



Fish Passage Center

Weekly Report #13 - 16

July 3, 2013

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*Due to the Fourth of July holiday, we are publishing the Weekly Report early this week.
The next edition will be produced on Friday, July 12, 2013.*

Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied over June, ranging between 41% and 153% of average at individual sub-basins. Precipitation above The Dalles has been 98% of average over June. Over the 2013 water year, precipitation has ranged between 69% and 110% 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		Water Year 2013	
	June 1–30, 2013		October 1, 2012 to June 30, 2013	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia above Coulee	4.00	124	32.2	101
Sneke River above Ice Harbor	1.01	61	14.6	74
Columbia above The Dalles	2.05	98	20.7	86
Kootenai	5.55	153	35.8	110
Clark Fork	2.08	85	18.3	78
Flathead	3.13	100	31.2	101
Pend Oreille Basin	2.85	102	25.5	90
Sneke Basin above Hells Canyon	0.53	41	11.5	70
Salmon River Basin	1.54	62	17.4	69
Clearwater	2.58	87	31.6	86
Willamette River above Portland	2.02	82	55.1	91

Table 2 displays the April 7th and July 1st ESP runoff volume forecasts for multiple reservoirs. The July 1st forecast at The Dalles between January and July is 98,685 Kaf (97% of average).

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

Location	April 7, 2013 ESP		July 1, 2013 ESP	
	% Average (1971-2000)	Runoff Volume (Kaf)	% Average (1981-2010)	Runoff Volume (Kaf)
The Dalles (Jan–July)	93	94287	97	98685
Grand Coulee (Jan–July)	101	60415	108	64419
Libby Res. Inflow, MT (Apr–Aug)	102	6001 *6189	125	7358 **6464
Hungry Horse Res. Inflow, MT (Jan–July)	99	2084	111	2321
Lower Granite Res. Inflow (Apr–July)	83	16485	72	14300
Brownlee Res. Inflow (Apr–July)	62	3376	48	2624
Dworshak Res. Inflow (Apr–July)	96	2319 *2036	89	2141 **2158

* Denotes COE April Forecast

** Denotes COE June Forecast

Grand Coulee Reservoir is at 1286.5 feet (7-2-13) and drafted 1.6 feet over the last week. Outflows at Grand Coulee have ranged between 182.5 and 200.9 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2457.1 feet (7-2-13) and has refilled 3.4 feet last week. Outflows at Libby Dam have been 28.3–30.3 Kcfs over the last week; inflows to Libby have ranged from 40.4 Kcfs to 49.8 Kcfs over the same period.

Hungry Horse is currently at an elevation of 3558.9 feet (7-2-13) and has refilled 1.1 feet last week. Outflows at Hungry Horse Dam have ranged from 4.1 Kcfs to 5.0 Kcfs over the last week.

Dworshak is currently at an elevation of 1597.8 feet (7-2-13) and has drafted 2.2 feet last week. Outflows from Dworshak have increased from 5.3 Kcfs to 13.0 Kcfs over the last week for temperature and flow augmentation in the lower Snake River.

The Brownlee Reservoir was at an elevation of 2074.6 feet on July 2nd, 2013, drafting 1.7 feet over the last week. Over the last week, inflows at Brownlee have ranged between 9.1 and 11.0 Kcfs.

The Spring Biological Opinion flow period began on April 3rd and ended on June 20th in the lower Snake River (Lower Granite). The flow objective this spring was 85 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 67.9 Kcfs from April 3rd through June 20th. The flow objective at Lower Granite over the summer period (June 21st to August 31st) is 50 Kcfs; over the summer period flows at Lower Granite have averaged 46.6 Kcfs and 47.6 Kcfs over the last week.

The Spring Biological Opinion Flow Objectives were 226 Kcfs at McNary Dam (began April 10th) and 135 Kcfs at Priest Rapids Dam (began April 10th). Flows at McNary Dam have averaged 261.9 Kcfs between April 10th and June 30th. Flows at Priest Rapids Dam have averaged 187.4 Kcfs between April 10th and June 30th.

The flow objective at McNary over the summer period (July 1st to August 31st) is 200 Kcfs; over the first two days of summer period flows at McNary have averaged 283.7 Kcfs.

Spill: Spring spill for fish passage ended June 20th at the lower Snake River projects. Summer Spill began on June 20th and will extend through August 31st.

Project	Spill Level Day/Night
Lower Granite	18 Kcfs/18 Kcfs
Little Goose	30%/30%
Lower Monumental	17 Kcfs/17 Kcfs
Ice Harbor	30%/30% vs. 45 Kcfs/Gas Cap

Flow in the Snake River increased slightly over the past week as discharge from Dworshak Reservoir was increased for flow augmentation and temperature

control. All the lower Snake River dams met the court-ordered summer spill levels described in the table.

Spring spill for fish passage at the Lower Columbia projects began on April 10th and ended on June 30th, except at McNary Dam where summer spill began on June 20th, and Bonneville Dam where summer spill began on June 16th.

Project	Spring Spill Level Day/Night
McNary	40%/40%
John Day	Testing: 30%/30% vs. 40%/40%
The Dalles	40%/40%
Bonneville	100 Kcfs/100 Kcfs
Summer Spill Level Day/Night	
McNary	50%/50%
John Day	July 1–20: 30%/30% vs. 40%/40% July 20–August 3: 30%/30%
The Dalles	40%/40%
Bonneville	June 16–July 20: 85 Kcfs/121 Kcfs and 95 Kcfs/95 Kcfs July 21–August 31: 75 Kcfs/Gas Cap

Flow in the lower Columbia River has remained relatively steady since last week. At McNary Dam spill met or exceeded the court-ordered spill of 50% 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-ordered spill of 40% of instantaneous flow. At Bonneville Dam spill alternated every two days between 95 Kcfs day and night and 85 Kcfs during the day and 121 Kcfs during nighttime hours.

While, in general, summer spill levels are less due to decreased flows and lower requirements, the TDG estimates often exceeded 115% at the forebay monitors. This reflects the recent hot weather, and the relation between TDG and increasing water temperatures. 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, one fish was detected with signs of GBT at Little Goose Dam on 7/1, one fish at McNary on 7/3, and one fish at Bonneville Dam on 6/29.

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 remained low during the week of June 26 to July 2 at BON, similar when compared to the previous seven days. This week's daily average passage indices for yearling Chinook, coho, sockeye, and steelhead at BON were about 300, 200, 60, and 400 per day, respectively. This week's daily average passage index for subyearling Chinook was about 53,000, which was a large increase over last week's daily average passage index of about 15,000 per day. Finally, only pacific lamprey macrophthalmia were collected at BON this week. Pacific macrophthalmia were collected six of the seven days of sampling, with a daily average collection for the week of 23 per day.

Subyearling Chinook dominated the bypass sample at JDA this week. This week's daily average passage index for subyearling Chinook was about 91,000 per day, which is an increase over last week's daily average passage index of about 32,000 per day. Passage of yearling Chinook decreased this week, as did indices for coho. This week's daily average passage index for yearling Chinook at JDA was about 460 per day. Last week's daily average passage index for yearling Chinook was just over 500 per day. This week's daily average passage indices for steelhead, sockeye, and coho at JDA were about 300, 200, and 40 per day, respectively. Last week's daily average passage indices were about 200 for steelhead, 100 for sockeye, and 70 for coho. Finally, only pacific lamprey macrophthalmia were sampled at JDA this week. Passage of pacific lamprey macrophthalmia decreased this week, when compared to last week. The daily average collection for pacific lamprey macrophthalmia this week was about 300 per day. Last week's daily average collection was about 1,100 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 189,000 per day. Last week's daily average passage index for subyearling

Chinook was about 95,000 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 400, which was higher than last week's daily average collection of about 300 per day. Two samples in the last two weeks have been shortened due to technical issues with the bypass. During the sample that ended on June 26th the bypass channel was shutdown for long periods due to a bypass channel overflow, thus biasing the 24-hour sample. Also, the sample that ended on June 20th 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 20th 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 5,400 per day, which was lower than last week's daily average passage index of about 7,700 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 10 and 200 per day, respectively. Last week's daily average passage indices were about 20 for yearling Chinook and 200 for steelhead. Passage of coho and sockeye was very low this week at LGR also. This week's daily average passage indices for coho and sockeye at LGR were 2 per day, for both species. Pacific ammocoetes were the only lamprey juveniles collected at LGR this week. An estimated 10 were collected on July 2nd. Finally, due to the possible resampling of PIT-tagged research fish that are released into the gatewells, daily estimates of 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 this species.

Passage of subyearling Chinook at LGS decreased slightly this week. This week's daily average passage index for subyearling Chinook at LGS was about 8,600 per day. Last week's daily average passage index was about 9,200 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 steelhead. The daily average passage index for steelhead was 400 per day. Last week's daily average passage index for steelhead was about 570 per day. Finally, pacific lamprey macrophthalmia were collected at LGS this week.

Similar to LGS, passage of spring migrants continued to decrease at LMN this week. As with LGR and LGS, subyearling Chinook continued to predominate passage at LMN this week. This week's daily average passage index for subyearling Chinook at LMN was about 4,700 per day. Last week's daily average passage index was only about 4,700 per day. Only pacific lamprey macrophthalmia were collected at LMN this week. This week's daily average collection for pacific lamprey macrophthalmia was 140 per day.

This week's collections at RIS were also 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 340 per day. Last week's daily average passage index for subyearling Chinook was about 50 per day. Passage of yearling Chinook, coho, sockeye, and steelhead all increased slightly 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 6, 18, 16, and 13 per day, respectively. Last week's daily average passage indices were about 4 for yearling Chinook, 16 for coho, 5 for sockeye, and 7 for steelhead. Finally, a few each of both pacific lamprey macrophthalmia and ammocoetes were collected this week at Rock Island.

As with previous weeks, the Imnaha River Trap continues to collect only steelhead and Chinook at this time. However, as of this writing no additional sample data was available since last week's report.

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. A release of approximately 400,000 parr was scheduled to begin on June 25th. These will outmigrate in 2014 and are all unmarked, and will therefore be undistinguishable from wild spring Chinook. On July 1st, a release of approximately 300,000 parr was scheduled to begin release into the Middle Fork of the Clearwater River. These will also outmigrate in 2014 and are all unmarked. There are no new releases scheduled for the next two weeks.

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

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. On July 1st, there was a scheduled release of approximately 2.5 million fall Chinook subyearlings to the Little White Salmon River. All of these smolts were marked.

On July 15th, approximately 2 million fall Chinook are scheduled for release into the Little White Salmon River. All of these smolts will be marked.

Adult Fish Passage

Daily adult summer Chinook passage numbers at Bonneville Dam ranged between 1,458 and 2,337 in the last week. The 2013 summer Chinook count of 65,483 is about 1.11 times greater than the 2012 count of 58,641 and 1.03 times greater than the 10-year average count of 63,520. The 2013 Bonneville Dam summer Chinook jack count of 19,712 is 2.8 times greater than the 2012 count of 7,049 and 1.6 times greater than the 10-year average count of 12,207. At McNary Dam 46,180 adult summer Chinook have been counted. The 2013 adult summer Chinook count at

McNary Dam is about 1.3 times greater than the 2012 count and 1.2 times greater than the 10-year average. The 2013 McNary Dam summer Chinook jack count of 9,493 is about 4.2 times greater than the 2012 count and 1.5 times greater than the 10-year average count. The 2013 adult summer Chinook count at Lower Granite Dam in the Snake River of 4,436 is about 55.6% of the 2012 count and 41.5% of the 10-year average count. The 2013 Lower Granite summer Chinook jack count of 3,885 is about 4.6 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 8,065 is about 52.9% of the 2012 count of 15,229 and 42% of the 10-year average count of 19,182. The 2013 Bonneville Dam adult wild steelhead count of 2,433 is about 48.8% of the 2012 count of 4,986 and 38.5% of the 10-year average count of 6,311. In the Snake River, this year's Lower Granite steelhead count of 7,567 is about 83.4% of the 2012 count of 9,071 and 75.7% of the 10-year average count of 9,992. The 2013 Lower Granite Dam adult wild steelhead count of 3,262 is about 81.8% of the 2012 count of 3,985, while having 10 fewer fish than the 10-year average count of 3,272. At Willamette Falls, the 2013 count for steelhead was 15,652 as of June 30th. This year's steelhead count is about 56.2% of the 2012 count of 27,843 and about 72% of the 10-year average count of 21,729.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 4,708 and 9,001 last week. The 2013 adult sockeye count at Bonneville Dam of 126,900 is about 30.4% of the 2012 count of 417,687 and about 88.4% of the 10-year average count of 143,583. The 2013 McNary Dam adult sockeye count of 71,240 is about 32.2% of the 2012 count of 221,041 and 90.6% of the 10-year average count of 78,609. The Lower Granite Dam 2013 adult sockeye count of 74 is about 3 times greater than the 2012 count of 25 and 1.6 times greater than the 10-year average count of 45. As of July 2nd at Bonneville Dam, the adult shad count was 3,694,143. This year's shad count is about 1.6 times greater than the 2012 count of 2,373,267 and 1.3 times greater than the 10-year average count of 2,765,821.

Hatchery Releases Last Two Weeks

Hatchery Release Summary									
From:	6/19/2013		to		07/02/13				
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 Meadow Creek -	Clearwater River M F
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	SP	2014	400,000	06-25-13	06-29-13	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	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 Ringold Springs	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2013	3,450,000	06-20-13	07-15-13	Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					10,174,000				
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 Lost Creek Acclim	Yakima 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 Total					1,022,460				
Grand Total					14,396,460				

CH = Chinook, ST = Steelhead, CO = Coho, SO = Sockeye, CT = Cutthroat Trout, CM = Chum

Hatchery Releases Next Two Weeks

Hatchery Release Summary									
From:	7/3/2013		to		7/16/2013				
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 Total					300,000				
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH0	FA	2013	2,000,000	07-15-13	07-15-13	Little White Salmon Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service Total					2,000,000				
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				
Grand Total					5,750,000				

CH = Chinook, ST = Steelhead, CO = Coho, SO = Sockeye, CT = Cutthroat Trout, CM = Chum

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
06/19/2013	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
06/21/2013	168.5	0.1	170.6	7.9	181.0	23.6	178.2	19.9	180.6	33.9	181.6	49.8	175.3	51.6
06/22/2013	178.1	0.1	174.7	0.0	183.4	19.7	193.1	24.7	201.8	30.9	212.8	74.4	214.4	73.8
06/23/2013	182.0	0.1	181.8	0.0	189.5	22.3	197.5	23.5	201.5	36.2	208.2	75.5	208.0	64.9
06/24/2013	178.5	0.1	180.4	0.0	194.7	18.5	201.6	31.2	204.0	38.1	219.8	89.0	224.2	90.3
06/25/2013	176.7	3.3	179.9	4.4	202.2	19.4	199.8	22.2	201.2	41.0	211.5	70.0	212.5	82.8
06/26/2013	182.5	11.1	183.7	10.6	207.1	27.1	204.6	30.0	207.3	40.3	219.0	83.7	223.1	81.1
06/27/2013	191.3	20.3	188.3	15.1	211.6	23.7	210.9	35.0	212.9	40.1	224.1	89.8	226.1	89.8
06/28/2013	200.9	27.9	199.1	15.0	225.7	40.3	224.2	45.7	222.1	40.0	234.8	101.0	237.8	107.8
06/29/2013	200.2	26.3	196.3	15.1	217.6	38.6	215.8	41.6	216.9	42.2	232.1	95.5	229.7	107.7
06/30/2013	198.4	25.0	201.6	15.1	224.2	50.5	229.8	49.6	229.9	42.3	240.4	109.8	242.5	112.7
07/01/2013	200.0	25.0	197.2	15.1	214.8	42.6	218.6	50.6	219.6	37.0	234.1	106.2	237.1	106.9
07/02/2013	200.4	24.9	198.4	15.2	219.8	45.1	219.5	42.6	219.4	42.3	229.4	93.5	230.8	105.6

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

Date	Dworshak		Hells Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
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
06/21/2013	8.3	1.1	---	---	58.3	18.6	59.1	17.7	60.4	16.6	62.5	25.2
06/22/2013	5.3	0.0	---	---	43.1	18.5	43.1	12.9	42.9	17.0	44.0	13.2
06/23/2013	5.3	0.0	---	---	42.5	18.5	42.3	12.7	43.2	16.8	42.4	29.5
06/24/2013	5.3	0.0	---	---	41.4	18.5	40.8	12.2	41.5	16.9	42.0	31.8
06/25/2013	5.8	0.0	---	---	40.4	18.5	42.4	12.7	48.1	16.6	44.8	17.9
06/26/2013	6.9	0.0	---	---	48.6	18.5	46.4	14.0	47.1	17.0	47.3	14.2
06/27/2013	5.3	0.0	---	---	45.6	18.5	43.8	13.1	46.2	16.5	46.7	30.8
06/28/2013	5.3	0.0	---	---	44.3	18.6	44.9	13.4	45.7	16.9	47.7	37.5
06/29/2013	5.3	0.0	---	---	47.5	20.2	47.5	15.0	50.3	17.1	52.2	23.5
06/30/2013	7.4	0.0	---	---	48.4	18.4	48.2	14.5	48.8	17.0	49.3	14.8
07/01/2013	10.9	1.4	---	---	47.3	18.5	46.2	13.8	44.8	16.5	44.2	29.4
07/02/2013	12.9	3.4	---	---	52.0	19.8	53.1	18.1	55.7	18.4	58.6	46.7

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

Date	McNary		John Day		The Dalles		Bonneville			
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
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
06/21/2013	226.1	113.5	225.1	89.9	207.4	82.9	226.6	94.2	31.8	88.2
06/22/2013	273.5	137.3	266.3	101.4	248.7	99.2	256.4	90.1	63.8	90.1
06/23/2013	261.7	131.0	262.7	78.7	242.8	97.0	260.8	95.7	64.6	88.1
06/24/2013	261.6	131.0	250.0	79.8	235.3	94.1	254.1	99.6	53.7	88.5
06/25/2013	270.0	135.0	267.8	106.5	249.7	100.0	271.6	94.5	71.4	93.2
06/26/2013	271.7	135.8	267.6	102.2	250.8	99.6	267.0	90.5	72.5	91.6
06/27/2013	266.6	133.7	267.1	79.9	250.7	98.4	275.6	95.5	74.6	93.1
06/28/2013	275.9	150.3	267.0	84.5	247.6	98.0	270.4	99.3	66.8	91.9
06/29/2013	292.2	173.7	302.2	122.1	282.8	104.3	286.2	96.2	81.2	96.5
06/30/2013	284.7	161.7	262.2	100.7	245.6	96.4	277.2	104.4	85.5	74.9
07/01/2013	282.2	159.7	283.8	85.4	261.8	98.0	275.7	94.3	85.8	83.2
07/02/2013	285.2	165.6	280.5	96.0	263.7	97.0	280.5	99.4	81.0	87.7

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											
	06/24/13	Chinook + Steelhead	60	0	0	0.00%	0.00%	0	0	0	0
	07/01/13	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
Lower Monumental Dam											
	06/26/13	Chinook + Steelhead	51	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	06/21/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/23/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/27/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/01/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/03/13	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
Bonneville Dam											
	06/22/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/26/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/29/13	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	07/02/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	06/23/13	Chinook + Steelhead	44	0	0	0.00%	0.00%	0	0	0	0
	06/27/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/28/13	Chinook + Steelhead	50	0	0	0.00%	0.00%	0	0	0	0
	07/02/13	Chinook + Steelhead	100	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	Hungry H. Dnst			Boundary			Grand Coulee			Grand C. Tlwr			Chief Joseph							
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
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	105.7	106.2	106.7	24	---	---	---	0	116.6	116.8	117.0	24	113.8	114.4	115.3	24	113.5	113.9	114.2	24
6/21	105.4	105.6	105.7	24	---	---	---	0	115.9	116.1	116.3	24	113.0	113.2	113.5	24	113.0	113.3	113.8	24
6/22	105.2	105.6	105.9	24	---	---	---	0	115.9	116.1	116.2	24	112.8	113.1	113.4	24	113.8	113.9	114.2	24
6/23	106.2	106.7	107.0	24	---	---	---	0	114.8	115.7	116.2	24	113.6	114.2	114.5	24	113.9	114.2	114.4	24
6/24	106.5	106.6	106.7	24	---	---	---	0	115.9	116.4	116.6	24	113.8	113.9	114.2	24	113.6	113.8	114.1	24
6/25	105.8	106.0	106.4	24	---	---	---	0	114.7	115.0	115.8	24	112.8	113.0	113.6	24	112.9	113.0	113.2	24
6/26	105.2	105.4	105.6	24	---	---	---	0	113.7	114.1	114.5	24	112.0	112.4	112.6	24	112.3	112.4	112.6	24
6/27	104.9	105.1	105.4	24	---	---	---	0	112.6	112.8	113.2	24	111.8	112.1	112.5	24	111.4	111.5	111.6	24
6/28	105.0	105.3	105.5	24	---	---	---	0	112.6	112.9	113.3	24	112.9	113.4	113.7	24	112.3	113.0	113.4	24
6/29	105.4	105.6	105.8	24	---	---	---	0	113.1	113.3	113.4	24	113.5	113.6	113.9	24	113.5	114.2	114.6	24
6/30	105.5	105.7	106.0	24	---	---	---	0	113.1	113.3	113.6	24	113.2	113.5	113.8	24	114.1	114.5	115.0	24
7/1	105.9	106.2	106.6	24	---	---	---	0	113.5	113.8	114.6	24	113.5	113.8	114.1	24	113.8	114.2	114.5	24
7/2	106.5	107.1	107.3	23	---	---	---	0	113.6	113.8	114.0	23	113.6	113.9	114.1	23	114.0	114.4	114.7	23

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	Chief J. Dnst			Wells			Wells Dwnstrm			Rocky Reach			Rocky R. Tlwr							
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
6/19	113.9	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	112.9	113.5	114.4	24	111.6	112.0	112.2	22	113.0	113.3	114.0	22	112.0	112.6	113.0	24	115.0	115.7	116.3	24
6/21	111.6	111.9	112.5	24	111.0	111.2	111.4	22	114.3	115.8	117.5	22	110.8	111.1	111.3	24	115.2	116.6	117.9	24
6/22	112.7	112.9	113.1	24	112.1	112.7	113.3	24	115.9	116.7	119.2	24	113.2	114.8	115.7	24	118.0	118.5	118.8	24
6/23	112.9	113.2	113.3	24	113.4	113.6	113.9	23	116.9	117.6	118.0	23	116.3	116.6	117.1	24	119.5	120.0	120.6	24
6/24	112.8	113.0	113.2	24	112.8	113.3	113.5	23	115.7	117.2	119.4	23	116.3	116.4	116.5	24	120.7	121.4	121.6	24
6/25	111.7	112.2	112.3	24	111.3	111.5	111.7	19	114.0	114.7	115.7	19	114.6	115.8	116.3	24	118.6	119.1	119.5	24
6/26	110.6	111.1	111.4	24	110.8	110.9	111.8	22	113.9	114.3	115.2	22	112.5	113.2	113.4	24	118.3	118.8	119.2	24
6/27	109.7	109.9	110.0	24	110.0	110.2	110.6	23	113.0	113.3	114.0	23	112.4	112.7	112.8	24	119.0	119.2	119.4	24
6/28	110.4	110.7	110.8	24	110.8	111.7	112.2	23	115.8	117.0	118.5	23	113.0	113.4	114.0	24	119.8	120.1	120.4	24
6/29	110.9	111.3	111.5	24	111.9	112.0	112.1	23	116.4	117.0	118.1	23	115.2	115.5	115.9	24	120.1	120.7	122.8	24
6/30	111.3	111.5	111.7	24	112.9	113.6	113.8	21	119.0	119.6	119.9	21	115.6	116.2	116.9	24	121.3	121.7	121.9	24
7/1	111.1	111.7	112.3	24	113.0	113.2	113.5	21	118.1	118.6	119.5	21	117.5	117.7	118.0	24	121.7	121.8	122.1	24
7/2	111.6	111.9	112.2	23	113.1	113.5	113.8	20	118.3	119.1	120.1	20	117.2	117.6	118.1	23	121.1	121.3	121.5	23

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	Rock Island			Rock I. Tlwr			Wanapum			Wanapum Tlwr			Priest Rapids							
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
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	24	117.1	118.1	122.0	24	---	---	---	0	---	---	---	0	---	---	---	0
6/21	109.9	110.2	110.5	24	115.7	116.3	117.5	24	---	---	---	0	---	---	---	0	---	---	---	0
6/22	112.4	113.3	113.4	24	116.5	117.6	118.1	24	---	---	---	0	---	---	---	0	---	---	---	0
6/23	114.9	115.8	116.0	24	119.1	119.9	120.2	24	---	---	---	0	---	---	---	0	---	---	---	0
6/24	115.4	115.6	115.9	24	119.6	120.2	121.1	24	115.8	116.1	116.4	24	117.5	118.7	119.1	24	117.0	118.3	118.9	24
6/25	114.3	114.6	115.1	24	118.6	119.4	119.9	24	115.5	115.7	115.9	24	115.4	115.7	115.8	24	115.2	115.9	118.1	24
6/26	112.3	113.0	113.4	24	116.8	117.8	118.2	24	114.8	114.9	115.2	24	116.4	116.9	117.0	24	115.3	116.0	116.7	24
6/27	112.6	113.3	113.7	24	116.8	118.1	118.6	24	114.1	114.6	115.4	24	116.9	117.1	117.4	24	116.7	117.0	117.4	24
6/28	114.0	115.0	115.5	24	117.8	119.3	119.9	24	---	---	---	0	---	---	---	0	---	---	---	0
6/29	115.0	115.5	116.1	24	118.8	119.6	120.2	24	---	---	---	0	---	---	---	0	---	---	---	0
6/30	115.4	116.3	116.7	24	119.1	120.2	120.6	24	117.3	118.3	119.2	24	120.1	121.3	121.4	24	119.5	121.0	122.1	24
7/1	116.6	117.2	117.5	24	119.7	120.3	120.8	24	118.1	119.3	120.7	24	120.0	120.3	120.7	24	120.2	121.3	122.1	24
7/2	116.8	117.1	117.3	23	120.0	120.6	120.9	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	<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>#</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>				
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High				
6/19	---	---	---	0	---	---	0	98.2	98.4	98.5	24	---	---	---	0	101.6	101.9	102.2	24
6/20	---	---	---	0	---	---	0	99.6	101.3	104.2	24	---	---	---	0	101.9	102.6	103.4	24
6/21	---	---	---	0	---	---	0	100.7	102.9	104.5	24	---	---	---	0	102.5	103.3	104.1	24
6/22	---	---	---	0	---	---	0	98.4	98.9	99.4	24	---	---	---	0	103.1	104.2	104.9	24
6/23	---	---	---	0	---	---	0	99.3	99.8	100.1	24	---	---	---	0	103.2	104.0	104.6	24
6/24	119.4	119.9	120.4	24	---	---	0	99.6	100.0	100.3	24	---	---	---	0	102.4	102.9	103.6	24
6/25	118.4	118.8	119.4	24	---	---	0	98.9	99.3	99.8	24	---	---	---	0	102.2	102.9	103.7	24
6/26	118.1	118.7	119.0	24	---	---	0	98.1	98.2	98.5	24	100.4	100.6	101.0	17	102.0	102.5	103.4	24
6/27	119.2	119.5	119.7	24	---	---	0	98.3	98.9	99.3	24	101.4	102.6	103.3	24	102.8	104.0	105.1	23
6/28	---	---	---	0	---	---	0	98.7	99.2	99.5	24	102.0	103.2	104.0	24	103.2	104.5	105.5	24
6/29	---	---	---	0	---	---	0	99.2	99.8	100.5	24	102.3	103.4	104.5	24	103.0	104.0	105.0	24
6/30	120.9	121.7	122.2	24	---	---	0	99.0	99.4	99.7	24	102.3	103.4	104.2	24	102.9	104.0	105.1	24
7/1	121.4	121.6	122.1	24	---	---	0	102.4	105.9	109.4	24	104.0	106.6	109.5	24	103.0	104.2	105.3	24
7/2	---	---	---	0	---	---	0	107.2	107.5	107.7	23	107.5	108.3	109.1	23	103.1	104.3	105.4	23

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>#</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>					
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High					
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	100.6	101.5	102.2	24	102.5	102.7	103.1	23	112.7	113.9	116.2	24	108.6	109.3	109.6	24	110.8	111.4	112.0	24
6/21	102.6	104.0	105.1	24	101.4	101.8	102.1	24	114.9	115.2	115.8	24	107.3	107.5	107.7	24	109.9	110.2	110.4	24
6/22	102.7	104.7	106.0	24	99.9	100.2	100.7	24	115.3	115.6	116.1	24	107.2	107.7	108.0	24	110.2	110.7	111.1	24
6/23	102.6	104.3	105.3	24	100.5	101.0	101.4	24	115.4	115.6	116.2	24	108.9	109.5	110.5	24	111.5	111.8	112.0	24
6/24	101.9	102.9	103.9	24	102.0	102.6	102.9	24	115.7	115.9	116.4	24	110.2	110.7	111.5	24	111.7	112.0	112.3	24
6/25	101.7	103.2	104.2	24	102.9	103.2	103.3	24	116.2	116.6	117.1	24	111.4	112.1	112.7	24	112.0	112.6	113.0	24
6/26	101.1	102.2	102.8	24	102.6	102.8	103.1	24	115.7	116.1	116.5	24	110.8	111.1	111.6	24	112.9	113.4	113.8	24
6/27	102.9	105.3	106.8	24	101.9	102.1	102.1	24	115.3	115.5	115.9	24	111.1	111.9	113.0	24	113.1	113.3	113.6	24
6/28	103.5	105.7	107.2	24	100.7	100.9	101.1	24	114.7	114.9	115.3	24	110.7	111.4	112.8	24	113.3	113.8	114.0	24
6/29	103.4	105.4	107.0	24	100.7	100.8	100.9	24	115.3	116.0	119.2	24	113.4	114.1	115.2	24	113.7	114.1	115.1	24
6/30	103.4	105.7	107.2	24	101.9	102.7	103.6	24	115.2	115.5	116.4	24	115.5	116.4	116.9	24	113.8	114.2	114.5	24
7/1	103.6	105.9	107.4	24	104.5	104.8	105.1	24	115.5	115.8	116.1	24	116.3	116.9	117.2	24	114.0	114.6	115.0	24
7/2	105.7	107.8	109.4	23	104.6	104.7	105.0	23	115.7	116.6	118.5	23	116.7	117.0	117.2	23	114.0	114.4	115.1	23

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>#</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>					
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High					
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	24	116.6	116.8	117.2	23	111.1	111.8	112.5	24	113.2	113.9	115.4	24	---	---	---	0
6/21	107.2	107.4	107.6	24	114.8	115.4	115.7	23	109.4	109.5	109.7	24	113.4	114.1	115.4	24	---	---	---	0
6/22	107.6	107.8	108.0	24	115.0	115.8	116.8	24	109.7	110.1	110.6	24	111.1	111.8	113.5	24	---	---	---	0
6/23	109.7	110.3	110.7	24	115.2	115.7	116.4	24	112.3	113.1	113.6	24	112.7	113.6	113.9	24	---	---	---	0
6/24	109.9	110.1	110.4	24	115.4	115.6	115.7	24	112.7	113.0	113.1	24	113.1	113.4	113.6	24	---	---	---	0
6/25	110.6	110.8	111.0	24	115.4	115.7	116.1	24	111.9	112.2	112.4	24	111.6	112.1	112.5	24	---	---	---	0
6/26	110.1	110.3	110.5	24	115.6	115.9	116.5	24	111.1	111.3	111.6	24	111.1	111.4	112.0	24	---	---	---	0
6/27	109.6	109.7	109.9	24	115.2	115.8	116.0	24	110.5	110.5	110.6	24	112.8	113.7	114.4	24	---	---	---	0
6/28	110.2	110.6	111.0	24	115.6	115.9	116.6	24	111.3	111.9	112.6	24	113.2	113.6	113.9	24	---	---	---	0
6/29	112.0	112.4	113.0	24	115.9	116.6	117.5	24	113.1	113.4	113.5	24	113.3	114.0	115.2	24	---	---	---	0
6/30	112.4	113.0	113.5	24	116.4	116.9	117.4	24	114.4	114.8	115.2	24	113.9	115.1	116.0	24	---	---	---	0
7/1	114.4	115.0	115.4	24	116.6	117.0	117.2	24	115.4	115.6	116.0	24	113.9	114.8	115.3	24	---	---	---	0
7/2	114.4	114.6	114.9	23	117.6	118.1	118.4	23	115.9	116.2	116.5	23	114.5	115.4	116.1	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>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>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
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	107.1	107.8	108.6	24	116.2	116.5	116.7	24	106.0	106.3	106.6	24	113.0	113.5	115.0	24	106.3	106.4	106.6	24
6/21	105.6	106.1	106.7	24	116.4	116.6	117.1	24	105.0	105.2	105.3	24	115.0	116.7	117.3	24	107.3	108.5	109.5	24
6/22	107.5	108.6	110.0	24	117.6	118.3	118.6	24	105.4	106.0	106.9	24	116.3	117.8	117.9	24	110.6	111.6	112.5	24
6/23	110.4	110.9	111.4	24	118.4	118.7	118.8	24	106.7	106.8	107.4	24	114.2	114.9	115.6	24	110.6	111.9	112.5	24
6/24	112.5	113.1	113.4	24	118.6	118.8	119.0	24	106.9	107.3	107.8	24	114.5	115.8	117.8	24	108.4	108.7	109.1	24
6/25	111.8	112.3	113.1	24	118.9	119.2	122.3	24	108.8	109.7	110.3	24	117.1	117.8	118.2	24	109.9	111.1	112.1	24
6/26	110.8	110.9	111.0	24	122.6	127.1	154.9	24	110.7	110.9	111.1	24	116.7	118.2	118.8	24	112.0	112.3	112.8	24
6/27	111.5	112.0	112.6	24	150.0	154.8	155.2	24	110.3	110.4	110.6	24	114.2	115.5	116.0	24	112.1	112.6	112.9	24
6/28	112.4	113.2	114.3	24	125.9	133.3	154.5	24	110.7	111.4	112.2	24	115.0	116.3	118.1	24	111.9	112.5	113.1	24
6/29	115.5	116.3	117.2	24	119.6	119.9	120.2	24	112.8	113.3	113.7	24	118.0	118.4	118.8	24	112.9	113.6	114.5	24
6/30	116.9	117.5	118.2	24	119.4	119.6	119.9	24	114.4	115.4	116.6	24	116.5	117.8	118.6	24	115.0	115.6	116.0	24
7/1	116.4	116.7	116.8	24	119.5	119.8	120.1	24	115.8	116.4	117.0	23	115.5	116.4	117.4	24	115.2	115.5	115.8	24
7/2	116.7	117.4	117.9	23	119.5	119.7	120.1	23	116.3	116.7	117.2	23	116.5	117.6	118.8	23	114.1	114.6	115.1	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>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>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
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	24	108.5	108.8	109.2	24	114.4	115.2	115.7	24	110.8	112.0	113.0	24	118.3	118.6	119.7	24
6/21	114.2	115.0	115.4	24	108.6	108.8	109.3	24	113.5	114.2	115.0	24	111.2	112.2	112.8	24	117.9	118.0	118.2	24
6/22	117.0	118.1	118.4	24	111.3	112.6	113.9	24	113.4	114.0	115.5	24	112.3	113.8	114.5	24	116.8	117.7	119.8	24
6/23	117.2	117.8	118.1	24	115.9	116.9	117.2	24	116.5	116.8	117.5	24	114.1	115.5	116.6	24	117.7	118.8	120.1	24
6/24	115.5	115.9	116.3	24	115.7	116.6	117.3	24	117.2	117.9	118.6	24	115.0	116.1	116.8	24	118.9	119.2	120.1	24
6/25	115.9	116.6	117.0	24	113.2	113.5	113.7	24	114.8	115.1	115.3	24	113.5	113.9	115.1	24	118.8	118.9	119.1	24
6/26	117.2	117.7	117.9	24	113.7	114.2	114.9	24	114.7	114.9	115.7	24	112.6	113.4	114.0	24	117.0	117.9	119.6	24
6/27	117.3	117.7	118.5	24	115.4	116.0	116.3	24	116.3	116.8	117.5	24	113.8	115.4	116.6	24	117.3	118.5	119.6	24
6/28	117.4	118.1	118.4	24	116.0	116.5	116.9	24	117.3	117.7	118.0	24	116.3	117.8	118.9	24	119.0	119.3	120.0	24
6/29	117.4	117.8	118.3	24	115.3	115.8	116.6	24	116.3	116.5	116.9	24	115.9	116.7	117.5	24	119.0	119.2	119.3	24
6/30	118.4	119.1	119.9	24	115.5	116.1	116.4	24	116.7	117.8	119.7	24	115.5	116.3	117.2	24	118.5	119.9	121.4	24
7/1	118.4	118.9	119.2	24	116.9	117.2	117.3	24	117.4	117.7	118.3	24	116.9	117.8	118.3	24	117.5	118.3	119.5	24
7/2	117.6	117.9	118.4	23	114.7	115.2	115.5	23	116.2	116.8	117.3	23	115.4	116.1	116.8	23	119.3	119.4	119.5	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 7/3/2013 7:36

Two-Week Summary of Passage Indices

* One or more of the sites on this date had an incomplete or biased sample.

See Sampling Comments: <http://www.fpc.org/currentDaily/smpcomments.htm>

For clip information see: <http://www.fpc.org/CurrentDaily/catch.htm>

For sockeye and yearling chinook (Snake only) race information see: <http://www.fpc.org/smolqueries/currentsmppsubmitdata.asp>

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)	
06/19/2013	*	---	31	---	---	18	115	7	4	---	641	547
06/20/2013	*	---	11	---	---	0	57	129	1	713	515	332
06/21/2013	*	---	11	---	---	89	144	14	1	---	666	542
06/22/2013		---	33	---	---	0	57	129	2	414	626	444
06/23/2013	*	---	23	---	---	0	57	10	10	---	391	792
06/24/2013	*	---	9	---	---	0	29	100	7	1,028	448	226
06/25/2013	*	---	20	---	---	19	29	29	5	---	574	372
06/26/2013	*	---	---	---	---	18	14	11	6	0	729	292
06/27/2013	*	---	---	---	---	16	0	6	2	---	0	289
06/28/2013	*	---	---	---	---	17	14	0	4	818	714	569
06/29/2013	*	---	---	---	---	18	0	84	18	---	220	440
06/30/2013		---	---	---	---	0	43	17	4	245	477	296
07/01/2013	*	---	---	---	---	0	14	12	2	---	445	389
07/02/2013		---	---	---	---	0	12	10	4	961	638	0
07/03/2013		---	---	---	---	---	---	---	---	---	---	---
<hr/>												
Total:		0	138	0	0	195	585	558	70	4,179	7,084	5,530
# Days:		0	7	0	0	14	14	14	14	7	14	14
Average:		0	20	0	0	14	42	40	5	597	506	395
YTD		50,632	55,599	26,301	2,797	2,607,036	1,500,055	613,984	28,306	2,122,698	2,055,190	1,879,550

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)	
06/19/2013	*	---	0	---	---	9,333	8,636	6,469	56	---	22,511	3,803
06/20/2013	*	---	0	---	---	9,111	13,680	3,966	37	86,301	35,292	6,900
06/21/2013	*	---	2	---	---	8,632	10,820	4,900	19	---	31,848	7,843
06/22/2013		---	3	---	---	11,679	4,930	4,283	20	86,636	20,252	19,269
06/23/2013	*	---	3	---	---	4,878	8,815	6,360	77	---	35,833	17,814
06/24/2013	*	---	1	---	---	3,901	10,794	5,322	41	100,355	34,415	25,783
06/25/2013	*	---	3	---	---	6,132	6,708	3,307	82	---	41,905	24,581
06/26/2013	*	---	---	---	---	5,179	8,880	3,540	146	124,300	54,507	21,498
06/27/2013	*	---	---	---	---	7,250	6,714	1,894	192	---	53,813	47,645
06/28/2013	*	---	---	---	---	5,138	4,124	5,445	234	147,432	126,415	46,226
06/29/2013	*	---	---	---	---	3,482	15,592	6,738	399	---	86,336	67,381
06/30/2013		---	---	---	---	3,723	9,728	6,261	335	197,185	76,737	71,837
07/01/2013	*	---	---	---	---	7,302	7,748	5,478	634	---	65,169	64,980
07/02/2013		---	---	---	---	5,726	7,683	2,927	449	290,741	173,352	50,874
07/03/2013		---	---	---	---	---	---	---	---	---	---	---
<hr/>												
Total:		0	12	0	0	91,466	124,852	66,890	2,721	1,032,950	858,385	476,434
# Days:		0	7	0	0	14	14	14	14	7	14	14
Average:		0	2	0	0	6,533	8,918	4,778	194	147,564	61,313	34,031
YTD		2	60	195	2,668	581,967	501,251	221,454	6,791	1,503,822	1,079,805	2,627,036

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)
06/19/2013 *	---	0	---	---	0	0	0	9	---	128	576
06/20/2013 *	---	0	---	---	17	0	0	12	178	114	1,129
06/21/2013 *	---	0	---	---	0	0	2	4	---	0	884
06/22/2013	---	0	---	---	0	0	3	12	205	0	559
06/23/2013 *	---	0	---	---	0	0	0	15	---	0	620
06/24/2013 *	---	0	---	---	0	0	0	38	408	90	622
06/25/2013 *	---	0	---	---	0	29	2	26	---	191	372
06/26/2013 *	---	---	---	---	0	0	0	11	0	105	185
06/27/2013 *	---	---	---	---	0	0	0	21	---	0	578
06/28/2013 *	---	---	---	---	0	0	2	16	0	143	0
06/29/2013 *	---	---	---	---	0	29	2	9	---	0	294
06/30/2013	---	---	---	---	17	0	0	22	0	0	0
07/01/2013 *	---	---	---	---	0	0	2	36	---	0	389
07/02/2013	---	---	---	---	0	31	0	9	0	0	0
07/03/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	34	89	13	240	791	771	6,208
# Days:	0	7	0	0	14	14	14	14	7	14	14
Average:	0	0	0	0	2	6	1	17	113	55	443
YTD	0	0	0	107	61,793	54,156	10,564	49,837	85,128	188,357	770,154

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)
06/19/2013 *	---	16	---	---	88	777	882	3	---	64	735
06/20/2013 *	---	41	---	---	293	574	252	9	178	57	1,359
06/21/2013 *	---	7	---	---	446	344	191	4	---	286	848
06/22/2013	---	5	---	---	371	344	192	9	1,655	210	741
06/23/2013 *	---	2	---	---	211	632	91	7	---	98	287
06/24/2013 *	---	0	---	---	128	804	368	8	1,022	448	283
06/25/2013 *	---	1	---	---	37	493	188	9	---	288	372
06/26/2013 *	---	---	---	---	70	359	45	9	407	313	433
06/27/2013 *	---	---	---	---	114	345	28	18	---	156	433
06/28/2013 *	---	---	---	---	102	216	115	9	822	0	284
06/29/2013 *	---	---	---	---	417	279	198	7	---	220	147
06/30/2013	---	---	---	---	249	647	422	20	980	239	1,149
07/01/2013 *	---	---	---	---	230	588	118	18	---	445	389
07/02/2013	---	---	---	---	120	416	211	9	0	638	0
07/03/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	72	0	0	2,876	6,818	3,301	139	5,064	3,462	7,460
# Days:	0	7	0	0	14	14	14	14	7	14	14
Average:	0	10	0	0	205	487	236	10	723	247	533
YTD	3,789	40,840	3,547	9,925	2,036,461	1,714,566	610,633	14,895	470,753	731,848	468,123

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)
06/19/2013 *	---	0	---	---	18	0	0	1	---	0	37
06/20/2013 *	---	0	---	---	0	0	0	1	357	286	67
06/21/2013 *	---	0	---	---	30	0	0	1	---	0	67
06/22/2013	---	0	---	---	0	0	0	5	410	105	36
06/23/2013 *	---	0	---	---	0	0	0	5	---	195	57
06/24/2013 *	---	0	---	---	0	0	0	13	204	0	113
06/25/2013 *	---	0	---	---	0	0	0	7	---	383	0
06/26/2013 *	---	---	---	---	0	0	0	15	610	208	0
06/27/2013 *	---	---	---	---	16	14	0	4	---	626	0
06/28/2013 *	---	---	---	---	0	14	0	14	204	0	0
06/29/2013 *	---	---	---	---	0	0	0	18	---	220	147
06/30/2013	---	---	---	---	0	0	0	24	0	0	0
07/01/2013 *	---	---	---	---	0	0	0	23	---	0	0
07/02/2013	---	---	---	---	0	0	0	14	240	213	314
07/03/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	64	28	0	145	2,025	2,236	838
# Days:	0	7	0	0	14	14	14	14	7	14	14
Average:	0	0	0	0	5	2	0	10	289	160	60
YTD	1	0	0	326	54,631	32,983	11,376	24,803	623,028	411,194	392,804

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)
06/19/2013 *	---	0	---	---	0	20	201	0	---	1,160	47
06/20/2013 *	---	0	---	---	0	40	50	1	400	3,240	43
06/21/2013 *	---	0	---	---	0	100	217	0	---	1,188	29
06/22/2013	---	0	---	---	0	80	807	1	300	500	29
06/23/2013 *	---	0	---	---	0	180	100	1	---	563	8
06/24/2013 *	---	0	---	---	0	0	51	1	500	438	80
06/25/2013 *	---	0	---	---	0	20	151	1	---	375	33
06/26/2013 *	---	---	---	---	0	10	151	1	400	313	4
06/27/2013 *	---	---	---	---	0	51	50	2	---	300	0
06/28/2013 *	---	---	---	---	0	90	352	0	200	300	0
06/29/2013 *	---	---	---	---	0	70	101	0	---	286	50
06/30/2013	---	---	---	---	0	40	150	8	600	286	8
07/01/2013 *	---	---	---	---	0	10	52	4	---	429	0
07/02/2013	---	---	---	---	10	40	50	0	600	143	100
07/03/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	10	751	2,483	20	3,000	9,521	431
# Days:	0	7	0	0	14	14	14	14	7	14	14
Average:	0	0	0	0	1	54	177	1	429	680	31
YTD	0	8	0	0	4,932	52,397	63,345	108	62,610	157,289	4,310

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.

†† 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

Definitions for Smolt Index Counts

WTB (Collection) = Salmon River Trap at Whitebird : Collection Counts

IMN (Collection) = Imnaha River Trap : Collection Counts

GRN (Collection) = Grande Ronde River Trap : Collection Counts

LEW (Collection) = Snake River Trap at Lewiston : Collection Counts

LGR (Index) = Lower Granite Dam Bypass Collection System : Passage Index Counts

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

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

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

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

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

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

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

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

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

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

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

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

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

JDA and BO2 data collected for the FPC by Pacific States Marine Fisheries Commission.

RIS data collected for the FPC by Chelan Co. PUD.

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.

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

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

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

7/3/13 7:39 AM

06/19/13 TO 07/03/13

		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
LGR	Sum of NumberCollected	54,500	120	20	1,730	40	56,410
	Sum of NumberBarged	54,928	150	20	1,897	40	57,035
	Sum of NumberBypassed	395	0	0	0	0	395
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	33	0	0	1	0	34
	Sum of FacilityMorts	34	0	0	2	0	36
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	67	0	0	3	0	70
LGS	Sum of NumberCollected	86,365	408	60	4,726	20	91,579
	Sum of NumberBarged	85,333	459	40	5,347	39	91,218
	Sum of NumberBypassed	12	0	0	0	0	12
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	11	0	0	0	0	11
	Sum of FacilityMorts	71	2	0	9	0	82
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	82	2	0	9	0	93
LMN	Sum of NumberCollected	40,266	327	7	1,874		42,474
	Sum of NumberBarged	33,060	318	7	1,795		35,180
	Sum of NumberBypassed	6,121	2	0	25		6,148
	Sum of Numbertrucked	0	0	0	0		0
	Sum of SampleMorts	37	0	0	5		42
	Sum of FacilityMorts	42	1	0	12		55
	Sum of ResearchMorts	0	0	0	0		0
	Sum of TotalProjectMorts	79	1	0	17		97
MCN	Sum of NumberCollected	474,600	2,006	400	2,411	1,000	480,417
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	474,552	2,006	400	2,410	1,000	480,368
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	23	0	0	0	0	23
	Sum of FacilityMorts	26	0	0	1	0	27
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	49	0	0	1	0	50
Total Sum of NumberCollected		655,731	2,861	487	10,741	1,060	670,880
Total Sum of NumberBarged		173,321	927	67	9,039	79	183,433
Total Sum of NumberBypassed		481,080	2,008	400	2,435	1,000	486,923
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		104	0	0	6	0	110
Total Sum of FacilityMorts		173	3	0	24	0	200
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		277	3	0	30	0	310

Source: Fish Passage Center

Updated:

7/3/13 7:39 AM

TO: 07/03/13

		Species						
Site	Data	CH0	CH1	CO	SO	ST	LU	Grand Total
LGR	Sum of NumberCollected	395,935	1,865,101	48,060	42,620	1,444,558		3,796,274
	Sum of NumberBarged	378,227	1,554,554	47,791	42,551	1,087,571		3,110,694
	Sum of NumberBypassed	13,690	308,258	210	52	356,574		678,784
	Sum of NumberTrucked	0	0	0	0	0		0
	Sum of SampleMorts	405	173	2	2	39		621
	Sum of FacilityMorts	247	2,066	57	15	256		2,641
	Sum of ResearchMorts	38	52	0	0	47		137
	Sum of TotalProjectMorts	690	2,291	59	17	342		3,399
LGS	Sum of NumberCollected	348,582	1,026,495	36,885	22,600	1,173,850		2,608,412
	Sum of NumberBarged	343,169	979,215	36,665	22,599	1,107,248		2,488,896
	Sum of NumberBypassed	251	46,698	200	1	66,201		113,351
	Sum of NumberTrucked	0	0	0	0	0		0
	Sum of SampleMorts	30	14	0	0	9		53
	Sum of FacilityMorts	131	560	0	0	121		812
	Sum of ResearchMorts	0	0	0	0	0		0
	Sum of TotalProjectMorts	161	574	0	0	130		865
LMN	Sum of NumberCollected	142,966	470,749	7,989	8,062	459,431	1	1,089,198
	Sum of NumberBarged	128,502	469,137	7,988	8,056	457,913	0	1,071,596
	Sum of NumberBypassed	12,236	1,074	0	2	1,135	61	14,508
	Sum of NumberTrucked	0	0	0	0	0	0	0
	Sum of SampleMorts	57	14	0	0	18	0	89
	Sum of FacilityMorts	169	518	1	4	235	0	927
	Sum of ResearchMorts	0	0	0	0	0	0	0
	Sum of TotalProjectMorts	226	532	1	4	253	0	1,016
MCN	Sum of NumberCollected	742,126	1,098,580	43,683	309,435	254,952		2,448,776
	Sum of NumberBarged	0	0	0	0	0		0
	Sum of NumberBypassed	742,050	1,097,758	43,679	309,187	254,897		2,447,571
	Sum of NumberTrucked	0	0	0	0	0		0
	Sum of SampleMorts	38	61	1	33	8		141
	Sum of FacilityMorts	39	761	3	215	47		1,065
	Sum of ResearchMorts	0	0	0	0	0		0
	Sum of TotalProjectMorts	77	822	4	248	55		1,206
Total Sum of NumberCollected		1,629,609	4,460,925	136,617	382,717	3,332,791	1	9,942,660
Total Sum of NumberBarged		849,898	3,002,906	92,444	73,206	2,652,732	0	6,671,186
Total Sum of NumberBypassed		768,227	1,453,788	44,089	309,242	678,807	61	3,254,214
Total Sum of NumberTrucked		0	0	0	0	0	0	0
Total Sum of SampleMorts		530	262	3	35	74	0	904
Total Sum of FacilityMorts		586	3,905	61	234	659	0	5,445
Total Sum of ResearchMorts		38	52	0	0	47	0	137
Total Sum of TotalProjectMorts		1,154	4,219	64	269	780	0	6,486

Cumulative Adult Passage at Mainstem Dams Through: 07/03

DAM	ENDDATE	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	07/02	83345	33820	158089	7592	141713	20323	65483	19712	58641	7049	63520	12207	0	0	0	0	0	0
TDA	07/02	69202	32311	117087	7175	107368	16911	56929	14725	44948	5141	51186	9048	0	0	0	0	0	0
JDA	07/02	56991	28957	107655	6755	92410	15875	48096	13210	36493	5108	44120	8787	0	0	0	0	0	0
MCN	07/02	52176	22279	102763	4787	83990	13854	46180	9493	35033	2231	37654	6193	0	0	0	0	0	0
IHR	07/02	38017	18611	71957	2905	58986	8558	8098	4712	11113	1004	13708	3083	0	0	0	0	0	0
LMN	07/02	36470	19053	68608	2891	58025	7379	7132	5392	11596	936	14137	2709	0	0	0	0	0	0
LGS	07/02	35072	19443	68247	3449	53406	8429	5092	4342	9192	874	12234	3079	0	0	0	0	0	0
LGR	07/02	35031	19940	66366	3525	53382	9851	4436	3885	7974	852	10699	2997	0	0	0	0	0	0
PRD	06/30	13725	1298	19495	1015	15225	1406	26972	725	7144	218	15451	499	0	0	0	0	0	0
WAN	06/30	13715	1661	19804	973	15699	2278	20930	559	5416	210	10428	584	0	0	0	0	0	0
RIS	07/01	13345	3100	19881	800	14248	2237	17006	629	3917	105	10628	984	0	0	0	0	0	0
RRH	07/01	6841	2101	6641	459	5306	853	8849	364	653	32	4885	305	0	0	0	0	0	0
WEL	06/30	7133	2980	5311	700	4618	880	1661	158	64	5	631	24	0	0	0	0	0	0
WFA	06/25	25304	1352	31196	1068	41459	911	0	0	0	0	0	0	0	0	0	0	0	0

DAM	ENDDATE	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	07/02	0	0	0	0	0	0	126900	417687	143583	8065	15229	19182	2433	4986	6311	8042	9579	13496
TDA	07/02	0	0	0	0	0	0	101226	303560	110845	2962	5167	8404	1034	1930	3021	1018	182	976
JDA	07/02	0	0	0	0	0	0	94218	276816	105566	3104	4367	11615	1184	2301	3671	696	54	600
MCN	07/02	1	0	0	0	0	0	71240	221041	78609	2863	6787	9034	1002	2754	2808	101	6	88
IHR	07/02	0	0	0	0	0	0	237	77	119	4904	3292	6454	1675	1230	1736	16	1	2
LMN	07/02	0	0	0	0	0	0	182	53	105	3158	4230	10793	1484	2062	3189	6	7	2
LGS	07/02	0	0	0	0	0	0	128	56	69	2416	4150	10028	1222	2359	3155	3	2	3
LGR	07/02	0	0	0	0	0	0	74	25	45	7567	9071	9992	3262	3985	3272	1	0	0
PRD	06/30	0	0	0	0	0	0	37744	23801	32896	176	239	217	0	0	0	80	35	60
WAN	06/30	0	0	0	0	0	0	24391	12895	21801	250	251	275	0	0	0	19	5	15
RIS	07/01	0	0	0	0	0	0	16633	7277	15635	190	293	209	136	187	137	4	0	4
RRH	07/01	0	0	0	0	0	0	9680	2449	8529	193	841	432	160	685	313	0	0	0
WEL	06/30	0	0	0	0	0	0	4738	499	2423	92	157	93	80	120	58	0	0	0
WFA	06/25	2	0	0	0	0	0	0	0	0	15652	27843	21729	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.