



Fish Passage Center

Weekly Report #14 - 21

August 8, 2014

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Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 2% and 395% of average at individual sub-basins over August. Precipitation above The Dalles has been 93% of average over August. Over the 2014 water year, precipitation has ranged between 75% and 96% of average.

Table 1. Summary of July precipitation and cumulative October through July 30, 2014, precipitation with respect to average (1971–2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2014 August 1–7, 2014		Water Year 2014 October 1, 2013 to August 7, 2014	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia above Coulee	0.12	22	31.7	91
SNAKE RIVER above Ice Harbor	0.56	264	16.7	80
Columbia above The Dalles	0.29	93	21.3	82
Kootenai	0.14	24	33.3	93
Clark Fork	0.17	45	20.2	79
Flathead	0.15	35	32.4	96
Pend Oreille River Basin above Waneta Dam	0.14	35	26.7	87
Salmon River Basin	0.47	155	20.3	75
Upper Snake Tributaries	1.23	395	22.9	91
Clearwater	0.07	19	34.1	88
Willamette River above Portland	0.00	2	51.8	84

Grand Coulee Reservoir is at 1287.3 feet (8-07-14) and has drafted 0.9 feet over the last week (2.7 feet from full). Outflows at Grand Coulee have ranged between 106.8 and 130.4 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 2452.8 feet (8-07-14) and has held steady over the previous week (6.2 feet from full). Daily average outflows at Libby Dam have been 9.4 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3558.0 feet (8-07-14) and has drafted 0.9 feet over the previous week (2.0 feet from full). Daily average outflows at Hungry Horse have been 3.3 Kcfs over the last week.

Dworshak is currently at an elevation of 1565.2 feet (8-07) and has drafted 9.0 feet over the previous week. Daily average outflows were reduced from 12.8 Kcfs on July 31st to 9.8 Kcfs on August 1st and have remained at about 9.8 Kcfs over the last week.

The Brownlee Reservoir was at an elevation of 2058.8 feet on August 7, 2014, and has drafted 3.9 feet last week. Inflows to Brownlee Dam ranged between 8.45 and 8.54 Kcfs over the period of August 1 to August 4.

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 29.1 Kcfs over the past week and 48.2 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 171.8 Kcfs over the past week and 212.1 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. Transmission line repairs at Lower Granite Dam required “spin no load” through turbines from August 5th through August 7th with no additional spill. Spill at Little Goose Dam transitioned to a flat spill operation due to decreased river flows. A flat spill specified in the FOP as 7–11 Kcfs (dependent on flow) is necessary 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 17 Kcfs. At Ice Harbor spill is occurring as river flow in excess of that needed for the operation of one turbine unit.

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 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

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 McNary, Bonneville, and Rock Island dams over the past week. One fish was observed with minor (Rank 1) signs of GBT at Bonneville Dam on August 6th. 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 most of the SMP dam sites this week. The two exceptions to this were MCN and LGS where sub-yearling Chinook passage increased this week when compared to last week. Due to the high temperature protocol at JDA, comparisons in passage are not possible.

High temperature sampling protocols were in effect this week at Bonneville Dam (BON). 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 continued to decrease this week, when compared to the previous week. The daily average passage index for subyearling Chinook at BON this week was about 11,200 per day. Last week's daily average passage index was about 19,200 per day. Pacific lamprey macrophthalmia were encountered in two of the four samples at BON this week.

High temperature sampling protocols were in effect this week at John Day Dam (JDA). 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. Pacific lamprey macrophthalmia were the only other target species that were collected in this week's condition samples. The high temperature sampling protocols will continue until the daily average temperature in the forebay falls below 69.5°F.

The high temperature sampling protocol for McNary Dam (MCN) was implemented this week, beginning with the August 7th sample. Under the high temperature protocol, sampling at MCN remains every-other-day except the target sample size for handling is reduced from 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 increased this week when compared to the previous week. The daily average passage index for subyearling Chinook at MCN this week was about 64,000 per day. Last week's daily average passage index for subyearling Chinook was about 42,500. 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 175 per day, which is an increase from last week's daily average collection of about 100 per day.

This week's daily average passage index for subyearling Chinook at Lower Granite Dam (LGR) was about 1,375 per day, which is a decrease from last week's daily average passage index of about 1,800 per day. Only one Pacific lamprey ammocoete was sampled this week, on August 1st. One Pacific macrophthalmia was also sampled at LGR this week on August 5th.

Compared to last week, passage of subyearling Chinook increased at Little Goose (LGS) but decreased at Lower Monumental (LMN). This week's daily average passage index for subyearling Chinook at LGS was about 2,500 per day while that at LMN was about 480 per day. Last week's daily average passage indices for subyearling Chinook at these sites were nearly 1,600 per day at LGS and 1,700 at LMN. Pacific lamprey ammocoetes were encountered on three separate days this week at LGS. No ammocoetes were encountered at LMN this week. Pacific lamprey macrophthalmia were encountered in four of this week's samples at LGS but only one at LMN.

Passage of subyearling Chinook at Rock Island Dam (RIS) decreased this week, when compared to last week. This week's daily average passage index for subyearling Chinook was about 250 per day, whereas that for last week was about 475 per day. So far this year, only Pacific lamprey macrophthalmia have been collected at RIS. A total of six Pacific lamprey macrophthalmia were encountered this week.

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. 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

Fall Chinook began to pass Bonneville Dam on August 1st. The adult fall Chinook count of 2,809 is about 45% of the 2013 count of 6,247 and about 89.4% of the 10-year average count of 3,143. The 2014 Bonneville Dam fall Chinook jack count of 1,303 has 104 more fish than the 2013 count of 1,199 and 683 more fish than the 10-year average count of 620. The 2014 adult summer Chinook count of 14,247 at Lower Granite Dam in the Snake River is about 1.8 times greater than the 2013 count, while being about 95% of the 10-year average count. The 2014 Lower Granite summer Chinook jack count of 7,013 is about 95.2% of the 2013 count, while being about 1.2 times greater than the 10-year average count.

The 2014 Bonneville Dam adult steelhead count of 128,372 is about 1.2 times greater than the 2013 count of 104,162, while being about 91.8% of the 10-year average count of 139,843. The 2014 Bonneville Dam adult wild steelhead count of 63,872 is about 1.15 times greater than the 2013 count of 55,286 and about 1.1 times greater than the 10-year average count of 57,686. Daily adult steelhead counts at Lower Granite Dam ranged from 47 to 133 adults per day last week. This year's Lower Granite steelhead count of 12,974 is about 1.4 times greater than the 2013 count of 9,325, while having 188 fewer fish than the 10-year average count of 13,162. The 2014 Lower Granite Dam adult wild steelhead count of 6,399 is about 1.5 times greater than the 2013 count of 4,235 and is about 1.3 times greater than the 10-year average count of 4,809. At Willamette Falls, the 2014 count for steelhead was 26,319 as of August 5th. This year's steelhead count is about 1.5 times greater than the 2013 count of 17,224 and has 1,658 more fish than the 10-year average count of 24,661.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 73 and 246 last week. The 2014 adult sockeye count at Bonneville Dam of 613,823 is about 3.3 times greater than the 2013 count of 185,347 and about 3.2 times greater than the 10-year average count of 192,161. 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 545,529 is about 4.1 times greater than the 2013 count of 133,971 and about 4 times greater than the 10-year average count of 135,933. The Lower Granite Dam 2014 adult sockeye count of 2,658 is about 3.7 times greater than the 2013 count of 720 and about 4 times greater than the 10-year average count of 673.

Twelve adult coho have crossed Bonneville Dam so far this year. As of August 7th at Bonneville Dam, the adult shad count was 2,602,901. This year's shad count is about 69.4% of the 2013 count of 3,749,842 and 93.6% of the 10-year average count of 2,781,464.

Hatchery Releases Last Two Weeks

Hatchery Release Summary									
From: 7/25/2014 to 08/07/14									
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: 8/8/2014 to 8/21/2014

No Releases Scheduled

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
07/25/2014	153.8	0.1	152.4	28.1	163.3	16.6	163.9	31.1	171.9	28.5	167.4	31.6	180.5	48.9
07/26/2014	143.1	0.1	139.5	22.3	149.5	10.0	145.0	13.1	152.3	27.3	151.1	20.2	162.5	31.4
07/27/2014	129.0	0.1	130.6	1.9	140.5	10.0	136.9	12.5	141.5	27.0	140.4	20.2	154.8	27.8
07/28/2014	138.3	0.1	139.6	0.0	147.5	10.0	144.2	12.3	150.3	27.3	143.8	20.3	152.2	27.0
07/29/2014	138.2	0.1	132.2	0.0	141.6	10.0	139.6	12.3	145.1	27.3	146.2	20.3	146.3	26.9
07/30/2014	142.5	0.1	145.3	0.0	140.0	10.0	126.2	12.6	130.2	28.5	130.5	20.5	140.8	28.1
07/31/2014	147.5	0.1	147.4	0.0	146.2	10.0	136.5	13.2	143.8	28.4	136.5	20.8	141.1	29.9
08/01/2014	127.3	0.1	127.9	0.0	135.9	10.0	129.6	12.3	137.7	25.4	137.7	20.0	148.0	28.9
08/02/2014	114.4	0.1	118.4	0.0	120.3	8.9	114.7	12.4	123.8	25.1	123.6	20.0	128.4	28.4
08/03/2014	106.8	0.1	103.8	0.0	109.7	8.7	107.7	12.3	114.2	25.3	115.9	20.0	121.4	28.4
08/04/2014	123.9	0.1	124.2	0.0	122.5	9.1	115.4	12.4	120.7	27.0	117.1	19.8	118.3	27.9
08/05/2014	122.5	0.1	123.2	0.0	123.7	8.8	120.5	15.2	122.4	27.0	122.3	20.1	127.2	30.0
08/06/2014	130.4	0.1	131.0	0.0	133.6	10.0	128.8	13.4	135.3	26.6	132.0	20.2	141.3	26.9
08/07/2014	127.0	0.1	124.1	0.0	133.1	9.6	132.6	13.4	136.2	25.0	135.0	20.2	137.1	27.1

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
07/25/2014	9.9	0.2	---	10.4	31.8	18.7	28.5	10.8	29.8	16.5	31.3	21.6
07/26/2014	13.4	3.7	---	11.9	33.1	18.7	32.3	11.5	33.2	17.0	34.7	25.0
07/27/2014	13.5	3.7	---	13.0	33.7	18.7	31.2	10.8	33.2	16.7	35.8	26.1
07/28/2014	13.4	3.7	---	13.6	35.9	18.5	36.1	10.9	36.0	17.0	36.4	26.5
07/29/2014	13.3	3.5	---	14.0	36.6	18.5	36.2	10.8	39.5	16.8	42.0	32.1
07/30/2014	13.2	3.4	---	12.8	34.3	18.4	33.7	10.8	33.1	17.0	33.3	23.3
07/31/2014	12.8	3.2	---	14.0	33.3	18.5	32.5	10.8	34.0	16.7	33.8	23.9
08/01/2014	9.8	0.0	---	12.1	31.2	18.4	29.2	10.1	32.9	17.0	33.5	23.4
08/02/2014	9.8	0.0	---	13.3	31.2	18.4	31.0	9.1	32.3	16.6	33.6	23.7
08/03/2014	9.9	0.0	---	11.5	31.2	18.4	31.7	9.0	31.3	17.0	33.1	22.9
08/04/2014	9.8	0.0	---	10.2	29.5	16.6	29.2	8.8	28.7	16.6	30.2	20.4
08/05/2014	9.9	0.0	---	10.3	26.5	17.8	26.2	8.8	27.1	14.5	29.5	19.6
08/06/2014	9.8	0.0	---	10.2	26.2	18.2	26.3	8.8	26.5	14.3	26.0	16.3
08/07/2014	9.8	0.0	---	10.6	28.0	18.3	28.2	8.7	29.2	17.0	29.4	18.9

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
07/25/2014	213.8	107.0	213.8	64.2	199.8	79.8	205.8	95.4	5.5	92.4
07/26/2014	212.6	106.6	199.6	60.4	183.0	73.2	197.3	100.5	0.0	84.4
07/27/2014	204.5	102.6	192.6	57.7	180.4	71.9	195.8	95.8	2.7	84.8
07/28/2014	206.7	103.7	202.9	60.8	187.9	75.1	204.6	90.5	9.2	92.6
07/29/2014	194.4	97.5	182.7	55.1	170.5	68.2	192.1	95.4	0.7	83.5
07/30/2014	205.5	103.0	194.5	58.4	178.5	71.4	189.2	100.6	1.4	74.9
07/31/2014	184.1	92.3	186.2	55.6	177.5	70.8	195.9	96.4	3.3	83.8
08/01/2014	197.6	99.1	183.4	54.8	163.3	65.3	176.8	91.5	0.3	72.7
08/02/2014	174.7	87.5	156.6	47.0	147.9	59.2	165.2	96.6	0.0	56.2
08/03/2014	151.5	76.1	145.9	43.9	133.0	53.2	153.6	100.4	0.0	40.8
08/04/2014	168.0	84.3	165.5	49.7	153.8	61.4	172.7	95.1	0.0	65.3
08/05/2014	164.0	82.1	150.1	45.1	138.2	55.2	156.6	90.3	0.0	53.9
08/06/2014	168.9	84.6	163.3	48.8	149.1	59.6	154.4	96.1	0.0	45.9
08/07/2014	177.6	88.8	167.8	50.3	157.7	63.0	177.0	100.8	1.6	62.2

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											
	07/28/14	Chinook + Steelhead	41	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	07/31/14	Chinook + Steelhead	55	1	1	1.82%	0.00%	1	0	0	0
McNary Dam											
	07/25/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/27/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/31/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	08/04/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	07/26/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/29/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	08/02/14	Chinook + Steelhead	86	0	0	0.00%	0.00%	0	0	0	0
	08/06/14	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
Rock Island Dam											
	07/29/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/31/14	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	08/05/14	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	08/07/14	Chinook + Steelhead	101	0	0	0.00%	0.00%	0	0	0	0

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>							
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
7/25	106.6	106.9	107.5	23	---	---	---	0	113.8	114.1	114.4	24	111.3	111.8	112.0	24	111.2	111.5	111.6	24
7/26	106.6	106.7	106.9	24	---	---	---	0	111.9	112.5	112.9	24	111.2	111.5	111.7	24	111.4	112.0	112.2	24
7/27	106.7	107.2	107.7	24	---	---	---	0	108.4	109.1	110.5	24	110.7	111.1	111.4	24	112.1	112.5	112.9	24
7/28	106.8	107.0	107.4	24	---	---	---	0	110.1	111.0	111.8	24	111.0	111.3	111.7	24	111.8	112.2	112.5	24
7/29	106.8	107.2	107.6	24	---	---	---	0	109.3	109.6	110.3	24	110.8	111.2	111.6	24	111.8	112.3	112.6	24
7/30	107.0	107.4	107.7	24	---	---	---	0	109.4	109.7	109.9	24	110.5	110.9	111.2	24	111.6	112.0	112.3	24
7/31	107.2	107.4	107.7	24	---	---	---	0	110.1	110.7	111.9	24	110.3	110.7	111.5	24	111.1	111.4	111.6	24
8/1	107.3	107.7	108.3	24	---	---	---	0	110.1	110.4	110.6	24	110.1	110.6	110.9	24	111.0	111.2	111.5	24
8/2	107.3	107.5	107.8	24	---	---	---	0	110.6	110.6	110.8	24	110.0	110.4	111.1	24	110.8	111.1	111.5	24
8/3	106.5	106.7	107.2	24	---	---	---	0	110.4	110.5	110.6	24	109.8	110.4	110.9	24	110.6	111.2	111.5	24
8/4	106.8	107.4	107.8	24	---	---	---	0	110.4	110.5	110.8	24	110.7	111.2	111.5	24	110.9	111.5	112.0	24
8/5	107.2	107.6	108.1	24	---	---	---	0	110.4	110.5	110.6	24	110.6	110.9	111.4	24	111.4	112.1	112.5	24
8/6	107.2	107.6	108.1	24	---	---	---	0	110.3	110.4	110.6	24	110.1	110.6	110.8	24	111.1	111.4	111.6	24
8/7	107.0	107.4	108.1	23	---	---	---	0	110.2	110.3	110.5	23	109.9	110.3	110.7	23	110.5	110.9	111.3	24

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>		<u>#</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>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
7/25	112.0	112.6	113.4	24	111.6	112.1	112.7	21	113.8	114.6	116.0	21	110.9	111.2	111.4	24	117.2	117.8	118.2	24
7/26	111.2	111.4	111.6	24	111.4	111.4	112.1	12	112.5	112.5	113.8	12	111.9	112.7	113.2	24	115.6	116.7	117.1	24
7/27	111.5	111.9	112.4	24	111.8	112.0	112.8	15	112.8	113.1	114.0	15	112.4	112.7	113.1	24	115.5	116.3	116.7	24
7/28	111.3	112.0	113.2	24	112.5	112.9	113.4	19	113.6	114.2	115.0	19	112.2	112.8	113.1	24	115.0	116.1	116.5	24
7/29	111.7	112.5	113.3	24	112.3	112.6	113.3	20	113.2	113.8	114.6	20	112.7	113.4	113.8	24	115.6	116.4	117.1	24
7/30	111.5	112.0	112.4	24	112.1	112.5	112.8	19	113.0	113.7	114.3	19	112.6	112.9	113.3	24	115.2	116.0	116.4	24
7/31	110.8	111.1	111.4	24	111.6	111.9	112.4	18	112.8	113.1	114.1	18	112.1	112.6	113.0	24	115.0	115.5	116.0	24
8/1	110.6	110.8	111.3	24	111.4	111.7	112.3	18	112.5	113.0	113.5	18	112.0	112.4	112.6	24	114.8	115.5	115.8	24
8/2	110.7	111.1	111.6	24	110.7	111.0	112.2	19	111.5	112.0	113.4	19	111.6	111.9	112.2	24	114.0	114.8	115.3	24
8/3	111.1	111.7	112.1	24	110.4	110.9	111.6	19	111.1	112.0	113.0	19	111.1	111.4	111.5	24	113.6	114.4	114.6	24
8/4	110.9	111.3	111.8	24	110.9	111.4	112.2	18	111.7	112.5	113.6	18	111.3	111.6	111.8	24	114.1	114.8	115.2	24
8/5	111.5	112.1	113.2	24	111.1	111.3	111.9	18	112.1	112.6	113.7	18	111.4	111.5	111.8	24	114.8	115.8	116.8	24
8/6	110.9	111.1	111.4	24	111.0	111.3	111.7	18	112.3	112.8	113.6	18	111.2	111.3	111.5	24	115.0	115.4	116.1	24
8/7	110.7	111.2	112.0	23	110.6	111.0	111.4	21	111.9	112.5	113.5	21	111.0	111.3	111.5	23	114.7	115.0	115.6	23

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
7/25	112.9	113.9	114.3	24	114.2	114.9	115.0	23	---	---	---	0	---	---	---	0	---	---	---	0
7/26	111.6	112.7	113.7	24	112.2	114.0	114.7	24	---	---	---	0	---	---	---	0	---	---	---	0
7/27	112.3	112.8	113.1	24	110.8	113.7	114.2	24	---	---	---	0	---	---	---	0	---	---	---	0
7/28	111.6	112.8	113.4	24	110.1	114.0	114.7	23	---	---	---	0	---	---	---	0	---	---	---	0
7/29	112.6	113.4	114.1	24	110.5	114.3	114.9	24	---	---	---	0	---	---	---	0	---	---	---	0
7/30	112.6	113.1	113.7	24	107.4	114.0	114.7	24	---	---	---	0	---	---	---	0	---	---	---	0
7/31	112.2	112.7	113.2	24	109.1	113.9	114.3	24	---	---	---	0	---	---	---	0	---	---	---	0
8/1	112.2	112.5	112.9	24	108.6	113.7	114.0	23	---	---	---	0	---	---	---	0	---	---	---	0
8/2	111.6	111.8	112.2	24	105.3	110.6	113.2	24	---	---	---	0	---	---	---	0	---	---	---	0
8/3	111.2	111.5	111.8	24	102.3	104.6	112.9	24	---	---	---	0	---	---	---	0	---	---	---	0
8/4	111.4	112.1	112.7	24	103.9	107.5	113.5	23	---	---	---	0	---	---	---	0	---	---	---	0
8/5	111.4	112.0	112.7	24	104.1	108.0	113.6	23	---	---	---	0	---	---	---	0	---	---	---	0
8/6	111.3	111.9	112.4	24	107.2	112.9	113.7	24	---	---	---	0	---	---	---	0	---	---	---	0
8/7	111.1	111.9	112.4	23	107.9	113.1	113.7	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	<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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>	
	<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
7/25	---	---	---	0	---	---	---	0	100.4	100.8	101.2	24	102.7	103.8	104.7	24	101.9	103.3	104.4	24
7/26	---	---	---	0	---	---	---	0	107.4	107.9	108.1	24	106.9	108.2	108.8	24	102.0	103.4	104.7	24
7/27	---	---	---	0	---	---	---	0	107.8	108.2	108.5	24	107.5	108.5	109.3	24	102.1	103.5	104.8	24
7/28	---	---	---	0	---	---	---	0	108.1	108.5	108.7	24	107.8	108.6	109.3	24	102.3	103.6	104.8	24
7/29	---	---	---	0	---	---	---	0	108.2	108.7	109.3	24	108.1	109.0	110.2	24	102.2	103.4	105.0	22
7/30	---	---	---	0	---	---	---	0	107.4	107.8	108.0	24	107.4	108.5	109.1	24	102.0	103.1	104.3	24
7/31	---	---	---	0	---	---	---	0	107.7	109.0	111.4	24	108.0	109.4	110.6	24	101.8	103.0	104.5	24
8/1	---	---	---	0	---	---	---	0	100.7	101.0	101.3	24	102.9	103.7	104.2	24	101.8	102.9	103.8	24
8/2	---	---	---	0	---	---	---	0	100.8	101.3	101.8	24	103.2	104.4	105.6	24	102.0	103.3	104.8	24
8/3	---	---	---	0	---	---	---	0	100.9	101.3	101.7	24	103.2	104.4	105.3	24	101.9	103.0	103.9	22
8/4	---	---	---	0	---	---	---	0	101.1	101.5	101.8	24	103.3	104.4	105.3	24	101.9	103.1	104.2	23
8/5	---	---	---	0	---	---	---	0	101.1	101.4	101.9	24	103.2	104.4	105.4	24	100.2	100.2	100.6	5
8/6	---	---	---	0	---	---	---	0	100.9	101.3	101.8	24	103.1	104.3	105.3	24	102.4	102.5	103.7	13
8/7	---	---	---	0	---	---	---	0	100.9	101.3	101.7	23	103.1	104.3	105.3	23	101.6	103.0	104.3	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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>	
	<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
7/25	103.6	106.1	107.7	24	101.4	101.5	101.8	24	116.8	117.2	117.9	24	105.8	105.9	106.2	24	112.4	113.5	113.9	24
7/26	104.4	107.5	109.4	24	101.4	101.5	101.7	24	116.9	117.3	117.7	24	105.8	106.0	106.1	24	112.3	112.8	113.2	24
7/27	105.7	108.1	109.8	24	101.3	101.5	101.9	24	116.4	116.8	117.3	24	106.2	106.7	107.0	24	112.1	112.9	113.3	24
7/28	105.8	108.1	109.8	24	100.6	100.8	101.0	24	116.1	116.4	116.7	24	106.8	106.9	107.1	24	112.3	112.6	112.9	24
7/29	106.0	108.5	110.2	24	100.2	101.3	101.8	24	115.7	116.1	116.6	24	107.4	107.7	107.9	24	112.6	113.2	113.6	24
7/30	105.5	107.6	109.2	24	102.2	102.7	102.9	24	115.9	116.1	116.5	24	108.9	109.6	112.6	24	113.5	114.3	116.4	24
7/31	105.7	108.1	109.6	24	103.1	103.4	103.7	24	116.3	116.6	116.9	24	112.0	113.2	114.5	24	113.7	114.4	114.9	24
8/1	104.4	105.7	106.8	24	103.8	104.1	104.3	24	116.5	116.8	117.4	24	113.6	114.1	115.0	24	114.0	114.4	114.8	24
8/2	103.7	105.9	107.3	24	104.0	104.2	104.4	24	116.3	116.8	117.4	24	114.4	114.7	115.0	24	113.5	114.0	114.5	24
8/3	103.9	106.1	107.7	24	103.7	103.8	104.1	24	116.1	116.6	116.9	24	114.1	114.7	115.4	24	113.0	113.4	113.7	24
8/4	103.7	105.9	107.5	24	103.7	103.9	104.0	24	116.0	116.3	116.8	24	112.8	113.2	113.6	24	111.6	112.5	112.8	24
8/5	103.7	106.0	107.6	24	103.4	103.5	103.7	24	117.7	119.3	119.7	24	113.6	113.8	114.1	24	109.9	110.2	110.4	24
8/6	103.5	105.7	107.3	24	102.0	102.3	102.8	24	118.2	119.5	120.2	24	112.9	113.2	113.5	24	109.7	110.2	110.6	24
8/7	103.6	105.8	107.5	23	101.5	101.7	101.9	23	117.9	119.1	120.2	23	113.0	113.3	113.6	23	109.9	110.2	110.6	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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>	
	<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
7/25	107.3	107.6	108.0	24	115.3	115.9	116.3	24	108.7	109.2	109.6	24	113.4	113.8	114.1	24	---	---	---	0
7/26	107.3	107.6	108.1	24	115.3	115.7	116.1	24	109.5	109.7	109.8	24	113.9	114.4	115.0	24	---	---	---	0
7/27	107.2	107.4	107.7	24	114.9	115.3	115.6	24	109.2	109.4	109.7	24	113.9	114.4	114.9	24	---	---	---	0
7/28	108.2	108.5	109.4	24	115.3	115.8	116.1	24	110.3	111.1	112.2	24	113.3	113.9	114.5	24	---	---	---	0
7/29	109.3	110.1	111.4	24	115.3	116.2	116.6	24	112.5	113.0	113.8	24	113.8	114.3	114.9	24	---	---	---	0
7/30	110.1	110.5	111.1	24	115.6	115.8	116.1	24	113.2	113.6	114.0	24	113.6	114.3	114.6	24	---	---	---	0
7/31	111.2	111.6	112.0	24	115.0	116.1	116.7	24	113.6	113.9	114.3	24	113.3	113.8	114.5	24	---	---	---	0
8/1	111.4	111.9	112.4	24	113.9	115.8	116.4	24	114.2	114.4	114.7	24	113.3	113.8	114.6	24	---	---	---	0
8/2	112.3	112.5	112.7	24	115.2	115.8	116.8	24	114.0	114.2	114.3	24	113.3	113.8	114.4	24	---	---	---	0
8/3	112.5	112.8	113.2	24	115.8	116.3	116.8	24	113.7	113.9	114.4	24	113.5	114.2	114.9	24	---	---	---	0
8/4	112.8	113.2	113.5	24	115.3	115.6	116.0	24	113.6	113.8	113.9	24	113.3	113.7	114.3	24	---	---	---	0
8/5	112.3	112.6	112.9	24	114.1	115.3	115.9	24	112.7	113.0	113.2	24	112.4	113.3	113.6	24	---	---	---	0
8/6	111.6	112.1	112.4	24	114.1	115.4	116.1	24	111.8	112.0	112.3	24	111.0	112.1	113.2	24	---	---	---	0
8/7	111.7	111.9	112.1	23	115.7	116.0	116.4	23	112.1	112.4	112.6	23	113.4	114.0	114.5	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>				
7/25	105.5	105.8	106.1	24	116.0	116.2	116.4	24	103.2	103.6	103.9	24	112.7	113.1	113.6	24	106.6	107.1	107.9	24
7/26	106.5	106.9	108.3	24	116.4	116.9	117.5	24	103.7	104.2	104.5	24	112.5	112.8	113.3	24	106.8	107.2	107.7	24
7/27	109.1	109.6	111.2	24	116.6	117.0	117.4	24	105.1	105.6	106.2	24	112.8	113.2	114.2	24	107.6	107.8	108.2	24
7/28	111.4	111.7	111.9	24	116.7	117.1	117.6	24	105.7	105.9	106.2	24	113.4	113.8	114.2	24	108.7	108.9	109.2	24
7/29	111.9	112.0	112.2	24	116.4	116.7	117.0	24	106.1	106.8	107.2	24	113.4	113.7	113.9	24	108.1	108.4	108.9	24
7/30	111.9	112.2	112.4	24	116.5	116.8	117.0	24	107.5	108.3	108.9	24	113.5	114.0	114.4	24	107.9	108.2	108.6	24
7/31	111.6	111.8	112.3	24	116.2	116.5	116.9	24	108.8	109.6	110.5	24	113.7	114.3	114.7	24	109.4	110.0	110.6	24
8/1	110.9	111.4	111.7	24	116.5	117.0	117.8	24	110.5	110.9	111.3	24	114.2	114.9	115.4	24	111.0	111.2	111.4	24
8/2	110.5	110.8	111.5	24	116.0	116.5	116.6	24	111.2	111.4	111.6	24	114.7	115.0	115.3	24	111.4	111.7	111.9	24
8/3	109.2	109.6	109.8	24	114.6	115.0	115.3	24	110.8	111.2	111.5	24	114.6	115.1	115.8	24	111.1	111.7	111.9	24
8/4	110.3	110.6	111.0	24	115.6	116.1	117.2	24	111.5	112.0	112.3	24	114.3	114.7	115.0	24	112.1	112.5	112.9	24
8/5	109.5	109.6	109.9	24	115.5	116.1	116.5	24	110.8	111.3	111.9	24	113.6	114.2	114.9	24	109.6	110.7	111.6	24
8/6	109.1	109.5	109.8	24	115.5	116.0	116.4	24	108.9	109.2	109.4	24	114.4	115.0	115.5	24	106.4	106.7	107.3	24
8/7	109.1	109.3	109.5	23	116.0	116.9	117.3	23	108.0	108.3	108.6	23	114.4	114.8	115.2	23	106.6	106.8	106.9	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>				
7/25	113.9	114.3	114.6	24	108.7	109.1	109.5	24	114.7	115.4	116.3	24	---	---	---	0	115.7	116.6	118.5	24
7/26	114.2	114.5	114.8	24	109.9	110.7	111.2	24	115.7	116.2	116.5	24	---	---	---	0	116.7	117.0	118.3	24
7/27	114.3	114.8	115.4	24	111.0	111.5	111.8	24	115.8	116.3	116.7	24	---	---	---	0	116.5	116.7	117.1	24
7/28	114.4	115.6	116.3	24	111.7	111.9	112.1	24	115.5	115.7	116.0	24	---	---	---	0	115.5	116.2	118.4	24
7/29	114.6	114.9	115.2	24	111.0	111.4	111.6	24	115.6	116.1	116.9	24	---	---	---	0	115.6	116.5	118.4	24
7/30	114.3	114.9	115.1	24	109.2	109.4	109.6	24	115.6	116.1	116.5	24	113.3	113.8	115.1	14	116.6	116.9	117.7	24
7/31	115.1	115.6	116.2	24	109.1	109.8	110.2	24	115.2	115.9	116.7	24	112.6	113.6	114.4	24	116.6	116.8	117.0	24
8/1	115.6	116.1	116.6	24	110.6	111.1	111.5	24	115.4	116.0	116.3	24	112.6	113.9	114.9	24	115.5	116.3	118.1	24
8/2	115.5	116.0	116.6	24	110.8	110.9	111.1	24	116.4	117.0	117.5	24	113.5	115.1	116.3	24	115.2	116.1	117.9	24
8/3	115.2	115.6	116.1	24	110.1	110.8	111.0	24	117.8	118.4	118.8	24	114.6	116.6	118.1	24	116.8	117.0	117.2	24
8/4	116.0	116.8	117.4	24	110.7	111.1	111.5	24	116.2	116.5	116.9	24	115.5	116.3	116.9	24	116.9	117.2	117.6	24
8/5	114.4	114.9	115.4	24	108.5	109.1	110.2	24	114.3	114.8	115.1	24	112.1	112.9	113.5	24	115.6	116.7	118.6	24
8/6	112.7	113.2	113.6	24	106.0	106.3	107.0	24	115.3	116.1	117.1	24	111.8	113.9	115.7	24	115.7	117.1	118.8	24
8/7	112.9	114.0	114.5	23	---	---	---	0	114.9	116.1	117.1	23	112.4	113.8	115.2	23	117.0	117.5	118.5	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 8/8/2014 7:31

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/currentsmptsubmitdata.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)	
07/25/2014	*	---	---	---	---	0	0	0	0	---	0	0
07/26/2014		---	---	---	---	0	0	0	0	0	0	0
07/27/2014	*	---	---	---	---	0	0	0	0	---	0	0
07/28/2014		---	---	---	---	0	0	0	0	0	0	219
07/29/2014	*	---	---	---	---	0	0	0	0	---	0	0
07/30/2014		---	---	---	---	0	0	0	0	0	0	0
07/31/2014	*	---	---	---	---	0	0	0	0	---	36	---
08/01/2014	*	---	---	---	---	0	0	0	0	0	0	0
08/02/2014	*	---	---	---	---	0	0	4	0	---	---	---
08/03/2014	*	---	---	---	---	0	3	4	0	0	---	0
08/04/2014	*	---	---	---	---	0	0	0	0	---	---	---
08/05/2014	*	---	---	---	---	0	0	0	0	0	0	0
08/06/2014	*	---	---	---	---	0	0	4	0	---	---	---
08/07/2014	*	---	---	---	---	0	0	5	0	0	---	0
08/08/2014		---	---	---	---	---	---	---	---	---	---	---
<hr/>												
Total:		0	0	0	0	3	17	0	0	36	219	
# Days:		0	0	0	14	14	14	14	7	9	10	
Average:		0	0	0	0	0	1	0	0	4	22	
YTD		65,404	63,592	25,420	10,159	4,807,472	2,838,735	1,969,614	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)	
07/25/2014	*	---	---	---	4,801	1,539	783	630	---	22,957	23,726	
07/26/2014		---	---	---	1,659	789	3,071	801	58,817	42,496	20,807	
07/27/2014	*	---	---	---	1,260	803	2,916	520	---	21,999	19,537	
07/28/2014		---	---	---	1,637	1,409	1,980	364	31,892	16,306	16,079	
07/29/2014	*	---	---	---	1,354	1,612	1,351	341	---	16,908	20,314	
07/30/2014		---	---	---	1,103	3,118	839	327	36,786	12,846	14,782	
07/31/2014	*	---	---	---	948	1,889	725	342	---	14,241	---	
08/01/2014	*	---	---	---	894	2,100	675	352	48,995	1,580	11,800	
08/02/2014	*	---	---	---	896	1,140	969	279	---	---	---	
08/03/2014	*	---	---	---	1,121	1,579	601	224	73,165	---	10,542	
08/04/2014	*	---	---	---	1,549	1,744	411	222	---	---	---	
08/05/2014	*	---	---	---	1,741	3,761	379	212	64,856	1,602	10,072	
08/06/2014	*	---	---	---	1,820	3,547	139	209	---	---	---	
08/07/2014	*	---	---	---	1,599	3,362	177	291	68,466	---	12,355	
08/08/2014		---	---	---	---	---	---	---	---	---	---	
<hr/>												
Total:		0	0	0	22,382	28,392	15,016	5,114	382,977	150,935	160,014	
# Days:		0	0	0	14	14	14	14	7	9	10	
Average:		0	0	0	1,599	2,028	1,073	365	54,711	16,771	16,001	
YTD		0	27	4	332	914,578	1,011,243	373,497	35,061	4,757,738	2,585,226	4,139,722

Two-Week Summary of Passage Indices

COMBINED COHO												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	
07/25/2014	*	---	---	---	---	0	0	0	0	---	0	0
07/26/2014		---	---	---	---	0	0	0	0	0	0	0
07/27/2014	*	---	---	---	---	0	0	0	3	---	0	0
07/28/2014		---	---	---	---	0	0	0	0	0	0	0
07/29/2014	*	---	---	---	---	0	0	0	0	---	0	0
07/30/2014		---	---	---	---	0	0	0	0	0	0	0
07/31/2014	*	---	---	---	---	0	0	0	0	---	0	---
08/01/2014	*	---	---	---	---	0	0	0	0	0	0	0
08/02/2014	*	---	---	---	---	0	0	0	0	---	---	---
08/03/2014	*	---	---	---	---	0	0	0	0	0	---	0
08/04/2014	*	---	---	---	---	0	0	0	0	---	---	---
08/05/2014	*	---	---	---	---	0	0	0	0	0	0	0
08/06/2014	*	---	---	---	---	0	0	0	0	---	---	---
08/07/2014	*	---	---	---	---	0	0	0	0	0	---	0
08/08/2014		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	0	0	3	0	0	0	0
# Days:		0	0	0	0	14	14	14	14	7	9	10
Average:		0	0	0	0	0	0	0	0	0	0	0
YTD		0	0	0	267	74,168	59,431	27,316	66,431	147,455	225,188	776,651

COMBINED STEELHEAD												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	
07/25/2014	*	---	---	---	---	0	6	0	3	---	0	0
07/26/2014		---	---	---	---	0	0	0	3	0	0	0
07/27/2014	*	---	---	---	---	9	3	0	4	---	0	0
07/28/2014		---	---	---	---	0	3	0	0	0	0	0
07/29/2014	*	---	---	---	---	8	4	0	2	---	0	0
07/30/2014		---	---	---	---	8	3	9	3	0	0	0
07/31/2014	*	---	---	---	---	0	3	0	0	---	0	---
08/01/2014	*	---	---	---	---	0	0	0	2	0	0	0
08/02/2014	*	---	---	---	---	0	0	4	0	---	---	---
08/03/2014	*	---	---	---	---	0	0	0	0	0	---	0
08/04/2014	*	---	---	---	---	0	3	0	1	---	---	---
08/05/2014	*	---	---	---	---	0	12	5	0	0	0	0
08/06/2014	*	---	---	---	---	0	8	0	2	---	---	---
08/07/2014	*	---	---	---	---	7	7	0	0	0	---	0
08/08/2014		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	32	52	18	20	0	0	0
# Days:		0	0	0	0	14	14	14	14	7	9	10
Average:		0	0	0	0	2	4	1	1	0	0	0
YTD		2,080	43,465	4,243	12,842	3,376,170	1,975,613	1,183,183	27,456	586,885	1,032,890	459,444

Two-Week Summary of Passage Indices

COMBINED SOCKEYE												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	
07/25/2014	*	---	---	---	---	0	0	0	3	---	96	0
07/26/2014		---	---	---	---	0	0	0	3	0	0	0
07/27/2014	*	---	---	---	---	0	0	0	1	---	0	0
07/28/2014		---	---	---	---	0	0	0	3	0	0	109
07/29/2014	*	---	---	---	---	0	3	0	5	---	72	0
07/30/2014		---	---	---	---	0	9	0	2	0	0	115
07/31/2014	*	---	---	---	---	0	0	0	6	---	0	---
08/01/2014	*	---	---	---	---	0	0	10	3	0	0	0
08/02/2014	*	---	---	---	---	0	0	0	2	---	---	---
08/03/2014	*	---	---	---	---	0	3	4	0	0	---	0
08/04/2014	*	---	---	---	---	0	3	0	0	---	---	---
08/05/2014	*	---	---	---	---	0	0	0	0	207	0	0
08/06/2014	*	---	---	---	---	6	8	0	0	---	---	---
08/07/2014	*	---	---	---	---	0	15	0	0	0	---	0
08/08/2014		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	6	41	14	28	207	168	224
# Days:		0	0	0	0	14	14	14	14	7	9	10
Average:		0	0	0	0	0	3	1	2	30	19	22
YTD		0	0	2	0	181,991	88,415	69,795	37,919	1,495,564	577,672	590,103

COMBINED LAMPREY JUVENILES												
	WTB	IMN	GRN	LEW	LGR†	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(Samp)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	
07/25/2014	*	---	---	---	---	0	4	0	1	---	933	275
07/26/2014		---	---	---	---	0	12	0	1	200	600	100
07/27/2014	*	---	---	---	---	1	10	0	1	---	200	100
07/28/2014		---	---	---	---	0	6	0	1	100	300	0
07/29/2014	*	---	---	---	---	0	4	0	1	---	100	50
07/30/2014		---	---	---	---	0	10	0	0	0	100	66
07/31/2014	*	---	---	---	---	0	806	5	0	---	125	---
08/01/2014	*	---	---	---	---	1	8	0	0	0	35	50
08/02/2014	*	---	---	---	---	0	12	0	2	---	---	---
08/03/2014	*	---	---	---	---	0	0	2	0	100	---	0
08/04/2014	*	---	---	---	---	0	6	0	0	---	---	---
08/05/2014	*	---	---	---	---	1	0	0	1	200	0	67
08/06/2014	*	---	---	---	---	0	0	0	1	---	---	---
08/07/2014	*	---	---	---	---	0	10	0	2	400	---	0
08/08/2014		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	3	888	7	11	1,000	2,393	708
# Days:		0	0	0	0	14	14	14	14	7	9	10
Average:		0	0	0	0	0	63	1	1	143	266	71
YTD		1	3	0	0	126	20,745	29,473	62	58,555	98,895	19,310

Two-Week Summary of Passage Indices

* See sampling comments <http://www.fpc.org/currentDaily/smpcomments.htm>

Smolt indices, clipped & unclipped or combined, are presented in the following order: yearling chinook (chinook 1's,) subyearling chinook (chinook 0's), steelhead, coho, sockeye, and lamprey juveniles. Two classes of fish counts are shown in these tables:

Two classes of fish counts are shown in these tables:

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:

8/8/14 7:41 AM

07/25/14 TO 08/08/14

		Species					
Site	Data	CH0	CH1	ST	SO	Grand Total	
LGR	Sum of NumberCollected	9,292			14	2	9,308
	Sum of NumberBarged	10,913			15	2	10,930
	Sum of NumberBypassed	1			0	0	1
	Sum of Numbertrucked	0			0	0	0
	Sum of SampleMorts	49			0	0	49
	Sum of FacilityMorts	26			0	0	26
	Sum of ResearchMorts	0			0	0	0
	Sum of TotalProjectMorts	75			0	0	75
LGS	Sum of NumberCollected	19,185		2	35	27	19,249
	Sum of NumberBarged	18,204		2	30	8	18,244
	Sum of NumberBypassed	1		0	0	0	1
	Sum of Numbertrucked	0		0	0	0	0
	Sum of SampleMorts	47		0	0	3	50
	Sum of FacilityMorts	108		0	0	6	114
	Sum of ResearchMorts	0		0	0	0	0
	Sum of TotalProjectMorts	155		0	0	9	164
LMN	Sum of NumberCollected	7,209		8	9	7	7,233
	Sum of NumberBarged	7,947		10	7	7	7,971
	Sum of NumberBypassed	55		0	0	0	55
	Sum of Numbertrucked	0		0	0	0	0
	Sum of SampleMorts	27		0	0	0	27
	Sum of FacilityMorts	152		0	2	0	154
	Sum of ResearchMorts	0		0	0	0	0
	Sum of TotalProjectMorts	179		0	2	0	181
Total Sum of NumberCollected		35,686		10	58	36	35,790
Total Sum of NumberBarged		37,064		12	52	17	37,145
Total Sum of NumberBypassed		57		0	0	0	57
Total Sum of Numbertrucked		0		0	0	0	0
Total Sum of SampleMorts		123		0	0	3	126
Total Sum of FacilityMorts		286		0	2	6	294
Total Sum of ResearchMorts		0		0	0	0	0
Total Sum of TotalProjectMorts		409		0	2	9	420

YTD Transportation Summary

Source: Fish Passage Center

Updated:

8/8/14 7:41 AM

TO: 08/08/14

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	630,151	3,442,337	52,722	130,944	2,404,229	6,660,383
	Sum of NumberBarged	616,081	1,939,440	48,991	70,845	1,326,854	4,002,211
	Sum of NumberBypassed	11,727	1,501,375	3,722	59,638	1,077,085	2,653,547
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	334	138	1	46	60	579
	Sum of FacilityMorts	1,537	1,305	8	415	121	3,386
	Sum of ResearchMorts	10	79	0	0	107	196
	Sum of TotalProjectMorts	1,881	1,522	9	461	288	4,161
LGS	Sum of NumberCollected	714,645	1,951,717	41,832	61,219	1,369,624	4,139,037
	Sum of NumberBarged	710,773	1,768,375	40,932	54,845	1,149,463	3,724,388
	Sum of NumberBypassed	324	182,657	890	6,109	220,103	410,083
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	123	34	1	19	16	193
	Sum of FacilityMorts	1,176	651	9	236	167	2,239
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,299	685	10	255	183	2,432
LMN	Sum of NumberCollected	254,045	1,326,216	19,905	48,370	792,134	2,440,670
	Sum of NumberBarged	251,386	1,138,571	17,505	45,106	686,171	2,138,739
	Sum of NumberBypassed	616	177,066	0	2,568	89,957	270,207
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	55	25	0	1	17	98
	Sum of FacilityMorts	518	964	0	301	193	1,976
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	573	989	0	302	210	2,074
Total Sum of NumberCollected		1,598,841	6,720,270	114,459	240,533	4,565,987	13,240,090
Total Sum of NumberBarged		1,578,240	4,846,386	107,428	170,796	3,162,488	9,865,338
Total Sum of NumberBypassed		12,667	1,861,098	4,612	68,315	1,387,145	3,333,837
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		512	197	2	66	93	870
Total Sum of FacilityMorts		3,231	2,920	17	952	481	7,601
Total Sum of ResearchMorts		10	79	0	0	107	196
Total Sum of TotalProjectMorts		3,753	3,196	19	1,018	681	8,667

Cumulative Adult Passage at Mainstem Dams Through: 08/07

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	08/07	188083	26094	83345	33820	130283	22257	109734	25342	93097	26186	85511	18881	2809	1303	6247	1199	3143	620
TDA	08/07	143142	21080	69202	32311	99813	18973	96134	19525	85639	20750	73080	14947	1344	668	2123	467	1358	304
JDA	08/07	123224	19103	56991	28957	87036	17743	86033	17655	75248	19714	65621	15576	529	246	696	151	431	154
MCN	08/07	107147	16033	52176	22279	79413	14950	87552	16813	75435	14689	61325	11171	0	0	0	0	0	0
IHR	08/07	79298	12428	38017	18611	54814	9602	17157	4438	11587	6297	16531	4412	0	0	0	0	0	0
LMN	08/07	79942	14020	36470	19053	54458	8539	15674	8062	11355	7616	18007	4587	0	0	18	7	1	0
LGS	08/07	77966	13649	35072	19443	49920	9660	16569	7413	9587	7544	16877	5277	0	0	0	0	0	0
LGR	08/07	79167	13732	35031	19940	49728	11001	14247	7013	7979	7363	15002	5837	0	0	0	0	0	0
PRD	08/04	23742	2649	13725	1298	14700	1468	75144	3332	67698	2382	50047	1942	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	08/06	23247	2934	13345	3100	13890	2468	74527	4917	64577	2621	46992	4396	0	0	0	0	0	0
RRH	08/06	12376	2377	6841	2101	5576	1020	54713	3560	55204	2889	35234	3428	0	0	0	0	0	0
WEL	07/26	15376	2544	7133	2980	4880	1164	37765	2797	37105	3022	19553	1449	0	0	0	0	0	0
WFA	08/05	29971	1566	27629	1622	40232	1084	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.	2014	2013	10-Yr Avg.	Wild 2014	Wild 2013	10-Yr Avg.	2014	2013	10-Yr Avg.
		Adult	Jack	Adult	Jack	Adult	Jack												
BON	08/07	12	1	1	0	11	2	613823	185347	192161	128372	104162	139843	63872	55286	57686	27507	20440	20580
TDA	08/07	0	0	0	0	0	0	585733	161734	158987	65254	47406	66172	35649	27470	30283	8455	6713	4775
JDA	08/07	0	1	2	1	3	0	557084	155341	160993	40573	28173	50040	20679	14933	21352	6131	4155	3945
MCN	08/07	0	0	1	0	1	0	545529	133971	135933	33410	21572	35665	16839	10923	14031	1033	934	1101
IHR	08/07	0	0	0	0	0	0	2374	892	505	16172	13938	19116	6070	4326	5609	345	159	148
LMN	08/07	0	0	0	0	0	0	2794	1011	632	16065	10279	18961	7300	4294	6825	93	46	38
LGS	08/07	0	0	0	0	0	0	2788	973	605	9875	5192	12714	5269	2596	4444	60	16	24
LGR	08/07	0	0	0	0	0	0	2658	720	673	12974	9325	13162	6399	4235	4809	26	10	3
PRD	08/04	0	0	0	0	0	0	606801	162561	167089	3582	1758	3390	0	0	0	2106	1438	637
WAN		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS	08/06	0	0	0	0	0	0	579247	158483	164397	2130	1401	2716	1152	919	1585	201	107	149
RRH	08/06	0	0	0	0	0	0	490325	130815	139369	1115	909	2043	576	581	1134	239	53	40
WEL	07/26	0	0	0	0	0	0	450853	118502	124775	388	259	429	218	176	246	0	10	2
WFA	08/05	9	0	2	0	0	0	0	0	0	26319	17224	24661	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.