeks, the Imnaha River Trap continues to collect only steelhead and Chinook at this time. However, steelhead have dominated the collections in recent weeks.

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 scheduled for the last week in this zone. Over the next two weeks, approximately 700,000 parr are scheduled for release into the Selway River. These will outmigrate in 2014 and are all unmarked, and will therefore be undistinguishable from wild spring Chinook.

Mid-Columbia Zone: The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. On June 17, there was a scheduled release of approximately 3.5 million subyearling fall Chinook from Ringold Springs Hatchery. All of these smolts are marked. There are no new releases scheduled for the next two weeks in this zone.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Over the last week, there was one release of approximately 3.5 million subyearling fall Chinook scheduled for release into the Klickitat River. Of this release, about 1.1 million were unmarked and are therefore undistinguishable from wild subyearling Chinook.

The is one release of approximately 2.5 million fall Chinook subyearlings scheduled for July 1st on the Little White Salmon River. All of these smolts will be marked.

Adult Fish Passage:

The summer Chinook count began June 1st at Bonneville Dam. Daily passage numbers at Bonneville Dam ranged between 1,923 and 3,147 adult summer Chinook in the last week. The 2013 summer Chinook count of 42,474 is about 1.06 times greater than the 2012 count of 40,188 and 1.08 times greater than the 10-year average count of 39,312. The 2013 Bonneville Dam summer Chinook jack count of 12,648 is 3.1 times greater than the 2012 count of 4,052 and 1.7 times greater than the 10-year average count of 7,446. At McNary Dam 21,542 adult summer Chinook have been counted. The 2013 adult summer Chinook count at McNary Dam is about 1.6 times greater than the 2012 count and is about 1.5 times greater than the 10-year average. The 2013 McNary Dam summer Chinook jack count of 4,498 is about 7.6 times greater than the 2012 count and 1.7 times greater than the 10-year average count. The 2013 adult summer Chinook count at Lower Granite Dam in the Snake River of 941 is about 54.5% of the 2012 count and 37.3% of the 10 year average count. The 2013 Lower Granite summer Chinook jack count of 691 is about 4.3 times greater than the 2012 count and 1.3 times greater than the 10 year average count.

The 2013 Bonneville Dam adult steelhead count of 5,146 is about 53.5% of the 2012 count of 9,614 and 48.9% of the 10-year average count of 10,519. The 2013 Bonneville Dam adult wild steelhead count of 1,352 is about 46.5% of the 2012 count of 2,906 and 49.7% of the 10-year average count of 2,718. In the Snake River, this year's Lower Granite steelhead count of 7,481 is about 83.4% of the 2012 count of 8,965 and 76.9% of the 10-year average count of 9,729. The 2013 Lower Granite Dam adult wild steelhead count of 3,241 is about 82.1% of the 2012 count of 3,947, while having 32 more fish than the 10-year average count of 3,209. At Willamette Falls, the 2013 count for steelhead was 13,812 as of June 14th. This year's steelhead count is about 57.2% of the 2012 count of 24,153 and about 71.6% of the 10-year average count of 19,280.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 3,328 and 6,575 last week. The 2013 adult sockeye count at Bonneville Dam of 47,859 is about 41.3% of the 2012 count of 115,761, while being 1.9 times greater than the 10-year average count of 43,651. The 2013 McNary Dam adult sockeye count of 13,034 is about 74.4% of the 2012 count of 17,516, while being 2.2 times greater than the 10 year average count of 6,007.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 6/7/2013 to 06/20/13

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2013	200,000	06-14-13	06-14-13	Cedar Flats Acclim.	Selway River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2013	200,000	06-14-13	06-14-13	Lukes Gulch Acclim. Nez Perce Tribal	S Fk Clearwater River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2013	725,000	06-03-13	06-14-13	Hatchery	Clearwater River M F
Nez Perce Tribe Total					1,125,000				
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	ST	SU	2013	24,000	04-25-13	06-20-13	Blackbird Island Acc Pond	Wenatchee River
Washington Dept. of Fish and Wildlife	Priest Rapids Hatchery	CH0	FA	2013	6,700,000	06-10-13	06-20-13	Priest Rapids Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2013	3,450,000	06-20-13	07-15-13	Ringold Springs Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					10,174,000				
Yakama Tribe	Cascade Hatchery	CO	UN	2013	65,362	05-01-13	06-14-13	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Eagle Creek NFH	CO	UN	2013	102,975	04-15-13	07-01-13	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2013	104,059	04-15-13	07-01-13	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2013	237,043	04-15-13	07-01-13	Easton Pond	Yakima River
Yakama Tribe	Klickitat Hatchery	CH0	FA	2013	3,500,000	06-17-13	06-17-13	Klickitat Hatchery Lost Creek Acclim Pond	Klickitat River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2013	124,425	04-15-13	07-01-13	Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2013	131,858	04-15-13	07-01-13	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2013	322,100	04-01-13	07-01-13	Prosser Acclim Pond	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2013	56,507	05-09-13	06-14-13	Coulter Creek	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2013	59,798	05-01-13	06-14-13	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2013	109,826	05-01-13	06-14-13	Wenatchee River	Wenatchee River
Yakama Tribe	Winthrop NFH	CO	UN	2013	253,091	04-22-13	06-09-13	Winthrop Hatchery	Methow River
Yakama Tribe Total					5,067,044				
Grand Total					16,366,044				

Hatchery Releases Next Two Weeks

Hatchery Release Summary									
From:	6/21/2013	to		7/4/2013					
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Nez Perce Tribe	Dworshak NFH	CH0	SP	2014	300,000	07-01-13	08-01-13	Selway River	Clearwater River M F
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	SP	2014	400,000	06-25-13	06-29-13	Meadow Creek - SELW	Selway River
Nez Perce Tribe Total					700,000				
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH0	FA	2013	2,500,000	07-01-13	07-01-13	Little White Salmon Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service Total					2,500,000				
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2013	3,450,000	06-20-13	07-15-13	Ringold Springs Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					3,450,000				
Yakama Tribe	Eagle Creek NFH	CO	UN	2013	102,975	04-15-13	07-01-13	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2013	104,059	04-15-13	07-01-13	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2013	237,043	04-15-13	07-01-13	Easton Pond	Yakima River
								Lost Creek Acclim	
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2013	124,425	04-15-13	07-01-13	Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2013	131,858	04-15-13	07-01-13	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2013	322,100	04-01-13	07-01-13	Prosser Acclim Pond	Yakima River
Yakama Tribe Total					1,022,460				
Grand Total					7,672,460				

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
06/07/2013	130.4	0.1	125.8	0.0	146.7	10.0	149.6	15.6	159.7	36.4	167.5	29.0	164.1	31.9
06/08/2013	109.5	0.2	118.3	0.0	142.5	10.0	145.3	15.1	156.6	35.4	169.1	27.5	168.9	31.1
06/09/2013	107.7	0.2	100.8	0.0	128.5	10.0	131.2	14.4	142.8	34.5	162.1	20.1	161.7	25.1
06/10/2013	139.8	0.1	138.0	0.0	152.1	10.0	147.4	15.5	155.0	36.5	161.6	19.7	154.5	24.7
06/11/2013	147.3	0.1	143.6	0.0	155.7	10.0	153.4	15.0	162.3	34.8	162.1	20.9	153.6	27.3
06/12/2013	158.2	0.1	168.3	0.0	187.4	18.9	182.8	20.7	187.0	34.4	197.7	58.7	198.4	66.1
06/13/2013	150.5	0.1	146.2	0.0	164.8	10.0	165.2	16.7	174.1	35.2	185.7	49.4	187.2	49.4
06/14/2013	142.5	0.1	141.3	0.0	160.7	10.0	163.0	15.2	170.1	34.5	175.8	34.2	169.4	27.5
06/15/2013	143.3	0.1	145.5	0.0	153.3	10.0	149.1	13.4	156.8	31.5	167.2	26.0	160.7	27.5
06/16/2013	127.2	0.1	123.4	0.0	140.8	10.0	144.4	13.2	152.2	29.7	163.0	25.5	162.2	30.4
06/17/2013	144.1	0.2	146.2	0.0	158.4	13.1	155.6	14.8	168.1	33.0	170.5	30.4	167.2	27.0
06/18/2013	135.6	0.2	136.0	0.0	151.7	10.0	154.2	14.7	162.7	33.8	169.5	30.7	166.1	34.4
06/19/2013	117.7	0.2	116.7	0.0	136.0	10.0	139.5	14.5	150.7	33.7	164.0	24.9	165.0	28.3
06/20/2013	133.2	0.1	128.9	0.0	138.2	10.0	136.5	14.4	143.5	33.5	154.3	19.7	149.4	20.0

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
06/07/2013	8.0	0.4	---	---	67.1	20.2	67.4	20.3	66.0	23.7	66.0	42.7
06/08/2013	9.5	0.0	---	---	75.0	20.2	74.2	22.4	74.8	22.7	75.6	53.2
06/09/2013	9.4	0.0	---	---	73.9	20.2	73.0	21.9	73.1	20.6	74.2	30.9
06/10/2013	9.5	0.0	---	---	72.0	20.2	71.2	21.4	70.8	20.9	72.2	21.6
06/11/2013	7.9	0.0	---	---	69.2	20.2	68.1	20.4	68.1	21.0	68.1	42.2
06/12/2013	7.0	0.0	---	---	63.8	20.1	62.2	18.4	63.3	21.3	64.8	48.9
06/13/2013	6.5	0.0	---	---	58.5	20.1	57.6	17.2	57.9	21.5	58.7	23.5
06/14/2013	6.2	0.0	---	---	57.1	20.3	55.4	16.6	56.5	22.9	56.5	17.0
06/15/2013	5.3	0.0	---	---	52.6	20.3	51.5	15.4	53.3	23.8	54.3	37.8
06/16/2013	5.3	0.0	---	---	45.9	20.4	43.3	13.0	44.8	24.0	44.3	33.8
06/17/2013	6.1	0.0	---	---	46.6	20.4	45.4	13.6	47.5	23.6	47.5	17.9
06/18/2013	6.9	0.0	---	---	48.5	20.3	46.7	14.1	51.1	24.9	52.2	15.6
06/19/2013	7.4	0.0	---	---	47.9	20.4	46.4	13.9	48.5	25.5	48.1	33.5
06/20/2013	9.6	1.0	---	---	51.7	18.6	50.4	15.1	52.1	26.0	52.2	41.6

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		
06/07/2013	247.9	102.1	235.4	70.2	216.4	86.2	243.3	95.3	44.9	90.7
06/08/2013	241.3	100.0	245.8	78.1	232.1	91.8	245.5	94.8	49.7	88.6
06/09/2013	243.0	97.7	238.5	95.2	225.7	90.1	246.3	96.3	49.7	87.9
06/10/2013	246.7	109.5	248.8	95.9	232.4	93.0	258.0	98.3	58.7	88.6
06/11/2013	235.9	103.0	217.2	64.8	197.5	79.2	222.4	99.6	24.2	86.3
06/12/2013	246.9	108.6	247.7	78.5	237.1	95.0	244.9	99.3	44.4	88.8
06/13/2013	264.7	117.9	262.7	104.9	241.0	96.3	257.1	99.6	56.4	88.7
06/14/2013	242.3	97.3	238.4	91.2	223.9	89.6	245.0	99.8	44.8	88.0
06/15/2013	243.4	97.7	240.8	72.1	226.6	90.6	243.5	99.7	43.0	88.4
06/16/2013	216.1	86.9	204.2	64.3	191.0	76.7	214.8	96.1	19.1	87.3
06/17/2013	207.6	83.6	206.0	81.9	189.8	76.2	213.8	95.0	19.8	86.6
06/18/2013	223.1	89.7	220.4	84.3	204.4	81.6	221.8	90.6	34.0	84.8
06/19/2013	219.3	87.6	210.4	63.0	195.1	77.9	205.4	95.8	14.2	83.0
06/20/2013	219.3	109.8	212.0	66.9	197.2	79.0	220.0	99.6	20.5	87.5

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											
	06/10/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/17/13	Chinook + Steelhead	88	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	06/12/13	Chinook + Steelhead	102	0	0	0.00%	0.00%	0	0	0	0
	06/19/13	Chinook + Steelhead	53	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	06/07/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/09/13	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0
	06/13/13	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
Bonneville Dam											
	06/08/13	Chinook + Steelhead	85	0	0	0.00%	0.00%	0	0	0	0
	06/11/13	Chinook + Steelhead	66	0	0	0.00%	0.00%	0	0	0	0
	06/16/13	Chinook + Steelhead	26	0	0	0.00%	0.00%	0	0	0	0
	06/18/13	Chinook + Steelhead	26	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	06/08/13	Chinook + Steelhead	46	0	0	0.00%	0.00%	0	0	0	0

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
6/7	100.2	100.4	100.6	24	---	---	---	0	115.8	115.9	116.2	24	111.8	112.7	113.5	24	113.5	113.6	113.9	15
6/8	99.7	99.9	100.0	24	---	---	---	0	115.4	115.7	115.9	24	110.4	111.4	112.0	24	113.2	113.6	113.9	24
6/9	100.1	100.3	100.6	24	---	---	---	0	115.8	116.0	116.2	24	111.2	111.9	112.4	24	113.6	114.1	114.3	24
6/10	100.1	100.2	100.4	24	---	---	---	0	116.2	116.5	116.7	24	112.0	112.6	113.2	24	114.0	114.5	114.9	24
6/11	100.9	101.6	102.5	24	---	---	---	0	115.9	116.3	116.6	24	112.6	113.3	113.9	24	114.2	114.6	114.8	24
6/12	104.1	106.2	106.8	24	---	---	---	0	115.5	115.7	116.0	24	112.0	112.5	112.8	24	113.5	113.6	113.7	24
6/13	106.1	106.3	106.5	24	---	---	---	0	115.8	116.0	116.2	24	111.8	112.7	113.2	24	113.3	113.6	113.7	24
6/14	105.7	105.8	105.9	24	---	---	---	0	116.1	116.4	116.6	24	112.5	113.2	113.9	24	113.0	113.2	113.4	24
6/15	105.6	105.9	106.2	24	---	---	---	0	116.6	116.9	117.1	24	112.6	113.3	113.9	24	113.6	114.1	114.5	24
6/16	105.5	105.9	106.1	24	---	---	---	0	116.7	117.0	117.3	24	112.9	113.9	114.5	24	114.6	115.0	115.2	24
6/17	106.0	106.5	106.8	24	---	---	---	0	117.1	117.3	117.6	24	113.7	114.1	114.9	24	114.6	114.9	115.1	24
6/18	106.8	107.2	107.6	24	---	---	---	0	117.1	117.4	119.7	24	113.8	114.5	115.8	24	114.4	114.7	115.0	24
6/19	106.8	107.1	107.4	24	---	---	---	0	116.7	116.9	117.2	24	113.7	114.2	114.9	24	114.4	114.6	114.6	24
6/20	105.8	106.2	106.7	21	---	---	---	0	116.6	116.8	117.0	23	113.8	114.4	115.3	23	113.6	113.9	114.2	21

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
6/7	113.1	113.3	114.0	15	112.2	112.6	112.8	18	113.3	113.8	114.3	18	112.3	112.5	112.7	24	115.9	116.5	116.8	24
6/8	113.2	113.7	114.7	24	111.3	111.6	112.2	20	112.4	112.8	113.5	20	111.3	111.6	111.9	24	115.1	115.9	116.5	24
6/9	113.8	114.5	115.2	24	112.0	112.7	113.7	22	113.0	113.7	114.6	22	110.9	111.3	111.5	24	114.8	115.5	116.2	24
6/10	113.5	114.1	114.6	24	112.6	113.2	113.7	21	113.4	114.3	114.8	21	111.2	112.0	112.7	24	115.1	116.0	116.3	24
6/11	113.8	114.5	115.2	24	112.7	113.3	113.8	22	113.9	114.5	115.2	22	111.6	111.8	112.1	24	115.4	116.2	116.5	24
6/12	112.7	113.0	113.3	24	112.0	112.3	112.5	22	114.2	115.1	115.6	22	111.2	111.4	111.6	24	116.0	117.3	118.4	24
6/13	112.7	113.0	113.3	24	111.7	112.0	112.3	23	113.3	113.7	114.1	23	112.6	113.6	113.9	24	115.6	116.6	116.7	24
6/14	112.6	112.9	113.3	24	111.8	112.1	112.3	24	113.2	113.7	114.1	24	112.8	113.0	113.2	24	116.0	116.8	117.0	24
6/15	113.0	113.4	113.6	24	112.7	113.2	113.6	23	114.1	114.8	115.3	23	112.8	113.4	113.7	24	115.6	116.6	117.1	24
6/16	114.2	114.5	114.7	24	113.3	113.8	114.5	20	114.6	115.4	116.0	20	113.3	114.0	114.3	24	115.8	116.6	117.3	24
6/17	114.0	114.4	114.8	24	114.0	114.3	114.8	23	115.5	116.3	118.6	23	113.8	114.4	114.8	24	116.4	117.5	117.8	24
6/18	114.1	114.8	116.0	24	112.9	113.7	114.1	21	114.4	114.8	115.1	21	114.2	114.4	114.6	24	116.7	117.4	117.8	24
6/19	114.0	114.2	114.8	24	112.4	112.9	113.2	23	113.7	114.1	114.4	23	114.0	114.4	114.7	24	116.3	117.0	117.6	24
6/20	113.0	113.5	114.4	21	111.6	112.0	112.2	21	113.0	113.3	114.0	21	112.1	112.6	113.0	23	115.0	115.7	116.3	23

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
6/7	111.6	111.9	112.2	24	117.1	117.6	117.7	24	---	---	---	0	---	---	---	0	---	---	---	0
6/8	110.9	111.4	111.8	24	116.5	117.3	117.5	24	---	---	---	0	---	---	---	0	---	---	---	0
6/9	110.3	110.7	111.0	24	116.1	116.9	117.1	24	---	---	---	0	---	---	---	0	---	---	---	0
6/10	110.4	111.1	111.8	24	116.2	117.2	117.7	24	---	---	---	0	---	---	---	0	---	---	---	0
6/11	110.4	110.7	111.2	24	116.1	116.7	117.1	24	---	---	---	0	---	---	---	0	---	---	---	0
6/12	110.7	111.4	112.1	24	115.9	116.7	117.0	24	109.9	110.5	111.0	24	112.1	112.8	113.0	24	109.7	110.5	112.0	24
6/13	111.4	112.0	112.4	24	116.2	117.2	117.5	24	110.6	111.0	111.7	24	112.2	112.5	112.9	24	110.3	110.7	111.1	24
6/14	112.0	112.4	112.7	24	117.0	117.8	118.0	24	111.5	112.1	113.3	24	112.6	113.1	113.4	24	110.2	111.3	112.0	24
6/15	112.0	112.7	113.2	24	116.8	117.8	118.4	24	114.1	115.1	116.0	24	114.3	114.7	114.9	24	112.8	113.6	114.5	24
6/16	112.2	112.7	113.3	24	117.0	117.8	118.1	24	115.7	116.7	117.7	24	115.0	115.3	115.7	24	113.9	114.5	115.7	24
6/17	112.6	113.1	113.6	24	117.3	118.0	119.7	24	113.3	114.1	114.8	23	114.1	114.6	114.9	24	112.8	113.1	113.4	24
6/18	112.2	112.9	113.3	24	117.4	117.9	118.4	24	113.5	113.7	113.9	24	113.9	114.0	114.4	24	112.8	113.1	113.3	23
6/19	112.4	112.7	112.8	24	117.4	117.7	118.3	24	---	---	---	0	---	---	---	0	---	---	---	0
6/20	111.1	111.6	112.0	23	117.1	118.1	122.0	23	---	---	---	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	Priest R. Dnst			Pasco			Dworshak			Clrwrtr-Peck			Anatone						
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#				
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High				
6/7	---	---	---	0	---	---	0	99.7	101.0	103.2	24	---	---	---	0	104.2	104.9	105.4	24
6/8	---	---	---	0	---	---	0	97.4	97.6	97.8	24	---	---	---	0	104.0	104.9	105.5	24
6/9	---	---	---	0	---	---	0	97.9	98.3	98.6	24	---	---	---	0	104.3	105.1	105.7	24
6/10	---	---	---	0	---	---	0	97.8	98.0	98.3	24	---	---	---	0	104.2	105.0	105.6	24
6/11	---	---	---	0	---	---	0	97.4	97.8	98.3	24	---	---	---	0	103.5	103.9	104.1	24
6/12	114.2	115.9	116.2	24	---	---	0	97.0	97.6	97.9	24	---	---	---	0	103.1	103.4	104.2	18
6/13	114.1	114.7	116.2	24	---	---	0	99.9	100.5	100.6	24	---	---	---	0	103.3	103.6	104.0	21
6/14	112.7	113.3	113.7	24	---	---	0	100.7	101.4	101.8	24	---	---	---	0	103.4	104.3	104.7	24
6/15	114.8	115.2	115.4	24	---	---	0	98.8	99.4	101.4	24	---	---	---	0	103.9	104.7	105.3	23
6/16	115.7	115.9	116.0	24	---	---	0	97.8	98.3	98.7	24	---	---	---	0	104.0	104.8	105.3	24
6/17	115.0	115.3	115.8	24	---	---	0	100.2	101.8	102.6	24	---	---	---	0	103.8	104.6	105.3	24
6/18	115.0	115.2	116.0	24	---	---	0	99.9	100.6	101.0	24	---	---	---	0	102.9	103.4	104.2	24
6/19	---	---	---	0	---	---	0	98.2	98.4	98.5	24	---	---	---	0	101.6	101.9	102.2	24
6/20	---	---	---	0	---	---	0	99.4	100.8	104.1	23	---	---	---	0	101.9	102.6	103.4	23

Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clrwrtr-Lewiston			Lower Granite			L. Granite Tlwr			Little Goose			L. Goose Tlwr							
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High					
6/7	102.4	103.4	104.2	24	103.8	104.0	104.3	24	111.1	111.5	112.2	24	113.2	113.5	113.6	24	111.8	112.1	112.5	24
6/8	102.0	103.2	104.2	24	103.8	103.9	104.5	24	110.8	111.2	111.5	24	114.0	114.5	114.8	24	111.7	112.1	112.4	24
6/9	102.2	103.5	104.5	24	103.5	103.7	104.3	24	110.9	111.2	111.4	24	114.5	114.7	114.9	24	111.7	111.9	112.3	24
6/10	102.1	103.6	104.6	24	103.2	103.4	103.6	24	110.9	111.1	111.4	24	114.5	114.6	114.7	24	111.9	112.4	112.9	24
6/11	101.6	102.8	103.6	24	102.8	103.1	103.5	24	110.9	111.2	111.6	24	113.5	113.9	114.2	24	112.1	112.7	113.1	24
6/12	101.4	102.5	104.2	20	102.1	102.2	102.4	20	111.3	111.6	112.1	24	111.6	111.8	112.3	24	110.8	111.1	111.2	24
6/13	101.9	103.2	104.3	24	101.5	101.7	101.9	24	111.6	112.1	112.7	24	109.9	110.2	110.9	24	110.9	111.4	111.6	24
6/14	102.1	103.6	104.6	24	100.9	101.0	101.1	24	111.4	111.8	112.0	24	108.4	108.6	108.9	24	111.4	111.7	112.2	24
6/15	102.8	104.3	105.7	23	101.7	102.1	102.8	23	112.0	112.4	113.3	24	108.1	108.3	108.5	24	112.0	112.2	112.6	24
6/16	102.8	104.6	106.0	24	101.9	102.3	102.6	24	113.0	113.4	114.1	24	107.9	108.3	108.5	24	111.7	112.1	112.8	24
6/17	103.2	105.1	106.4	24	101.9	102.3	102.6	24	113.1	113.4	113.7	24	108.2	108.4	108.6	24	112.2	112.6	113.4	24
6/18	102.3	103.5	104.5	24	102.2	102.5	102.7	24	112.6	112.8	113.2	24	108.4	108.6	108.8	24	112.2	112.4	112.6	24
6/19	100.5	100.8	101.0	24	102.9	103.0	103.1	24	113.0	113.4	113.8	24	109.2	109.4	109.5	24	112.2	112.3	112.5	24
6/20	100.7	101.5	102.2	23	102.5	102.7	103.1	22	112.7	113.9	116.2	23	108.7	109.3	109.6	23	110.9	111.4	112.0	23

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

Date	Lower Mon.			L. Mon. Tlwr			Ice Harbor			Ice Harbor Tlwr			McNary-Oregon							
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High					
6/7	113.0	113.3	113.5	24	113.8	114.1	114.7	24	118.0	118.3	119.0	24	115.0	115.9	116.3	24	---	---	---	0
6/8	112.9	113.2	113.6	24	114.6	115.4	116.0	24	116.6	116.8	116.9	24	115.9	116.2	116.6	24	---	---	---	0
6/9	111.8	111.9	112.2	24	115.2	115.5	115.7	24	116.0	116.2	117.0	24	115.8	116.1	116.2	24	---	---	---	0
6/10	113.0	113.2	113.4	24	115.6	116.0	116.3	24	115.9	116.3	116.5	24	115.7	116.1	116.4	24	---	---	---	0
6/11	112.1	112.6	112.8	24	115.1	115.6	116.0	24	114.6	115.3	115.8	24	115.1	115.3	115.5	24	---	---	---	0
6/12	110.5	110.6	110.8	24	115.3	115.7	115.9	24	112.1	112.3	112.7	24	115.1	115.4	115.7	24	---	---	---	0
6/13	110.3	110.7	111.0	24	115.4	115.9	116.4	24	110.9	111.3	112.1	24	113.1	114.2	115.6	24	---	---	---	0
6/14	110.3	110.6	110.8	24	114.5	115.5	115.8	24	111.2	111.6	111.9	24	112.8	114.4	114.8	24	---	---	---	0
6/15	110.5	110.7	110.8	24	113.0	113.8	114.3	24	112.6	113.0	113.2	24	113.7	115.0	115.5	24	---	---	---	0
6/16	110.8	111.4	111.7	24	112.9	113.5	115.0	24	113.2	113.6	114.3	24	113.5	114.2	114.9	24	---	---	---	0
6/17	110.5	111.1	111.5	24	112.6	113.0	113.2	24	113.4	113.7	114.0	24	112.5	113.0	113.5	24	---	---	---	0
6/18	110.8	111.0	111.2	24	114.4	116.3	117.6	24	114.1	114.3	114.5	24	111.8	111.9	112.1	24	---	---	---	0
6/19	110.9	111.2	111.4	24	116.9	117.4	117.7	24	113.7	114.3	114.5	24	112.9	113.6	115.6	24	---	---	---	0
6/20	108.6	109.2	109.8	23	116.6	116.8	117.2	22	111.2	111.8	112.5	23	113.1	113.7	115.3	23	---	---	---	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>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>#</u>				
	<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>AVG</u>							
6/7	113.6	113.8	114.0	24	114.8	115.5	116.2	24	113.1	113.4	113.8	24	114.4	115.0	115.4	24	112.2	113.4	114.6	24
6/8	112.8	113.1	113.4	24	114.2	114.8	115.3	24	111.8	112.1	112.4	24	114.7	115.3	116.7	24	110.3	111.1	111.4	24
6/9	112.6	112.9	113.2	24	115.0	115.4	115.8	24	111.1	111.4	111.6	24	116.0	116.8	117.2	24	110.7	111.1	111.4	24
6/10	112.6	113.1	113.3	24	115.9	117.1	120.1	24	110.6	110.9	111.4	24	116.2	117.9	118.1	24	110.9	111.6	112.1	24
6/11	111.0	112.4	113.2	24	117.7	118.6	120.0	24	108.2	109.0	109.9	24	112.9	113.3	113.7	24	108.9	110.3	111.7	24
6/12	107.3	107.5	108.2	24	118.0	119.1	119.8	24	106.9	107.2	107.4	24	114.4	115.2	116.3	24	107.6	108.2	108.7	24
6/13	106.9	107.1	107.4	24	118.4	118.9	119.3	24	106.2	106.4	106.7	24	116.5	117.5	118.4	24	108.1	108.9	109.2	24
6/14	107.6	108.1	109.6	24	115.9	116.3	117.1	24	105.4	105.7	105.8	24	115.3	117.1	117.7	24	108.9	109.7	110.8	24
6/15	110.4	110.9	111.6	24	116.5	116.8	117.0	24	105.8	106.2	106.9	24	113.6	114.2	115.3	24	110.5	111.2	111.5	24
6/16	110.1	110.8	111.5	24	116.3	116.5	116.9	24	107.2	107.6	108.3	24	113.4	113.8	114.6	24	108.4	108.8	109.4	24
6/17	111.2	111.7	112.0	24	116.2	116.7	116.9	24	107.8	108.3	108.5	24	114.6	115.8	116.5	24	108.6	109.4	110.3	24
6/18	111.2	111.8	112.1	24	116.5	116.7	116.9	24	107.9	108.1	108.3	24	115.3	116.6	117.9	24	110.1	110.5	110.8	24
6/19	110.3	110.9	111.1	24	116.3	116.4	116.7	24	107.4	107.7	108.0	24	113.7	113.9	114.1	24	108.4	109.8	110.8	24
6/20	107.2	107.8	108.6	23	116.1	116.4	116.7	23	106.1	106.3	106.6	23	113.0	113.5	115.0	23	106.3	106.4	106.6	23

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>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>#</u>				
	<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>							
6/7	117.0	117.7	118.1	24	113.2	113.7	114.3	24	115.3	115.7	116.2	24	114.3	115.1	116.0	24	118.5	118.6	118.8	24
6/8	116.1	116.5	116.9	24	111.2	111.3	111.5	24	114.0	114.3	114.5	24	113.0	113.9	114.7	24	118.3	118.4	118.7	24
6/9	116.2	116.6	116.9	24	110.4	110.7	110.9	24	113.6	114.0	114.3	24	111.7	112.5	113.3	24	118.3	118.5	118.7	24
6/10	116.6	117.2	117.4	24	110.2	110.6	111.4	24	113.2	113.5	113.9	24	111.4	112.4	113.3	24	118.3	118.4	118.7	23
6/11	115.0	115.5	115.9	24	108.8	109.1	109.8	24	113.6	114.2	114.5	24	110.2	110.9	111.3	24	118.4	118.6	118.8	24
6/12	114.7	115.4	115.8	24	109.4	110.0	110.4	24	113.3	113.6	114.0	24	110.8	111.4	111.9	24	118.3	118.5	118.7	24
6/13	114.8	115.4	115.7	24	109.6	109.8	110.4	24	113.2	113.5	113.9	24	110.8	111.3	111.6	24	118.2	118.3	118.6	24
6/14	115.5	116.4	116.6	24	110.1	110.7	111.5	24	114.2	114.5	114.8	24	112.0	113.4	114.3	24	118.3	118.4	118.6	24
6/15	116.8	117.2	117.8	24	112.6	113.2	113.6	24	115.4	115.8	116.2	24	113.4	114.6	115.4	24	118.6	118.7	118.8	24
6/16	115.1	115.3	115.7	24	112.7	113.5	114.0	24	115.6	115.7	115.9	24	113.3	114.2	115.1	24	118.4	118.6	118.9	24
6/17	115.1	115.8	116.2	24	110.5	110.9	111.4	24	115.1	115.6	115.9	24	113.5	114.5	115.4	24	118.2	118.4	118.6	24
6/18	115.8	116.5	117.0	24	110.0	110.6	110.8	24	113.7	114.3	114.6	24	111.7	112.5	113.4	24	116.9	117.8	119.9	24
6/19	114.9	115.3	115.7	24	109.5	109.7	110.2	24	114.4	115.6	117.0	24	111.2	112.4	113.5	24	117.2	118.2	119.7	24
6/20	113.5	113.9	114.2	23	108.5	108.8	109.2	23	114.5	115.2	115.7	23	110.8	111.9	113.0	23	118.3	118.6	119.7	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 6/21/2013 8:53

Two-Week Summary of Passage Indices

* See sampling comments <http://www.fpc.org/currentDaily/smpcomments.htm>
this means that one or more of the sites on this date had an incomplete or biased sample.

For clip information see: [Daily Catch Report](#)

For sockeye and yearling chinook (Snake only) race information see: [Current Passage Index Query](#)

If the text appears garbled, please hit the refresh button on your browser

Fall (post SMP season) trapping at the Imnaha River Fish Trap (IMN) is funded by the Lower Snake River Compensation Program (LSRCP)

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)	
06/07/2013	*	---	---	---	220	358	165	85	---	4,833	4,697	
06/08/2013	*	---	23	---	279	179	138	35	11,482	4,284	5,689	
06/09/2013	*	---	21	---	241	502	270	29	---	3,503	3,601	
06/10/2013	*	---	10	---	137	218	519	34	10,894	1,752	2,477	
06/11/2013	*	---	4	---	211	359	463	14	---	1,620	1,980	
06/12/2013	*	---	7	---	72	287	675	10	14,082	2,003	1,371	
06/13/2013	*	---	35	---	111	356	19	3	---	2,738	1,062	
06/14/2013	*	---	11	---	137	286	201	15	19,870	2,006	2,108	
06/15/2013	*	---	27	---	31	72	181	16	---	1,878	773	
06/16/2013	*	---	16	---	34	108	153	20	3,726	1,257	799	
06/17/2013	*	---	21	---	146	29	141	7	---	1,277	649	
06/18/2013		---	---	---	52	88	0	3	2,058	1,132	342	
06/19/2013	*	---	---	---	18	115	7	4	---	641	547	
06/20/2013	*	---	---	---	0	57	129	1	713	515	332	
06/21/2013		---	---	---	---	---	---	---	---	---	---	
Total:		0	175	0	0	1,689	3,014	3,061	276	62,825	29,439	26,427
# Days:		0	10	0	0	14	14	14	14	7	14	14
Average:		0	18	0	0	121	215	219	20	8,975	2,103	1,888
YTD		50,632	55,443	26,301	2,797	2,606,859	1,499,642	613,562	28,241	2,119,232	2,049,262	1,874,899

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)	
06/07/2013	*	---	---	---	15,709	17,588	3,097	129	---	4,707	5,089	
06/08/2013	*	---	0	---	33,032	41,764	9,037	71	15,844	10,083	4,938	
06/09/2013	*	---	0	---	50,026	29,834	18,286	113	---	14,125	6,304	
06/10/2013	*	---	0	---	36,984	37,752	27,514	111	32,341	11,303	7,211	
06/11/2013	*	---	0	---	15,055	24,751	24,709	76	---	14,341	7,118	
06/12/2013	*	---	0	---	18,438	25,728	13,503	88	52,123	16,914	7,010	
06/13/2013	*	---	3	---	6,559	9,123	5,267	82	---	18,256	8,830	
06/14/2013	*	---	0	---	7,027	8,075	4,161	150	161,676	21,998	10,430	
06/15/2013	*	---	0	---	7,998	11,603	7,261	278	---	24,978	7,892	
06/16/2013	*	---	2	---	7,573	6,172	6,915	329	53,863	19,650	8,569	
06/17/2013	*	---	0	---	6,933	15,426	1,937	144	---	14,529	6,324	
06/18/2013	*	---	---	---	7,495	5,838	1,621	57	104,768	22,845	5,294	
06/19/2013	*	---	---	---	9,333	8,636	6,469	56	---	22,511	3,803	
06/20/2013	*	---	---	---	9,111	13,680	3,966	37	86,301	35,292	6,900	
06/21/2013		---	---	---	---	---	---	---	---	---	---	
Total:		0	5	0	0	231,273	255,970	133,743	1,721	506,916	251,532	95,712
# Days:		0	10	0	0	14	14	14	14	7	14	14
Average:		0	1	0	0	16,520	18,284	9,553	123	72,417	17,967	6,837
YTD		2	48	195	2,668	508,945	398,715	164,999	4,163	557,173	279,223	2,161,305

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)	
06/07/2013	*	---	---	---	---	37	0	60	127	---	1,946	5,927
06/08/2013	*	---	0	---	---	0	108	80	162	2,501	2,057	7,514
06/09/2013	*	---	0	---	---	34	72	84	135	---	1,142	5,845
06/10/2013	*	---	0	---	---	0	143	28	118	1,365	542	3,963
06/11/2013	*	---	0	---	---	0	72	0	24	---	237	2,408
06/12/2013	*	---	0	---	---	36	72	0	21	1,090	644	2,814
06/13/2013	*	---	0	---	---	37	143	6	36	---	710	2,179
06/14/2013	*	---	0	---	---	15	71	3	54	1,248	201	1,675
06/15/2013	*	---	0	---	---	0	72	19	86	---	250	1,380
06/16/2013	*	---	0	---	---	0	0	0	57	339	400	1,020
06/17/2013	*	---	0	---	---	0	29	0	24	---	365	972
06/18/2013		---	---	---	---	0	0	0	8	340	0	1,059
06/19/2013	*	---	---	---	---	0	0	0	9	---	128	576
06/20/2013	*	---	---	---	---	17	0	0	12	178	114	1,129
06/21/2013		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	176	782	280	873	7,061	8,736	38,461
# Days:		0	10	0	0	14	14	14	14	7	14	14
Average:		0	0	0	0	13	56	20	62	1,009	624	2,747
YTD		0	0	0	107	61,776	54,067	10,551	49,618	84,515	187,828	765,651

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)	
06/07/2013	*	---	---	---	---	2,055	2,472	371	53	---	847	2,404
06/08/2013	*	---	342	---	---	1,397	2,296	360	39	2,689	800	2,684
06/09/2013	*	---	310	---	---	2,513	2,797	511	53	---	495	2,928
06/10/2013	*	---	184	---	---	2,131	3,412	1,205	31	3,088	792	2,092
06/11/2013	*	---	92	---	---	1,618	1,794	724	21	---	632	1,766
06/12/2013	*	---	94	---	---	1,191	2,938	30	17	2,817	1,073	2,205
06/13/2013	*	---	67	---	---	889	998	165	21	---	863	3,577
06/14/2013	*	---	69	---	---	229	1,929	125	19	3,039	1,137	1,513
06/15/2013	*	---	32	---	---	298	609	88	6	---	501	1,380
06/16/2013	*	---	7	---	---	491	682	147	7	2,034	457	1,887
06/17/2013	*	---	8	---	---	382	1,348	122	6	---	365	1,817
06/18/2013		---	---	---	---	416	1,294	180	6	1,708	67	2,355
06/19/2013	*	---	---	---	---	88	777	882	3	---	64	735
06/20/2013	*	---	---	---	---	293	574	252	9	178	57	1,359
06/21/2013		---	---	---	---	---	---	---	---	---	---	---
Total:		0	1,205	0	0	13,991	23,920	5,162	291	15,553	8,150	28,702
# Days:		0	10	0	0	14	14	14	14	7	14	14
Average:		0	121	0	0	999	1,709	369	21	2,222	582	2,050
YTD		3,789	40,763	3,547	9,925	2,033,966	1,709,099	608,466	14,768	465,867	728,507	462,757

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)	
06/07/2013	*	---	---	---	0	0	3	2	---	1,130	783	
06/08/2013	*	---	0	---	0	36	18	2	949	657	590	
06/09/2013	*	---	0	---	0	0	70	6	---	723	577	
06/10/2013	*	---	0	---	0	72	0	3	1,962	375	385	
06/11/2013	*	---	0	---	0	143	3	2	---	316	161	
06/12/2013	*	---	0	---	36	0	3	0	908	322	234	
06/13/2013	*	---	0	---	0	0	0	3	---	304	335	
06/14/2013	*	---	0	---	15	0	0	0	892	201	324	
06/15/2013	*	---	0	---	0	0	17	10	---	125	221	
06/16/2013	*	---	0	---	17	0	0	7	0	228	58	
06/17/2013	*	---	0	---	0	0	2	1	---	61	66	
06/18/2013	*	---	---	---	0	29	0	2	851	67	103	
06/19/2013	*	---	---	---	18	0	0	1	---	0	37	
06/20/2013	*	---	---	---	0	0	0	1	357	286	67	
06/21/2013	*	---	---	---	---	---	---	---	---	---	---	
Total:		0	0	0	86	280	116	40	5,919	4,795	3,941	
# Days:		0	10	0	14	14	14	14	7	14	14	
Average:		0	0	0	6	20	8	3	846	343	282	
YTD		1	0	0	326	54,585	32,955	11,376	24,660	621,360	409,244	392,070

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)
06/07/2013	*	---	---	---	0	0	200	2	---	940	40
06/08/2013	*	---	0	---	0	100	101	0	500	3,260	0
06/09/2013	*	---	0	---	0	50	0	0	---	1,975	16
06/10/2013	*	---	0	---	0	50	20	1	450	1,925	60
06/11/2013	*	---	0	---	0	0	0	0	---	2,075	80
06/12/2013	*	---	0	---	0	0	0	0	950	3,900	0
06/13/2013	*	---	0	---	0	0	202	0	---	3,100	60
06/14/2013	*	---	0	---	10	175	20	0	900	2,520	20
06/15/2013	*	---	0	---	10	25	0	1	---	1,360	20
06/16/2013	*	---	0	---	0	100	30	0	1,400	1,160	18
06/17/2013	*	---	0	---	30	60	55	0	---	1,040	100
06/18/2013	*	---	---	---	0	60	9	0	200	680	71
06/19/2013	*	---	---	---	0	20	201	0	---	1,160	47
06/20/2013	*	---	---	---	0	40	50	1	400	3,240	43
06/21/2013	*	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	50	680	888	5	4,800	28,335	575
# Days:		0	10	0	14	14	14	14	7	14	14
Average:		0	0	0	4	49	63	0	686	2,024	41
YTD		0	8	0	4,922	51,706	61,113	89	60,010	152,168	3,969

* 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.

†† Passage index for yearling Chinook, steelhead, and subyearling Chinook at LGR may be inflated in 2013 due to possible resampling of PIT-tagged research fish

† 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

Two-Week Summary of Passage Indices

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:

6/21/13 9:05 AM

		06/07/13		TO	06/21/13			
		Species						
Site	Data	CH0	CH1	CO	ST	SO	Grand Total	
LGR	Sum of NumberCollected	158,345	1,150	120	9,650	55	169,320	
	Sum of NumberBarged	173,345	1,347	185	9,784	55	184,716	
	Sum of NumberBypassed	6,296	0	0	867	0	7,163	
	Sum of Numbertrucked	0	0	0	0	0	0	
	Sum of SampleMorts	49	1	0	3	0	53	
	Sum of FacilityMorts	94	2	0	13	0	109	
	Sum of ResearchMorts	11	0	0	2	0	13	
	Sum of TotalProjectMorts	154	3	0	18	0	175	
LGS	Sum of NumberCollected	178,566	2,103	545	16,689	195	198,098	
	Sum of NumberBarged	181,726	2,361	570	18,255	219	203,131	
	Sum of NumberBypassed	13	0	0	0	1	14	
	Sum of Numbertrucked	0	0	0	0	0	0	
	Sum of SampleMorts	9	0	0	2	0	11	
	Sum of FacilityMorts	58	2	0	8	0	68	
	Sum of ResearchMorts	0	0	0	0	0	0	
	Sum of TotalProjectMorts	67	2	0	10	0	79	
LMN	Sum of NumberCollected	86,729	1,971	189	3,187	79	92,155	
	Sum of NumberBarged	80,954	2,031	193	3,224	89	86,491	
	Sum of NumberBypassed	5,405	2	0	42	0	5,449	
	Sum of Numbertrucked	0	0	0	0	0	0	
	Sum of SampleMorts	26	1	0	4	0	31	
	Sum of FacilityMorts	110	0	0	19	0	129	
	Sum of ResearchMorts	0	0	0	0	0	0	
	Sum of TotalProjectMorts	136	1	0	23	0	160	
MCN	Sum of NumberCollected	289,297	35,748	4,050	8,929	3,400	341,424	
	Sum of NumberBarged	0	0	0	0	0	0	
	Sum of NumberBypassed	289,261	35,734	4,050	8,923	3,397	341,365	
	Sum of Numbertrucked	0	0	0	0	0	0	
	Sum of SampleMorts	15	4	0	3	3	25	
	Sum of FacilityMorts	21	10	0	3	0	34	
	Sum of ResearchMorts	0	0	0	0	0	0	
	Sum of TotalProjectMorts	36	14	0	6	3	59	
Total Sum of NumberCollected		712,937	40,972	4,904	38,455	3,729	800,997	
Total Sum of NumberBarged		436,025	5,739	948	31,263	363	474,338	
Total Sum of NumberBypassed		300,975	35,736	4,050	9,832	3,398	353,991	
Total Sum of Numbertrucked		0	0	0	0	0	0	
Total Sum of SampleMorts		99	6	0	12	3	120	
Total Sum of FacilityMorts		283	14	0	43	0	340	
Total Sum of ResearchMorts		11	0	0	2	0	13	
Total Sum of TotalProjectMorts		393	20	0	57	3	473	

YTD Transportation Summary

Source: Fish Passage Center

Updated:

6/21/13 9:05 AM

TO: 06/21/13

		Species						
Site	Data	CH0	CH1	CO	SO	ST	LU	Grand Total
LGR	Sum of NumberCollected	352,005	1,864,991	48,050	42,590	1,443,048		3,750,684
	Sum of NumberBarged	332,684	1,554,444	47,771	42,521	1,085,963		3,063,383
	Sum of NumberBypassed	13,579	308,258	210	52	356,574		678,673
	Sum of NumberTrucked	0	0	0	0	0		0
	Sum of SampleMorts	380	173	2	2	38		595
	Sum of FacilityMorts	226	2,066	57	15	255		2,619
	Sum of ResearchMorts	38	52	0	0	47		137
	Sum of TotalProjectMorts	644	2,291	59	17	340		3,351
LGS	Sum of NumberCollected	277,759	1,026,207	36,825	22,580	1,170,064		2,533,435
	Sum of NumberBarged	267,894	978,897	36,625	22,579	1,103,342		2,409,337
	Sum of NumberBypassed	242	46,698	200	1	66,201		113,342
	Sum of NumberTrucked	0	0	0	0	0		0
	Sum of SampleMorts	19	14	0	0	9		42
	Sum of FacilityMorts	73	558	0	0	113		744
	Sum of ResearchMorts	0	0	0	0	0		0
	Sum of TotalProjectMorts	92	572	0	0	122		786
LMN	Sum of NumberCollected	107,424	470,486	7,982	8,062	458,065	1	1,052,020
	Sum of NumberBarged	98,360	468,822	7,981	8,056	456,577	0	1,039,796
	Sum of NumberBypassed	6,966	1,072	0	2	1,132	41	9,213
	Sum of NumberTrucked	0	0	0	0	0	0	0
	Sum of SampleMorts	27	14	0	0	14	0	55
	Sum of FacilityMorts	134	517	1	4	223	0	879
	Sum of ResearchMorts	0	0	0	0	0	0	0
	Sum of TotalProjectMorts	161	531	1	4	237	0	934
MCN	Sum of NumberCollected	315,934	1,096,974	43,383	308,635	252,641		2,017,567
	Sum of NumberBarged	0	0	0	0	0		0
	Sum of NumberBypassed	315,892	1,096,152	43,379	308,387	252,587		2,016,397
	Sum of NumberTrucked	0	0	0	0	0		0
	Sum of SampleMorts	17	61	1	33	8		120
	Sum of FacilityMorts	25	761	3	215	46		1,050
	Sum of ResearchMorts	0	0	0	0	0		0
	Sum of TotalProjectMorts	42	822	4	248	54		1,170
Total Sum of NumberCollected		1,053,122	4,458,658	136,240	381,867	3,323,818	1	9,353,706
Total Sum of NumberBarged		698,938	3,002,163	92,377	73,156	2,645,882	0	6,512,516
Total Sum of NumberBypassed		336,679	1,452,180	43,789	308,442	676,494	41	2,817,625
Total Sum of NumberTrucked		0	0	0	0	0	0	0
Total Sum of SampleMorts		443	262	3	35	69	0	812
Total Sum of FacilityMorts		458	3,902	61	234	637	0	5,292
Total Sum of ResearchMorts		38	52	0	0	47	0	137
Total Sum of TotalProjectMorts		939	4,216	64	269	753	0	6,241

Cumulative Adult Passage at Mainstem Dams Through: 06/21

DAM	ENDDA	Spring Chinook						Summer Chinook						Fall Chinook					
		2013		2012		10-Yr Avg.		2013		2012		10-Yr Avg.		2013		2012		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	06/20	83345	33820	158089	7592	141713	20323	42474	12648	40188	4052	39312	7446	0	0	0	0	0	0
TDA	06/20	69202	32311	117087	7175	107368	16911	34869	8989	27526	2699	28324	5012	0	0	0	0	0	0
JDA	06/20	56991	28957	107655	6755	92410	15875	27781	7073	20828	2065	21821	4210	0	0	0	0	0	0
MCN	06/19	52176	22279	102763	4787	83990	13854	21542	4498	13881	589	14716	2609	0	0	0	0	0	0
IHR	06/20	38017	18611	71957	2905	58986	8558	4622	2480	6137	463	7410	1347	0	0	0	0	0	0
LMN	06/20	36470	19053	68608	2891	58025	7379	3174	2074	6027	378	6873	1010	0	0	0	0	0	0
LGS	06/20	35072	19443	68247	3449	53406	8429	1514	1088	3763	307	4377	844	0	0	0	0	0	0
LGR	06/20	35031	19940	66366	3525	53382	9851	941	691	1725	159	2519	519	0	0	0	0	0	0
PRD	06/19	13725	1298	19495	1015	15225	1406	8323	196	1883	102	2753	138	0	0	0	0	0	0
WAN	06/19	13715	1661	19804	973	15699	2278	6025	165	2405	124	2068	274	0	0	0	0	0	0
RIS	06/18	13345	3100	19881	800	14248	2237	849	69	481	15	313	51	0	0	0	0	0	0
RRH	06/18	6389	2086	6564	450	5142	840	0	0	0	0	0	0	0	0	0	0	0	0
WEL	06/19	3672	2702	4876	651	3228	766	0	0	0	0	0	0	0	0	0	0	0	0
WFA	06/14	22655	1190	24897	883	36824	808	0	0	0	0	0	0	0	0	0	0	0	0

DAM	ENDDA	Coho						Sockeye			Steelhead					Lamprey			
		2013		2012		10-Yr Avg.		2013	2012	10-Yr Avg.	2013	2012	10-Yr Avg.	Wild 2013	Wild 2012	10-Yr Avg.	2013	2012	10-Yr Avg.
		Adult	Jack	Adult	Jack	Adult	Jack												
BON	06/20	0	0	0	0	0	0	47859	115761	43651	5146	9614	10519	1352	2906	2718	5740	5706	7757
TDA	06/20	0	0	0	0	0	0	31661	59158	24923	1483	2826	4236	497	1169	1324	519	13	239
JDA	06/20	0	0	0	0	0	0	24003	44911	18164	1453	2525	7800	625	1496	2331	173	10	217
MCN	06/19	1	0	0	0	0	0	13034	17516	6007	1911	5226	6962	780	2310	2205	36	5	21
IHR	06/20	0	0	0	0	0	0	32	4	5	4277	2679	5544	1556	1120	1544	12	0	1
LMN	06/20	0	0	0	0	0	0	13	0	0	2749	3776	9998	1407	1953	3036	4	5	1
LGS	06/20	0	0	0	0	0	0	13	1	0	2280	3988	9663	1192	2316	3069	2	1	2
LGR	06/20	0	0	0	0	0	0	5	0	0	7481	8965	9729	3241	3947	3209	1	0	0
PRD	06/19	0	0	0	0	0	0	2774	1141	1193	110	152	86	0	0	0	59	22	24
WAN	06/19	0	0	0	0	0	0	1390	619	625	168	200	161	0	0	0	14	4	3
RIS	06/18	0	0	0	0	0	0	330	63	134	132	232	118	99	149	70	0	0	0
RRH	06/18	0	0	0	0	0	0	144	22	68	173	796	376	148	661	275	0	0	0
WEL	06/19	0	0	0	0	0	0	69	6	18	83	129	77	74	104	49	0	0	0
WFA	06/14	2	0	0	0	0	0	0	0	0	13812	24153	19280	0	0	0	0	0	0

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.