



Fish Passage Center

Weekly Report #15–16

July 2, 2015

Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 19% and 63% of average at individual sub-basins over June. Precipitation above The Dalles has been 44% of average over June. Over the 2015 water year, precipitation has ranged between 74% and 96% of average.

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

Location	Water Year 2015		Water Year 2015	
	June 1–30, 2015		October 1, 2014 to June 30, 2015	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia above Coulee	1.91	59	30.2	95
Snake River above Ice Harbor	0.52	32	15.7	79
Columbia above The Dalles	0.92	44	20.3	85
Kootenai	2.29	63	31.3	96
Clark Fork	0.68	28	17.4	74
Flathead	1.22	39	26.7	86
Pend Oreille River Basin above Waneta Dam	0.97	35	23.0	81
Salmon River Basin	0.83	42	19.3	77
Upper Snake Tributaries	0.85	49	17.9	76
Clearwater	0.80	27	29.3	80
Willamette River above Portland	0.47	19	48.6	80

Table 2 displays the July 1st ESP runoff volume forecasts for multiple reservoirs along with the June COE forecasts at Libby and Dworshak. The July 1st ESP forecast at The Dalles between April and August is 58,890 Kaf (67% of average).

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

Location	July 1, 2015 5-day QPF ESP	
	% Average (1981–2010)	Runoff Volume (Kaf)
The Dalles (Apr–Aug)	67	58,890
Grand Coulee (Apr–Aug)	74	42,278
Libby Res. Inflow, MT (Apr–Aug)	72 86*	4,213 5,090*
Hungry Horse Res. Inflow, MT (Apr–Aug)	65	1,259
Lower Granite Res. Inflow (Apr–July)	51	10,098
Brownlee Res. Inflow (Apr–July)	43	2,344
Dworshak Res. Inflow (Apr–July)	46 42*	1,104 1,113*

* Denotes COE June Forecast

Grand Coulee Reservoir is at 1,284.3 feet (7-1-15) and has refilled 1.8 feet over the last week. Outflows at Grand Coulee have ranged between 79.7 and 121.9 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2,443.1 feet (7-1-15) and has refilled 1.2 feet over the previous week. Daily average outflows at Libby Dam have ranged between 9.4 and 11.5 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3,549.7 feet (7-1-15) and drafted 0.2 feet over the last week. Outflows at Hungry Horse have been 2.3 to 2.5 Kcfs over the last week.

Dworshak is currently at an elevation of 1,588.5 feet (7-1-15) and drafted 6.7 feet over the last week. Outflows have ranged between 8.6 and 13.2 Kcfs over the last week.

The Brownlee Reservoir was at an elevation of 2,074.2 feet on July 1, 2015, and has held steady over the last week. Hells Canyon outflows have ranged between 7.1 and 16.6 Kcfs over the last 4 days.

The Spring Biological Opinion flow period began on April 3rd and ended June 20th in the lower Snake River (Lower Granite). According to the April Final Water Supply Forecast (April 8, 2015), the flow objective this spring was 85 Kcfs at Lower Granite. Flows at Lower Granite Dam averaged 53.3 Kcfs over the spring season and 32.1 Kcfs last week. The Summer Biological Opinion flow period began on June 21st with a flow objective of 50 Kcfs. Between June 21 and July 1, 2015, flows at Lower Granite Dam were 31.9 Kcfs.

Based on the April Final Water Supply Forecast, the Spring Biological Opinion Flow Objectives (which began April 10th) will be 220 Kcfs at McNary Dam and 135 Kcfs at Priest Rapids Dam. Over the spring season, flows at McNary Dam have averaged 172.9 Kcfs and Priest Rapids Dam flows have averaged 115.0 Kcfs. Over the last week, flows at McNary have averaged 155.9 Kcfs and averaged 113.7 Kcfs at Priest Rapids.

Spill

The 2015 summer fish spill program was implemented at the lower Snake River projects on June 21st. At the middle Columbia River projects, summer spill was initiated on June 16th as part of rolled-over court ordered operations.

At the lower Snake River projects spill has been implemented according to the 2015 Fish Operations Plan (2015 FOP) over the past week. With the initiation of summer spill volumes at the Snake River projects on June 21st, spill at Lower Granite Dam switched from 20 Kcfs to 18 Kcfs. Due to low flow conditions, spill at Little Goose Dam was changed from an instantaneous 30% level to a fixed spill volume on June 16th. This change is specified in the 2015 FOP. However, the 2015 FOP did not provide details as to when the fixed spill volume would switch between the specified 11, 9, and 7 Kcfs levels. On June 25th, the Salmon Managers proposed criteria that clarified when the specified spill levels would be provided. These criteria were approved at the June 25th Technical Management Team meeting and are as follows: (1) at daily average

outflows of ≥ 28 Kcfs but < 32 Kcfs, a constant 11 Kcfs spill will be provided, (2) at daily average outflows of ≥ 24 Kcfs but < 28 Kcfs, a constant 9 Kcfs spill will be provided, (3) at daily average outflows of < 24 Kcfs, a constant 7 Kcfs spill will be provided, and (4) when 7 Kcfs spill is not possible, spill will be total outflow minus powerhouse minimums. Daily average outflow will be based on the previous day's 24-hour average outflow at Little Goose Dam.

Summer spill volumes at Lower Monumental Dam are 17 Kcfs, which have been met throughout the past week when flows allowed. At times flows have been low enough that spill has been less than 17 Kcfs, but spill is equal to all flow in excess of the amount needed to operate one turbine unit as specified in the FOP. The "test-like" conditions, where spill alternates between 30% instantaneous and 45 Kcfs/Gas Cap, will continue at Ice Harbor Dam until July 13th. Flows are sufficiently low that the 45 Kcfs/gas cap spill condition is not implementable and spill is occurring as all flow in excess of the amount needed to operate one turbine unit during these blocks of time. As flows continue to decrease in the Snake River, the spill operations specified for Lower Granite, Lower Monumental, and Ice Harbor dams will likely all change to spilling all water above that needed to operate one turbine unit.

Project	Summer Spill Level (June 21–August 31) Day/Night
Lower Granite	18 Kcfs/18 Kcfs
Little Goose	30%/30%
Lower Monumental	17 Kcfs/17 Kcfs
Ice Harbor	June 21–July 13: 30%/30% vs. 45 Kcfs/Gas Cap July 13–August 31: 45 Kcfs/Gas Cap

All the middle Columbia River projects are currently spilling to summer spill levels as described in the 2015 FOP.

Project	Summer Spill Level (June 16–August 31) Day/Night
McNary	50%/50
John Day	June 16–July 20: 30%/30% and 40%/40% July 20–August 31: 30%/30%
The Dalles	40%/40%
Bonneville	June 16–Aug 31: 85 Kcfs/121 Kcfs and 95 Kcfs/95 Kcfs

Over the past week TDG measurements have been within all waiver limits at all of the TDG monitors.

Note: The State of Oregon and the State of 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. The location of a TDG 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 middle Columbia River forebay monitors. On any given day the compliance of the tailrace monitors at the middle Columbia River projects will be determined using either the Washington or Oregon methodology, whichever is the most restrictive, and spill will be decreased if needed.

Monitoring for signs of gas bubble trauma (GBT) occurred at Little Goose, Lower Monumental, McNary, Bonneville and Rock Island dams over the past week. Monitoring at Lower Granite Dam ended for the season due to low fish numbers. No fish were detected over the past week with signs of GBT.

Smolt Monitoring

All Smolt Monitoring Program bypass facilities continued sampling this week. Sampling at the Snake River, Salmon River, and Grande Ronde River traps has been terminated for the season. Sampling at the Imnaha River Trap is ongoing. Due to the shortened week from the holiday, the daily average passage indices for “this week” are for the period of June 26th through July 1st.

Passage of spring migrants (i.e., yearling Chinook, steelhead, coho, and sockeye) was low at all of the SMP sites this week. Subyearling Chinook dominated the collections at all the SMP dam sites this week. When compared to last week, subyearling Chinook passage decreased at the Snake River sites, except Lower Monumental Dam. Subyearling Chinook passage increased at all three Lower Columbia River sites this week. At the Upper Columbia site (RIS), subyearling

Chinook passage this week was similar to last week.

Samples at Bonneville Dam (BON) continue to be dominated by subyearling Chinook. The BON Juvenile Fish Facility is currently operating under the high temperature sampling protocol. Under the high temperature sampling protocol, SMP sampling at BON is modified from a daily 24-hour sample to an every-other-day 24-hour sample. The first non-sample day occurred on June 29th. This high temperature protocol will remain in place until the daily average temperature in the forebay falls below 69.5°F. This week’s daily average passage index was about 25,500 which as an increase over last week’s daily average passage index of nearly 10,000. Passage of spring migrants all decreased this week and were generally less than 100 fish of each species per day. Finally, Pacific lamprey ammocoetes and macrophthalmia were encountered in only one of the four sample days this week. Ammocoetes were encountered in the June 27th sample, with an estimated collection of 10 fish. Macrophthalmia were encountered in the June 26th sample, with an estimated collection of 14 fish.

Sampling at John Day Dam (JDA) is also under the high temperature sampling protocol. Under the high temperature sampling protocol, SMP sampling at JDA is modified from a daily 24-hour sample to a condition only sample (for up to 6 hours) every Monday and Thursday. The first condition only sample occurred on Monday, June 29th. This high temperature protocol will remain in place until the daily average temperature in the forebay falls below 69.5°F. Because the high temperature protocol calls for a partial day sample, it is not appropriate to compare passage indices to assess increases or decreases in magnitude. Subyearling Chinook continued to dominate the collections at JDA this week. Passage of spring migrants was very low this week. No lamprey juveniles were encountered in this week’s samples. Finally, mortality levels for subyearling Chinook at JDA remained elevated this week, ranging from 3.7%–14.3%. There is still no clear cause to the elevated mortality.

Sampling at McNary Dam (MCN) is also under the high temperature sampling protocol. Under the high temperature sampling protocol, sampling at MCN continues to be a 24-hour sample every other day but with a modified target sample size of 100 instead of

300–500 fish. The high temperature protocol went into effect on the afternoon of July 1st and will remain in effect until the daily average temperature in the MCN forebay falls below 69.5°F. This week's samples at MCN were dominated by subyearling Chinook. This week's daily average passage index for subyearling Chinook was about 81,400, which is an increase over last week's daily average passage index of nearly 54,000. Passage of coho and steelhead increased this week. This week's daily average passage indices for these two species were about 275 and 830 per day, respectively. Last week's daily average passage indices were 140 for coho and 700 for steelhead. No yearling Chinook or sockeye were encountered in this week's samples. Finally, Pacific lamprey macrophthalmia were encountered in two of this week's three samples. The daily average collection for lamprey macrophthalmia this week was about 200 per day. To date, MCN has not sampled any Pacific lamprey ammocoetes for 2015.

Samples at Lower Granite Dam (LGR) continued to be dominated by subyearling Chinook juveniles this week. This week's daily average passage index for subyearling Chinook at LGR was about 10,300, which was a slight decrease over last week's daily average passage index of nearly 10,900 fish per day. Passage of spring migrants continued to be very low this week. Finally, no lamprey juveniles were encountered in this week's samples.

Sampling at Little Goose Dam (LGS) was limited to a 24-hour sample every other day from April 2nd to April 30th. Little Goose Dam began collecting fish for transportation on May 1st and, therefore, collections at LGS are every day for the rest of the season. Subyearling Chinook continued to dominate the samples at LGS this week. This week's daily average passage index for subyearling Chinook at LGS was about 11,600 fish per day, which is a decrease from last week's daily average passage index of nearly 20,000 per day. Passage of spring migrants continued to decrease this week, with exception to steelhead whose daily average passage index was just over 1,000 fish per day. Last week's daily average passage index was only about 300 per day. Finally, Pacific lamprey macrophthalmia were encountered in four of this week's six samples. No ammocoetes were encountered in this week's samples.

Sampling at Lower Monumental Dam (LMN) was limited to a 24-hour sample every third day from April 4th to April 13th and every other day from April 15th to May 1st. At 1500 on May 1st, LMN began collecting fish for transportation and, therefore, collections at LMN are every day for the rest of the season. As with the last several weeks, this week's samples at LMN were dominated by subyearling Chinook, with a daily average passage index of about 7,300 per day. This is an increase over last week's daily average passage index of about 4,100 per day. Passage of spring migrants was very low this week. Finally, Pacific lamprey macrophthalmia were encountered in only one of this week's samples. No ammocoetes were encountered at LMN this week.

SMP samples at Rock Island Dam (RIS) continued to be dominated by subyearling Chinook juveniles this week. This week's daily average passage index was nearly 300 fish per day, which is similar to last week's daily average passage index of about 260 per day. Passage of spring migrants was extremely low this week. Finally, one Pacific lamprey ammocoete was encountered in the June 30 sample. Pacific lamprey macrophthalmia were encountered in four of this week's six samples.

The Imnaha River Trap (IMN) is located at river kilometer 7 and is operated by the Nez Perce Tribe. Sampling at IMN is year-round, however the FPC typically receives data only from early March through June. Due to the remote nature of the trap, the Nez Perce Tribe is able to send collection data to the FPC only periodically. Therefore, data for IMN may be several days behind. To date, we have received data through June 29th. Sampling at IMN shifted to 5 days per week, beginning June 27th. Over the last week of available data (June 23–29), collections at IMN were dominated by yearling Chinook, with a daily average collection of about 50 fish per day. This is a decrease over the daily average collection from the previous week of data (June 16–22), which was about 100 per day. Steelhead passage over the June 23–29 period remained very low, with a daily average collection of only 1 fish per day.

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. No new releases were scheduled for this zone this week and no new releases are scheduled 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. No new releases were scheduled to begin in this zone this week. However, the volitional release of about 3.5 million subyearling fall Chinook from Ringold Hatchery was scheduled to end this week. No new releases of juvenile salmonids are scheduled to begin in this zone over the next 2 weeks.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Approximately 4.5 million subyearling fall Chinook are scheduled to be released from Little White Salmon NFH, beginning on or around July 2nd. Beginning in mid-July, about 2.0 million subyearling fall Chinook will be released from Willard NFH. This is the only release of juvenile salmonids that is scheduled for this zone over the next 2 weeks.

Adult Passage

Daily passage numbers at Bonneville Dam ranged between 2,267 and 4,863 adult summer Chinook in the last week. The 2015 summer Chinook count of 103,563 is about 1.4 times greater than the 2014 count and 1.7 times greater than the 10-year average. The 2015 summer Chinook jack count of 12,061 is about 82.6% of the 2014 count and 88.3% of the 10-year average count. At Willamette Falls, 50,005 adult spring Chinook have been counted so far this year. In 2014, 27,062 adult spring Chinook were counted at Willamette Falls. This year's count is about 1.8 times greater than the 2014 count and 1.6 times greater than the 10-year average count of 30,637. As of July 1st, a total of 50,189 adult summer Chinook have been counted at McNary Dam and 8,074 have been counted at Lower Granite Dam. The 2015 McNary Dam adult summer Chinook

count has 1,742 more fish than the 2014 count, while being 1.4 times greater than the 10-year average count. The 2015 Lower Granite Dam adult summer Chinook count has 1,524 more fish than the 2014 count, while having 1,493 fewer fish than the 10-year average count.

The 2015 Bonneville Dam adult steelhead count of 11,798 is 69.8% of the 2014 count of 16,905 and 73.8% of the 10-year average count of 15,989. The 2015 Bonneville Dam adult wild steelhead count of 5,663 is about 93.5% of the 2014 count of 6,053 and 545 more fish than the 10-year average count of 5,118. Daily adult steelhead counts at Lower Granite Dam ranged from 2 to 10 adults per day last week. This year's Lower Granite steelhead count of 9,300 is about 1.2 times greater than the 2014 count of 7,818 and has 248 more fish than the 10-year average count of 9,052. The 2015 Lower Granite Dam adult wild steelhead count of 4,384 is 1.2 times greater than the 2014 count of 3,543 and is about 1.3 times greater than the 10-year average count of 3,281. At Willamette Falls, the 2015 count for steelhead was 6,863 as of June 30th. This year's steelhead count is about 30.7% of the 2014 count of 22,381 and about 33.6% of the 10-year average count of 20,394.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 17,547 and 47,080 last week. The 2015 adult sockeye count at Bonneville Dam of 375,786 is 1.1 times greater than the 2014 count and 2.2 times greater than the 10-year average count. The 2015 adult sockeye count at McNary Dam of 201,777 has 2,204 fewer fish than the 2014 count, while being 2.2 times greater than the 10-year average count. The Lower Granite Dam 2015 adult sockeye count of 89 has 16 fewer fish than the 2014 count of 105, while having 46 more fish than the 10-year average. As of July 1st at Bonneville Dam, the adult shad count was 1,672,433. This year's shad count is about 64.9% of the 2014 count of 2,577,160 and 69.4% of the 10-year average count of 2,407,982.

Hatchery Releases Last Two Weeks

Hatchery Release Summary										
From:		6/19/2015		to		07/02/15				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver	
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH0	FA	2015	4,500,000	07-02-15	07-02-15	Little White Salmon Hatchery	Little White Salmon River	
U.S. Fish and Wildlife Service Total					4,500,000					
Washington Dept. of Fish and Wildlife	Priest Rapids Hatchery	CH0	FA	2015	7,000,000	06-12-15	06-25-15	Priest Rapids Hatchery	Mid-Columbia River	
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2015	3,500,000	06-22-15	07-03-15	Ringold Springs Hatchery	Mid-Columbia River	
Washington Dept. of Fish and Wildlife Total					10,500,000					
Grand Total					15,000,000					

Hatchery Releases Next Two Weeks

Hatchery Release Summary										
From:		7/3/2015		to		7/15/2015				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver	
U.S. Fish and Wildlife Service	Willard Hatchery	CH0	FA	2015	2,000,000	07-15-15	07-20-15	Willard Hatchery	Little White Salmon River	
U.S. Fish and Wildlife Service Total					2,000,000					
Grand Total					2,000,000					

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

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

Date	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
06/18/2015	89.8	0.1	87.9	0.0	91.2	7.4	87.0	9.4	88.9	20.8	83.7	15.8	82.3	27.8
06/19/2015	74.5	0.1	74.9	0.0	78.4	6.1	76.0	8.7	78.8	17.8	79.9	15.5	81.2	29.0
06/20/2015	79.3	0.1	81.0	0.0	86.1	6.1	84.6	8.1	85.6	17.7	83.4	18.5	80.4	29.2
06/21/2015	72.7	0.1	70.1	0.0	73.2	6.0	73.3	6.7	74.8	16.0	83.8	19.8	83.0	30.3
06/22/2015	88.3	0.1	90.4	0.0	93.4	7.6	89.3	11.9	90.2	20.3	91.4	19.5	89.9	30.3
06/23/2015	79.7	0.1	79.2	0.0	92.8	7.1	91.2	8.7	94.4	18.4	119.5	20.0	121.8	30.5
06/24/2015	79.7	0.0	78.6	0.0	86.9	6.6	84.5	8.6	86.9	19.1	101.3	17.3	103.3	26.4
06/25/2015	104.0	0.0	104.6	0.0	109.5	8.1	103.3	8.7	105.2	18.9	109.8	17.0	106.7	25.8
06/26/2015	121.9	0.1	119.6	0.0	121.3	8.4	113.5	10.0	113.4	22.8	110.9	17.4	107.3	27.1
06/27/2015	108.7	0.1	108.8	0.0	113.5	8.0	110.5	10.2	114.7	22.6	125.3	19.1	123.2	27.7
06/28/2015	105.9	0.1	106.9	0.0	111.0	7.8	109.7	9.7	110.8	22.8	108.9	19.6	105.7	28.7
06/29/2015	108.5	0.2	108.6	0.0	114.2	8.1	112.8	10.2	116.0	22.6	133.6	19.1	133.8	27.6
06/30/2015	118.6	0.0	112.1	0.0	118.1	8.5	113.6	9.3	115.9	22.4	118.4	18.7	117.1	28.3
07/01/2015	112.8	0.0	118.2	0.0	119.6	8.6	117.3	9.1	120.2	19.6	119.0	19.8	114.4	29.6

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

Date	Dworshak		Brownlee Inflow	Hells Canyon	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill		Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
06/18/2015	5.3	0.0	---	8.2	34.4	20.4	33.8	10.7	32.9	19.5	32.8	10.6
06/19/2015	5.3	0.0	---	8.1	33.1	20.4	31.5	10.6	29.4	16.7	29.6	19.7
06/20/2015	5.3	0.0	---	8.4	33.2	20.3	29.7	10.6	30.6	17.7	31.9	22.3
06/21/2015	5.3	0.0	---	8.3	30.9	18.3	28.8	10.6	29.5	16.4	30.7	11.1
06/22/2015	5.3	0.0	---	8.9	30.7	17.7	31.2	9.5	30.8	15.9	31.4	10.4
06/23/2015	7.4	0.0	---	9.2	30.2	17.4	29.0	8.6	27.4	13.6	26.5	16.4
06/24/2015	7.4	0.0	---	8.6	31.9	18.2	30.8	9.4	30.6	17.0	31.3	21.5
06/25/2015	8.6	0.0	---	7.9	31.3	18.2	30.6	9.3	29.8	16.5	30.9	11.8
06/26/2015	8.8	0.0	---	10.2	30.9	18.2	31.8	11.0	29.6	17.0	30.5	9.1
06/27/2015	12.4	2.8	---	9.7	32.9	18.1	31.8	11.1	31.9	16.6	31.1	9.3
06/28/2015	13.2	3.6	---	9.5	36.5	18.1	35.8	11.1	35.1	17.0	36.8	11.0
06/29/2015	11.4	1.8	---	9.0	34.2	18.0	35.4	10.6	33.3	16.3	33.1	9.8
06/30/2015	9.6	0.0	---	10.9	30.8	18.0	28.4	8.5	27.7	15.4	26.4	15.3
07/01/2015	9.6	0.0	---	9.6	30.9	18.2	30.5	10.5	30.8	16.6	31.9	20.7

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
06/18/2015	132.6	66.3	124.4	47.6	111.3	44.5	132.6	87.4	0.9	32.0
06/19/2015	124.5	62.4	123.6	37.2	107.6	43.2	126.9	82.6	0.9	30.9
06/20/2015	124.3	62.5	111.8	35.5	101.6	40.4	119.8	75.5	0.9	31.0
06/21/2015	125.6	63.0	116.2	46.2	103.8	41.4	117.6	73.2	0.9	31.0
06/22/2015	111.5	55.7	111.9	42.7	101.2	40.4	112.2	68.2	0.8	30.8
06/23/2015	115.4	57.8	114.8	34.6	103.2	41.2	119.4	75.3	0.9	30.8
06/24/2015	153.0	76.5	133.3	39.9	120.4	48.2	131.3	86.7	0.9	31.4
06/25/2015	139.7	70.0	136.6	40.7	123.5	49.5	140.5	93.9	1.0	33.2
06/26/2015	152.9	76.6	144.3	43.5	133.2	53.3	139.5	89.3	0.9	36.9
06/27/2015	158.7	79.6	151.7	45.5	137.3	54.9	157.5	93.4	0.9	50.9
06/28/2015	162.4	81.5	149.4	44.9	138.9	55.3	155.2	100.3	0.9	41.6
06/29/2015	168.5	84.5	161.8	48.6	143.7	57.3	157.3	95.4	0.9	48.6
06/30/2015	156.3	78.4	148.8	47.1	137.8	55.2	150.6	91.5	0.9	45.8
07/01/2015	147.4	74.0	143.1	57.3	127.9	51.3	142.4	90.3	0.9	38.8

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

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank			
								Rank 1	Rank 2	Rank 3	Rank 4
Lower Granite Dam											
Little Goose Dam											
	06/22/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/29/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	06/24/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/01/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	06/23/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/01/15	Chinook + Steelhead	85*	0	0			0	0	0	0
Bonneville Dam											
	06/20/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/23/15	Chinook + Steelhead	54*	0	0			0	0	0	0
	06/27/15	Chinook + Steelhead	84*	0	0			0	0	0	0
	07/01/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	06/18/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/23/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/25/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/30/15	Chinook + Steelhead	75*	0	0			0	0	0	0

* Due to low fish numbers, sample size criteria were not met. Therefore, % fish with GBT not estimated for this sample day.

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>							
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>				
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
6/18	106.5	106.9	107.4	24	---	---	---	0	108.2	108.5	108.7	24	106.2	106.8	107.3	24	107.1	107.3	107.5	24
6/19	105.7	106.0	106.6	24	---	---	---	0	107.8	108.0	108.4	24	105.7	106.1	106.8	24	106.9	107.2	107.5	24
6/20	105.3	105.6	105.9	24	---	---	---	0	107.5	107.5	108.0	17	105.6	106.3	106.7	24	107.0	107.5	108.1	24
6/21	105.4	106.0	106.4	24	---	---	---	0	---	---	---	0	106.1	106.6	107.5	24	106.8	107.3	107.8	24
6/22	105.3	105.7	106.0	24	---	---	---	0	---	---	---	0	105.9	106.5	107.6	24	106.5	106.9	107.0	24
6/23	105.2	105.6	106.2	24	---	---	---	0	107.7	107.7	107.9	13	105.9	106.7	107.6	24	106.9	107.5	108.0	24
6/24	104.9	105.3	105.6	24	---	---	---	0	107.8	108.0	108.3	24	106.0	106.7	107.1	24	107.0	107.4	107.8	24
6/25	105.0	105.3	105.6	24	---	---	---	0	107.7	107.9	108.1	24	105.8	106.4	106.8	24	106.7	106.9	107.0	24
6/26	106.0	106.4	106.9	24	---	---	---	0	108.0	108.3	108.4	24	106.2	106.8	107.1	24	107.2	107.8	108.2	24
6/27	106.2	106.7	107.2	24	---	---	---	0	108.3	108.6	108.7	24	106.3	106.9	107.8	24	107.5	107.9	108.3	24
6/28	106.7	107.1	107.5	24	---	---	---	0	108.5	108.9	109.2	24	106.5	107.1	107.5	24	107.5	107.9	108.2	24
6/29	106.6	106.7	106.9	24	---	---	---	0	108.5	108.7	108.9	24	106.5	107.0	107.4	24	107.3	107.7	108.2	24
6/30	106.7	107.0	107.3	24	---	---	---	0	108.2	108.5	108.6	24	106.4	106.8	107.1	24	107.0	107.4	107.8	24
7/1	106.8	107.0	107.3	23	---	---	---	0	108.1	108.3	108.4	23	106.4	106.9	107.4	23	106.8	107.3	107.6	23

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>				
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
6/18	107.0	107.2	107.5	24	108.3	108.9	109.3	22	108.0	109.2	109.7	22	109.5	109.8	110.3	24	111.6	112.9	113.3	24
6/19	107.2	107.7	108.4	24	107.2	107.6	107.9	24	106.7	108.0	108.4	24	108.3	108.5	108.6	24	110.9	111.6	112.1	24
6/20	107.2	107.5	108.3	24	107.1	107.8	108.2	24	107.3	108.4	108.9	24	108.3	108.8	109.4	24	111.2	112.3	113.2	24
6/21	107.3	107.6	108.0	24	107.5	108.1	108.7	24	107.3	108.2	108.7	24	108.4	108.9	109.5	24	110.1	110.8	111.3	24
6/22	106.3	106.5	107.0	24	107.5	107.8	108.0	24	107.8	108.8	109.4	24	108.6	109.0	109.7	24	111.3	112.7	113.1	24
6/23	106.7	107.1	108.0	24	107.4	108.1	108.6	24	107.9	109.0	109.5	24	108.7	109.2	109.9	24	111.7	112.7	113.1	24
6/24	106.7	107.1	107.9	24	107.4	108.1	108.6	23	107.6	108.6	109.0	23	109.3	109.7	110.1	24	111.2	111.8	112.0	24
6/25	106.7	107.0	108.0	24	107.4	107.9	108.6	22	107.9	109.3	110.1	22	108.8	109.1	109.3	24	111.2	112.5	113.0	24
6/26	106.7	106.9	107.4	24	108.2	109.1	109.4	24	109.7	110.6	111.1	24	109.0	109.6	110.0	24	112.1	113.5	114.1	24
6/27	107.3	107.7	108.1	24	108.7	109.3	110.0	24	109.9	110.7	111.4	24	110.0	110.3	111.0	24	113.1	113.9	114.5	24
6/28	107.2	107.5	108.0	24	109.0	109.8	110.4	24	110.3	111.2	111.5	24	110.4	110.7	111.3	24	113.2	114.2	114.7	24
6/29	107.7	108.2	108.9	24	108.5	108.9	109.4	23	109.9	110.5	111.1	23	110.0	110.2	110.3	24	113.1	114.3	114.9	24
6/30	107.1	107.7	108.8	24	108.2	108.8	109.3	21	109.5	110.1	110.6	21	109.7	110.0	110.2	24	112.3	113.7	114.7	24
7/1	107.0	107.4	108.3	23	107.8	108.0	109.3	16	109.3	109.5	110.6	16	109.3	109.5	109.6	21	112.1	113.1	114.5	21

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>				
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
6/18	109.3	109.6	110.0	24	114.9	115.7	118.7	24	110.6	112.3	113.4	24	112.2	112.9	113.4	24	109.7	110.1	110.8	24
6/19	108.8	109.2	109.7	24	114.6	115.7	118.7	24	109.1	110.1	111.3	24	111.7	112.5	113.9	24	108.3	108.9	109.3	24
6/20	108.4	109.0	109.8	24	114.2	115.1	116.7	24	107.7	108.7	109.4	24	111.2	111.9	113.7	24	108.1	109.4	110.1	24
6/21	109.0	109.2	110.0	24	115.1	116.1	119.1	24	108.8	110.1	111.2	24	112.5	113.2	114.7	24	110.2	110.6	110.9	24
6/22	108.3	108.8	109.5	24	114.9	116.3	118.6	24	107.5	109.1	109.7	24	111.9	112.4	113.0	24	110.0	110.9	111.4	24
6/23	109.3	110.0	110.5	24	114.8	115.7	118.6	24	108.1	109.5	110.3	24	111.4	112.1	113.7	24	109.3	110.0	111.2	24
6/24	109.4	109.7	109.9	24	114.5	115.7	118.4	24	109.4	110.7	111.1	24	111.1	111.5	111.7	24	109.5	110.1	111.3	24
6/25	109.0	109.7	110.2	24	113.8	114.8	117.8	24	110.1	111.7	112.3	24	110.7	111.3	111.6	24	109.4	110.1	111.0	24
6/26	109.6	110.2	110.8	24	115.3	116.1	117.5	24	112.2	113.6	114.3	24	111.6	112.3	112.5	24	110.3	111.0	111.9	24
6/27	110.4	111.1	111.7	24	115.5	116.1	117.3	24	113.3	114.1	114.9	24	112.3	112.7	113.4	24	111.5	112.0	112.5	24
6/28	110.6	111.2	111.6	24	116.2	116.9	117.7	24	113.4	114.4	115.7	24	112.6	113.1	114.1	24	111.8	112.4	112.7	24
6/29	110.3	110.9	111.3	24	115.4	116.3	117.7	24	112.1	112.5	113.2	24	112.5	112.8	113.2	24	110.1	110.7	111.7	24
6/30	109.9	110.6	111.3	24	115.2	116.0	117.8	24	111.0	112.4	113.3	24	111.5	112.2	112.7	24	109.4	110.0	110.6	24
7/1	109.6	110.3	111.1	22	114.3	115.2	116.2	22	---	---	---	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>			
6/18	114.1	115.7	117.0	24	---	---	---	0	98.0	98.6	99.2	24	100.9	101.9	103.0	24	102.6	104.2	106.2	24
6/19	114.1	115.8	116.7	24	---	---	---	0	97.7	98.3	98.8	24	100.6	101.8	102.8	24	102.1	103.6	105.0	24
6/20	114.3	116.0	117.0	24	---	---	---	0	97.7	98.4	98.9	24	100.5	101.8	102.8	24	102.8	104.7	106.7	24
6/21	114.7	116.1	117.9	24	---	---	---	0	98.0	98.6	99.0	24	100.4	101.3	102.1	24	102.5	104.2	105.6	24
6/22	114.3	115.5	117.1	24	---	---	---	0	97.8	98.4	98.9	24	100.5	101.8	102.9	24	102.8	104.9	107.1	24
6/23	113.2	114.6	116.1	24	---	---	---	0	97.6	98.1	98.6	24	100.3	101.4	102.8	24	102.9	105.1	107.7	24
6/24	112.7	113.9	116.3	24	---	---	---	0	97.7	98.1	98.6	24	100.3	101.3	102.4	24	102.9	105.1	108.5	24
6/25	113.0	114.0	116.3	24	---	---	---	0	97.5	97.8	98.2	24	100.4	101.5	102.6	24	103.6	106.4	109.3	24
6/26	113.6	114.4	116.4	24	---	---	---	0	97.8	98.3	98.7	24	100.9	102.1	103.3	24	104.0	107.0	110.1	24
6/27	113.6	113.9	115.1	24	---	---	---	0	104.4	106.1	107.4	24	104.4	106.2	107.6	24	103.7	106.5	109.5	24
6/28	114.2	114.6	116.0	24	---	---	---	0	107.2	107.5	107.8	24	107.1	108.0	108.9	24	104.0	106.9	109.6	24
6/29	112.9	113.2	113.6	24	---	---	---	0	102.8	106.9	107.1	24	105.3	106.6	107.1	24	101.4	101.7	103.2	15
6/30	113.1	113.6	116.1	24	---	---	---	0	98.1	98.4	98.6	24	102.1	103.3	104.3	24	102.7	104.1	105.2	24
7/1	---	---	---	0	---	---	---	0	98.2	98.6	98.9	23	102.0	103.1	104.5	23	103.0	104.4	105.7	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>			
6/18	102.9	104.9	106.6	24	101.2	101.6	101.8	24	112.6	112.8	113.0	24	111.0	111.4	111.6	24	108.1	109.2	109.9	24
6/19	102.7	104.7	106.3	24	101.0	101.1	101.4	24	112.3	112.4	112.7	24	109.4	109.8	110.3	24	105.9	106.4	107.1	24
6/20	103.1	105.4	107.1	24	101.4	101.9	102.3	24	112.2	112.4	112.6	24	109.8	110.0	110.2	24	106.2	107.0	107.8	24
6/21	102.7	104.4	105.4	24	101.7	101.9	102.2	24	113.9	114.2	114.8	24	109.3	109.8	110.4	24	105.7	106.0	106.8	24
6/22	103.2	105.6	107.1	24	101.0	101.2	101.3	24	113.2	113.9	114.1	24	108.2	108.3	108.7	24	106.3	106.9	107.5	24
6/23	103.4	105.6	107.5	24	101.0	101.1	101.2	24	112.8	114.2	114.6	24	107.8	107.9	108.3	24	105.9	106.4	106.8	24
6/24	103.1	105.2	106.8	24	101.2	101.4	101.5	24	114.1	114.2	114.4	24	108.2	108.7	109.2	24	105.4	106.2	106.8	24
6/25	103.5	105.9	107.6	24	101.8	102.1	102.4	24	114.0	114.3	114.5	24	108.2	108.4	109.0	24	104.8	105.5	106.2	24
6/26	104.0	106.5	108.2	24	103.2	103.7	103.9	24	114.0	114.2	114.5	24	108.3	108.5	108.6	24	105.5	106.2	106.9	24
6/27	104.5	107.2	108.8	24	104.6	105.0	105.2	24	114.0	114.3	114.7	24	108.6	109.1	109.6	24	105.0	105.4	105.7	24
6/28	106.5	109.0	110.8	24	105.9	106.3	106.5	24	113.8	114.0	114.1	24	109.0	109.3	109.5	24	105.0	105.3	105.7	24
6/29	105.7	107.7	109.6	24	106.6	106.8	106.9	24	113.8	114.0	114.1	24	109.1	109.5	109.9	24	105.8	106.1	106.8	24
6/30	105.0	107.6	109.4	24	104.7	106.5	106.9	23	114.7	115.2	115.8	24	110.4	111.3	111.9	24	107.1	109.3	111.3	24
7/1	104.8	107.5	109.3	23	103.0	103.4	103.5	23	115.2	115.5	115.7	23	112.1	112.5	113.2	23	110.8	111.3	112.7	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>			
6/18	111.5	111.7	112.1	24	115.6	116.2	116.4	24	113.6	113.8	114.0	24	112.5	113.2	113.7	24	---	---	---	0
6/19	110.8	110.9	111.1	24	114.2	115.5	116.5	24	113.6	113.8	114.0	24	111.3	112.1	113.0	24	---	---	---	0
6/20	110.6	110.8	110.9	24	114.8	115.6	115.9	22	113.8	114.0	114.2	24	112.5	113.5	114.4	24	---	---	---	0
6/21	110.5	110.6	110.8	24	115.1	115.8	116.3	23	113.7	113.8	113.9	24	111.7	112.7	113.0	24	---	---	---	0
6/22	109.2	109.6	109.9	24	114.7	115.4	115.8	24	112.8	113.0	113.2	24	112.1	112.9	113.2	24	---	---	---	0
6/23	108.0	108.2	108.4	24	128.5	138.6	140.4	24	112.3	112.4	112.8	24	111.8	113.0	114.2	24	---	---	---	0
6/24	108.7	108.9	109.1	24	125.2	134.9	139.2	24	113.0	113.1	113.3	24	113.4	113.8	114.5	24	---	---	---	0
6/25	108.2	108.4	108.8	24	115.6	116.3	116.6	24	113.1	113.4	113.8	24	112.9	113.5	114.1	24	---	---	---	0
6/26	108.1	108.3	108.4	24	115.5	115.9	116.2	24	113.1	113.4	113.6	24	112.9	113.7	114.1	24	---	---	---	0
6/27	108.1	108.5	109.0	24	115.4	116.0	116.5	24	113.4	113.8	114.1	24	112.9	113.6	114.3	24	---	---	---	0
6/28	109.0	109.4	110.0	24	115.5	116.0	116.3	24	114.3	114.7	115.1	24	113.3	114.1	115.0	24	---	---	---	0
6/29	108.8	109.1	109.7	24	115.3	115.9	116.5	24	114.0	114.4	114.7	24	113.1	113.7	114.6	24	---	---	---	0
6/30	108.7	108.8	109.0	24	115.0	115.6	116.1	24	114.0	114.2	114.4	24	112.3	113.6	114.7	24	---	---	---	0
7/1	108.3	108.5	108.8	23	115.3	115.8	116.5	23	113.7	113.9	114.1	23	112.8	114.5	114.9	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>				
6/18	109.9	110.2	110.9	24	115.6	115.8	116.0	24	106.1	106.6	107.2	24	111.6	111.9	112.1	24	107.8	108.3	108.5	24
6/19	108.5	108.8	109.6	24	115.0	115.6	115.9	24	105.6	105.8	106.0	24	111.3	111.7	112.0	24	106.7	106.9	107.1	24
6/20	108.4	108.7	109.0	24	115.0	115.6	115.8	24	105.4	105.9	106.3	24	111.4	111.8	112.1	24	106.2	106.8	107.2	24
6/21	108.2	108.7	109.3	24	115.0	115.4	115.8	24	105.9	106.2	106.7	24	111.9	112.3	112.6	24	108.2	109.0	109.3	24
6/22	107.7	108.2	109.5	24	114.5	115.0	116.0	24	105.0	105.4	105.9	24	111.0	111.7	112.1	24	108.4	108.8	109.3	24
6/23	107.2	107.6	108.0	24	114.2	114.7	115.1	24	104.7	105.0	105.5	24	109.4	109.8	110.1	24	107.6	108.0	108.5	24
6/24	107.6	107.8	108.2	24	114.8	115.1	115.8	24	104.4	104.6	104.9	24	110.0	110.4	110.7	24	106.9	107.3	107.5	24
6/25	107.6	108.1	108.7	24	114.3	115.4	116.2	24	104.6	105.1	105.3	24	110.9	111.8	112.3	24	106.9	107.5	107.9	24
6/26	109.1	109.8	110.6	24	115.7	116.4	116.8	24	106.1	107.0	108.0	24	112.0	112.9	113.5	24	109.6	110.7	111.5	24
6/27	110.6	111.0	112.3	24	115.8	116.8	117.3	24	108.4	109.2	110.8	24	112.1	112.6	113.2	24	110.8	111.3	111.6	24
6/28	110.8	111.1	111.5	24	116.3	116.7	117.0	24	109.4	109.9	110.3	24	111.2	111.7	112.3	24	109.4	109.8	110.0	24
6/29	110.5	110.7	110.9	24	116.3	116.9	117.4	24	108.6	109.1	109.6	24	112.8	114.5	115.0	24	107.7	108.0	108.2	24
6/30	109.9	110.1	110.2	24	115.8	116.9	117.3	24	108.2	108.8	109.1	24	114.4	114.8	115.3	24	108.0	108.5	109.0	24
7/1	109.5	110.1	111.7	23	115.7	116.7	117.2	23	108.3	108.9	109.7	23	113.8	114.8	115.1	23	109.4	109.9	110.1	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			<u>Bonneville</u>			<u>Warrendale</u>			<u>Camas\Washougal</u>			<u>Cascade Island</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</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>				
6/18	113.5	114.0	114.3	24	106.8	107.2	107.4	24	115.1	115.7	115.9	24	113.3	114.0	114.8	24	114.2	114.8	117.1	24
6/19	112.9	113.4	113.7	24	105.6	106.0	106.4	24	114.2	114.8	115.2	24	111.6	112.9	113.7	24	113.3	113.5	113.5	24
6/20	113.1	113.6	114.0	24	106.6	107.2	107.4	24	115.0	115.6	116.2	24	113.1	114.6	115.0	24	113.0	113.1	113.2	24
6/21	113.7	114.0	114.2	24	107.4	107.8	108.2	24	114.9	115.4	115.6	24	114.2	115.0	115.8	24	113.0	113.1	113.2	24
6/22	113.6	114.0	114.5	24	107.4	107.6	107.8	24	115.3	115.9	116.6	24	113.1	114.3	114.8	24	113.0	113.2	113.4	24
6/23	113.3	113.7	114.1	24	106.9	107.2	107.5	24	115.2	115.8	116.4	24	114.1	115.4	115.9	24	113.3	113.4	113.4	24
6/24	113.6	114.0	114.4	24	107.0	107.4	107.6	24	116.0	116.5	117.3	24	114.7	115.8	116.4	24	114.8	116.1	116.3	24
6/25	113.8	114.2	114.7	24	108.5	109.5	110.0	24	117.1	117.7	118.3	24	115.4	116.9	117.7	24	116.2	116.3	116.4	24
6/26	115.0	116.2	117.0	24	110.5	111.8	112.5	24	117.1	117.5	117.9	24	116.6	118.3	119.4	24	114.8	115.7	117.7	24
6/27	116.0	116.6	117.0	24	112.8	113.2	113.5	24	117.1	117.8	118.7	24	116.2	117.4	118.4	24	115.5	116.6	118.5	24
6/28	115.2	115.6	115.9	24	111.8	112.3	112.7	24	117.8	118.5	119.2	24	115.0	116.4	117.4	24	117.2	117.5	118.6	24
6/29	113.6	114.0	114.7	21	108.5	108.8	109.6	24	116.2	116.6	117.2	24	114.8	115.4	115.9	24	116.7	116.8	117.0	24
6/30	113.2	113.8	114.2	23	107.3	107.7	108.0	24	115.2	115.8	116.1	24	112.9	113.8	114.3	24	115.0	116.0	117.9	24
7/1	113.6	114.5	115.2	23	107.9	108.7	109.4	23	116.0	116.5	116.8	23	113.6	115.1	116.8	23	114.6	115.3	118.7	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 7/2/2015 7:10

* 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/currentsmppsubmitdata.asp>

COMBINED YEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
06/18/2015	---	120	---	---	0	146	0	0	842	777	63
06/19/2015 *	---	113	---	---	0	0	0	1	---	195	157
06/20/2015	---	100	---	---	0	37	0	0	627	539	301
06/21/2015 *	---	94	---	---	0	40	0	0	---	193	7
06/22/2015	---	93	---	---	0	0	0	0	209	313	138
06/23/2015 *	---	69	---	---	0	75	20	0	---	390	140
06/24/2015 *	---	54	---	---	25	69	0	0	0	90	0
06/25/2015 *	---	62	---	---	0	73	0	0	---	449	0
06/26/2015 *	---	46	---	---	25	0	0	0	0	0	116
06/27/2015 *	---	---	---	---	25	0	0	0	---	0	0
06/28/2015 *	---	---	---	---	44	0	0	0	0	0	0
06/29/2015 *	---	17	---	---	40	36	82	0	---	---	---
06/30/2015 *	---	---	---	---	0	0	0	1	0	0	0
07/01/2015 *	---	---	---	---	0	0	0	0	---	---	---
07/02/2015	---	---	---	---	---	---	---	---	---	---	---
<hr/>											
Total:	0	768	0	0	159	476	102	2	1,678	2,946	922
# Days:	0	10	0	0	14	14	14	14	7	12	12
Average:	0	77	0	0	11	34	7	0	240	246	77
YTD	40,054	68,039	7,458	1,081	1,769,126	1,156,884	1,126,539	16,456	1,340,101	664,378	1,712,479

COMBINED SUBYEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
06/18/2015	---	3	---	---	6,584	21,154	3,855	188	43,117	29,333	8,653
06/19/2015 *	---	2	---	---	8,915	23,746	2,189	140	---	19,275	10,233
06/20/2015	---	1	---	---	16,715	33,939	4,840	226	29,459	36,907	12,337
06/21/2015 *	---	3	---	---	16,179	19,942	3,783	403	---	35,138	11,157
06/22/2015	---	0	---	---	9,913	13,273	2,874	416	65,742	32,596	12,795
06/23/2015 *	---	1	---	---	6,250	11,828	2,963	319	---	37,188	6,510
06/24/2015 *	---	2	---	---	7,160	22,916	4,326	159	66,078	28,637	6,273
06/25/2015 *	---	0	---	---	11,014	14,160	7,904	144	---	45,901	10,498
06/26/2015 *	---	0	---	---	14,918	10,629	6,975	206	78,385	63,741	9,351
06/27/2015 *	---	---	---	---	14,768	7,443	5,593	345	---	78,258	11,251
06/28/2015 *	---	---	---	---	12,133	10,966	8,996	469	63,739	65,491	17,409
06/29/2015 *	---	0	---	---	8,362	14,503	10,705	298	---	---	---
06/30/2015 *	---	---	---	---	5,999	9,767	6,162	179	102,095	27,533	64,102
07/01/2015 *	---	---	---	---	5,469	16,273	5,482	296	---	---	---
07/02/2015	---	---	---	---	---	---	---	---	---	---	---
<hr/>											
Total:	0	12	0	0	144,379	230,539	76,647	3,788	448,615	499,998	180,569
# Days:	0	10	0	0	14	14	14	14	7	12	12
Average:	0	1	0	0	10,313	16,467	5,475	271	64,088	41,667	15,047
YTD	1	114	1,292	2,077	890,264	672,479	307,552	13,697	648,762	749,342	1,787,702

Two-Week Summary of Passage Indices

COMBINED COHO											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
06/18/2015	---	0	---	---	0	31	0	24	0	525	251
06/19/2015	*	---	0	---	0	0	0	21	---	98	315
06/20/2015	---	0	---	---	0	37	25	15	418	91	226
06/21/2015	*	---	0	---	0	0	0	20	---	97	152
06/22/2015	---	0	---	---	0	0	0	19	0	105	277
06/23/2015	*	---	0	---	0	0	0	10	---	0	0
06/24/2015	*	---	0	---	0	71	23	8	0	0	0
06/25/2015	*	---	0	---	0	36	0	6	---	90	118
06/26/2015	*	---	0	---	0	39	0	7	829	0	0
06/27/2015	*	---	---	---	0	0	0	5	---	287	49
06/28/2015	*	---	---	---	0	0	0	10	0	0	103
06/29/2015	*	---	0	---	0	0	0	10	---	---	---
06/30/2015	*	---	---	---	0	36	0	4	0	36	0
07/01/2015	*	---	---	---	49	0	0	5	---	---	---
07/02/2015	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	49	250	48	164	1,247	1,329	1,491
# Days:	0	10	0	0	14	14	14	14	7	12	12
Average:	0	0	0	0	4	18	3	12	178	111	124
YTD	0	0	0	47	40,180	60,166	37,631	14,644	66,238	69,993	692,849

COMBINED STEELHEAD											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
06/18/2015	---	2	---	---	79	123	51	21	1,245	0	63
06/19/2015	*	---	2	---	76	379	23	22	---	0	472
06/20/2015	---	6	---	---	53	297	0	14	627	0	301
06/21/2015	*	---	2	---	157	318	0	19	---	0	776
06/22/2015	---	5	---	---	0	394	22	12	209	105	622
06/23/2015	*	---	3	---	47	119	0	15	---	195	420
06/24/2015	*	---	1	---	148	69	0	9	1,251	0	164
06/25/2015	*	---	0	---	70	328	23	15	---	0	0
06/26/2015	*	---	1	---	74	526	0	22	415	143	227
06/27/2015	*	---	---	---	74	1,087	49	19	---	0	70
06/28/2015	*	---	---	---	88	1,497	0	13	1,241	205	12
06/29/2015	*	---	0	---	0	1,875	123	13	---	---	---
06/30/2015	*	---	---	---	0	646	84	4	827	0	0
07/01/2015	*	---	---	---	99	407	95	12	---	---	---
07/02/2015	---	---	---	---	---	---	---	---	---	---	---
Total:	0	22	0	0	965	8,065	470	210	5,815	648	3,127
# Days:	0	10	0	0	14	14	14	14	7	12	12
Average:	0	2	0	0	69	576	34	15	831	54	261
YTD	2,567	40,581	672	11,678	1,298,708	1,068,055	575,666	12,619	455,044	201,076	1,021,456

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)
06/18/2015	---	0	---	---	0	0	0	1	0	190	125
06/19/2015 *	---	0	---	---	0	0	0	0	---	0	79
06/20/2015	---	0	---	---	0	0	0	4	0	0	226
06/21/2015 *	---	0	---	---	0	0	0	3	---	0	0
06/22/2015	---	0	---	---	0	0	0	0	0	0	0
06/23/2015 *	---	0	---	---	47	0	0	3	---	98	0
06/24/2015 *	---	0	---	---	0	0	0	1	0	0	0
06/25/2015 *	---	0	---	---	0	0	0	1	---	179	57
06/26/2015 *	---	0	---	---	0	0	0	4	0	0	56
06/27/2015 *	---	---	---	---	25	0	0	4	---	0	0
06/28/2015 *	---	---	---	---	0	0	0	1	0	0	0
06/29/2015 *	---	0	---	---	0	0	0	1	---	---	---
06/30/2015 *	---	---	---	---	0	36	0	0	0	0	0
07/01/2015 *	---	---	---	---	0	0	0	5	---	---	---
07/02/2015	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	72	36	0	28	0	467	543
# Days:	0	10	0	0	14	14	14	14	7	12	12
Average:	0	0	0	0	5	3	0	2	0	39	45
YTD	74	0	4	47	16,191	19,851	11,030	3,839	128,863	104,266	149,234

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)
06/18/2015	---	0	---	---	0	120	40	1	300	125	20
06/19/2015 *	---	0	---	---	0	50	0	2	---	63	40
06/20/2015	---	0	---	---	2	200	20	0	300	250	20
06/21/2015 *	---	0	---	---	0	0	30	1	---	125	21
06/22/2015	---	0	---	---	5	75	0	1	100	125	0
06/23/2015 *	---	0	---	---	2	25	0	0	---	63	20
06/24/2015 *	---	0	---	---	0	0	20	2	800	0	0
06/25/2015 *	---	0	---	---	0	50	10	1	---	0	0
06/26/2015 *	---	0	---	---	0	0	0	0	0	0	14
06/27/2015 *	---	---	---	---	0	0	0	2	---	0	20
06/28/2015 *	---	---	---	---	0	25	0	2	400	0	4
06/29/2015 *	---	0	---	---	0	50	20	1	---	---	---
06/30/2015 *	---	---	---	---	0	25	0	1	200	0	0
07/01/2015 *	---	---	---	---	0	25	0	3	---	---	---
07/02/2015	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	9	645	140	17	2,100	751	159
# Days:	0	10	0	0	14	14	14	14	7	12	12
Average:	0	0	0	0	1	46	10	1	300	63	13
YTD	0	1	0	0	27	7,891	2,310	51	7,415	19,949	4,001

Two-Week Summary of Passage Indices

* See sampling comments

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

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

Two classes of fish counts are shown in these tables:

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

Collection counts (Coll), which account for sample rates but are not adjusted for flow;

Passage indices (INDEX), which are collection counts divided by the proportion of water passing through the sampled powerhouse.

Passage indices are not population estimates, but are used to adjust collection counts for daily fluctuations in the site's or project's operations.

The classes of counts presented in the report are defined below for each site. Most samples occur over a 24-hr period that spans two calendar days. In this report, the date shown corresponds with the sample end date.

Combined lamprey juvenile collection counts are provided for all sites. Combined lamprey juveniles is a combination of pacific lamprey ammocoetes, brook lamprey ammocoetes, unknown lamprey ammocoetes, pacific lamprey macrophthalmia, and unidentified lamprey species.

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

Therefore, only sample counts are provided in this report.

Definitions for Smolt Index Counts

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

IMN (Collection) = Imnaha River Trap : Collection Counts

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

LGR, LMN, and MCN data collected for the FPC by Washington Dept. of Fish and Wildlife.

LGS and GRN data collected for the FPC by Oregon Dept. of Fish and Wildlife.

IMN data collected for the FPC by the Nez Perce Tribe.

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

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

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

7/2/15 7:05 AM

		06/18/15	TO	07/02/15			
		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
LGR	Sum of NumberCollected	59,480	70	20	390	30	59,990
	Sum of NumberBarged	59,214	69	19	385	29	59,716
	Sum of NumberBypassed	27	0	0	0	0	27
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	48	0	0	0	0	48
	Sum of FacilityMorts	191	1	1	5	1	199
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	239	1	1	5	1	247
LGS	Sum of NumberCollected	154,347	320	172	5,396	25	160,260
	Sum of NumberBarged	153,917	320	167	5,402	23	159,829
	Sum of NumberBypassed	17	0	0	0	0	17
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	24	0	0	1	0	25
	Sum of FacilityMorts	389	0	5	26	2	422
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	413	0	5	27	2	447
LMN	Sum of NumberCollected	34,470	50	20	210		34,750
	Sum of NumberBarged	34,084	50	20	197		34,351
	Sum of NumberBypassed	203	0	0	0		203
	Sum of Numbertrucked	0	0	0	0		0
	Sum of SampleMorts	26	0	0	1		27
	Sum of FacilityMorts	157	0	0	12		169
	Sum of ResearchMorts	0	0	0	0		0
	Sum of TotalProjectMorts	183	0	0	13		196
Total Sum of NumberCollected		248,297	440	212	5,996	55	255,000
Total Sum of NumberBarged		247,215	439	206	5,984	52	253,896
Total Sum of NumberBypassed		247	0	0	0	0	247
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		98	0	0	2	0	100
Total Sum of FacilityMorts		737	1	6	43	3	790
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		835	1	6	45	3	890

YTD Transportation Summary

Source: Fish Passage Center

Updated:

7/2/15 7:05 AM

TO: 07/02/15

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	544,450	1,150,098	26,170	10,890	825,914	2,557,522
	Sum of NumberBarged	534,940	473,252	22,661	10,460	362,473	1,403,786
	Sum of NumberBypassed	8,362	676,470	3,499	160	463,116	1,151,607
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	126	43	0	7	30	206
	Sum of FacilityMorts	1,022	317	10	256	255	1,860
	Sum of ResearchMorts	0	16	0	7	40	63
	Sum of TotalProjectMorts	1,148	376	10	270	325	2,129
LGS	Sum of NumberCollected	462,321	807,529	41,983	13,866	745,339	2,071,038
	Sum of NumberBarged	461,561	545,395	40,240	13,819	531,909	1,592,924
	Sum of NumberBypassed	136	261,966	1,720	40	213,220	477,082
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	36	21	0	2	10	69
	Sum of FacilityMorts	588	147	23	5	233	996
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	624	168	23	7	243	1,065
LMN	Sum of NumberCollected	162,100	642,372	22,120	6,690	322,457	1,155,739
	Sum of NumberBarged	161,260	581,470	21,816	6,640	285,288	1,056,474
	Sum of NumberBypassed	445	60,572	300	30	36,794	98,141
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	37	45	2	0	37	121
	Sum of FacilityMorts	358	315	2	20	338	1,033
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	395	360	4	20	375	1,154
Total Sum of NumberCollected		1,168,871	2,599,999	90,273	31,446	1,893,710	5,784,299
Total Sum of NumberBarged		1,157,761	1,600,117	84,717	30,919	1,179,670	4,053,184
Total Sum of NumberBypassed		8,943	999,008	5,519	230	713,130	1,726,830
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		199	109	2	9	77	396
Total Sum of FacilityMorts		1,968	779	35	281	826	3,889
Total Sum of ResearchMorts		0	16	0	7	40	63
Total Sum of TotalProjectMorts		2,167	904	37	297	943	4,348

Cumulative Adult Passage at Mainstem Dams Through: 07/01

DAM	END DATE	Spring Chinook						Summer Chinook						Fall Chinook					
		2015		2014		10-Yr Avg.		2015		2014		10-Yr Avg.		2015		2014		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	07/01	220480	13314	188083	26094	132065	23978	103563	12061	74632	14593	61891	13654	0	0	0	0	0	0
TDA	07/01	194116	12307	143142	21080	101070	20309	76098	9279	59568	10193	49671	10167	0	0	0	0	0	0
JDA	07/01	166015	11514	123224	19103	88117	19021	63675	6465	52573	8798	42143	9552	0	0	0	0	0	0
MCN	07/01	156151	8767	107147	16033	79364	15788	50189	4576	48447	8118	36521	6762	0	0	0	0	0	0
IHR	07/01	116462	5745	79298	12428	55061	10384	14826	2143	10460	2922	12638	3234	0	0	0	0	0	0
LMN	07/01	111511	8697	79942	14020	55282	9560	11549	2696	9244	4762	13219	3164	0	0	0	0	0	0
LGS	07/01	105124	8553	77966	13649	51473	10681	9453	2422	7705	3591	11413	3383	0	0	0	0	0	0
LGR	07/01	104873	8379	79167	13732	50576	11930	8074	2142	6550	2787	9567	3143	0	0	0	0	0	0
PRD	06/29	27716	1570	23742	2649	15720	1631	23836	1357	23957	730	14225	494	0	0	0	0	0	0
WAN	06/29	25982	1077	0	0	15431	2202	23277	674	--	--	10226	561	0	0	0	0	0	0
RIS	06/29	31749	1092	23247	2934	15126	2669	19658	387	17445	355	8467	696	0	0	0	0	0	0
RRH	06/29	15244	609	12376	2377	6372	1183	11697	164	9418	140	3897	191	0	0	0	0	0	0
WEL	06/30	19971	1520	15377	2544	5959	1398	1901	98	1967	64	737	42	0	0	0	0	0	0
WFA	06/30	50005	1992	27062	1157	30637	964	--	--	--	--	--	--	0	0	0	0	0	0

DAM	END DATE	Coho						Sockeye			Steelhead						Lamprey		
		2015		2014		10-Yr Avg.		2015	2014	10-Yr Avg.	2015	2014	10-Yr Avg.	Wild 2015	Wild 2014	10-Yr Avg.	2015	2014	10-Yr Avg.
		Adult	Jack	Adult	Jack	Adult	Jack												
BON	07/01	0	0	5	-2	0	0	375786	339907	171161	11798	16905	15989	5663	6053	5118	12878	11188	6449
TDA	07/01	0	0	0	0	0	0	307102	275574	131741	3145	5434	6761	1397	2234	2465	5387	1391	584
JDA	07/01	0	0	0	1	0	1	268549	248933	122653	2717	6382	8875	1358	2513	2945	3121	715	299
MCN	07/01	13	5	0	0	1	0	201777	203981	89765	2193	3383	7475	899	1227	2300	432	52	39
IHR	07/01	0	0	0	0	0	0	415	261	138	2156	3191	5979	943	1003	1682	151	13	0
LMN	07/01	0	0	0	0	0	0	356	248	113	4044	6541	7532	2014	1846	2279	28	5	0
LGS	07/01	0	0	0	0	0	0	205	196	78	1667	2137	3448	1057	1158	1511	16	1	0
LGR	07/01	0	0	0	0	0	0	89	105	43	9300	7818	9052	4384	3543	3281	2	1	0
PRD	06/29	0	0	0	0	0	0	138804	68565	29676	315	259	174	0	0	0	424	63	35
WAN	06/29	0	0	0	0	0	0	114377	0	16094	198	0	241	0	0	0	227	0	14
RIS	06/29	0	0	0	0	0	0	69228	25476	9687	195	364	182	127	206	98	0	1	0
RRH	06/29	0	0	0	0	0	0	45142	15231	5402	141	288	408	92	173	280	0	0	0
WEL	06/30	0	0	0	0	0	0	37277	10634	3273	74	157	101	49	94	65	0	0	2
WFA	06/30	1	0	9	0	0	0	--	--	--	6863	22381	20394	--	--	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.