



Fish Passage Center

Weekly Report #14 - 19

July 25, 2014

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Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 33% and 101% of average at individual sub-basins over the first 24 days of July. Precipitation above The Dalles has been 65% of average over July. Over the 2014 water year, precipitation has ranged between 74% and 99% of average.

Table 1. Summary of July precipitation and cumulative October through July 24, 2014, precipitation with respect to average (1971–2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2014		Water Year 2014	
	July 1–24, 2014		October 1, 2013 to July 24, 2014	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia above Coulee	1.43	72	31.5	93
Sneke River above Ice Harbor	0.36	46	16.0	78
Columbia above The Dalles	0.74	65	20.9	83
Kootenai	1.19	54	33.1	96
Clark Fork	0.46	37	20.0	81
Flathead	1.01	58	32.3	99
Pend Oreille River Basin above Waneta Dam	0.68	46	26.5	89
Salmon River Basin	0.47	39	19.6	74
Upper Snake Tributaries	0.72	62	21.4	87
Clearwater	0.46	33	34.0	89
Willamette River above Portland	0.74	101	51.8	84

Table 2 displays the July 24th ESP runoff volume forecasts for multiple reservoirs. The July 24th ESP forecast at The Dalles between January and July is 108,164 Kaf (107% of average).

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

Location	July 24, 2014, 5-day QPF ESP	
	% Average (1981–2010)	Runoff Volume (Kaf)
The Dalles (Jan–July)	107	108164
Grand Coulee (Jan–July)	109	65192
Libby Res. Inflow, MT (Apr–Aug)	116	6804
Hungry Horse Res. Inflow, MT (Jan–July)	133	2785
Lower Granite Res. Inflow (Apr–July)	99	19692
Brownlee Res. Inflow (Apr–July)	63	3439
Dworshak Res. Inflow (Apr–July)	122	2949

Grand Coulee Reservoir is at 1288.7 feet (7-24-14) and has drafted 0.4 feet over the last week (1.3 feet from full). Outflows at Grand Coulee have ranged between 118.5 and 150.5 Kcfs over the last week. The end of August draft limit at Grand Coulee is 1280 feet this year, with an additional 1.0 foot of draft by the end of August as part of the Lake Roosevelt Incremental Storage Release Program.

The Libby Reservoir is currently at elevation 2453.0 feet (7-24-14) and has refilled 0.3 feet over the previous week (6.0 feet from full). Daily average outflows at Libby Dam have been 12.7–15.0 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3559.5 feet (7-24-14) and has held steady over the previous week (0.5 feet from full). Outflows at Hungry Horse have been 3.4 Kcfs over the last week.

Dworshak is currently at an elevation of 1581.9 feet (7-24-14) and has drafted 6.1 feet over the previous week. Outflows over the past week ranged from 9.8 Kcfs to 13.3 Kcfs. Currently, Dworshak is releasing approximately 10.1 Kcfs for lower Snake River water temperature control and flow augmentation.

The Brownlee Reservoir was at an elevation of 2066.9 feet on July 24, 2014, and has drafted 2.7 feet last week. Inflows to Brownlee Dam have ranged between 8.7 and 9.2 Kcfs last week.

The Summer Biological Opinion flow period began on June 21st in the lower Snake River (Lower Granite). According to the June Final Water Supply Forecast (June 6, 2014), the flow objective this summer is 52 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 36.2 Kcfs over the past week and 55.1 since the beginning of the summer flow period.

The flow objective at McNary over the summer period (July 1st to August 31st) is 200 Kcfs. Flows at McNary Dam have averaged 193.6 Kcfs over the past week and 226.5 Kcfs since the beginning of the summer flow period.

Spill

The Snake River projects transitioned to the summer spill program on June 21st. At the lower Columbia projects summer spill was initiated on June 16th. Summer spill operations throughout the FCRPS will continue until August 31st.

All of the Snake River projects met the summer spill levels specified in the Fish Operations Plan (FOP). Spill equal to 18 Kcfs occurred at Lower Granite Dam. Spill at Little Goose Dam averaged the 30% of total flow volume specified in the FOP. At Lower Monumental Dam spill was a 17 Kcfs daily average. At Ice Harbor spill will continue as 45 Kcfs/Gas cap until the end of the season.

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

At the Middle Columbia River projects, McNary Dam spilled 50% of daily average flow. At John Day Dam the testing of the 30% and 40% spill levels occurred until July 20th. Spill will now continue as 30% of daily average flow until August 31st. Spill at The Dalles Dam averaged 40% of total daily flow. Bonneville Dam spilled an alternating 85 Kcfs/121 Kcfs and 95 Kcfs/95 Kcfs.

Project	Spill Level Day/Night
McNary	50%/50%
John Day	Testing: 30%/30% vs. 40%/40% until July 20 July 21- Aug 31: 30%/30%
The Dalles	40%/40%
Bonneville	85 Kcfs/121 Kcfs and 95 Kcfs/95 Kcfs

New in 2014 is a change in the way the U.S. Army Corps of Engineers will assess whether a project is in compliance with the total dissolved gas variances in place. The States of Oregon and Washington use different methodologies to estimate the 12-hour average TDG. For Oregon, the 12-hour average is based on the 12 highest hourly TDG measurements in a single calendar day (not necessarily consecutive). For Washington, the 12-hour average is based on 12-hour rolling averages. The highest of the rolling averages is what is reported as the 12-hour average for a given day. In 2014, the location of a TDG monitor and/or type of monitor will dictate which of these methodologies is used for compliance monitoring. The Washington methodology will apply to all the lower Snake River projects, as well as the lower Columbia River forebay monitors (since Oregon does not have a forebay TDG requirement). On any given day the compliance of the tailrace monitors at the lower Columbia River projects will be determined using either the Washington or Oregon methodology, whichever is the most restrictive, and spill may be decreased if needed.

Monitoring for signs of gas bubble trauma (GBT) occurred at Little Goose, Lower Monumental, McNary, Bonneville, and Rock Island dams over the past week. One fish was observed with minor (Rank 1) signs of GBT at Little Goose Dam on 7/23. The action criteria for GBT are 15% of total fish with any signs of GBT in the fins, or 5% with severe signs (Rank 3 or greater).

Smolt Monitoring

Smolt monitoring is ongoing at all seven SMP dams (BON, JDA, MCN, RIS, LMN, LGS, LGR). Sampling at the SMP traps has been completed for the 2014 out-migration season.

Subyearling Chinook dominated the collections at all the SMP dam sites this week. When compared to last week, subyearling Chinook passage decreased at the three Lower Columbia River sites (BON, JDA, and MCN) and two of the Snake River sites (LGS and LMN). Subyearling Chinook passage increased at Lower Granite Dam on the Snake River and Rock Island Dam on the Upper Columbia River.

Subyearling Chinook passage at Bonneville Dam (BON) decreased again this week, when compared to the previous week. The daily average passage index for subyearling Chinook at BON this week was about 26,000 per day. Last week's daily average passage index was about 75,700 per day. Pacific lamprey macrophthalmia were encountered in five of this week's samples at BON. The daily average collection for Pacific macrophthalmia this week was about 90 per day. The high temperature sampling protocol that was implemented on July 17th was lifted after the July 18th non-sample period. Normal sampling was resumed with the July 19th sample.

Subyearling Chinook passage at John Day Dam (JDA) decreased again this week. This week's daily average passage index for subyearling Chinook was about 28,000 per day. Last week's daily average passage index for subyearling Chinook was about 64,300 per day. No Pacific lamprey ammocoetes were encountered in this week's samples but Pacific lamprey macrophthalmia were present in four of this week's samples. The daily average collection for Pacific lamprey macrophthalmia this week was about 200 per day, which is an increase from last week's daily average collection of about 130 per day.

Sampling at McNary Dam (MCN) is every-other-day for the entire 2014 SMP season. Subyearling Chinook passage decreased again this week when compared to the previous week. The daily average passage index for subyearling Chinook at MCN this week was about 63,600 per day. Last week's daily

average passage index for subyearling Chinook was about 191,000. Pacific lamprey macrophthalmia were encountered in three of the four samples this week. The daily average collection for Pacific lamprey macrophthalmia this week was about 125 per day, which is a decrease from last week's daily average collection of about 1,400 per day.

This week's daily average passage index for subyearling Chinook at Lower Granite Dam (LGR) was about 4,400 per day, which is an increase from last week's daily average passage index of about 3,900 per day. Only two Pacific lamprey ammocoetes were sampled this week, one on July 19th and one on July 21st. No Pacific macrophthalmia were sampled at LGR this week.

Passage of subyearling Chinook continued to decrease at Little Goose (LGS) and Lower Monumental (LMN) dams this week, when compared to the previous week. This week's daily average passage index for subyearling Chinook at LGS was about 4,000 per day while that at LMN was nearly 1,800 per day. Last week's daily average passage indices for subyearling Chinook at these sites were nearly 5,600 per day at LGS and 2,150 at LMN. No Pacific lamprey ammocoetes were encountered at LGS this week, but LMN collected its first Pacific ammocoete of the 2014 season this week. Only LGS collected Pacific lamprey macrophthalmia this week but only on one day (July 24th).

Passage of subyearling Chinook at Rock Island Dam (RIS) increased this week, when compared to last week. This week's daily average passage index for subyearling Chinook was about 700 per day whereas that for last week was about 490 per day. So far this year, only Pacific lamprey macrophthalmia have been collected at RIS. A total of five Pacific lamprey macrophthalmia were encountered this week: one on July 19th, one on July 20th, and three on July 22nd.

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 this zone this week. In addition, no new releases are scheduled for this zone over the next 2 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 releases scheduled for this zone this week and no releases are scheduled for this zone over the next 2 weeks.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Approximately 2.1 million subyearling fall Chinook brights are scheduled to be released from Willard NFH into the Little White Salmon River sometime in the next couple of weeks. This release was originally expected to occur at the beginning of July but has been delayed in order to allow time for the fish to reach the desired release size. At this time, the exact release date is not known. Marking information for these fish is also unknown at this time. There are no other releases scheduled for this zone over the next 2 weeks.

Adult Passage

Daily adult summer Chinook passage numbers at Bonneville Dam ranged between 508 and 1,169 in the last week. The 2014 summer Chinook count of 105,620 is about 1.2 times greater than the 2013 count and about 1.3 times greater than the 10-year average. The 2014 Bonneville Dam summer Chinook jack count of 23,561 is 93.4% of the 2013 count, while being 1.3 times greater than the 10-year average count. At McNary Dam 81,747 adult summer Chinook have been counted. The 2014 adult summer Chinook count at McNary Dam is about 1.16 times greater than the 2013 count and is about 1.4 times greater than the 10-year average. The 2014 McNary Dam summer Chinook jack count of 15,018 has 1,339 more fish than the 2013 count and is about 1.46 times greater than the 10-year average count. The 2014 adult summer Chinook count of 13,472 at Lower Granite Dam in the Snake River is about 1.9 times greater than the 2013 count, while being 93.4% of the 10-year average count. The 2014 Lower Granite summer Chinook jack count of 6,666 has 108 more fish than the 2013 count and 1,127 more fish than the 10-year average count.

The 2014 Bonneville Dam adult steelhead count of 74,006 has 1.9 times greater than the 2013 count of

39,425 and has 351 more fish than the 10-year average count of 73,665. The 2014 Bonneville Dam adult wild steelhead count of 38,096 is about 1.8 times greater than the 2013 count of 21,529 and about 1.2 times greater than the 10-year average count of 32,854. Daily adult steelhead counts at Lower Granite Dam ranged from 176 to 354 adults per day last week. This year's Lower Granite steelhead count of 10,597 is about 1.3 times greater than the 2013 count of 8,057, while being about 95.7% of the 10-year average count of 11,071. The 2014 Lower Granite Dam adult wild steelhead count of 5,077 is about 1.5 times greater than the 2013 count of 3,464 and is about 1.3 times greater than the 10-year average count of 3,935. At Willamette Falls, the 2014 count for steelhead was 25,039 as of July 23rd. This year's steelhead count is about 1.5 times greater than the 2013 count of 17,061 and has 673 more fish than the 10-year average count of 24,366.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 1,061 and 3,152 last week. The 2014 adult sockeye count at Bonneville Dam of 609,928 is about 3.3 times greater than the 2013 count and about 3.2 times greater than the 10-year average count. The 2014 McNary Dam adult sockeye count of 538,277 is about 4.1 times greater than the 2013 count of 131,916 and about 4.0 times greater than the 10-year average count of 135,055. The Lower Granite Dam 2014 adult sockeye count of 2,270 has 1,696 more fish the 2013 count of 574 and 1,656 more fish than the 10-year average of 614. As of July 24th at Bonneville Dam, the adult shad count was 2,600,718. This year's shad count is about 69.4% of the 2013 count of 3,745,097 and 93.7% of the 10-year average count of 2,776,722.

Wanapum Dam Update

At Wanapum Dam a significant crack (65-feet long by 2-inches wide) was discovered in a spillway monolith (#4) on February 27, 2014. This discovery has led to an emergency drawdown of the Wanapum pool to an elevation range of 541–545 feet, which is over 20 feet below its typical forebay elevation. Preliminary results of an investigation by Grant PUD and its consultants has determined that the primary contributing factor to a fracture developing within the dam's spillway was a mathematical error during the pre-construction design of Wanapum Dam.

The drawdown of Wanapum pool had caused the adult fishways at Wanapum Dam to not be operational. The adult fishways exits had been approximately 10 feet above the forebay water level. Grant County has designed adult fishway retrofits that involve the use of weir boxes and chutes to deliver adult fish into the forebay of Wanapum Dam. On April 15, 2014, the weir and chute retrofit was operational at the left bank fishway. A weir and chute has also been installed at the right bank fishway at Wanapum and was operational on April 26, 2014. Grant County PUD installed a spiral flume on the left bank fishway that reduces the elevation of the chute outflow from approximately 10 feet down to several feet. At the time of installing the spiral flume at the left bank fishway exit, Grant County also installed a ramp structure leading up to the weir and barriers to prevent jumping outside the structure. Grant PUD has also completed the installation of the spiral flume at the right bank fishway.

Visual observations of the exit retrofits have been promising. During Wanapum Dam site visits on May 7, May 21, June 4, June 18, July 2, and July 23, 2014, many fish have been seen passing the left bank fishway weir and chute. On July 23, 2014, over a 20-minute period, the left bank weir successfully passed well over a 150 fish (predominantly sockeye and chinook). Although a majority of fish continue to pass via the left bank ladder at Wanapum, more fish appear to be passing the right bank ladder weir as compared to previous site visits (approximately 30 total fish in 20 minutes on July 23, 2014). During previous visits, a significant eddy had been noticed at the right bank fishway entrance;

during the recent visit this eddy was much smaller. It seems likely that the reduction of this eddy has enabled fish to more easily find the right bank fishway entrance.

As of July 24, 2014, a total of 582,853 sockeye and 68,657 adult summer Chinook had passed Priest Rapids Dam. As of July 23, 2014, 541,816 sockeye and 66,049 summer Chinook had passed Rock Island dam.

The drawdown of Wanapum pool has also had a significant impact on the adult fishways at Rock Island Dam, operated by Chelan PUD. With the lower than normal tailrace levels, Chelan PUD has constructed extensions or denils at several ladder entrances. Chelan County PUD currently has all three denils in place, two at the right bank fishway and one of the left bank fishway.

Hatchery Releases Last Two Weeks

Hatchery Release Summary
From: 7/11/2014 **to** 07/24/14

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
U.S. Fish and Wildlife Service	Willard Hatchery	CH0	FA	2014	2,145,000	07-21-14	07-31-14	Willard Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service Total					2,145,000				
Grand Total					2,145,000				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 7/25/2014 **to** 8/7/2014

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
U.S. Fish and Wildlife Service	Willard Hatchery	CH0	FA	2014	2,145,000	07-21-14	07-31-14	Willard Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service Total					2,145,000				
Grand Total					2,145,000				

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
07/11/2014	152.0	0.1	159.8	0.0	158.6	10.0	151.6	14.8	157.4	31.9	154.4	21.3	164.3	30.4
07/12/2014	146.3	0.1	138.9	3.3	155.2	16.5	156.2	18.2	163.6	30.8	161.2	25.4	176.4	38.3
07/13/2014	130.5	0.1	135.1	5.4	142.1	10.0	135.3	13.8	143.5	30.8	143.1	20.6	155.9	27.4
07/14/2014	147.4	0.2	150.6	0.0	144.0	10.2	138.8	14.8	146.4	31.8	138.9	20.7	140.6	28.7
07/15/2014	150.6	0.1	153.5	0.0	157.7	13.1	158.8	18.7	165.8	31.6	158.4	26.0	168.8	39.7
07/16/2014	143.0	0.1	141.9	0.0	151.0	12.2	151.9	19.2	162.3	30.5	156.5	20.9	170.9	37.3
07/17/2014	138.0	0.1	138.5	0.0	142.4	10.0	138.6	14.4	144.5	29.4	142.6	20.1	151.4	29.5
07/18/2014	129.3	0.2	129.8	0.0	137.6	10.0	134.8	12.6	141.9	28.2	140.6	20.3	150.3	28.5
07/19/2014	132.5	0.1	132.1	0.0	135.7	10.0	132.2	12.0	141.7	27.2	137.2	20.3	144.2	28.6
07/20/2014	118.5	0.1	122.6	0.0	124.8	9.4	124.3	11.9	133.5	27.0	130.7	20.2	135.9	29.6
07/21/2014	129.1	0.1	120.3	0.0	133.3	9.4	133.9	12.8	141.3	27.9	140.9	20.2	152.9	27.9
07/22/2014	136.4	0.1	142.8	0.0	137.2	10.0	130.0	13.0	137.0	27.8	130.2	20.2	132.5	28.6
07/23/2014	149.3	0.1	146.0	3.1	146.9	10.0	141.9	16.6	147.4	28.9	144.2	20.4	152.9	30.5
07/24/2014	150.2	0.1	151.1	36.5	151.3	12.0	150.9	26.2	154.6	28.4	149.6	30.7	153.8	39.6

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

Date	Dworshak		Brownlee Inflow	Hells Canyon Outflow		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill		Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
07/11/2014	13.1	3.5	---	14.6	52.7	18.6	50.6	15.1	52.2	16.7	53.5	21.2	---
07/12/2014	13.6	4.0	---	14.8	50.8	18.5	49.9	14.9	49.4	17.0	48.6	14.6	---
07/13/2014	13.7	4.1	---	14.1	48.7	18.4	48.4	14.5	48.2	16.8	51.9	36.2	---
07/14/2014	12.8	3.2	---	14.0	44.7	18.4	41.9	12.5	42.3	16.6	45.4	35.6	---
07/15/2014	11.8	2.2	---	12.9	43.4	18.5	44.6	13.3	42.9	16.4	44.6	34.6	---
07/16/2014	11.8	2.2	---	13.2	41.5	18.5	40.6	12.1	41.3	17.0	42.8	32.9	---
07/17/2014	12.5	2.8	---	11.4	41.7	18.5	39.6	11.8	39.2	16.7	41.3	31.4	---
07/18/2014	13.3	3.7	---	11.2	39.7	18.5	39.5	11.8	40.6	17.0	42.0	32.4	---
07/19/2014	13.3	3.6	---	11.5	36.3	18.5	36.0	10.8	36.2	16.6	36.7	26.7	---
07/20/2014	12.2	2.6	---	13.1	38.5	18.5	38.0	11.3	38.5	17.0	40.2	30.3	---
07/21/2014	10.7	1.0	---	11.9	37.4	18.6	38.4	11.4	38.6	17.0	39.9	30.0	---
07/22/2014	9.9	0.2	---	12.3	33.3	18.6	31.9	9.5	31.3	17.0	33.2	23.6	---
07/23/2014	9.8	0.2	---	13.4	33.5	18.7	33.3	10.0	33.9	16.7	35.4	25.4	---
07/24/2014	10.1	0.5	---	10.4	34.9	18.7	35.9	10.8	35.5	17.0	37.9	28.1	---

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
07/11/2014	228.9	114.6	213.3	67.9	194.6	77.6	216.2	95.5	22.0	86.3
07/12/2014	238.4	119.3	245.4	98.2	236.0	94.6	236.6	90.4	33.5	100.3
07/13/2014	213.6	107.0	194.0	74.7	182.4	72.6	222.8	95.1	22.1	93.2
07/14/2014	220.5	110.2	210.4	63.1	190.5	76.4	206.9	100.5	11.1	82.8
07/15/2014	195.6	97.7	193.4	61.8	179.2	71.5	191.5	96.2	6.1	76.7
07/16/2014	217.8	109.0	207.8	82.5	192.2	76.5	209.4	90.2	16.6	90.2
07/17/2014	204.0	102.2	191.4	73.0	173.6	69.5	191.6	94.9	0.1	84.1
07/18/2014	201.4	101.0	204.6	61.4	194.3	77.7	210.7	100.4	7.9	89.9
07/19/2014	202.2	101.1	183.6	57.7	171.6	68.6	177.3	96.1	0.0	68.8
07/20/2014	207.8	104.2	191.2	76.0	172.8	69.1	184.1	90.8	0.0	80.8
07/21/2014	182.0	91.2	194.3	74.1	180.8	72.2	203.2	95.1	7.1	88.5
07/22/2014	185.1	92.5	171.9	51.5	158.6	63.4	179.4	99.9	0.0	67.1
07/23/2014	189.5	95.0	168.9	50.5	157.4	62.9	172.9	94.9	0.0	65.5
07/24/2014	186.9	93.7	185.0	55.5	169.8	67.4	185.4	90.7	0.0	82.3

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

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank			
								Rank 1	Rank 2	Rank 3	Rank 4
Lower Granite Dam											
Little Goose Dam											
	07/14/14	Chinook + Steelhead	66	0	0	0.00%	0.00%	0	0	0	0
	07/21/14	Chinook + Steelhead	43	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	07/16/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/23/14	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
McNary Dam											
	07/11/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/13/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/17/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/21/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	07/12/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/15/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/19/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/22/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	07/15/14	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	07/17/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/22/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/24/14	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	<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>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>				
7/11	107.7	107.8	108.1	24	---	---	---	0	116.6	116.7	117.0	24	113.6	113.8	114.2	24	114.4	114.5	114.6	24
7/12	107.5	107.8	108.0	24	---	---	---	0	115.7	115.9	116.2	24	113.5	113.9	114.3	24	114.5	114.8	115.0	24
7/13	107.4	107.9	108.2	24	---	---	---	0	115.6	115.8	115.9	24	112.9	113.7	114.2	24	114.8	115.3	115.9	24
7/14	108.0	108.4	108.9	24	---	---	---	0	116.0	116.3	116.5	24	113.5	114.0	114.4	24	114.7	114.9	115.2	24
7/15	108.0	108.2	108.5	24	---	---	---	0	116.3	116.6	116.8	24	113.9	114.6	115.0	24	115.0	115.4	115.5	24
7/16	108.1	108.6	108.8	24	---	---	---	0	116.8	117.2	117.6	24	114.5	115.0	115.5	24	115.0	115.4	115.7	24
7/17	108.8	109.3	109.8	24	---	---	---	0	117.1	117.3	117.6	24	114.3	114.8	115.3	24	115.5	115.7	116.0	24
7/18	108.2	108.4	108.8	24	---	---	---	0	116.8	117.0	117.5	24	114.0	114.2	114.5	24	114.1	114.1	114.2	3
7/19	108.1	108.5	109.0	24	---	---	---	0	116.7	117.0	117.3	24	114.2	114.7	115.4	24	114.0	114.3	114.5	24
7/20	108.1	108.6	108.9	24	---	---	---	0	116.8	116.9	117.1	24	113.9	114.2	114.9	24	114.1	114.7	115.0	24
7/21	106.5	106.8	107.0	24	---	---	---	0	116.0	116.2	116.6	24	113.6	113.9	114.1	24	113.8	114.1	114.5	24
7/22	106.2	106.3	106.4	23	---	---	---	0	115.1	115.4	115.9	24	112.7	113.0	113.2	24	113.4	113.6	113.9	24
7/23	106.9	107.5	107.9	24	---	---	---	0	115.0	115.3	115.6	24	113.0	113.4	114.0	24	113.3	113.7	114.2	24
7/24	107.2	107.4	107.6	23	---	---	---	0	114.2	114.5	114.8	23	112.0	112.1	112.3	23	111.5	111.8	112.4	23

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>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>				
7/11	113.5	113.8	114.1	24	114.4	114.5	114.8	16	115.3	115.5	116.4	16	113.7	114.3	114.6	24	115.8	116.9	117.6	24
7/12	112.7	113.5	114.2	24	114.1	114.2	114.5	18	115.7	116.3	118.2	18	113.8	114.2	114.4	24	116.8	117.4	117.8	24
7/13	112.8	113.8	114.0	24	114.5	114.6	115.6	14	115.2	115.4	116.7	14	114.5	115.4	115.8	24	116.3	117.8	120.7	24
7/14	113.2	114.1	114.6	24	114.3	114.6	115.1	20	115.2	115.6	116.3	20	114.5	114.8	115.4	24	116.7	117.5	119.6	24
7/15	114.3	114.6	114.8	24	114.2	114.6	115.6	18	115.8	116.3	117.0	18	114.2	114.8	115.1	24	117.7	118.1	118.6	24
7/16	114.2	114.5	115.3	24	115.5	115.8	116.2	19	116.8	117.3	117.8	19	115.1	115.7	116.1	24	118.5	118.9	119.6	24
7/17	115.1	115.4	115.8	24	114.9	115.4	115.6	20	116.0	116.5	117.2	20	115.2	115.4	115.6	24	117.1	118.0	118.8	24
7/18	113.9	113.9	114.0	3	113.1	113.3	113.5	18	114.2	114.4	114.6	18	113.9	114.2	114.9	24	115.9	116.4	116.8	24
7/19	114.2	114.5	114.7	24	112.9	113.1	113.5	20	114.0	114.2	114.6	20	112.6	112.8	113.3	24	115.3	115.8	116.5	24
7/20	114.1	114.5	115.2	24	112.7	112.9	113.3	18	113.8	114.2	114.8	18	111.8	111.9	112.2	24	114.4	115.2	115.6	24
7/21	113.5	113.9	114.7	24	112.2	112.5	113.1	17	113.1	113.6	114.4	17	110.7	111.0	111.5	24	114.1	114.9	115.2	24
7/22	113.0	113.2	113.9	24	112.3	112.5	112.7	19	113.3	113.6	113.9	19	110.3	110.6	110.7	24	114.0	115.0	115.4	24
7/23	112.9	113.3	113.9	24	112.9	113.4	113.9	18	114.1	114.6	115.3	18	111.1	111.4	111.5	24	115.1	115.6	115.9	24
7/24	114.9	117.0	117.2	23	111.1	111.3	111.9	17	112.7	112.9	114.3	17	111.1	111.3	111.3	23	116.3	116.9	117.4	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>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>				
7/11	113.4	114.2	114.8	24	114.4	115.0	115.5	24	---	---	---	0	---	---	---	0	---	---	---	0
7/12	113.7	114.5	114.9	24	114.8	115.3	115.5	24	---	---	---	0	---	---	---	0	---	---	---	0
7/13	113.8	114.7	115.7	24	111.0	114.6	115.3	24	---	---	---	0	---	---	---	0	---	---	---	0
7/14	114.3	114.7	115.4	24	112.4	115.2	115.7	24	---	---	---	0	---	---	---	0	---	---	---	0
7/15	114.3	115.1	115.5	24	116.1	117.7	118.1	24	---	---	---	0	---	---	---	0	---	---	---	0
7/16	114.8	115.9	116.5	24	116.7	118.4	119.1	23	---	---	---	0	---	---	---	0	---	---	---	0
7/17	113.9	114.4	115.3	24	115.5	116.9	117.6	24	---	---	---	0	---	---	---	0	---	---	---	0
7/18	112.6	112.9	113.4	24	113.3	116.0	116.6	23	---	---	---	0	---	---	---	0	---	---	---	0
7/19	112.3	112.6	112.8	24	110.5	114.1	115.7	24	---	---	---	0	---	---	---	0	---	---	---	0
7/20	111.3	111.6	112.1	24	107.9	112.9	113.3	24	---	---	---	0	---	---	---	0	---	---	---	0
7/21	110.4	111.0	111.7	24	109.0	114.4	114.8	24	---	---	---	0	---	---	---	0	---	---	---	0
7/22	110.1	110.6	110.9	24	108.6	113.8	114.2	24	---	---	---	0	---	---	---	0	---	---	---	0
7/23	111.3	111.8	112.5	24	112.3	115.1	115.6	24	---	---	---	0	---	---	---	0	---	---	---	0
7/24	111.2	112.3	113.1	23	112.4	114.0	114.7	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			Clrwtr-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					
7/11	---	---	---	0	---	---	---	0	108.7	109.2	110.0	24	106.4	107.3	108.2	24	102.4	103.6	104.7	24
7/12	---	---	---	0	---	---	---	0	109.0	109.4	109.8	24	106.9	107.7	108.3	24	102.5	103.7	104.7	24
7/13	---	---	---	0	---	---	---	0	109.1	109.5	110.1	24	107.2	107.8	108.6	24	102.6	103.8	104.7	24
7/14	---	---	---	0	---	---	---	0	107.1	109.4	109.8	24	106.3	107.3	108.2	24	102.7	103.9	104.7	24
7/15	---	---	---	0	---	---	---	0	104.1	104.5	104.9	24	104.7	105.6	106.3	24	102.6	103.8	104.8	24
7/16	---	---	---	0	---	---	---	0	104.3	104.9	105.3	24	105.0	106.1	106.8	24	102.7	104.1	105.2	24
7/17	---	---	---	0	---	---	---	0	106.4	108.2	108.7	24	106.2	107.9	108.8	24	102.5	103.8	105.1	24
7/18	---	---	---	0	---	---	---	0	108.2	108.4	108.5	24	106.9	107.3	107.7	24	101.8	102.9	103.8	24
7/19	---	---	---	0	---	---	---	0	108.3	108.8	109.1	24	107.3	108.3	109.0	24	102.2	103.7	104.9	24
7/20	---	---	---	0	---	---	---	0	105.3	106.4	108.2	24	105.5	106.2	106.7	24	102.2	103.3	104.2	24
7/21	---	---	---	0	---	---	---	0	102.3	103.6	104.5	24	103.8	104.5	105.3	24	101.9	102.9	103.9	24
7/22	---	---	---	0	---	---	---	0	100.7	101.0	101.5	24	102.6	103.5	104.4	24	101.7	102.8	103.8	24
7/23	---	---	---	0	---	---	---	0	100.9	101.5	102.2	24	103.1	104.2	105.2	24	102.0	103.4	105.1	24
7/24	---	---	---	0	---	---	---	0	100.5	100.7	100.9	23	103.2	104.6	109.6	23	101.7	102.9	103.9	23

Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clrwtr-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					
7/11	104.9	106.9	108.4	24	103.5	103.8	104.1	24	115.1	115.5	115.9	24	115.3	115.5	115.8	24	113.9	114.3	114.9	24
7/12	105.1	107.2	108.7	24	102.5	102.8	103.0	24	114.7	114.9	115.2	24	113.9	114.2	114.7	24	113.3	113.6	113.9	24
7/13	105.6	107.8	109.2	24	102.3	102.8	103.1	24	114.9	115.2	115.5	24	113.2	113.5	113.9	24	112.9	113.3	113.8	24
7/14	105.0	106.8	108.3	24	102.9	103.2	103.6	24	115.1	115.3	115.5	24	113.5	113.9	114.4	24	113.3	113.8	114.2	24
7/15	104.6	106.9	108.4	24	103.0	103.6	103.9	24	115.5	115.6	115.8	24	114.3	114.6	115.4	24	113.6	113.9	114.2	24
7/16	104.7	107.0	108.7	24	103.3	103.7	104.1	24	115.5	115.6	116.0	24	114.4	114.5	114.8	24	113.5	113.8	114.0	24
7/17	104.7	106.8	108.1	24	104.0	104.6	104.9	24	116.1	116.4	116.6	24	113.9	114.1	114.4	24	113.6	114.1	114.4	24
7/18	104.4	106.0	107.1	24	103.0	103.2	103.6	24	115.7	116.0	116.4	24	111.8	112.2	113.2	24	113.1	113.4	113.6	24
7/19	105.7	108.2	109.8	24	102.8	102.9	103.2	24	116.2	116.5	116.7	24	110.5	110.7	111.0	24	113.1	113.4	113.7	24
7/20	105.1	106.8	108.2	24	102.4	102.6	103.0	24	115.8	116.1	116.2	24	109.6	109.9	110.5	24	112.6	112.8	113.0	24
7/21	104.3	106.7	108.2	24	100.6	100.9	101.6	24	115.6	116.0	116.3	24	107.5	107.9	108.7	24	111.7	112.2	112.6	24
7/22	103.1	105.1	106.8	24	100.6	100.8	101.3	24	116.4	116.6	116.8	24	106.8	107.0	107.3	24	111.1	111.5	112.2	24
7/23	103.6	105.8	108.0	24	101.5	102.1	102.9	24	116.5	116.9	117.6	23	106.9	107.3	107.5	24	111.2	111.9	112.5	24
7/24	103.2	105.4	107.3	22	101.4	101.6	101.9	23	116.3	116.7	117.7	23	106.0	106.4	106.7	23	110.9	111.2	111.5	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					
7/11	113.7	113.9	114.2	24	115.9	116.5	117.2	24	115.5	115.7	116.1	24	113.2	114.2	115.4	24	---	---	---	0
7/12	113.0	113.3	113.9	24	115.9	116.3	117.0	24	114.7	114.8	115.1	24	112.7	113.7	114.6	24	---	---	---	0
7/13	113.9	114.5	115.0	24	115.6	115.9	116.6	24	115.0	115.5	115.7	24	113.4	114.4	115.5	24	---	---	---	0
7/14	113.7	114.0	114.2	24	115.6	116.1	116.7	24	115.4	115.6	115.8	24	112.5	113.1	113.6	24	---	---	---	0
7/15	113.6	113.7	113.9	24	115.5	116.2	116.7	24	115.2	115.6	115.9	24	112.7	113.9	115.0	23	---	---	---	0
7/16	113.5	113.7	113.8	24	116.3	116.5	116.7	24	115.4	115.8	116.0	24	113.1	113.6	114.0	24	---	---	---	0
7/17	113.2	113.3	113.6	24	116.2	116.6	117.8	24	115.4	115.6	115.8	24	113.7	114.5	116.1	24	---	---	---	0
7/18	112.9	113.2	113.7	24	116.0	116.3	116.5	24	114.4	114.9	115.4	24	113.4	114.0	115.8	24	---	---	---	0
7/19	111.8	112.1	112.3	24	115.6	115.9	116.2	24	113.6	113.8	114.0	24	113.7	114.4	115.2	24	---	---	---	0
7/20	110.8	110.9	111.1	24	115.7	116.1	116.7	24	113.0	113.2	113.5	24	113.5	114.1	114.8	24	---	---	---	0
7/21	109.2	109.6	110.1	24	115.4	115.8	116.2	24	111.3	111.6	112.3	24	113.8	114.3	114.8	24	---	---	---	0
7/22	108.2	108.4	108.6	24	115.4	115.7	116.1	24	110.4	110.7	110.9	24	113.3	114.0	114.5	24	---	---	---	0
7/23	108.2	108.4	108.8	24	114.8	115.5	115.8	24	110.6	110.8	111.4	24	113.2	114.1	114.8	24	---	---	---	0
7/24	106.9	107.3	107.7	23	115.0	115.2	115.7	23	108.8	109.1	109.6	23	113.5	113.9	114.2	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>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
7/11	112.3	112.9	114.0	24	116.5	116.8	117.5	24	112.4	112.9	113.3	24	113.5	114.3	116.3	24	112.0	112.3	112.6	24
7/12	111.5	112.1	112.7	24	116.7	117.3	118.3	24	112.2	112.6	112.9	24	114.7	116.5	117.5	24	112.5	113.5	114.2	24
7/13	110.6	110.9	112.0	24	116.1	116.4	117.0	24	111.8	112.1	112.5	24	112.3	113.7	114.9	24	113.3	113.9	114.1	24
7/14	110.8	111.0	111.7	24	116.2	116.6	117.7	24	111.2	111.5	111.9	24	112.6	113.1	113.4	24	110.9	111.1	111.4	24
7/15	111.7	111.8	111.9	24	115.8	116.6	116.9	24	111.1	111.9	112.3	24	112.7	113.1	113.9	24	111.0	111.8	112.6	24
7/16	112.7	113.1	113.3	24	117.0	117.6	117.9	24	112.3	112.7	113.0	24	115.3	117.4	118.0	24	112.3	112.5	112.6	24
7/17	112.5	113.1	113.5	24	116.7	117.0	117.4	24	109.9	110.6	111.7	24	114.9	115.4	115.7	24	109.7	110.7	112.0	24
7/18	110.5	110.8	111.1	24	116.6	116.8	117.1	24	107.7	108.0	108.1	24	114.0	114.4	115.0	24	106.9	107.3	107.7	24
7/19	108.9	109.4	109.7	24	116.5	116.7	117.1	24	106.8	107.1	107.3	24	114.1	114.6	115.1	24	106.6	106.9	107.3	24
7/20	108.4	108.7	108.8	24	116.3	116.8	117.2	24	106.4	106.7	106.9	24	114.3	114.8	114.9	24	107.4	107.7	108.2	24
7/21	106.0	106.4	107.1	24	115.4	116.0	116.3	24	104.4	104.7	105.5	24	114.4	115.6	116.7	24	107.4	107.7	108.3	24
7/22	106.4	106.5	107.3	24	115.7	116.1	116.4	24	103.3	103.4	103.6	24	113.2	113.5	114.0	24	108.7	109.3	109.5	24
7/23	107.1	107.4	107.5	24	115.5	116.0	116.7	24	103.2	103.3	103.4	24	113.0	113.3	113.9	24	106.9	107.3	107.4	24
7/24	105.7	105.9	106.3	23	115.1	115.5	115.7	23	103.1	103.4	103.6	23	112.8	113.1	113.8	23	105.9	106.4	106.8	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>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
7/11	116.8	117.1	117.4	24	110.6	111.4	111.9	24	114.6	115.5	116.1	24	---	---	---	0	117.1	117.4	117.6	24
7/12	117.5	118.0	118.7	24	112.7	113.3	113.7	24	115.0	115.7	116.3	24	---	---	---	0	115.9	116.8	119.3	24
7/13	117.3	117.8	119.0	24	113.4	113.7	113.9	24	115.6	116.1	117.0	24	---	---	---	0	116.1	117.2	119.3	24
7/14	116.2	116.6	117.3	24	111.5	112.2	112.7	24	115.8	116.4	116.9	24	---	---	---	0	117.2	117.6	118.3	24
7/15	116.2	117.2	117.9	24	110.4	111.2	111.6	24	115.4	116.2	116.7	24	---	---	---	0	116.8	117.1	117.4	24
7/16	117.3	117.9	118.4	24	111.7	112.1	112.4	24	115.1	115.5	115.7	24	---	---	---	0	115.9	116.6	119.1	24
7/17	115.6	116.1	116.4	24	109.3	109.9	110.9	24	114.2	114.6	115.4	24	---	---	---	0	115.7	116.7	118.8	24
7/18	113.9	114.3	114.8	24	106.3	106.7	107.5	24	113.5	114.1	114.7	24	---	---	---	0	116.9	117.4	118.1	24
7/19	113.5	113.8	113.9	24	106.3	106.8	107.3	24	114.7	115.4	115.7	24	---	---	---	0	116.5	116.6	116.8	24
7/20	113.4	113.7	114.0	24	106.7	107.0	107.1	24	113.3	113.6	114.0	24	---	---	---	0	115.3	115.9	118.2	24
7/21	114.0	114.6	114.9	24	107.0	107.3	107.7	24	114.3	115.4	116.7	24	---	---	---	0	115.5	116.4	118.6	24
7/22	114.8	115.4	116.0	24	108.4	109.4	110.4	24	115.7	116.3	117.2	24	---	---	---	0	116.6	117.1	118.5	24
7/23	113.5	114.0	114.4	24	110.0	110.6	110.9	24	115.3	116.0	116.4	24	---	---	---	0	116.7	117.1	117.4	24
7/24	112.9	113.1	113.5	23	108.1	108.3	108.7	23	113.9	114.2	114.6	23	---	---	---	0	115.0	115.5	118.2	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 7/25/2014 7:33

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/smoltqueries/currentsmpsubmitdata.asp>

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)	
07/11/2014	*	---	10	---	---	0	0	0	0	---	287	0
07/12/2014	*	---	---	---	---	8	0	30	0	0	220	0
07/13/2014	*	---	---	---	---	0	0	46	0	---	0	338
07/14/2014	*	---	6	---	---	0	0	15	0	0	0	342
07/15/2014	*	---	6	---	---	0	14	0	0	---	0	0
07/16/2014		---	---	---	---	0	0	0	0	0	0	0
07/17/2014	*	---	---	---	---	0	0	0	0	---	0	0
07/18/2014	*	---	---	---	---	0	0	16	0	0	312	---
07/19/2014	*	---	---	---	---	0	0	0	0	---	286	0
07/20/2014		---	---	---	---	0	0	0	0	0	761	0
07/21/2014	*	---	---	---	---	0	0	0	0	---	333	114
07/22/2014		---	---	---	---	0	0	0	0	0	0	0
07/23/2014	*	---	---	---	---	0	0	0	0	---	0	0
07/24/2014		---	---	---	---	0	0	---	0	0	286	0
07/25/2014		---	---	---	---	---	---	---	---	---	---	---
Total:		0	22	0	0	8	14	107	0	0	2,485	794
# Days:		0	3	0	0	14	14	13	14	7	14	13
Average:		0	7	0	0	1	1	8	0	0	178	61
YTD		65,404	63,600	25,420	10,159	4,807,472	2,838,732	1,969,587	26,427	2,022,048	2,320,447	2,151,049

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)	
07/11/2014	*	---	1	---	---	2,960	7,438	3,569	399	---	86,907	122,949
07/12/2014	*	---	---	---	---	3,294	5,088	1,289	417	275,177	97,234	99,124
07/13/2014	*	---	---	---	---	5,833	4,538	2,076	302	---	62,737	97,560
07/14/2014	*	---	0	---	---	4,436	5,562	2,971	565	165,300	36,765	66,374
07/15/2014	*	---	0	---	---	4,567	4,896	1,513	560	---	80,872	46,458
07/16/2014		---	---	---	---	3,552	5,348	2,072	585	132,769	59,214	36,765
07/17/2014	*	---	---	---	---	2,498	6,625	1,582	595	---	26,675	60,444
07/18/2014	*	---	---	---	---	4,605	9,823	1,904	1,107	108,476	25,438	---
07/19/2014	*	---	---	---	---	3,689	6,870	1,938	926	---	47,692	29,546
07/20/2014		---	---	---	---	5,266	2,931	1,148	876	56,261	35,473	28,953
07/21/2014	*	---	---	---	---	6,145	3,645	1,384	403	---	23,504	37,435
07/22/2014		---	---	---	---	3,057	1,766	672	398	44,215	20,183	29,229
07/23/2014	*	---	---	---	---	3,235	1,116	3,737	668	---	17,783	6,952
07/24/2014		---	---	---	---	4,909	2,093	---	557	45,402	26,112	24,248
07/25/2014		---	---	---	---	---	---	---	---	---	---	---
Total:		0	1	0	0	58,046	67,739	25,855	8,358	827,600	646,589	686,037
# Days:		0	3	0	0	14	14	13	14	7	14	13
Average:		0	0	0	0	4,146	4,839	1,989	597	118,229	46,185	52,772
YTD		0	27	4	332	892,196	982,851	356,393	29,947	4,374,761	2,434,291	3,979,708

Two-Week Summary of Passage Indices

COMBINED COHO												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
07/11/2014	*	---	0	---	---	0	0	0	2	---	0	0
07/12/2014	*	---	---	---	---	0	0	0	2	0	0	0
07/13/2014	*	---	---	---	---	0	0	0	5	---	0	0
07/14/2014	*	---	0	---	---	0	0	0	0	0	0	0
07/15/2014	*	---	0	---	---	0	0	0	2	---	0	0
07/16/2014		---	---	---	---	0	0	0	2	0	0	0
07/17/2014	*	---	---	---	---	0	0	0	0	---	0	0
07/18/2014	*	---	---	---	---	0	0	0	0	0	0	---
07/19/2014	*	---	---	---	---	0	0	0	2	---	0	0
07/20/2014		---	---	---	---	0	0	0	1	0	0	0
07/21/2014	*	---	---	---	---	0	0	0	0	---	0	0
07/22/2014		---	---	---	---	0	0	0	0	0	0	114
07/23/2014	*	---	---	---	---	0	0	0	0	---	0	0
07/24/2014		---	---	---	---	0	0	---	2	0	72	0
07/25/2014		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	0	0	18	0	72	114	
# Days:		0	3	0	0	14	14	13	14	7	14	13
Average:		0	0	0	0	0	0	1	0	5	9	
YTD		0	0	0	267	74,168	59,431	27,316	66,428	147,455	225,188	776,651

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)	
07/11/2014	*	---	0	---	---	46	129	47	2	---	0	0
07/12/2014	*	---	---	---	---	16	29	30	4	409	0	0
07/13/2014	*	---	---	---	---	0	0	15	2	---	0	0
07/14/2014	*	---	0	---	---	32	57	0	5	0	0	0
07/15/2014	*	---	1	---	---	18	79	0	8	---	0	332
07/16/2014		---	---	---	---	0	14	0	5	0	0	232
07/17/2014	*	---	---	---	---	0	29	0	3	---	0	0
07/18/2014	*	---	---	---	---	11	14	0	7	410	0	---
07/19/2014	*	---	---	---	---	0	14	0	3	---	0	0
07/20/2014		---	---	---	---	0	0	0	0	0	0	0
07/21/2014	*	---	---	---	---	0	14	0	3	---	0	0
07/22/2014		---	---	---	---	0	0	0	0	0	0	0
07/23/2014	*	---	---	---	---	0	14	4	3	---	0	0
07/24/2014		---	---	---	---	11	0	---	3	0	0	0
07/25/2014		---	---	---	---	---	---	---	---	---	---	---
Total:		0	1	0	0	134	393	96	48	819	0	564
# Days:		0	3	0	0	14	14	13	14	7	14	13
Average:		0	0	0	0	10	28	7	3	117	0	43
YTD		2,080	43,465	4,243	12,842	3,376,138	1,975,561	1,183,165	27,436	586,885	1,032,890	459,444

Two-Week Summary of Passage Indices

COMBINED SOCKEYE												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
07/11/2014	*	---	0	---	---	0	0	93	2	---	0	0
07/12/2014	*	---	---	---	---	0	0	0	2	0	0	0
07/13/2014	*	---	---	---	---	32	0	0	9	---	239	338
07/14/2014	*	---	0	---	---	16	0	15	0	0	0	0
07/15/2014	*	---	0	---	---	0	14	0	2	---	0	0
07/16/2014		---	---	---	---	0	0	0	2	0	0	0
07/17/2014	*	---	---	---	---	0	14	0	0	---	0	232
07/18/2014	*	---	---	---	---	4	14	0	0	0	0	---
07/19/2014	*	---	---	---	---	19	14	0	3	---	143	0
07/20/2014		---	---	---	---	21	29	0	7	0	0	0
07/21/2014	*	---	---	---	---	0	0	0	0	---	0	0
07/22/2014		---	---	---	---	0	14	0	3	0	0	0
07/23/2014	*	---	---	---	---	23	0	0	0	---	0	0
07/24/2014		---	---	---	---	0	0	---	0	0	0	0
07/25/2014		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	115	99	108	30	0	382	570
# Days:		0	3	0	0	14	14	13	14	7	14	13
Average:		0	0	0	0	8	7	8	2	0	27	44
YTD		0	0	2	0	181,985	88,374	69,781	37,891	1,495,357	577,504	589,879

COMBINED LAMPREY JUVENILES												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR† (Samp)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)	
07/11/2014	*	---	0	---	---	2	10	0	3	---	0	0
07/12/2014	*	---	---	---	---	0	0	0	2	800	143	0
07/13/2014	*	---	---	---	---	0	0	0	0	---	143	0
07/14/2014	*	---	0	---	---	0	0	10	0	2,000	0	0
07/15/2014	*	---	0	---	---	0	10	0	0	---	200	286
07/16/2014		---	---	---	---	0	0	0	1	1,400	0	0
07/17/2014	*	---	---	---	---	0	10	0	0	---	400	100
07/18/2014	*	---	---	---	---	0	0	0	0	200	500	---
07/19/2014	*	---	---	---	---	1	0	0	1	---	0	0
07/20/2014		---	---	---	---	0	0	0	1	0	100	204
07/21/2014	*	---	---	---	---	1	0	0	0	---	0	150
07/22/2014		---	---	---	---	0	0	0	3	200	300	100
07/23/2014	*	---	---	---	---	0	0	4	0	---	0	54
07/24/2014		---	---	---	---	0	4	---	0	100	450	25
07/25/2014		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	4	34	14	11	4,700	2,236	919
# Days:		0	3	0	0	14	14	13	14	7	14	13
Average:		0	0	0	0	0	2	1	1	671	160	71
YTD		1	3	0	0	123	19,857	29,456	51	57,555	96,502	18,602

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:

Sample counts (Samp) are provided for juvenile lamprey at LGR. See note below for details †.

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.

† In 2013 it was confirmed that juvenile lamprey can escape the sample tank at LGR which would lead to unreliable estimates of collection.

Therefore, only sample counts are provided in this report.

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:

7/25/14 7:30 AM

		07/11/14 TO 07/25/14				
		Species				
Site	Data	CH0	CH1	ST	SO	Grand Total
LGR	Sum of NumberCollected	31,544	5	81	62	31,692
	Sum of NumberBarged	30,954	5	100	59	31,118
	Sum of NumberBypassed	10	0	0	0	10
	Sum of Numbertrucked	0	0	0	0	0
	Sum of SampleMorts	99	0	2	1	102
	Sum of FacilityMorts	216	0	5	2	223
	Sum of ResearchMorts	8	0	0	0	8
	Sum of TotalProjectMorts	323	0	7	3	333
LGS	Sum of NumberCollected	47,229	10	275	70	47,584
	Sum of NumberBarged	49,150	10	314	82	49,556
	Sum of NumberBypassed	8	0	1	0	9
	Sum of Numbertrucked	0	0	0	0	0
	Sum of SampleMorts	34	0	0	2	36
	Sum of FacilityMorts	185	0	0	6	191
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	219	0	0	8	227
LMN	Sum of NumberCollected	15,119	70	62	70	15,321
	Sum of NumberBarged	15,901	70	90	78	16,139
	Sum of NumberBypassed	198	0	2	0	200
	Sum of Numbertrucked	0	0	0	0	0
	Sum of SampleMorts	15	0	0	0	15
	Sum of FacilityMorts	122	0	0	1	123
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	137	0	0	1	138
Total Sum of NumberCollected		93,892	85	418	202	94,597
Total Sum of NumberBarged		96,005	85	504	219	96,813
Total Sum of NumberBypassed		216	0	3	0	219
Total Sum of Numbertrucked		0	0	0	0	0
Total Sum of SampleMorts		148	0	2	3	153
Total Sum of FacilityMorts		523	0	5	9	537
Total Sum of ResearchMorts		8	0	0	0	8
Total Sum of TotalProjectMorts		679	0	7	12	698

YTD Transportation Summary

Source: Fish Passage Center

Updated:

7/25/14 7:30 AM

TO: 07/25/14

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	620,859	3,442,337	52,722	130,942	2,404,215	6,651,075
	Sum of NumberBarged	605,168	1,939,440	48,991	70,843	1,326,839	3,991,281
	Sum of NumberBypassed	11,726	1,501,375	3,722	59,638	1,077,085	2,653,546
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	285	138	1	46	60	530
	Sum of FacilityMorts	1,511	1,305	8	415	121	3,360
	Sum of ResearchMorts	10	79	0	0	107	196
	Sum of TotalProjectMorts	1,806	1,522	9	461	288	4,086
LGS	Sum of NumberCollected	695,460	1,951,715	41,832	61,192	1,369,589	4,119,788
	Sum of NumberBarged	692,569	1,768,373	40,932	54,837	1,149,433	3,706,144
	Sum of NumberBypassed	323	182,657	890	6,109	220,103	410,082
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	76	34	1	16	16	143
	Sum of FacilityMorts	1,068	651	9	230	167	2,125
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,144	685	10	246	183	2,268
LMN	Sum of NumberCollected	245,786	1,326,203	19,905	48,363	792,125	2,432,382
	Sum of NumberBarged	243,439	1,138,561	17,505	45,099	686,164	2,130,768
	Sum of NumberBypassed	561	177,066	0	2,568	89,957	270,152
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	27	25	0	1	17	70
	Sum of FacilityMorts	359	963	0	301	191	1,814
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	386	988	0	302	208	1,884
Total Sum of NumberCollected		1,562,105	6,720,255	114,459	240,497	4,565,929	13,203,245
Total Sum of NumberBarged		1,541,176	4,846,374	107,428	170,779	3,162,436	9,828,193
Total Sum of NumberBypassed		12,610	1,861,098	4,612	68,315	1,387,145	3,333,780
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		388	197	2	63	93	743
Total Sum of FacilityMorts		2,938	2,919	17	946	479	7,299
Total Sum of ResearchMorts		10	79	0	0	107	196
Total Sum of TotalProjectMorts		3,336	3,195	19	1,009	679	8,238

Cumulative Adult Passage at Mainstem Dams Through: 07/24

DAM	END DATE	Spring Chinook						Summer Chinook						Fall Chinook					
		2014		2013		10-Yr Avg.		2014		2013		10-Yr Avg.		2014		2013		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	07/24	188083	26094	83345	33820	130283	22257	105620	23561	88446	25208	82434	18081	0	0	0	0	0	0
TDA	07/24	143142	21080	69202	32311	99813	18973	91652	17615	80356	19712	69489	14001	0	0	0	0	0	0
JDA	07/24	123224	19103	56991	28957	87036	17743	81143	15754	70553	18729	61905	14397	0	0	0	0	0	0
MCN	07/24	107147	16033	52176	22279	79413	14950	81747	15018	70328	13679	56850	10278	0	0	0	0	0	0
IHR	07/24	79298	12428	38017	18611	54814	9602	16389	4301	10877	6187	16026	4318	0	0	0	0	0	0
LMN	07/24	79942	14020	36470	19053	54458	8539	14698	7756	10745	7441	17469	4453	0	0	0	0	0	0
LGS	07/24	77966	13649	35072	19443	49920	9660	15427	7071	8948	7324	16128	5105	0	0	0	0	0	0
LGR	07/24	79167	13732	35031	19940	49728	11001	13472	6666	7135	6558	14364	5539	0	0	0	0	0	0
PRD	07/24	23742	2649	13725	1298	14700	1468	68657	2756	62339	1936	44863	1626	0	0	0	0	0	0
WAN		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS	07/23	23247	2934	13345	3100	13890	2468	66049	3115	56304	2001	39298	3409	0	0	0	0	0	0
RRH	07/23	12376	2377	6841	2101	5576	1020	46513	2143	46258	2238	27124	2481	0	0	0	0	0	0
WEL	07/15	15376	2544	7133	2980	4880	1164	26010	1377	25571	2218	12257	769	0	0	0	0	0	0
WFA	07/23	29334	1448	27384	1595	39912	1052	0	0	0	0	0	0	0	0	0	0	0	0

DAM	END DATE	Coho						Sockeye			Steelhead					Lamprey			
		2014		2013		10-Yr Avg.		2014	2013	10-Yr Avg.	10-Yr Avg.	Wild	Wild	10-Yr	2014	2013	10-Yr		
		Adult	Jack	Adult	Jack	Adult	Jack												
BON	07/24	5	-2	0	0	0	0	609928	183536	191622	74006	39425	73655	38096	21529	32854	23876	15837	17012
TDA	07/24	0	0	0	0	0	0	581359	160028	158441	39613	19709	38341	21856	10865	17974	6283	4714	3474
JDA	07/24	0	1	1	0	0	0	550277	153727	160202	26588	13734	30844	13520	6855	12857	4322	2766	2509
MCN	07/24	0	0	1	0	1	0	538277	131916	135055	20994	9164	20353	10651	3954	7495	479	447	580
IHR	07/24	0	0	0	0	0	0	2233	866	496	10875	8261	11664	4006	2599	3340	139	101	77
LMN	07/24	0	0	0	0	0	0	2583	988	614	10381	5810	12998	4706	2320	4688	37	31	12
LGS	07/24	0	0	0	0	0	0	2481	933	571	6483	3459	9559	3489	1692	3244	23	13	9
LGR	07/24	0	0	0	0	0	0	2270	574	614	10597	8057	11071	5077	3464	3935	11	5	1
PRD	07/24	0	0	0	0	0	0	582853	157375	163947	2067	860	1629	0	0	0	596	520	288
WAN		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS	07/23	0	0	0	0	0	0	541816	147113	156219	1079	609	1080	640	401	673	41	25	37
RRH	07/23	0	0	0	0	0	0	446355	117762	129820	588	441	992	329	312	611	17	12	8
WEL	07/15	0	0	0	0	0	0	262181	74451	84546	214	165	211	121	119	131	0	0	2
WFA	07/23	9	0	2	0	0	0	0	0	0	25039	17061	24366	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.