



Fish Passage Center

Weekly Report #14 - 25

September 5, 2014

847 NE 19th Ave., Suite 250
Portland, OR 97232
phone: (503) 833-3900
fax: (503) 232-1259

Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 0% and 441% of average at individual sub-basins over first several days of September, with the greatest precipitation occurring in the upper Columbia Basins. Precipitation above The Dalles has been 140% of average over September. Over the 2014 water year, precipitation has ranged between 79% and 97% of average.

Table 1. Summary of September precipitation and cumulative October through September 3, 2014, precipitation with respect to average (1971–2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2014 September 1–3, 2014		Water Year 2014 October 1, 2013 to September 3, 2014	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia above Coulee	0.64	271	34.3	93
Sneke River above Ice Harbor	0.00	2	18.0	82
Columbia above The Dalles	0.21	140	22.8	84
Kootenai	1.08	441	36.6	96
Clark Fork	0.02	9	21.8	81
Flathead	0.33	154	34.3	97
Pend Oreille River Basin above Waneta Dam	0.19	100	28.4	88
Salmon River Basin	0.00	0	22.2	79
Upper Snake Tributaries	0.00	1	25.5	96
Clearwater	0.00	1	35.5	88
Willamette River above Portland	0.00	0	52.1	82

Grand Coulee Reservoir is at 1279.8 feet (9-4-14) and has drafted 1.8 feet over the last week. Outflows at Grand Coulee have ranged between 70.3 and 110.8 Kcfs

over the last week. On August 31, 2014, Grand Coulee was at an elevation of 1279.6 feet, reaching the end of August draft target of 1279.7 feet.

The Libby Reservoir is currently at elevation 2450.7 feet (9-4-14) and has drafted 0.7 feet over the previous week. Daily average outflows at Libby Dam have been 9.0 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3554.2 feet (9-4-14) and has drafted 0.9 feet over the previous week. Outflows at Hungry Horse have been 2.7 Kcfs over the last week.

Dworshak is currently at an elevation of 1537.4 feet (9-4-14) and has drafted 6.0 feet over the previous week. During the afternoon of August 15, 2014, Unit #3 at Dworshak was forced out of service. As a result, outflows at the project had been reduced to 6.6–6.8 Kcfs with the operation of the remaining smaller units (4.4 Kcfs) and spill amounts of 2.0–2.3 Kcfs, limited by the 110% TDG Cap below the project. The Salmon Managers submitted SOR 2014-2 to the Action Agencies on 8-20-14, which asked for outflows of 10 Kcfs to be restored at Dworshak while drafting to elevation 1535 feet by the end of August. To achieve this outflow with Unit #3 out of service, the SOR asked the USACE to coordinate a temporary TDG waiver up to 120% below Dworshak (increased spill) while also coordinating with hatcheries below the project that may be impacted by the increased TDG. August 23 through September 4 outflows below Dworshak ranged from 8.3 Kcfs to 8.8 Kcfs, with daily average spill amounts between 3.7 and 4.2 Kcfs. At these spill levels, TDG below Dworshak has been approximately 115%, which has been tolerable for the hatcheries below Dworshak Dam. The COE plans to decrease outflows at Dworshak to approximately 6.6 Kcfs (110% TDG) after reaching elevation 1535 feet.

The Brownlee Reservoir was at an elevation of 2056.2 feet on September 4, 2014, and has drafted 0.4 feet last week. Inflows to Brownlee Dam have ranged between 9.0 and 9.7 Kcfs last week.

The Summer Biological Opinion flow period began on June 21st in the lower Snake River (Lower Granite) and ended on August 31st. According to the June Final Water Supply Forecast (June 6, 2014), the flow objective this summer was 52 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 23.9 Kcfs over the last week of the flow period and 40.4 Kcfs since the beginning of the summer flow period.

The flow objective at McNary over the summer period (July 1st to August 31st) was 200 Kcfs. Flows at McNary Dam have averaged 148.0 Kcfs over the last week of the flow period and 189.8 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 River projects summer spill was initiated on June 16th. Summer spill operations throughout the FCRPS ended at midnight on August 31st.

Unit 3 at Dworshak Dam failed and was forced out of service on August 15th at 1411 hours. Project outflow (which had been 10 Kcfs) was reduced to approximately 7 Kcfs in order to prevent exceeding the Nez Perce and State of Idaho 110% TDG standard. A System Operational Request was submitted to the Action Agencies on August 20th requesting that the U.S. Army Corps of Engineers pursue coordination and/or a temporary waiver from the State of Idaho and the Nez Perce Tribe to exceed the TDG standard of 110%, up to a tailrace level of 120%, as is used to manage spill in the mainstem Snake and Columbia rivers. The temporary waiver was granted and outflow was increased on the afternoon of August 22nd. The increase in outflow was accomplished by increasing spill at the project up to a total dissolved gas level of 115% in the Dworshak tailrace. The 115% TDG was implemented because of concern regarding the effects of TDG on juvenile fish rearing at the Dworshak National Fish

Hatchery. With this operation, outflows ranged from 8.4 Kcfs to 8.6 Kcfs.

Spill at Lower Granite Dam was provided as flow in excess of that needed to operate one turbine unit, and ranged from 10.2 Kcfs to 11 Kcfs. Spill at Little Goose Dam was a flat spill operation of about 7.3 Kcfs in order to achieve the prescribed spill level downstream at Lower Monumental Dam, and to maintain minimum operating pool operations. At Lower Monumental Dam, daily average spill was less (approximately 12 Kcfs) than the 17 Kcfs specified in the Fish Operations Plan due to low flow and powerhouse minimum operation requirements. At Ice Harbor spill is occurring as river flow in excess of that needed for the operation of one turbine unit, ranging from a daily average of about 16 Kcfs.

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*

* FOP levels not achieved due to low flows and the requirement of operating one turbine unit.

At the Middle Columbia River projects, McNary Dam spilled 50% of daily average flow. At John Day Dam the 30% spill level is in effect. 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	30%/30%
The Dalles	40%/40%
Bonneville	85 Kcfs/121 Kcfs and 95 Kcfs/95 Kcfs

Smolt Monitoring:

Smolt monitoring is ongoing at six SMP dams (BON, JDA, MCN, LMN, LGS, and LGR). Sampling at Rock Island Dam ended after the August 31st sample and sampling at all SMP traps has been concluded 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 all of the SMP dam sites. Due to the high temperature protocol at JDA, comparisons in passage are not possible.

High temperature sampling protocols were first implemented at Bonneville Dam (BON) after the July 30th sample and remained in effect this week. Under these high temperature sampling protocols, index sampling occurred every other day. All fish were bypassed on non-sample days. The high temperature protocol will remain in place until the daily average temperature in the forebay falls below 69.5°F. Subyearling Chinook passage at 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 750 per day. Last week's daily average passage index was about 2,700 per day. Pacific lamprey ammocoetes and macrophthalmia were encountered once this week, on September 2nd and September 4th, respectively.

High temperature sampling protocols were first implemented at John Day (JDA) after the sample on July 31st and remained in effect this week. Under these high temperature sampling protocols, the SMP crew at JDA samples only twice a week (Monday and Thursday), for condition only. It is important to note that this type of sampling results in bias collection estimates, as sampling is not 24-hours. Therefore, it is not appropriate to compare passage index estimates during this period to those from previous weeks. Subyearling Chinook dominated the bypass samples at JDA this week. No Pacific lamprey ammocoetes or macrophthalmia were encountered in this week's samples. The high temperature sampling protocols will continue until the daily average temperature in the forebay falls below 69.5°F.

High temperature sampling protocols were in effect this week at McNary Dam (MCN). Under the high temperature protocols, sampling at MCN remains every-other-day except the target sample size for handling is reduced from between 300–500 to approximately 100 fish. As with BON and JDA, this high temperature protocol will remain until the

daily average temperature in the forebay falls below 69.5°F. 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 1,160 per day. Last week's daily average passage index for subyearling Chinook was about 3,200. Pacific lamprey macrophthalmia were encountered in all four of this week's samples, with a daily average collection of about 50 per day. No Pacific lamprey ammocoetes were encountered in this week's samples.

This week's daily average passage index for subyearling Chinook at Lower Granite Dam (LGR) was about 440 per day, which is a decrease from last week's daily average passage index of nearly 900 per day. Two Pacific lamprey ammocoetes and seven Pacific lamprey macrophthalmia were sampled this week at LGR.

Compared to last week, passage of subyearling Chinook decreased at Little Goose (LGS) and Lower Monumental (LMN) dams. The daily average passage indices for subyearling Chinook at these two projects were 180 and 20 per day, respectively. Last week's daily average passage indices were 470 per day at LGS and 120 at LMN. No Pacific lamprey ammocoetes were encountered in this week's samples at LGS, but Pacific lamprey macrophthalmia were encountered in all seven of this week's samples. The daily average collection for Pacific macrophthalmia at LGS was 11 per day. Pacific lamprey macrophthalmia were encountered in three of this week's samples at LMN, but no Pacific lamprey ammocoetes were encountered this week.

Sampling at Rock Island Dam for 2014 ended after the August 31st sample. Over the last three days of sampling, the daily average passage index for subyearling Chinook was about 40 per day, which is a decrease from the previous week's daily average of about 120 per day. One Pacific lamprey ammocoete was collected in each of the August 30th and August 31st samples.

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. Approximately 300,000 spring Chinook pre-smolts are scheduled for release into the Clearwater River in the next 2 weeks. These pre-smolts are 100% unmarked and are not expected to out-migrate until spring 2015.

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. There were no releases scheduled for this zone this week. There are no other releases scheduled for this zone over the next 2 weeks.

Adult Passage

Daily adult fall Chinook passage numbers at Bonneville Dam ranged between 6,382 and 24,855 last week. Daily counts of all salmonids passing Bonneville Dam on September 2, 2014, were high enough to initiate the operation of several units at Powerhouse 1 (which began on September 3) in an attempt to distribute the high numbers of passing adults over both the Washington and Oregon (Bradford) fishways. The adult fall Chinook count of 168,292 is about 62% of the 2013 count of 273,820, while having 25,645 more fish than the 10-year average count of 142,647. The 2014 Bonneville Dam fall Chinook jack count of 19,268 is about 56% of the 2013 count of 34,534 and 101% of the 10-year average count of 19,067. The 2014 McNary Dam adult fall Chinook count of 23,277 is about 46% of the 2013 count and 102% of the 10-year average. The 2014 McNary Dam jack count of 4,624 is about 55% of the 2013 count, while being 104% of the 10-year average count.

The summer steelhead run is delineated according to dates of passage past Bonneville Dam and is made up of two components. A-run steelhead are considered those that pass Bonneville Dam from the 1st of June through August 25th, and B-run steelhead pass Bonneville from August 26th through October. The 2014 Bonneville Dam adult steelhead count of 227,500 is about 120% of the 2013 count of 190,302, while being 83% of the 10-year average count of 273,046. The 2014 Bonneville Dam adult wild steelhead count of 101,894 is about 119% of the 2013 count of 85,905, and about 111% of the 10-year average count of 92,040. In the Snake River, this year's Lower Granite steelhead count of 19,747 is about 151% of that recorded in 2013, while having 3,662 fewer fish than the 10-year average count of 23,409. The 2014 Lower Granite Dam adult wild steelhead count of 9,785 is about 157% of the 2013 count and about 118% of the 10-year average. At Willamette Falls, the 2014 count for steelhead was 26,800 as of September 3rd. This year's steelhead count is 157% of the 2013 count of 17,579 and about 107% of the 10-year average count of 25,048.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 0 and 4 last week. The 2014 adult sockeye count at Bonneville Dam of 614,175 is about 3.3 times greater than the 2013 count of 185,503 and 3.2 times greater than the 10-year average of 192,204. Two of the major spawning sites for sockeye in the Upper Columbia River zone are Lake Wenatchee and Lake Osoyoos (Okanogan basin). The 2014 McNary Dam adult sockeye count of 545,988 is about 4 times greater than the 2013 and 10-year average counts. The Lower Granite Dam 2014 adult sockeye count of 2,757 is about 3.7 times greater than the 2013 count of 738 and 4 times greater than the 10-year average count of 681.

The 2014 Bonneville Dam adult coho count of 13,434 is 205% of the 2013 count of 6,563 and is about 61% of the 10-year average count of 22,205. The 2014 Bonneville Dam coho jack count of 1,377 is about 145% of the 2013 count of 947 and about 112% of the 10-year average count of 1,232.

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, July 23, and August 20, 2014, many fish have been seen passing the left bank fishway weir and chute. As of September 3, 2014, a total of 608,122 sockeye and 106,876 adult Chinook had passed Priest Rapids Dam. As of September 3, 2014, 581,038 sockeye and 104,567 adult Chinook had passed Rock Island Dam.

Over the last several weeks, Grant PUD has had problems with aquatic vegetation clogging the upper ladder supply pumps (four per ladder), especially on

the left bank fishway. As long as this issue continues, Grant PUD plans to clean the pumps at least 3 days per week and more often if needed. During pump cleaning, attraction water to the lower fishway will remain on and two of the four upper ladder pumps will be cleaned at a time, always leaving two pumps to supply water to the upper fishway and the weir chute.

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 on the left bank fishway. Over the last several weeks as flows and project tailwater elevations have decreased, Chelan PUD has begun to operate the denils at both the left and right bank fishways.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 8/22/2014 to 9/4/2014

No Releases Scheduled

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 9/5/2014 to 9/18/2014

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Nez Perce Tribe	Dworshak NFH	CH0	SP	2015	300,000	09-16-14	09-18-14	Selway River	Clearwater River M F
Nez Perce Tribe Total					300,000				
Grand Total					300,000				

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
08/22/2014	103.9	0.1	106.3	0.0	106.3	0.0	102.0	10.2	106.5	22.0	108.3	20.7	111.4	22.6
08/23/2014	97.5	0.1	92.2	0.0	101.0	0.0	105.1	9.2	107.4	19.4	106.7	20.7	111.0	21.4
08/24/2014	82.7	0.1	88.5	0.0	88.9	0.0	88.0	8.2	90.9	27.9	92.4	20.9	91.2	23.7
08/25/2014	108.2	0.0	103.2	0.0	102.2	0.0	97.0	0.0	100.1	13.0	100.4	20.7	97.5	23.8
08/26/2014	107.4	0.1	106.4	0.0	112.9	0.0	112.0	0.0	115.0	0.0	119.4	20.8	128.8	24.2
08/27/2014	111.5	0.1	111.4	0.0	118.0	0.0	117.2	0.0	120.7	0.1	121.3	20.7	125.9	21.3
08/28/2014	118.0	0.1	112.2	0.0	111.5	0.0	111.3	0.0	116.4	0.0	115.3	11.1	115.4	12.4
08/29/2014	110.8	0.2	116.2	0.0	98.4	0.0	91.8	0.0	95.2	0.3	99.6	3.7	99.6	1.5
08/30/2014	96.2	0.1	96.4	0.0	98.3	0.0	92.1	0.0	93.9	0.5	96.2	3.4	99.8	1.5
08/31/2014	91.4	0.1	90.6	0.0	91.7	0.0	87.1	0.0	90.0	0.6	91.1	3.6	95.5	1.5
09/01/2014	70.3	0.1	70.9	0.0	73.4	0.0	74.8	0.0	78.7	0.4	75.0	4.0	75.5	1.5
09/02/2014	76.7	0.1	69.2	0.0	83.6	0.0	87.1	0.0	86.7	24.7	87.5	4.6	94.4	2.1
09/03/2014	77.0	0.1	73.4	0.0	77.9	0.0	70.5	0.0	75.6	22.5	81.3	3.9	79.6	1.6
09/04/2014	75.6	0.1	69.1	0.0	74.8	0.0	74.9	0.0	79.5	4.8	78.7	4.0	80.9	4.8

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
08/22/2014	7.2	2.6	---	9.2	21.7	8.9	23.3	8.0	23.3	10.9	25.3	15.4	
08/23/2014	8.8	4.2	---	9.1	21.8	8.9	23.2	7.3	23.1	10.9	23.9	14.1	
08/24/2014	8.7	4.2	---	9.9	23.8	11.1	24.3	7.3	22.9	10.6	24.2	14.4	
08/25/2014	8.6	4.0	---	9.5	25.8	13.1	29.1	7.2	29.1	15.9	30.0	20.5	
08/26/2014	8.6	4.0	---	9.5	24.0	11.2	24.4	7.3	23.4	11.2	24.5	14.8	
08/27/2014	8.6	4.0	---	9.5	23.9	11.2	24.5	7.2	23.9	11.6	25.2	15.4	
08/28/2014	8.3	3.7	---	9.5	23.9	11.1	24.5	7.2	24.4	12.2	26.4	16.0	
08/29/2014	8.4	3.8	---	10.0	23.9	11.0	24.0	7.3	24.3	12.1	25.8	16.0	
08/30/2014	8.4	3.8	---	9.4	22.9	9.6	24.3	7.3	24.2	12.0	26.1	16.0	
08/31/2014	8.4	3.8	---	9.4	23.2	10.2	24.1	7.3	24.1	12.0	26.1	15.9	
09/01/2014	8.5	3.9	---	9.9	24.0	0.0	21.7	0.0	20.3	0.0	11.7	0.0	
09/02/2014	8.5	3.8	---	9.5	25.9	0.0	23.7	0.0	19.2	0.0	19.0	0.0	
09/03/2014	8.5	3.8	---	9.7	25.2	0.0	19.8	0.0	19.6	0.0	19.6	0.0	
09/04/2014	8.6	3.9	---	10.4	24.3	0.0	20.0	0.0	19.6	0.0	20.8	0.0	

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		
08/22/2014	143.6	72.2	144.7	43.3	133.9	53.5	145.7	96.3	0.0	37.0
08/23/2014	148.8	74.6	136.2	40.8	127.9	51.4	144.0	100.4	0.0	31.2
08/24/2014	139.1	69.6	132.4	39.8	123.5	49.5	139.9	96.0	0.0	31.5
08/25/2014	150.6	75.2	140.4	42.1	131.2	52.2	138.3	92.7	0.0	33.2
08/26/2014	148.7	74.4	142.1	42.6	130.0	52.0	140.0	95.1	0.0	32.6
08/27/2014	157.3	78.7	147.6	44.2	136.0	54.3	153.6	100.3	0.0	40.9
08/28/2014	150.2	75.7	140.4	42.2	131.3	52.2	149.0	95.2	0.0	41.3
08/29/2014	152.0	76.2	141.4	42.2	131.0	52.2	143.1	93.0	0.0	37.6
08/30/2014	138.9	69.7	123.3	37.1	117.9	47.4	141.9	97.8	0.0	31.7
08/31/2014	138.0	69.2	131.2	39.3	124.5	49.5	141.3	97.5	0.0	31.4
09/01/2014	90.2	0.0	88.9	1.0	88.8	0.1	107.0	8.9	3.0	87.7
09/02/2014	104.4	0.0	97.3	0.9	96.1	0.0	101.5	3.6	9.3	81.3
09/03/2014	104.7	0.0	101.2	1.0	100.1	0.0	100.4	1.3	13.2	78.6
09/04/2014	106.7	0.0	110.7	1.0	110.9	0.0	100.3	1.3	24.7	66.9

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											
Lower Monumental Dam											
McNary Dam											
Bonneville Dam											
Rock Island Dam											
	08/26/14	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>24 h</u>	<u>12 h</u>	<u>#</u>					
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High					
8/22	105.2	105.6	106.3	24	---	---	---	0	106.8	107.0	107.7	24	105.2	105.5	106.1	24	105.9	106.1	106.3	24
8/23	105.1	105.6	106.0	24	---	---	---	0	105.8	106.1	106.3	24	104.9	105.3	105.6	24	105.4	105.8	106.1	24
8/24	104.3	104.7	105.2	24	---	---	---	0	105.4	106.8	107.3	24	104.8	105.0	105.4	24	105.4	105.7	106.1	24
8/25	104.2	104.6	105.0	24	---	---	---	0	105.6	106.2	106.7	24	105.3	105.8	106.3	24	105.3	105.6	106.1	24
8/26	104.3	104.6	105.3	24	---	---	---	0	105.2	105.5	106.0	24	105.0	105.5	105.9	24	105.7	106.0	106.4	24
8/27	104.0	104.4	104.8	24	---	---	---	0	105.3	105.8	106.3	24	104.9	105.5	106.4	24	105.8	106.2	106.6	24
8/28	104.2	104.7	105.0	24	---	---	---	0	105.4	105.8	106.3	24	104.7	105.2	108.3	24	105.2	105.6	106.0	24
8/29	104.7	105.3	105.6	24	---	---	---	0	105.3	105.6	106.1	24	104.4	105.0	105.8	24	105.0	105.4	105.8	24
8/30	104.7	105.1	105.5	24	---	---	---	0	105.7	105.8	105.9	24	104.6	105.0	105.5	24	104.6	104.9	105.1	24
8/31	104.5	104.8	105.0	24	---	---	---	0	105.3	105.4	105.7	24	104.3	104.6	104.9	24	104.1	104.3	104.4	24
9/1	103.7	104.0	104.1	24	---	---	---	0	105.1	105.2	105.2	24	104.4	104.9	105.5	24	104.1	104.4	104.8	24
9/2	103.6	104.0	104.4	24	---	---	---	0	105.6	105.9	106.4	24	105.3	105.9	106.5	24	104.9	105.7	106.4	24
9/3	103.0	103.4	104.0	23	---	---	---	0	104.8	105.2	105.5	24	103.9	104.2	104.7	24	104.4	104.6	105.0	24
9/4	102.4	102.9	103.4	23	---	---	---	0	104.0	104.2	104.4	23	103.6	104.0	104.3	23	103.8	104.2	104.5	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>24 h</u>	<u>12 h</u>	<u>#</u>					
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High					
8/22	106.5	107.0	107.5	24	106.2	106.5	106.9	20	106.1	106.6	107.2	20	106.7	107.0	107.6	24	110.5	111.3	112.4	24
8/23	106.1	106.6	107.2	24	105.7	106.1	106.5	23	105.3	105.8	106.2	23	106.0	106.3	106.7	24	110.1	110.9	111.7	24
8/24	106.6	107.1	107.8	24	106.3	106.3	107.3	12	105.9	105.9	106.9	12	105.9	106.2	106.3	24	109.0	109.4	109.9	24
8/25	105.6	106.1	106.5	24	105.5	105.7	106.0	16	105.6	105.9	106.7	16	104.7	104.9	105.1	24	104.7	105.2	108.0	24
8/26	105.7	106.0	106.4	24	105.8	105.9	106.7	15	106.0	106.2	107.1	15	105.0	105.6	105.8	24	104.5	105.3	105.5	24
8/27	106.0	106.3	106.8	24	106.3	106.9	107.5	23	106.0	106.8	107.4	23	105.8	106.2	106.5	24	105.3	105.7	106.1	24
8/28	105.5	106.1	108.0	24	106.1	106.6	107.2	23	105.8	106.4	107.1	23	105.9	106.0	106.5	24	105.3	105.5	105.7	24
8/29	105.5	106.2	107.3	24	105.5	106.0	106.5	23	105.2	105.8	106.3	23	105.7	105.8	105.8	24	104.8	105.0	105.3	24
8/30	105.8	106.4	107.3	24	104.9	105.1	105.6	20	104.7	105.0	105.6	20	105.4	105.5	105.6	24	104.6	104.8	105.0	24
8/31	104.8	105.3	106.8	24	104.2	104.4	104.9	18	104.0	104.2	104.6	18	104.5	104.7	105.0	24	103.7	103.9	104.2	24
9/1	104.9	105.4	106.0	24	104.2	104.6	105.0	21	103.8	104.4	104.9	21	104.0	104.2	104.3	24	103.1	103.3	103.4	24
9/2	105.8	106.6	107.1	24	104.9	105.1	105.5	19	104.4	104.8	105.5	19	104.3	104.5	104.8	24	103.5	103.8	104.2	24
9/3	106.2	107.0	108.1	24	104.0	104.4	104.8	21	103.3	103.7	104.0	21	103.6	103.9	104.3	24	102.7	102.9	103.7	24
9/4	105.1	105.8	107.2	23	103.6	104.0	104.5	20	102.4	103.1	103.7	20	102.8	103.0	103.2	23	102.5	102.7	102.8	23

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High					
8/22	107.7	108.1	109.1	24	111.2	111.8	112.6	24	106.9	107.4	107.8	24	113.2	113.7	114.0	24	110.2	110.7	111.0	24
8/23	106.5	107.2	107.6	24	109.9	111.1	111.5	24	106.9	108.1	109.0	24	112.8	113.2	113.4	24	110.7	111.2	111.9	24
8/24	106.7	106.9	107.5	24	109.3	111.5	117.3	24	107.1	107.7	108.3	24	114.1	114.3	114.6	24	111.5	111.9	112.2	24
8/25	105.3	105.7	106.7	24	106.5	108.9	118.7	24	108.2	109.6	110.9	24	113.7	114.0	114.5	24	111.4	112.1	113.8	24
8/26	104.0	104.6	105.0	24	103.6	104.4	104.8	24	108.5	109.4	110.7	24	113.6	113.9	114.5	15	111.8	112.5	113.0	24
8/27	105.0	105.5	105.9	24	104.8	105.2	105.7	24	104.7	105.1	105.8	24	110.3	111.2	113.8	24	111.3	112.2	113.0	24
8/28	105.1	105.5	105.8	24	105.0	105.3	105.6	24	102.9	103.2	103.5	24	106.4	109.2	111.6	24	106.8	107.8	108.3	24
8/29	104.9	105.0	105.3	24	104.7	104.9	105.3	24	103.1	103.6	104.1	24	103.9	104.2	104.6	24	103.4	104.5	105.8	24
8/30	104.5	104.8	105.0	24	104.4	104.6	105.5	24	102.8	103.3	103.7	24	103.5	103.8	104.0	24	101.2	101.7	102.0	24
8/31	103.6	103.9	104.7	24	103.7	104.2	106.9	24	101.5	101.9	102.3	24	102.3	102.6	103.2	24	100.4	101.0	101.5	24
9/1	103.1	103.5	103.8	24	103.1	103.5	104.7	24	102.1	103.2	104.0	24	102.4	103.0	103.5	24	99.8	100.9	102.1	24
9/2	103.2	103.7	103.9	24	107.4	111.6	119.7	24	102.5	103.1	103.6	24	103.5	104.0	106.9	24	101.2	102.7	104.1	24
9/3	102.1	102.7	103.4	24	104.8	108.2	116.9	24	101.3	101.6	102.0	24	102.1	102.3	102.6	24	100.4	101.1	101.9	24
9/4	102.3	102.6	102.8	23	103.3	104.4	106.9	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>Clrwtr-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>					
	<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>				
8/22	112.1	112.9	114.8	24	---	---	---	0	109.8	111.9	114.4	24	106.2	107.6	109.6	24	100.3	100.8	101.7	24
8/23	111.8	112.1	112.4	24	---	---	---	0	115.1	115.3	115.6	24	111.1	112.2	113.0	24	100.4	101.2	101.9	24
8/24	113.3	114.2	115.2	24	---	---	---	0	115.2	115.6	116.0	24	111.1	112.4	113.6	24	101.0	102.0	103.1	24
8/25	113.0	113.7	114.7	24	---	---	---	0	114.9	115.1	115.3	24	111.0	112.0	113.4	24	101.1	102.0	102.9	23
8/26	113.4	113.9	115.6	24	---	---	---	0	114.7	115.0	115.3	24	110.4	111.6	112.8	24	101.3	102.4	103.5	24
8/27	112.7	113.6	115.5	24	---	---	---	0	115.0	115.4	116.1	24	111.0	112.1	113.3	24	101.3	102.2	103.2	24
8/28	109.3	110.8	112.9	24	---	---	---	0	114.0	114.3	115.0	24	109.9	110.9	112.9	24	101.3	102.2	103.1	24
8/29	104.5	105.5	106.6	24	---	---	---	0	114.6	114.8	115.0	24	110.4	111.5	113.3	24	101.3	102.4	103.6	24
8/30	102.8	103.2	103.5	24	---	---	---	0	114.5	114.7	115.1	24	110.3	111.3	112.4	24	100.8	101.5	102.6	24
8/31	102.2	102.5	102.7	24	---	---	---	0	114.2	114.4	114.6	24	109.9	110.7	111.6	24	100.4	101.4	102.4	24
9/1	102.0	102.7	103.0	24	---	---	---	0	114.4	114.5	114.9	24	109.5	110.6	111.7	24	100.8	101.9	103.1	24
9/2	102.9	103.5	104.0	24	---	---	---	0	114.5	114.7	115.0	24	109.2	110.4	111.8	24	101.6	103.0	104.5	24
9/3	102.3	102.6	103.0	24	---	---	---	0	114.4	114.6	114.9	24	110.1	111.9	113.5	24	100.2	100.9	102.0	24
9/4	---	---	---	0	---	---	---	0	114.5	114.6	115.3	23	111.1	112.1	113.3	23	100.6	101.9	103.4	23

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwtr-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>					
	<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>				
8/22	102.9	104.2	106.2	24	99.3	99.6	99.9	24	111.8	112.2	112.7	24	111.7	111.9	112.2	24	110.0	110.5	111.0	24
8/23	104.5	106.8	108.0	24	99.4	99.7	100.6	24	112.3	112.6	113.3	24	110.3	110.6	111.6	24	109.5	109.9	110.4	24
8/24	105.5	107.1	108.3	24	100.5	100.9	101.3	24	114.2	115.1	115.4	24	110.2	110.3	110.4	24	109.4	109.8	110.3	24
8/25	105.4	107.2	108.7	24	99.2	99.5	99.9	24	115.0	116.0	116.8	24	109.5	109.7	109.9	24	109.2	109.5	109.9	24
8/26	105.2	107.1	108.8	24	98.0	98.2	98.4	24	113.9	114.2	114.6	24	108.8	108.9	109.1	24	108.8	109.2	109.5	24
8/27	105.5	107.6	109.1	24	98.1	98.3	99.4	24	113.6	114.1	114.5	24	108.7	108.8	109.0	24	109.0	109.6	110.1	24
8/28	105.2	106.6	107.6	24	98.7	99.2	100.1	24	113.6	114.1	114.6	24	108.7	108.8	108.9	24	109.1	109.3	109.5	24
8/29	105.2	107.3	109.0	24	101.0	101.7	102.2	24	113.5	114.0	114.9	24	109.0	109.2	109.4	24	108.8	109.2	109.6	24
8/30	105.0	106.5	107.9	24	101.7	102.1	102.4	24	112.6	113.1	113.8	24	108.4	108.5	108.7	24	108.6	108.9	109.3	24
8/31	104.7	106.2	107.5	24	101.8	102.1	102.3	24	113.1	114.0	115.1	24	107.4	107.8	108.4	24	107.9	108.3	108.6	24
9/1	104.9	106.9	108.4	24	101.4	101.6	102.0	24	101.3	102.2	110.9	24	106.1	106.3	106.6	24	105.3	105.8	107.4	24
9/2	105.1	107.1	108.8	24	102.1	102.5	102.8	24	101.6	102.3	103.3	24	105.8	105.9	106.1	24	104.8	105.2	105.4	24
9/3	103.8	105.2	106.5	24	101.3	101.5	102.0	24	100.4	100.6	100.9	24	104.2	104.6	105.4	24	103.9	104.2	104.3	24
9/4	105.0	106.9	108.5	23	100.3	100.4	100.7	23	99.8	100.1	101.1	23	103.1	103.3	103.7	23	103.3	103.6	103.9	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>					
	<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>				
8/22	107.5	107.7	108.0	24	111.5	112.9	113.4	24	109.8	110.0	110.2	24	110.2	110.9	111.5	24	---	---	---	0
8/23	106.6	106.9	107.2	24	111.7	112.1	112.6	24	108.8	108.9	109.6	24	110.1	110.9	111.6	24	---	---	---	0
8/24	106.0	106.1	106.3	24	116.2	120.7	136.9	24	108.1	108.3	109.3	24	109.8	110.3	110.9	24	---	---	---	0
8/25	106.3	106.7	107.1	24	123.4	134.9	137.4	24	106.7	106.9	107.2	24	111.4	112.8	113.1	24	---	---	---	0
8/26	106.6	107.0	107.2	24	112.2	112.8	113.2	24	106.9	107.3	107.7	24	109.7	110.3	111.6	24	---	---	---	0
8/27	107.1	107.5	107.9	24	112.9	113.3	113.8	24	108.3	108.9	109.1	24	109.6	110.5	111.4	24	---	---	---	0
8/28	107.1	107.3	107.4	24	112.7	113.0	113.7	24	108.8	109.0	109.7	24	110.4	111.0	111.3	24	---	---	---	0
8/29	107.4	107.6	107.8	24	112.8	113.1	113.2	24	109.2	109.4	109.6	24	110.6	111.2	111.7	24	---	---	---	0
8/30	107.3	107.4	107.5	24	112.6	113.1	113.5	24	109.8	109.9	109.9	24	110.4	110.9	111.8	24	---	---	---	0
8/31	106.5	106.6	106.8	24	112.8	113.1	114.3	24	108.5	108.7	109.6	24	110.3	111.0	112.0	24	---	---	---	0
9/1	105.8	105.9	106.2	24	105.2	106.4	111.9	24	107.7	108.0	108.2	24	108.1	108.9	109.5	24	---	---	---	0
9/2	105.5	105.7	105.8	24	104.4	105.2	107.3	24	107.7	107.9	108.1	24	107.3	108.2	108.7	24	---	---	---	0
9/3	104.1	104.2	104.6	24	103.6	104.6	107.4	24	106.5	106.8	107.3	24	105.5	106.2	106.9	24	---	---	---	0
9/4	103.4	103.5	103.7	23	102.1	102.9	104.0	23	105.4	105.7	106.0	23	105.0	106.0	107.1	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>#</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>				
8/22	105.4	106.0	106.5	24	113.7	114.3	114.5	24	104.4	104.7	105.0	24	109.2	109.8	110.5	24	105.8	106.2	106.4	24
8/23	103.6	104.0	105.7	24	113.8	114.3	114.5	24	103.8	104.2	104.5	24	109.1	109.7	110.6	24	107.8	108.4	108.7	24
8/24	105.4	105.6	106.2	24	114.4	115.0	115.3	24	105.1	105.5	106.2	24	109.1	109.8	110.3	24	109.0	109.9	110.6	24
8/25	105.3	105.9	106.8	24	114.9	115.5	115.8	24	104.1	104.4	105.0	24	109.8	110.8	111.5	24	108.4	109.0	109.3	24
8/26	106.9	107.5	109.0	24	114.8	115.2	115.5	24	104.3	104.8	105.3	24	110.9	113.9	115.4	24	108.9	109.5	110.2	24
8/27	107.7	108.0	108.5	24	115.1	115.7	116.1	24	104.7	104.9	105.7	24	114.0	114.6	115.0	24	109.3	109.9	110.3	24
8/28	108.3	108.7	109.0	24	114.7	115.4	115.9	24	104.1	104.5	104.9	24	113.8	114.8	115.4	24	107.2	107.6	107.8	24
8/29	109.0	109.2	109.5	24	114.9	115.3	115.9	24	105.2	105.7	106.0	24	114.7	114.9	115.5	24	105.9	106.2	106.5	24
8/30	107.6	108.1	108.5	24	114.0	114.6	115.5	24	105.4	105.6	105.9	24	114.6	115.1	116.8	24	105.7	105.9	106.1	24
8/31	106.1	106.3	106.9	24	114.6	115.3	116.3	24	104.6	104.7	105.0	24	114.2	114.6	114.9	24	105.8	106.1	106.5	24
9/1	104.6	104.8	105.1	24	105.3	106.5	113.0	24	103.8	104.0	104.0	24	104.1	105.0	109.4	24	105.6	106.3	106.8	24
9/2	103.5	104.0	104.6	24	103.1	103.7	104.1	24	103.8	104.0	104.1	24	103.0	103.4	103.7	24	105.0	105.9	106.0	24
9/3	101.4	101.7	102.2	24	101.1	101.4	101.6	24	102.3	102.7	103.5	24	101.4	101.8	102.0	24	101.3	101.7	102.4	24
9/4	100.8	101.0	101.4	23	100.7	101.1	101.4	23	101.8	102.4	103.2	23	101.0	101.7	102.0	23	100.4	100.9	101.2	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>				
8/22	112.4	113.1	113.6	24	104.3	104.8	105.0	24	115.3	116.1	117.3	24	145.0	145.6	149.0	15	115.3	116.9	118.6	24
8/23	113.3	114.6	115.2	24	106.1	107.4	108.7	24	116.7	117.1	117.4	24	144.7	146.8	149.7	24	117.2	117.6	118.5	24
8/24	114.1	114.7	115.2	24	109.4	110.2	110.6	24	116.5	116.8	117.0	24	145.8	147.8	151.9	24	117.0	117.1	117.3	24
8/25	113.5	114.0	114.4	24	110.3	111.1	112.1	24	116.5	116.8	117.3	24	132.2	146.1	152.3	24	115.6	116.9	118.7	24
8/26	113.9	115.3	115.7	24	111.9	112.3	112.4	24	117.1	117.6	118.1	24	115.7	117.1	118.1	24	115.7	117.1	118.7	24
8/27	114.9	115.5	115.9	24	111.9	112.3	112.4	24	117.5	118.0	118.7	24	115.8	117.2	118.1	24	117.5	118.0	118.9	24
8/28	113.8	114.2	114.4	24	109.1	109.5	110.3	24	116.0	116.5	117.2	24	113.8	114.6	115.6	24	117.0	117.1	117.2	24
8/29	113.0	113.2	113.5	24	108.2	108.5	109.2	24	115.7	116.0	116.1	24	113.2	113.6	114.0	24	115.3	116.7	118.3	24
8/30	112.8	113.2	113.5	24	107.1	107.3	107.7	24	116.3	117.4	118.0	24	112.6	113.1	113.7	24	116.1	117.9	118.4	24
8/31	112.6	113.5	114.1	24	105.9	106.2	106.8	24	115.9	116.9	117.8	24	112.9	114.8	116.0	24	115.5	117.2	118.7	24
9/1	107.8	109.0	112.8	24	105.8	106.2	106.3	24	109.5	111.9	117.0	24	113.0	114.2	115.4	24	114.7	115.1	116.0	24
9/2	106.2	106.8	107.0	24	106.0	106.2	106.3	24	106.2	106.6	107.0	24	107.0	108.1	111.0	24	112.8	115.2	117.0	24
9/3	103.1	103.8	104.4	24	103.6	104.0	104.9	24	103.9	104.4	105.0	24	104.2	104.7	105.0	24	111.2	113.8	117.8	24
9/4	101.9	102.2	102.4	23	102.3	102.6	102.9	23	103.7	104.2	104.7	23	103.6	103.8	104.2	23	109.7	111.6	114.9	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 9/5/2014 7:24

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											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
08/22/2014 *	---	---	---	---	0	0	0	0	---	0	---
08/23/2014 *	---	---	---	---	0	0	0	0	0	---	0
08/24/2014 *	---	---	---	---	0	0	2	0	---	---	---
08/25/2014 *	---	---	---	---	0	0	0	0	0	---	0
08/26/2014 *	---	---	---	---	0	0	0	0	---	0	---
08/27/2014 *	---	---	---	---	0	0	0	0	0	---	0
08/28/2014 *	---	---	---	---	2	0	0	0	---	---	---
08/29/2014 *	---	---	---	---	0	0	0	0	0	0	0
08/30/2014 *	---	---	---	---	0	0	2	0	---	---	---
08/31/2014 *	---	---	---	---	0	0	0	0	0	---	0
09/01/2014 *	---	---	---	---	0	0	0	---	---	---	---
09/02/2014 *	---	---	---	---	0	0	0	---	0	0	0
09/03/2014 *	---	---	---	---	0	0	0	---	---	---	---
09/04/2014 *	---	---	---	---	---	0	---	---	0	---	0
09/05/2014	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	2	0	4	0	0	0	0
# Days:	0	0	0	0	13	14	13	10	7	4	7
Average:	0	0	0	0	0	0	0	0	0	0	0
YTD	65,404	63,591	25,420	10,159	4,807,474	2,838,738	1,969,631	26,427	2,022,048	2,320,483	2,151,268

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)
08/22/2014 *	---	---	---	---	510	549	64	108	---	464	---
08/23/2014 *	---	---	---	---	824	780	112	65	4,288	---	4,235
08/24/2014 *	---	---	---	---	1,018	840	175	98	---	---	---
08/25/2014 *	---	---	---	---	887	427	238	194	2,642	---	1,972
08/26/2014 *	---	---	---	---	1,085	214	175	135	---	138	---
08/27/2014 *	---	---	---	---	1,045	232	53	96	2,721	---	1,898
08/28/2014 *	---	---	---	---	843	274	39	112	---	---	---
08/29/2014 *	---	---	---	---	581	208	31	67	2,060	79	1,511
08/30/2014 *	---	---	---	---	566	161	31	34	---	---	---
08/31/2014 *	---	---	---	---	675	330	22	24	2,037	---	443
09/01/2014 *	---	---	---	---	339	278	19	---	---	---	---
09/02/2014 *	---	---	---	---	263	137	12	---	300	97	498
09/03/2014 *	---	---	---	---	216	91	15	---	---	---	---
09/04/2014 *	---	---	---	---	---	72	---	---	260	---	581
09/05/2014	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	8,852	4,593	986	933	14,308	778	11,138
# Days:	0	0	0	0	13	14	13	10	7	4	7
Average:	0	0	0	0	681	328	76	93	2,044	195	1,591
YTD	0	27	4	332	946,750	1,047,429	380,111	38,664	4,913,506	2,591,773	4,230,823

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)	
08/22/2014 *	---	---	---	---	0	0	0	0	---	0	---	
08/23/2014 *	---	---	---	---	0	0	0	0	0	---	0	
08/24/2014 *	---	---	---	---	0	0	0	0	---	---	---	
08/25/2014 *	---	---	---	---	0	0	0	0	0	---	0	
08/26/2014 *	---	---	---	---	0	0	0	0	---	0	---	
08/27/2014 *	---	---	---	---	0	0	0	0	0	---	0	
08/28/2014 *	---	---	---	---	0	0	0	0	---	---	---	
08/29/2014 *	---	---	---	---	2	0	0	0	0	0	0	
08/30/2014 *	---	---	---	---	0	0	0	0	---	---	---	
08/31/2014 *	---	---	---	---	0	0	0	0	0	---	0	
09/01/2014 *	---	---	---	---	0	0	0	---	---	---	---	
09/02/2014 *	---	---	---	---	0	0	0	---	0	0	0	
09/03/2014 *	---	---	---	---	0	0	0	---	---	---	---	
09/04/2014 *	---	---	---	---	---	0	---	---	0	---	0	
09/05/2014	---	---	---	---	---	---	---	---	---	---	---	
Total:	0	0	0	0	2	0	0	0	0	0	0	
# Days:	0	0	0	0	13	14	13	10	7	4	7	
Average:	0	0	0	0	0	0	0	0	0	0	0	
YTD	0	0	0	267	74,170	59,431	27,316	66,433	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)	
08/22/2014 *	---	---	---	---	2	0	0	1	---	0	---	
08/23/2014 *	---	---	---	---	3	0	0	4	0	---	0	
08/24/2014 *	---	---	---	---	3	0	0	0	---	---	---	
08/25/2014 *	---	---	---	---	0	0	2	0	0	---	0	
08/26/2014 *	---	---	---	---	2	0	0	5	---	0	---	
08/27/2014 *	---	---	---	---	2	0	0	1	0	---	0	
08/28/2014 *	---	---	---	---	0	1	0	5	---	---	---	
08/29/2014 *	---	---	---	---	0	4	2	1	0	0	0	
08/30/2014 *	---	---	---	---	2	0	0	3	---	---	---	
08/31/2014 *	---	---	---	---	0	0	0	3	0	---	0	
09/01/2014 *	---	---	---	---	0	0	0	---	---	---	---	
09/02/2014 *	---	---	---	---	0	0	1	---	0	0	0	
09/03/2014 *	---	---	---	---	0	0	0	---	---	---	---	
09/04/2014 *	---	---	---	---	---	0	---	---	0	---	0	
09/05/2014	---	---	---	---	---	---	---	---	---	---	---	
Total:	0	0	0	0	14	5	5	23	0	0	0	
# Days:	0	0	0	0	13	14	13	10	7	4	7	
Average:	0	0	0	0	1	0	0	2	0	0	0	
YTD	2,080	43,465	4,243	12,842	3,376,186	1,975,618	1,183,212	27,522	586,885	1,032,890	459,444	

Two-Week Summary of Passage Indices

Date	COMBINED SOCKEYE										
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
08/22/2014 *	---	---	---	---	2	0	0	3	---	0	---
08/23/2014 *	---	---	---	---	0	0	0	0	0	---	0
08/24/2014 *	---	---	---	---	5	0	0	3	---	---	---
08/25/2014 *	---	---	---	---	0	1	0	3	0	---	0
08/26/2014 *	---	---	---	---	4	0	2	6	---	0	---
08/27/2014 *	---	---	---	---	0	0	0	0	0	---	0
08/28/2014 *	---	---	---	---	2	0	0	5	---	---	---
08/29/2014 *	---	---	---	---	2	0	0	0	0	0	0
08/30/2014 *	---	---	---	---	0	0	0	2	---	---	---
08/31/2014 *	---	---	---	---	0	0	0	2	0	---	0
09/01/2014 *	---	---	---	---	3	0	0	---	---	---	---
09/02/2014 *	---	---	---	---	0	1	0	---	10	0	0
09/03/2014 *	---	---	---	---	0	1	0	---	---	---	---
09/04/2014 *	---	---	---	---	---	0	---	---	0	---	0
09/05/2014	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	18	3	2	24	10	0	0
# Days:	0	0	0	0	13	14	13	10	7	4	7
Average:	0	0	0	0	1	0	0	2	1	0	0
YTD	0	0	2	0	182,054	88,441	69,804	37,962	1,495,574	577,701	590,103

Date	COMBINED LAMPREY JUVENILES										
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR [†] (Samp)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)
08/22/2014 *	---	---	---	---	4	0	0	0	---	0	---
08/23/2014 *	---	---	---	---	11	3	0	2	660	---	0
08/24/2014 *	---	---	---	---	1	2	2	2	---	---	---
08/25/2014 *	---	---	---	---	6	3	1	3	80	---	0
08/26/2014 *	---	---	---	---	0	2	0	61	---	8	---
08/27/2014 *	---	---	---	---	8	5	1	18	80	---	0
08/28/2014 *	---	---	---	---	1	4	0	3	---	---	---
08/29/2014 *	---	---	---	---	1	8	0	0	20	0	0
08/30/2014 *	---	---	---	---	4	7	1	1	---	---	---
08/31/2014 *	---	---	---	---	2	12	1	1	50	---	0
09/01/2014 *	---	---	---	---	0	7	1	---	---	---	---
09/02/2014 *	---	---	---	---	0	11	0	---	80	0	8
09/03/2014 *	---	---	---	---	2	12	0	---	---	---	---
09/04/2014 *	---	---	---	---	---	18	---	---	48	---	10
09/05/2014	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	40	94	7	91	1,018	8	18
# Days:	0	0	0	0	13	14	13	10	7	4	7
Average:	0	0	0	0	3	7	1	9	145	2	3
YTD	1	3	0	0	174	20,948	29,485	220	60,633	98,903	19,328

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:

9/5/14 7:18 AM

08/22/14 TO 09/05/14

		Species						
Site	Data	CH0	CH1	CO	ST	SO	Grand Total	
LGR	Sum of NumberCollected	5,041	1	1	8	10	5,061	
	Sum of NumberBarged	0	0	0	0	0	0	
	Sum of NumberBypassed	0	0	0	8	0	8	
	Sum of Numbertrucked	5,510	0	1	0	10	5,521	
	Sum of SampleMorts	50	1	0	0	0	51	
	Sum of FacilityMorts	1	0	0	0	0	1	
	Sum of ResearchMorts	0	0	0	0	0	0	
	Sum of TotalProjectMorts	51	1	0	0	0	52	
LGS	Sum of NumberCollected	3,232				4	3	3,239
	Sum of NumberBarged	0				0	0	0
	Sum of NumberBypassed	0				0	0	0
	Sum of Numbertrucked	3,415				4	4	3,423
	Sum of SampleMorts	31				0	0	31
	Sum of FacilityMorts	9				0	0	9
	Sum of ResearchMorts	0				0	0	0
	Sum of TotalProjectMorts	40				0	0	40
LMN	Sum of NumberCollected	509	2			3	1	515
	Sum of NumberBarged	0	0			0	0	0
	Sum of NumberBypassed	0	0			0	0	0
	Sum of Numbertrucked	534	2			3	1	540
	Sum of SampleMorts	39	0			0	0	39
	Sum of FacilityMorts	0	0			0	0	0
	Sum of ResearchMorts	0	0			0	0	0
	Sum of TotalProjectMorts	39	0			0	0	39
Total Sum of NumberCollected		8,782	3	1	15	14	8,815	
Total Sum of NumberBarged		0	0	0	0	0	0	
Total Sum of NumberBypassed		0	0	0	8	0	8	
Total Sum of Numbertrucked		9,459	2	1	7	15	9,484	
Total Sum of SampleMorts		120	1	0	0	0	121	
Total Sum of FacilityMorts		10	0	0	0	0	10	
Total Sum of ResearchMorts		0	0	0	0	0	0	
Total Sum of TotalProjectMorts		130	1	0	0	0	131	

YTD Transportation Summary

Source: Fish Passage Center

Updated:

9/5/14 7:18 AM

TO: 09/05/14

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	643,766	3,442,338	52,723	130,970	2,404,238	6,674,035
	Sum of NumberBarged	622,537	1,939,440	48,991	70,855	1,326,856	4,008,679
	Sum of NumberBypassed	11,727	1,501,375	3,722	59,638	1,077,094	2,653,556
	Sum of NumberTrucked	7,480	0	1	15	0	7,496
	Sum of SampleMorts	465	139	1	47	60	712
	Sum of FacilityMorts	1,547	1,305	8	415	121	3,396
	Sum of ResearchMorts	10	79	0	0	107	196
	Sum of TotalProjectMorts	2,022	1,523	9	462	288	4,304
LGS	Sum of NumberCollected	738,859	1,951,719	41,832	61,235	1,369,628	4,163,273
	Sum of NumberBarged	731,173	1,768,377	40,932	54,864	1,149,468	3,744,814
	Sum of NumberBypassed	324	182,657	890	6,109	220,103	410,083
	Sum of NumberTrucked	5,709	0	0	4	4	5,717
	Sum of SampleMorts	209	34	1	21	16	281
	Sum of FacilityMorts	1,374	651	9	237	167	2,438
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,583	685	10	258	183	2,719
LMN	Sum of NumberCollected	257,300	1,326,224	19,905	48,375	792,148	2,443,952
	Sum of NumberBarged	253,846	1,138,579	17,505	45,110	686,179	2,141,219
	Sum of NumberBypassed	616	177,066	0	2,568	89,957	270,207
	Sum of NumberTrucked	781	2	0	1	6	790
	Sum of SampleMorts	116	25	0	1	17	159
	Sum of FacilityMorts	541	964	0	301	193	1,999
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	657	989	0	302	210	2,158
Total Sum of NumberCollected		1,639,925	6,720,281	114,460	240,580	4,566,014	13,281,260
Total Sum of NumberBarged		1,607,556	4,846,396	107,428	170,829	3,162,503	9,894,712
Total Sum of NumberBypassed		12,667	1,861,098	4,612	68,315	1,387,154	3,333,846
Total Sum of NumberTrucked		13,970	2	1	20	10	14,003
Total Sum of SampleMorts		790	198	2	69	93	1,152
Total Sum of FacilityMorts		3,462	2,920	17	953	481	7,833
Total Sum of ResearchMorts		10	79	0	0	107	196
Total Sum of TotalProjectMorts		4,262	3,197	19	1,022	681	9,181

Cumulative Adult Passage at Mainstem Dams Through: 09/04

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	09/04	188083	26094	83345	33820	130283	22257	109734	25342	93097	26186	85511	18881	168292	19268	273820	34534	142647	19067
TDA	09/04	143142	21080	69202	32311	99813	18973	96134	19525	85639	20750	73080	14947	77751	10283	121769	22438	61541	11660
JDA	09/04	123224	19103	56991	28957	87036	17743	86033	17655	75248	19714	65621	15576	43083	5977	63231	16030	36348	8891
MCN	09/04	107147	16033	52176	22279	79413	14950	87974	17022	75741	14808	61586	11232	23277	4624	50162	8440	22919	4429
IHR	09/04	79298	12428	38017	18611	54814	9602	17433	4474	11912	6321	16717	4436	6776	763	13528	2985	5824	1771
LMN	09/04	79942	14020	36470	19053	54458	8539	16064	8136	11765	7703	18241	4639	4901	695	9358	2379	4272	1711
LGS	09/04	77966	13649	35072	19443	49920	9660	17058	7477	10120	7632	17208	5330	3991	405	7678	1765	3309	927
LGR	09/04	79167	13732	35031	19940	49728	11001	14668	7106	8423	7572	15316	5918	3549	499	2696	695	2005	677
PRD	09/03	23742	2649	13725	1298	14700	1468	78434	4889	71083	3174	52746	2498	4700	2222	8131	4962	4786	1946
WAN		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS	09/03	23247	2934	13345	3100	13890	2468	77982	6494	68386	3986	50079	5174	3338	2156	3452	6246	2308	1436
RRH	09/03	12376	2377	6841	2101	5576	1020	58569	5017	59685	4044	38940	4099	2843	1627	2652	3581	1864	886
WEL	09/03	15376	2544	7133	2980	4880	1164	49255	5989	49451	4264	29289	3038	745	473	687	119	660	260
WFA	09/03	30071	1598	27897	1664	40347	1124	0	0	0	0	0	0	259	40	459	134	202	38

DAM	END DATE	Coho						Sockeye			Steelhead						Lamprey		
		2014		2013		10-Yr Avg.		2014	2013	10-Yr Avg.	2014	2013	10-Yr Avg.	Wild 2014	Wild 2013	10-Yr Avg.	2014	2013	10-Yr Avg.
BON	09/04	13434	1377	6563	947	22205	1232	614175	185503	192204	227500	190302	273046	101894	85905	92040	31260	23025	23535
TDA	09/04	2525	707	1322	216	4022	629	586167	161893	159036	108306	83469	137762	53463	42307	50679	10827	7980	6016
JDA	09/04	767	170	639	110	2364	502	557510	155483	161064	58820	48771	107329	27957	23396	38387	7830	5627	5404
MCN	09/04	166	80	156	61	546	115	545988	134185	135990	51367	41329	74548	24735	19687	26042	1518	1356	1862
IHR	09/04	15	8	14	13	18	3	2390	895	505	25712	29100	42244	9183	8941	11330	683	270	252
LMN	09/04	7	3	5	1	3	0	2803	1013	632	26280	21483	38442	11271	8692	12253	213	100	75
LGS	09/04	3	2	3	0	0	0	2809	989	607	17082	11849	26033	8558	5668	8467	126	27	40
LGR	09/04	0	0	1	0	0	0	2757	738	681	19747	13114	23409	9785	6242	8267	75	13	11
PRD	09/03	5	0	3	0	93	12	608122	163074	167425	8312	6487	10149	0	0	0	5766	4742	2682
WAN		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS	09/03	0	0	0	0	7	6	581038	159192	164834	5679	4913	8159	2861	2925	4004	2286	998	768
RRH	09/03	0	0	0	0	0	0	492792	131651	139946	3332	3620	6116	1644	2021	2803	2931	720	322
WEL	09/03	0	0	0	0	0	0	490648	129959	133673	2433	2748	3733	1274	1481	1704	5	17	2
WFA	09/03	19	11	211	135	81	55	0	0	0	26800	17579	25048	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 uncipped 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.