



Fish Passage Center

Weekly Report #15–18

July 17, 2015

Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 34% and 190% of average at individual sub-basins over July. Precipitation above The Dalles has been 96% of average over July. Over the 2015 water year, precipitation has ranged between 74% and 94% of average.

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

Location	Water Year 2015 July 1-15, 2015		Water Year 2015 October 1, 2014 to July 15, 2015	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	0.69	56	30.9	94
Snake River Above Ice Harbor	0.85	174	16.5	81
Columbia Above The Dalles	0.69	96	21.0	85
Kootenai	0.62	46	32.0	94
Clark Fork	0.59	76	18.0	74
Flathead	0.64	58	27.3	85
Pend Oreille River Basin above Waneta Dam	0.59	64	23.6	81
Salmon River Basin	0.75	102	20.0	77
Upper Snake Tributaries	1.38	190	19.3	80
Clearwater	0.80	91	30.1	80
Willamette River above Portland	0.16	34	48.8	80

Table 2 displays the July 16th ESP runoff volume forecasts for multiple reservoirs along with the June COE forecasts at Libby and Dworshak. The July 16th ESP forecast at The Dalles between April and August is 58,823 Kaf (67% of average).

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

Location	July 16, 2015 5-day QPF ESP	
	% Average (1981-2010)	Runoff Volume (Kaf)
The Dalles (Apr-Aug)	67	58823
Grand Coulee (Apr-Aug)	74	42106
Libby Res. Inflow, MT (Apr-Aug)	72	4210
Hungry Horse Res. Inflow, MT (Apr-Aug)	86*	*5090
Lower Granite Res. Inflow (Apr-July)	64	1246
Brownlee Res. Inflow (Apr-July)	54	10626
Dworshak Res. Inflow (Apr-July)	45	2487
	42*	*1113

* Denotes COE June Forecast

Grand Coulee Reservoir is at 1288.9 feet (7-16-15) and has refilled 0.6 feet over the last week. Outflows at Grand Coulee have ranged between 66.9 and 112.9 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2444.0 feet (7-16-15) and has held steady over the previous week. Daily average outflows at Libby Dam have been 9.0 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3547.9 feet (7-16-15) and drafted 1.0 foot over the last week. Outflows at Hungry Horse have been 2.5-3.2 Kcfs over the last week.

Dworshak is currently at an elevation of 1575.2 feet (7-16-15) and drafted 6.5 feet over the last week. Outflows have ranged between 7.5-12.6 Kcfs over the last week.

The Brownlee Reservoir was at an elevation of 2072.4 feet on July 16, 2015, and has refilled 0.7 feet over the last week. Hells Canyon outflows have ranged between 7.2-17.0 Kcfs over the last four days.

The Summer Biological Opinion flow period began on June 21st with a flow objective of 50 Kcfs. Over the Summer Flow Period, flows at Lower Granite Dam have averaged 29.2 Kcfs and over the last week have averaged 29.3 Kcfs.

The Summer Biological Opinion Flow Objective is 200 Kcfs at McNary Dam (began July 1st). Over July, flows at McNary have averaged 141.7 Kcfs. Flows at McNary have averaged 131.6 Kcfs over the last week.

Spill

The 2015 summer fish spill program was initiated 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 is implemented as described in the 2015 Fish Operations Plan (2015 FOP). With the start of summer spill on June 21st spill at Lower Granite Dam switched from 20 Kcfs to 18 Kcfs; Little Goose Dam continued as 30% of instantaneous flow; Lower Monumental Dam switched to 17 Kcfs; and, Ice Harbor Dam continued the "test-like" conditions alternating between blocks of days with 30% spill and 45Kcgs/gas cap spill. However, low flow over this past week caused operations to switch from these spill levels at all the Snake River projects.

Lower Granite Dam spilled all water in excess of that needed to operate one turbine unit (Unit 2) until July 13th, and spill ranged from 17 Kcfs to 18 Kcfs. On July 13th the project switched from operating Unit 2 to operating Unit 1, which is a fixed blade unit that operates at a higher capacity. The switch was made to aid adult passage, but at the same time juvenile spill was decreased and now ranges from 6.8 to 8.1 Kcfs as all flow in excess of Unit 1 flow. 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. Spill over the past week ranged from 7.4 Kcfs to 10.3 Kcfs.

Summer spill volumes at Lower Monumental Dam were equal to all flow in excess of the amount needed to operate one turbine unit and ranged from 11.7 Kcfs to 16.8 Kcfs. The "test-like" conditions, where spill alternates between 30% instantaneous and 45 Kcfs/gas cap, were in place last week. The "test-like period" ended on July 13th and spill for the remainder of the summer is supposed to be 45 cfs/gas cap. 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. Spill averaged from 8.3 Kcfs to 21.2 Kcfs at this project.

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. At Bonneville Dam low flows at times are precluding the stated spill levels, particularly the 121 Kcfs during nighttime hours. During these times spill is equal to all flow in excess of that needed to meet minimum project operations.

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, Bonneville and Rock Island dams over the past week. Monitoring at Lower Granite Dam ended for the season due to low fish numbers. Monitoring at McNary Dam was suspended after July 15th due to high temperature concerns. 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 all four Smolt Monitoring Program traps has been terminated for the season.

Passage of spring migrants (e.g., 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. On the Snake River, subyearling Chinook passage increased at Lower Granite and Little Goose dams this week, while passage at Lower Monumental Dam decreased this week. At the Columbia River sites, subyearling Chinook passage increased at Bonneville but decreased at McNary and Rock Island dams this week, when compared to last week.

Samples at Bonneville Dam (BON) continue to be dominated by subyearling Chinook. The BON Juvenile Fish Facility is currently being 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 nearly 53,000 which as an increase over last week's daily average passage index of nearly 42,000. No spring migrants were encountered in this week's samples. Finally, no lamprey juveniles were encountered in this week's samples.

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 use the passage index as a measure of the magnitude of juvenile passage. Subyearling Chinook continued to dominate the collections at John Day Dam (JDA) this week. No spring migrants were encountered in this week's samples. In addition, no lamprey juveniles were encountered in this week's samples. Finally, mortality levels for subyearling Chinook at JDA decreased this week, when compared to previous week's samples. The July 10th sample had a mortality rate of nearly 7.8% and the July 14th sample had a mortality rate of 0.0%. The cause of the increased mortality that has been observed at JDA over the past several weeks is still unknown.

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 36,100 per day, which is large decrease over last week's daily average passage index of nearly 204,000 per day. The only spring migrants that were encountered in this week's samples were steelhead, which were encountered in the July 16th sample. Finally, Pacific lamprey macrophthalmia were encountered in two of this week's four samples. To date, MCN has not sampled any pacific lamprey ammocoetes for 2015. Sample mortalities for subyearling Chinook have decreased this week, when compared to the previous week. Mortality rates this week have been in the 0.0-1.7% range, which is more similar to historical levels.

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 nearly 12,000, which was an increase over last week's daily average passage index of about 7,800 fish per day. The increase in subyearling Chinook passage this week coincided with increased outflows from Dworshak Dam from July 9th through July 13th which led to increased flows in the lower Snake River. 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 nearly 24,000 fish per day, which is an increase from last week's daily average passage index of nearly 12,000 per day. As with subyearling Chinook passage at LGR, the increase in subyearling Chinook passage at LGS coincides with increased outflows from Dworshak Dam and resulting increases in lower Snake River flows. No sockeye or yearling Chinook juveniles were encountered in this week's samples and coho were encountered in only one of this week's samples (July 15th). Steelhead, however, were encountered in all of this week's samples, with a daily average passage index of about 160 per day. This is a decrease over last week's daily average passage index of about 450 per day. Finally, Pacific lamprey macrophthalmia were encountered in three of this week's samples. No pacific lamprey ammocoetes were encountered at LGS this week.

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 900 per day. This is a decrease over last week's daily average passage index of about

1,800 per day. Passage of spring migrants was very low this week. Finally, Pacific lamprey macrophthalmia were encountered in two of this week's samples (July 11th and 13th). 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 about 275 fish per day, which is a decrease over last week's daily average passage index of about 400 per day. Passage of spring migrants was extremely low this week. Finally, Pacific lamprey macrophthalmia were encountered every day this week, with a daily average collection of four. No Pacific lamprey ammocoetes were encountered in this week's samples.

Hatchery Release

Snake River Zone: The Snake River Zone encompasses the Snake River and its tributaries from its confluence with the Columbia River to Hells Canyon Dam. No new releases were scheduled for this zone this week and no new releases are scheduled over the next two weeks.

Mid-Columbia Zone: The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. No new releases were scheduled to begin in this zone this week. No new releases of juvenile salmonids are scheduled to begin in this zone over the next two weeks.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Approximately 2.0 million subyearling fall Chinook juveniles were scheduled for release from Willard NFH beginning July 11th. No new releases are scheduled for this zone over the next two weeks.

Adults

Daily passage numbers at Bonneville Dam ranged between 902 and 4,587 adult summer Chinook in the last week. The 2015 summer Chinook count of 141,508 is about 1.4 times greater than the 2014 count and 1.8 times greater than the 10-year average. The 2015

summer Chinook jack count of 15,524 is about 72% of the 2014 count and 86% of the 10-year average count. As of July 16th, a total of 74,446 adult summer Chinook have been counted at McNary Dam and 11,319 have been counted at Lower Granite Dam. The 2015 McNary Dam adult summer Chinook count has 865 fewer 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 545 fewer fish than the 2014 count and 2,792 fewer fish than the 10-year average count.

The 2015 Bonneville Dam adult steelhead count of 24,752 is 58.3% of the 2014 count of 47,074 and 61.9% of the 10-year average count of 44,044. The 2015 Bonneville Dam adult wild steelhead count of 13,610 is about 63.7% of the 2014 count of 23,125 and 79.8% of the 10-year average count of 19,454. Daily adult steelhead counts at Lower Granite Dam ranged from 8 to 35 adults per day last week. This year's Lower Granite steelhead count of 9,464 is about 1.1 times greater than the 2014 count of 8,788, while have 683 fewer fish than the 10-year average count of 10,147. The 2015 Lower Granite Dam adult wild steelhead count of 4,489 is 1.1 times greater than the 2014 count of 4,033 and is about 1.2 times greater than the 10-year average count of 3,667.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 2,760 and 6,585 last week. The 2015 adult sockeye count at Bonneville Dam of 491,783 is 83.2% of the 2014 count, while being 2.1 times greater than the 10-year average count. The 2015 adult sockeye count at McNary Dam of 264,990 is 52.2% of the 2014 count, while being 1.5 times greater than the 10-year average count. The Lower Granite Dam 2015 adult sockeye count of 278 has 1,042 fewer fish than the 2014 count and 326 fewer fish than the 10-year average. As of July 16th at Bonneville Dam, the adult shad count was 1,807,516. This year's shad count is about 69.6% of the 2014 count of 2,597,879 and 72.4% of the 10-year average count of 2,494,930.

Warm water temperatures throughout the Willamette, Columbia, and Snake Rivers have been stalling the upriver passage of salmonid adults. Over the last week at the Willamette Falls fish ladder, no salmonids have passed the project. Willamette River

temperatures have approached approximately 80 °F and ODFW has counted nearly 500 pre-spawn mortality salmon in a four mile stretch below Willamette Falls since June 18, 2015. In the lower Snake River, adult passage has been intermittent. On July 7, 2014, the passage of sockeye at Lower Granite Dam fell to zero due to excessive water temperature and the formation of an eddy at the southern powerhouse created by the focused spill of the RSW and minimal powerhouse flow. Early in the morning on July 13, 2015 operations at Lower Granite were modified to running Unit #1 (fixed blade with 17-18 Kcfs discharge) and spilling the remainder of the project discharge in a uniform pattern without the RSW (at the July 8, 2015 FPOM meeting, it was agreed to discontinue the use of the RSW and move to a uniform spill pattern). In subsequent days, passage at Lower Granite has generally increased; however, it should be pointed out that water temperatures at Lower Granite over this period have also been cooling down. At Lower Granite Dam, the COE has been using rental and auxiliary pumps that pull deeper and cooler water from the Lower Granite forebay into the fish ladder. The IDFG has implemented an emergency trap and haul operation for sockeye in the Snake River beginning Monday July 13, 2015. Trapping has occurred at Lower Granite Dam for approximately four hours per day and trapped fish have been hauled to the Eagle Fish Hatchery in Idaho. As of July 16, 2015, fifteen sockeye have been trapped at Lower Granite and hauled to Eagle Fish Hatchery.

Hatchery Releases Last Two Weeks

Hatchery Release Summary									
From:				7/4/2015		to		07/17/15	
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					2,000,000				
Total					2,000,000				
Grand Total					2,000,000				

Hatchery Releases Next Two Weeks

Hatchery Release Summary									
From:				7/18/2015		to		7/30/2015	
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					2,000,000				
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
07/03/2015	106.1	0.0	104.0	0.0	107.1	8.5	105.4	8.4	107.0	19.1	109.6	19.0	107.6	28.8
07/04/2015	107.3	0.0	108.3	0.0	110.6	9.0	105.7	7.4	106.9	17.4	108.0	19.8	105.1	29.5
07/05/2015	107.0	0.0	106.7	0.0	113.1	9.1	109.0	7.1	112.6	17.7	128.1	19.8	127.1	29.5
07/06/2015	86.4	0.0	90.6	0.0	98.6	7.8	95.3	8.5	98.8	20.7	113.1	19.2	113.8	28.1
07/07/2015	84.3	0.0	84.3	0.0	91.2	6.8	87.2	8.6	87.1	19.1	98.6	17.4	100.4	25.8
07/08/2015	98.2	0.0	98.0	0.0	102.2	8.0	101.0	9.3	102.9	20.8	111.5	17.6	109.3	26.0
07/09/2015	86.8	0.0	86.5	0.0	95.4	7.1	96.4	8.4	97.8	19.5	113.7	16.4	114.8	25.1
07/10/2015	72.5	0.0	73.3	0.0	77.5	6.1	76.0	8.0	76.1	17.1	83.3	16.2	83.4	23.8
07/11/2015	66.9	0.0	66.1	0.0	68.3	5.7	68.9	7.9	68.3	17.0	72.6	15.8	71.8	24.3
07/12/2015	88.4	0.0	86.4	0.0	85.7	6.9	77.2	7.0	76.3	15.4	72.6	15.9	69.1	25.1
07/13/2015	96.7	0.0	95.3	1.8	101.5	8.0	98.5	8.4	99.7	19.6	109.9	14.1	110.2	26.1
07/14/2015	111.5	0.0	108.8	8.1	109.3	8.1	102.8	8.8	104.8	19.9	107.3	13.0	104.3	25.8
07/15/2015	112.9	0.0	109.7	0.0	113.5	8.8	107.6	8.0	110.3	19.9	112.0	18.0	109.8	20.8
07/16/2015	112.4	0.0	107.2	0.0	111.0	7.6	106.5	8.6	110.8	20.0	120.7	19.1	119.6	27.7

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	
07/03/2015	5.4	0.0	---	8.3	24.7	12.1	23.0	10.3	22.9	10.4	20.5	10.6	
07/04/2015	5.4	0.0	---	9.3	22.8	10.1	19.9	7.4	19.6	7.3	19.9	10.0	
07/05/2015	5.4	0.0	---	8.8	22.9	10.1	22.8	7.4	20.9	8.8	20.3	10.4	
07/06/2015	7.5	0.0	---	9.2	24.7	12.0	24.9	7.4	24.8	12.5	26.6	16.8	
07/07/2015	7.5	0.0	---	11.5	24.9	12.0	24.9	9.2	24.8	12.5	24.6	10.2	
07/08/2015	7.5	0.0	---	10.3	27.5	14.5	25.6	9.3	25.5	12.0	26.6	8.3	
07/09/2015	9.1	0.9	---	9.4	28.1	15.1	27.6	9.4	25.2	12.8	24.3	13.5	
07/10/2015	12.5	2.8	---	7.6	32.0	18.0	31.6	9.3	31.2	16.8	30.9	21.2	
07/11/2015	12.2	2.6	---	8.2	30.5	17.5	28.8	11.2	28.8	15.7	30.0	11.9	
07/12/2015	12.6	2.8	---	10.1	30.0	17.0	28.7	11.2	27.4	15.0	27.7	8.3	
07/13/2015	10.5	0.9	---	7.6	33.4	16.4	31.6	11.2	31.0	16.4	31.4	19.9	
07/14/2015	7.5	0.0	---	9.3	26.9	8.1	27.9	11.0	28.0	15.8	29.5	20.0	
07/15/2015	7.6	0.0	---	10.4	25.5	6.8	25.2	9.3	24.1	11.7	22.8	13.1	
07/16/2015	9.1	0.0	---	10.2	26.7	8.1	26.0	9.1	25.2	12.8	25.1	15.5	

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		
07/03/2015	160.6	80.5	142.4	56.7	127.3	51.1	151.9	95.0	0.9	43.5
07/04/2015	129.9	65.3	135.1	53.9	120.9	48.3	137.3	88.4	0.9	35.6
07/05/2015	146.3	73.4	132.6	53.1	118.5	47.6	135.2	89.9	0.9	32.0
07/06/2015	153.5	76.9	140.7	56.1	128.3	51.3	150.1	96.9	0.8	40.0
07/07/2015	155.6	77.9	152.1	60.7	137.7	55.3	152.2	95.1	1.0	43.7
07/08/2015	135.1	67.6	128.3	48.8	115.3	46.2	134.5	85.8	0.9	35.3
07/09/2015	153.7	77.1	143.8	43.2	129.8	52.0	133.1	87.7	1.0	32.0
07/10/2015	125.6	62.7	111.8	35.0	101.9	41.0	124.3	79.1	0.9	31.8
07/11/2015	116.5	58.5	103.2	41.3	94.9	37.9	113.4	68.5	0.9	31.6
07/12/2015	112.9	56.6	103.9	39.8	98.3	39.4	109.8	65.3	0.9	31.2
07/13/2015	122.7	61.5	128.7	38.5	115.2	46.1	130.6	83.4	0.9	33.9
07/14/2015	158.8	79.7	149.2	47.6	136.1	54.7	147.4	91.5	0.9	42.6
07/15/2015	137.0	68.4	133.0	53.1	121.0	48.3	142.3	94.3	1.0	34.7
07/16/2015	147.8	74.0	131.1	50.1	115.6	46.2	132.6	87.7	0.9	31.6

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											
	07/06/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/13/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	07/08/15	Chinook + Steelhead	79*	0	0			0	0	0	0
	07/15/15	Chinook + Steelhead	91*	0	0			0	0	0	0
McNary Dam											
	07/15/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	07/05/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/07/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/11/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/15/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	07/07/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/09/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/14/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/16/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	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>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High	
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
7/3	107.3	107.7	108.0	24	---	---	---	0	108.2	108.6	108.8	24	107.2	108.0	108.8	24	108.0	108.6	109.1	24
7/4	107.5	107.9	108.2	24	---	---	---	0	108.5	108.7	108.9	24	107.2	107.9	109.0	24	108.4	108.8	109.2	24
7/5	106.0	106.8	107.4	24	---	---	---	0	108.2	108.5	109.1	24	106.7	107.3	107.5	24	107.6	107.8	108.0	24
7/6	105.4	106.0	106.2	24	---	---	---	0	107.8	108.1	108.8	24	106.4	107.1	107.7	24	107.4	107.9	108.8	24
7/7	105.4	105.8	106.0	24	---	---	---	0	107.8	107.9	108.2	24	107.2	107.8	108.5	24	107.9	108.3	108.7	24
7/8	105.0	105.7	105.9	24	---	---	---	0	108.4	109.0	109.6	24	107.3	108.0	108.8	24	108.3	108.7	108.8	24
7/9	105.7	106.3	106.7	24	---	---	---	0	109.1	109.3	109.6	24	108.0	108.8	109.7	24	109.2	109.7	110.0	24
7/10	106.4	107.0	107.4	24	---	---	---	0	109.0	109.1	109.5	24	107.7	108.1	108.8	24	109.5	109.7	109.9	24
7/11	106.5	106.9	107.5	24	---	---	---	0	108.7	109.0	109.4	24	107.3	107.8	108.4	24	108.5	108.8	109.0	24
7/12	105.9	106.3	106.8	24	---	---	---	0	107.9	108.1	108.3	24	107.1	107.5	107.8	24	107.5	108.0	108.5	24
7/13	105.8	106.2	106.5	24	---	---	---	0	108.0	108.2	108.6	24	107.1	107.8	109.0	24	107.5	108.0	108.4	24
7/14	105.6	106.1	106.5	24	---	---	---	0	108.8	109.0	109.5	24	106.7	107.3	107.9	24	107.9	108.5	108.9	24
7/15	105.6	106.0	106.5	24	---	---	---	0	108.9	109.3	110.9	24	106.6	107.3	108.0	24	107.8	108.1	108.6	24
7/16	105.6	106.2	106.8	23	---	---	---	0	108.8	109.0	109.1	23	106.1	106.8	107.4	23	106.8	107.0	107.3	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>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High	
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
7/3	107.6	108.1	109.4	24	108.9	109.7	110.2	22	110.3	111.0	111.7	22	110.4	110.9	111.6	24	112.5	113.8	114.2	24
7/4	108.2	108.7	109.3	24	109.2	110.0	110.6	23	110.7	111.4	112.3	23	110.4	110.9	111.4	24	112.3	113.3	114.6	24
7/5	107.6	108.0	108.6	24	108.1	108.6	109.2	24	109.6	110.1	110.5	24	109.6	109.8	110.1	24	111.7	112.5	113.3	24
7/6	107.4	107.8	108.3	24	108.1	108.9	109.4	24	109.4	110.2	110.8	24	109.1	109.4	109.8	24	111.7	112.8	113.6	24
7/7	107.1	107.5	108.1	24	108.5	109.3	110.0	24	109.3	110.1	110.7	24	109.5	110.1	111.0	24	111.2	111.9	112.8	24
7/8	107.9	108.2	108.6	24	108.9	109.7	110.7	21	110.0	111.0	111.7	21	109.8	110.5	111.1	24	111.9	113.4	114.6	24
7/9	108.7	109.0	109.9	24	109.7	110.7	111.2	24	110.3	111.5	112.2	24	110.5	110.9	111.2	24	111.8	112.9	113.7	24
7/10	109.7	110.1	110.5	24	109.5	110.1	110.9	24	110.1	110.8	111.7	24	110.8	111.0	111.2	24	111.2	111.9	113.0	24
7/11	109.3	109.6	110.0	24	109.1	109.5	110.1	23	109.5	110.0	110.7	23	109.6	109.9	110.4	24	110.3	110.6	110.9	24
7/12	107.8	108.4	109.2	24	108.5	108.8	109.0	24	109.1	109.7	110.1	24	108.7	108.9	109.2	24	110.2	110.9	111.4	24
7/13	107.2	107.6	108.7	24	108.1	108.5	109.1	19	109.0	109.6	110.6	19	108.4	108.6	108.8	24	110.9	111.7	112.7	24
7/14	108.3	109.4	110.2	24	108.2	109.0	109.6	24	109.2	110.1	110.9	24	108.7	109.2	109.4	24	111.6	113.1	113.9	24
7/15	107.0	107.4	107.7	24	108.3	108.7	109.4	20	109.5	110.0	110.9	20	109.0	109.2	109.5	24	112.0	112.8	113.6	24
7/16	106.4	106.6	107.3	23	107.3	107.5	108.0	17	108.4	108.7	109.5	17	108.2	108.5	108.8	23	111.9	112.5	113.1	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>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High	
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
7/3	110.2	111.0	111.7	24	114.6	115.3	116.6	24	112.4	113.0	113.7	24	111.4	112.1	113.1	24	111.4	111.9	112.4	24
7/4	110.4	111.1	111.8	24	114.9	115.5	116.5	24	111.7	112.6	113.6	24	111.4	112.1	112.5	24	110.8	111.1	111.4	24
7/5	109.7	110.2	110.5	24	114.1	114.7	115.8	24	111.3	111.9	112.2	24	111.3	111.7	112.5	24	110.2	110.5	111.1	24
7/6	109.6	110.4	111.2	24	114.8	115.5	117.8	24	111.1	112.3	113.7	24	110.8	111.5	112.4	24	110.9	111.5	111.8	24
7/7	109.6	110.1	110.4	24	114.5	115.5	117.1	24	110.6	111.7	112.7	24	109.6	110.5	110.9	24	109.8	110.5	111.4	24
7/8	109.8	110.6	111.3	24	114.8	115.4	117.6	24	112.5	114.3	114.9	24	110.9	111.6	112.2	24	110.8	112.0	113.2	24
7/9	110.5	111.0	111.3	24	115.4	116.2	118.2	24	113.6	114.7	115.5	24	110.7	111.3	111.7	24	112.7	113.2	113.7	24
7/10	109.9	110.2	110.9	24	115.2	116.3	117.9	24	110.9	111.8	112.9	24	109.9	110.7	111.7	24	111.2	111.7	112.6	24
7/11	109.0	109.4	109.6	24	114.9	115.8	117.7	24	108.7	109.0	109.2	24	110.0	110.6	111.2	24	108.8	109.5	110.5	24
7/12	107.8	108.2	108.5	24	113.9	114.9	116.8	24	107.3	107.6	107.9	24	109.2	110.3	110.6	24	107.6	108.5	109.7	24
7/13	108.3	108.8	109.4	24	113.7	114.6	116.8	24	107.2	108.7	109.5	24	109.1	109.7	110.1	24	107.4	108.3	109.0	24
7/14	108.7	109.4	110.4	24	113.7	114.4	116.5	24	108.3	109.4	110.4	24	109.2	110.1	110.8	24	107.3	108.0	108.8	24
7/15	109.0	109.5	110.0	24	113.9	114.6	115.2	24	107.1	107.8	108.5	24	109.9	110.2	110.6	24	107.3	108.2	108.8	24
7/16	108.3	108.8	109.1	23	113.3	113.9	114.5	23	---	---	---	0	---	---	---	0	---	---	---	0

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

Total Dissolved Gas Saturation Data at Lower Columbia and Snake River Sites

Date	Priest R. Dnst				Pasco				Dworshak				Clrwtr-Peck				Anatone			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
7/3	113.8	114.1	116.1	24	---	---	---	0	98.9	99.6	100.1	24	102.9	104.5	106.1	24	103.0	104.6	106.0	24
7/4	113.8	114.4	116.8	24	---	---	---	0	99.0	99.7	100.1	24	103.0	104.6	106.5	24	102.9	104.5	106.0	24
7/5	112.9	113.3	114.5	24	---	---	---	0	98.9	99.5	100.1	24	102.7	104.1	105.6	24	102.4	103.8	105.0	24
7/6	113.3	113.7	115.5	24	---	---	---	0	98.3	98.7	99.1	24	101.5	102.6	104.2	24	102.4	104.2	105.4	24
7/7	112.5	113.0	114.7	24	---	---	---	0	98.5	98.8	99.2	24	101.7	102.7	104.2	24	102.5	103.8	105.2	22
7/8	113.6	114.3	115.7	24	---	---	---	0	98.9	99.4	99.8	24	102.0	103.3	104.8	24	102.8	104.5	105.8	24
7/9	113.9	114.6	116.1	24	---	---	---	0	101.1	103.5	106.3	24	102.8	104.7	106.4	24	102.6	104.1	105.9	24
7/10	113.0	113.5	115.2	24	---	---	---	0	105.6	105.8	106.0	24	105.7	106.2	106.7	24	101.5	102.2	103.7	23
7/11	112.6	113.5	115.1	24	---	---	---	0	104.3	104.6	105.0	24	104.5	104.7	104.9	24	101.1	102.2	103.5	24
7/12	113.7	115.0	116.9	24	---	---	---	0	105.3	105.6	105.8	24	105.4	106.2	107.2	24	101.5	102.8	104.5	24
7/13	111.9	113.4	115.8	24	---	---	---	0	100.5	102.7	105.1	24	103.4	104.5	104.9	24	101.6	102.6	104.2	23
7/14	111.7	112.8	116.0	24	---	---	---	0	98.7	99.2	99.6	24	101.9	103.0	104.4	24	100.1	100.1	100.6	9
7/15	111.0	113.2	116.1	24	---	---	---	0	98.8	99.2	99.7	24	101.8	103.0	104.4	24	103.1	103.1	104.8	11
7/16	---	---	---	0	---	---	---	0	98.4	98.6	98.8	23	101.1	102.0	102.6	23	101.3	102.1	102.5	23

Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clrwtr-Lewiston				Lower Granite				L. Granite Tlwr				Little Goose				L. Goose Tlwr			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
7/3	105.1	108.3	110.3	24	104.4	104.9	105.1	24	112.4	113.8	115.6	24	111.9	112.1	112.3	24	110.5	111.2	111.7	24
7/4	105.0	107.8	109.9	24	104.8	105.1	105.5	24	111.1	111.5	112.0	24	112.0	112.1	112.4	24	109.9	110.4	110.9	24
7/5	104.5	107.1	109.0	24	104.5	104.8	105.3	24	110.7	111.2	112.3	24	111.4	111.8	114.0	24	110.2	110.7	111.1	24
7/6	104.3	106.9	108.8	24	104.1	104.3	104.5	24	113.5	113.9	114.2	24	112.3	113.0	115.4	24	110.5	111.1	111.6	24
7/7	104.5	106.9	108.9	24	104.1	104.3	104.8	24	113.9	114.2	114.4	24	111.3	111.4	111.7	24	110.5	110.9	111.2	24
7/8	104.8	107.3	109.2	24	104.0	104.2	104.3	24	111.9	114.6	115.7	24	112.2	112.4	112.7	24	110.7	111.2	111.7	24
7/9	104.6	107.1	108.9	24	103.0	103.2	103.6	24	109.3	110.8	112.0	24	111.9	112.1	112.2	24	110.6	111.2	111.9	24
7/10	104.5	106.1	107.2	24	101.9	102.3	102.7	24	109.9	110.7	111.1	24	110.8	111.0	111.3	24	110.0	110.2	110.5	24
7/11	104.1	105.2	106.7	24	101.4	101.5	101.8	24	110.2	110.6	111.0	24	110.0	110.1	110.3	24	109.8	110.2	110.9	24
7/12	105.1	107.5	109.0	24	101.4	101.6	101.7	24	109.5	110.2	111.1	24	109.4	109.6	110.0	24	109.7	110.1	110.6	24
7/13	105.0	107.2	108.7	24	101.2	101.3	101.4	24	108.6	109.7	110.1	24	108.7	109.0	109.2	24	109.8	110.1	110.7	24
7/14	104.5	107.4	109.6	24	101.1	101.4	101.7	24	104.6	105.3	105.9	24	107.5	107.8	108.7	24	109.6	110.1	110.6	24
7/15	104.5	107.2	109.1	24	101.8	102.2	102.5	24	104.6	104.8	105.1	24	106.4	107.0	107.4	24	108.3	108.7	109.1	24
7/16	103.8	105.9	107.7	23	102.6	102.8	103.0	23	105.0	105.6	108.0	23	106.6	106.7	107.0	23	108.2	108.5	108.9	23

Total Dissolved Gas Saturation Data at Snake and Lower Columbia River Sites

Date	Lower Mon.				L. Mon. Tlwr				Ice Harbor				Ice Harbor Tlwr				McNary-Oregon			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
7/3	108.5	109.2	109.5	24	112.6	113.1	113.5	24	113.0	113.3	113.5	24	112.0	113.1	113.7	24	---	---	---	0
7/4	108.6	108.9	109.4	24	112.4	112.8	113.1	24	113.4	113.8	114.1	24	112.0	113.1	113.9	24	---	---	---	0
7/5	108.8	109.2	109.6	24	112.7	113.2	114.4	24	113.1	113.2	113.6	24	111.4	112.2	112.8	24	---	---	---	0
7/6	108.8	109.1	109.5	24	112.8	113.1	113.5	24	113.2	113.4	113.8	24	111.0	111.9	112.5	24	---	---	---	0
7/7	108.3	108.5	109.0	24	112.7	113.2	113.4	24	113.7	114.1	117.0	24	111.9	113.2	114.4	24	---	---	---	0
7/8	108.1	108.4	108.7	24	112.3	112.6	112.8	24	112.5	113.0	113.5	24	111.6	112.3	112.8	24	---	---	---	0
7/9	108.3	108.5	108.7	24	112.5	112.9	113.7	24	111.1	111.6	112.0	24	110.7	111.2	112.0	24	---	---	---	0
7/10	108.1	108.6	109.2	24	114.8	115.3	115.7	24	111.2	111.6	112.0	24	112.0	113.2	113.7	24	---	---	---	0
7/11	107.4	107.8	108.4	24	113.7	114.4	114.8	24	109.6	109.9	110.3	24	111.2	112.0	112.5	24	---	---	---	0
7/12	106.6	107.0	107.8	24	113.3	113.7	114.1	24	108.6	109.2	109.7	24	110.3	110.9	111.6	24	---	---	---	0
7/13	106.4	106.7	106.9	24	114.8	115.5	115.9	24	107.2	107.4	107.7	24	111.9	113.3	113.8	24	---	---	---	0
7/14	106.1	106.2	106.5	24	115.0	115.8	116.2	24	106.4	106.8	107.0	24	112.9	113.6	114.3	24	---	---	---	0
7/15	106.0	106.2	106.7	24	112.0	112.5	112.9	24	106.8	107.1	107.4	24	110.3	111.1	111.9	24	---	---	---	0
7/16	106.1	106.5	106.7	23	112.4	113.2	113.8	23	107.6	108.2	109.0	23	110.2	111.0	111.7	23	---	---	---	0

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>McNary-Wash</u>			#	<u>McNary Tlwr</u>			#	<u>John Day</u>			#	<u>John Day Tlwr</u>			#	<u>The Dalles</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
7/3	110.9	111.3	112.3	24	115.7	116.0	116.5	24	110.6	111.0	111.4	24	114.9	115.2	115.6	24	110.8	111.2	111.4	24
7/4	110.5	110.9	111.2	24	113.8	114.6	116.6	24	109.5	110.0	110.4	24	114.7	114.9	115.3	24	109.4	109.5	109.7	24
7/5	110.5	110.7	111.9	24	114.1	115.1	115.4	24	108.3	108.7	109.4	24	114.4	114.6	114.9	24	109.3	109.8	110.0	24
7/6	110.3	110.6	111.8	24	115.4	116.1	117.7	24	108.5	109.0	109.6	24	113.8	114.4	114.7	24	110.5	111.3	111.6	24
7/7	109.5	109.8	110.7	24	115.5	116.2	116.9	24	108.4	108.7	109.2	24	113.7	114.3	114.5	24	109.3	109.7	109.9	24
7/8	109.1	109.4	109.9	24	114.6	115.1	115.6	24	107.9	108.5	109.0	24	114.1	114.3	114.6	24	108.6	108.9	109.2	24
7/9	109.7	110.3	110.8	24	115.4	116.7	117.1	24	108.5	108.8	109.3	24	114.1	114.6	115.2	24	110.8	111.5	112.1	24
7/10	109.3	109.6	110.3	24	114.1	114.8	115.4	24	108.0	108.3	109.1	24	112.2	113.0	113.4	24	107.7	108.7	109.5	24
7/11	108.2	108.6	109.0	24	112.9	113.1	113.6	24	105.8	106.3	107.1	24	111.3	112.3	112.6	24	104.5	104.7	105.6	24
7/12	105.4	105.8	106.6	24	112.6	113.0	113.4	24	104.1	104.3	104.6	24	111.2	112.5	113.1	24	104.6	105.5	106.0	24
7/13	103.6	103.9	104.4	24	112.9	113.6	116.3	24	103.3	103.5	103.7	24	111.2	111.7	112.2	24	107.1	108.3	108.8	24
7/14	103.6	104.1	104.7	24	115.4	116.8	117.3	24	102.9	103.2	103.5	24	111.4	112.4	113.0	24	106.7	107.1	107.7	24
7/15	104.0	104.5	105.0	24	113.6	114.6	115.3	24	102.4	102.7	102.9	24	110.8	111.3	111.8	24	105.6	106.1	106.3	24
7/16	105.2	105.7	106.3	23	114.7	115.0	115.4	23	101.6	101.7	102.0	23	109.5	109.8	110.7	23	104.2	104.4	104.6	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			#	<u>Bonneville</u>			#	<u>Warrendale</u>			#	<u>Camas\Washougal</u>			#	<u>Cascade Island</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
7/3	114.7	115.2	115.4	24	109.9	110.2	110.5	24	116.3	116.9	117.5	24	114.3	115.2	115.7	24	117.4	117.5	117.6	24
7/4	114.0	114.3	114.5	24	108.6	108.9	109.2	24	115.5	115.9	116.3	24	113.4	114.6	115.3	24	115.0	115.9	117.4	24
7/5	113.7	114.2	114.5	24	108.3	108.6	108.9	24	116.3	116.5	116.7	24	114.4	115.9	117.1	24	115.0	115.8	117.4	24
7/6	114.1	114.9	115.4	24	108.6	109.2	109.4	24	116.2	116.6	117.1	24	114.1	115.3	116.2	24	117.1	117.2	117.3	24
7/7	113.9	114.6	115.1	24	107.7	108.0	108.3	24	115.3	116.0	116.8	24	112.7	114.0	114.8	24	117.1	117.2	117.3	24
7/8	113.5	113.9	114.5	24	107.7	108.2	108.5	24	115.0	115.4	116.1	24	112.9	113.9	114.6	24	114.6	115.3	117.2	24
7/9	114.3	115.3	115.8	24	107.1	107.5	108.2	24	114.7	115.0	115.4	24	112.8	113.7	114.3	24	114.6	115.0	117.9	24
7/10	112.0	113.0	114.6	24	105.0	105.4	106.2	24	115.4	115.9	116.5	24	111.4	112.9	114.1	24	114.6	116.0	117.9	24
7/11	109.5	109.8	110.0	24	103.5	104.0	104.6	24	114.4	114.8	115.3	24	111.2	111.9	113.1	24	113.2	113.4	113.6	24
7/12	110.0	110.7	111.1	24	102.7	103.1	103.4	24	114.8	115.4	115.6	24	111.8	113.1	114.1	24	113.1	113.2	113.3	24
7/13	111.7	112.2	112.5	24	103.5	104.1	104.7	24	114.3	114.6	114.8	24	112.1	113.0	113.8	24	113.9	114.2	114.3	24
7/14	112.5	113.0	114.0	24	105.1	105.7	106.1	24	114.7	115.5	115.9	24	111.1	112.3	113.2	24	116.3	116.9	117.2	24
7/15	111.3	111.9	112.6	24	105.1	105.3	105.5	24	114.5	115.2	115.8	24	110.0	111.1	112.0	24	116.7	116.8	116.8	24
7/16	109.9	110.1	110.6	23	104.1	104.3	104.6	23	114.2	114.5	115.1	23	109.7	111.1	112.6	23	114.5	115.1	116.6	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 7/17/2015 12:55

Two-Week Summary of Passage Indices

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

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

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

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

COMBINED YEARLING CHINOOK												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
07/03/2015	*	---	---	---	---	0	0	21	0	---	0	---
07/04/2015	*	---	---	---	---	0	0	17	0	0	---	0
07/05/2015	*	---	---	---	---	0	0	33	0	---	---	---
07/06/2015	*	---	---	---	---	0	0	0	0	0	---	0
07/07/2015	*	---	---	---	---	0	1	0	0	---	0	---
07/08/2015	*	---	---	---	---	0	0	0	0	0	---	0
07/09/2015	*	---	---	---	---	0	0	0	0	---	---	---
07/10/2015	*	---	---	---	---	0	0	0	0	0	0	0
07/11/2015	*	---	---	---	---	0	0	0	0	---	---	---
07/12/2015	*	---	---	---	---	0	0	0	0	0	---	0
07/13/2015	*	---	---	---	---	0	0	9	1	---	---	---
07/14/2015	*	---	---	---	---	0	0	0	0	0	0	0
07/15/2015	*	---	---	---	---	0	0	0	0	---	---	---
07/16/2015	*	---	---	---	---	0	0	---	0	0	---	0
07/17/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	0	1	80	1	0	0	0
# Days:		0	0	0	0	14	14	13	14	7	4	7
Average:		0	0	0	0	0	0	6	0	0	0	0
YTD		40,054	68,276	7,458	1,081	1,769,126	1,156,885	1,126,664	16,457	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)	
07/03/2015	*	---	---	---	---	7,072	9,747	3,670	494	---	31,509	---
07/04/2015	*	---	---	---	---	5,453	4,581	2,302	416	102,337	---	57,607
07/05/2015	*	---	---	---	---	3,713	2,601	1,629	414	---	---	---
07/06/2015	*	---	---	---	---	5,374	8,892	1,767	504	314,092	---	18,239
07/07/2015	*	---	---	---	---	9,149	16,868	1,731	388	---	22,268	---
07/08/2015	*	---	---	---	---	13,883	15,874	737	270	195,390	---	49,650
07/09/2015	*	---	---	---	---	9,693	24,394	754	361	---	---	---
07/10/2015	*	---	---	---	---	8,314	20,175	1,173	289	97,393	11,031	59,024
07/11/2015	*	---	---	---	---	19,528	28,256	327	198	---	---	---
07/12/2015	*	---	---	---	---	26,820	35,112	227	203	20,129	---	100,318
07/13/2015	*	---	---	---	---	14,611	32,244	1,170	207	---	---	---
07/14/2015	*	---	---	---	---	8,029	24,314	1,392	315	14,803	5,625	39,003
07/15/2015	*	---	---	---	---	4,238	12,832	1,210	297	---	---	---
07/16/2015	*	---	---	---	---	2,198	11,403	---	410	12,062	---	12,717
07/17/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	138,075	247,293	18,089	4,766	756,206	70,433	336,558
# Days:		0	0	0	0	14	14	13	14	7	4	7
Average:		0	0	0	0	9,863	17,664	1,391	340	108,029	17,608	48,080
YTD		1	114	1,292	2,077	1,034,695	933,819	327,364	18,984	1,538,479	819,775	2,170,577

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)	
07/03/2015	*	---	---	---	---	0	42	0	6	---	106	---
07/04/2015	*	---	---	---	---	0	0	0	8	0	---	0
07/05/2015	*	---	---	---	---	0	0	0	5	---	---	---
07/06/2015	*	---	---	---	---	0	0	0	4	0	---	0
07/07/2015	*	---	---	---	---	0	0	0	3	---	0	---
07/08/2015	*	---	---	---	---	0	0	0	1	0	---	0
07/09/2015	*	---	---	---	---	0	0	0	0	---	---	---
07/10/2015	*	---	---	---	---	0	0	0	0	0	0	0
07/11/2015	*	---	---	---	---	0	0	0	5	---	---	---
07/12/2015	*	---	---	---	---	0	0	0	0	0	---	0
07/13/2015	*	---	---	---	---	0	0	0	0	---	---	---
07/14/2015	*	---	---	---	---	0	0	0	2	0	0	0
07/15/2015	*	---	---	---	---	139	86	0	0	---	---	---
07/16/2015	*	---	---	---	---	0	0	---	1	0	---	0
07/17/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	139	128	0	35	0	106	0
# Days:		0	0	0	0	14	14	13	14	7	4	7
Average:		0	0	0	0	10	9	0	3	0	27	0
YTD		0	0	0	47	40,319	60,294	37,631	14,693	66,238	70,099	692,863

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)	
07/03/2015	*	---	---	---	---	42	504	63	7	---	0	---
07/04/2015	*	---	---	---	---	40	355	17	16	831	---	0
07/05/2015	*	---	---	---	---	73	167	16	10	---	---	---
07/06/2015	*	---	---	---	---	111	442	62	17	0	---	0
07/07/2015	*	---	---	---	---	79	867	21	9	---	0	---
07/08/2015	*	---	---	---	---	200	405	6	14	0	---	448
07/09/2015	*	---	---	---	---	0	394	17	7	---	---	---
07/10/2015	*	---	---	---	---	0	153	45	4	0	0	0
07/11/2015	*	---	---	---	---	0	145	35	3	---	---	---
07/12/2015	*	---	---	---	---	0	167	9	3	0	---	0
07/13/2015	*	---	---	---	---	0	80	9	5	---	---	---
07/14/2015	*	---	---	---	---	0	239	0	9	0	0	0
07/15/2015	*	---	---	---	---	139	0	0	9	---	---	---
07/16/2015	*	---	---	---	---	0	325	---	6	103	---	0
07/17/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	684	4,243	300	119	934	0	448
# Days:		0	0	0	0	14	14	13	14	7	4	7
Average:		0	0	0	0	49	303	23	9	133	0	64
YTD		2,567	40,594	672	11,678	1,299,392	1,072,685	575,966	12,743	456,393	201,076	1,021,904

Two-Week Summary of Passage Indices

COMBINED SOCKEYE											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/03/2015 *	---	---	---	---	0	0	0	6	---	106	---
07/04/2015 *	---	---	---	---	0	0	0	2	0	---	0
07/05/2015 *	---	---	---	---	0	0	0	2	---	---	---
07/06/2015 *	---	---	---	---	37	0	0	10	0	---	0
07/07/2015 *	---	---	---	---	0	0	0	5	---	0	---
07/08/2015 *	---	---	---	---	0	0	0	0	0	---	0
07/09/2015 *	---	---	---	---	0	0	0	1	---	---	---
07/10/2015 *	---	---	---	---	0	0	0	0	0	0	0
07/11/2015 *	---	---	---	---	0	0	0	0	---	---	---
07/12/2015 *	---	---	---	---	0	0	0	1	0	---	0
07/13/2015 *	---	---	---	---	0	0	0	2	---	---	---
07/14/2015 *	---	---	---	---	0	0	0	4	0	0	0
07/15/2015 *	---	---	---	---	0	0	0	0	---	---	---
07/16/2015 *	---	---	---	---	0	0	---	0	0	---	0
07/17/2015	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	37	0	0	33	0	106	0
# Days:	0	0	0	0	14	14	13	14	7	4	7
Average:	0	0	0	0	3	0	0	2	0	27	0
YTD	74	0	4	47	16,228	19,851	11,030	3,876	128,863	104,372	149,234

COMBINED LAMPREY JUVENILES											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR [†] (Samp)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)
07/03/2015 *	---	---	---	---	0	0	0	5	---	0	---
07/04/2015 *	---	---	---	---	1	0	0	3	200	---	100
07/05/2015 *	---	---	---	---	0	0	0	1	---	---	---
07/06/2015 *	---	---	---	---	0	0	0	1	0	---	0
07/07/2015 *	---	---	---	---	0	0	0	0	---	0	---
07/08/2015 *	---	---	---	---	0	0	0	3	0	---	4
07/09/2015 *	---	---	---	---	0	0	8	2	---	---	---
07/10/2015 *	---	---	---	---	0	0	0	3	0	0	0
07/11/2015 *	---	---	---	---	0	50	4	5	---	---	---
07/12/2015 *	---	---	---	---	0	0	0	6	400	---	0
07/13/2015 *	---	---	---	---	0	100	4	6	---	---	---
07/14/2015 *	---	---	---	---	0	0	0	3	0	0	0
07/15/2015 *	---	---	---	---	0	0	0	1	---	---	---
07/16/2015 *	---	---	---	---	0	50	---	2	50	---	0
07/17/2015	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	1	200	16	41	650	0	104
# Days:	0	0	0	0	14	14	13	14	7	4	7
Average:	0	0	0	0	0	14	1	3	93	0	15
YTD	0	1	0	0	28	8,116	2,326	96	8,465	19,949	4,105

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 = $\text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$

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

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

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

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

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

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

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

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

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

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

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

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

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:

7/17/15 12:56 PM

07/03/15 TO 07/17/15

		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
LGR	Sum of NumberCollected	65,730		100	380	20	66,230
	Sum of NumberBarged	67,951		99	376	20	68,446
	Sum of NumberBypassed	0		0	0	0	0
	Sum of Numbertrucked	0		0	0	0	0
	Sum of SampleMorts	34		1	0	0	35
	Sum of FacilityMorts	301		0	4	0	305
	Sum of ResearchMorts	0		0	0	0	0
	Sum of TotalProjectMorts	335		1	4	0	340
LGS	Sum of NumberCollected	156,346	1	75	2,693		159,115
	Sum of NumberBarged	156,875	1	74	2,718		159,668
	Sum of NumberBypassed	0	0	0	0		0
	Sum of Numbertrucked	0	0	0	0		0
	Sum of SampleMorts	53	0	0	1		54
	Sum of FacilityMorts	1,443	0	1	26		1,470
	Sum of ResearchMorts	0	0	0	0		0
	Sum of TotalProjectMorts	1,496	0	1	27		1,524
LMN	Sum of NumberCollected	9,007	44		145		9,196
	Sum of NumberBarged	9,335	64		137		9,536
	Sum of NumberBypassed	167	0		3		170
	Sum of Numbertrucked	0	0		0		0
	Sum of SampleMorts	24	0		2		26
	Sum of FacilityMorts	215	0		3		218
	Sum of ResearchMorts	0	0		0		0
	Sum of TotalProjectMorts	239	0		5		244
Total Sum of NumberCollected		231,083	45	175	3,218	20	234,541
Total Sum of NumberBarged		234,161	65	173	3,231	20	237,650
Total Sum of NumberBypassed		167	0	0	3	0	170
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		111	0	1	3	0	115
Total Sum of FacilityMorts		1,959	0	1	33	0	1,993
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		2,070	0	2	36	0	2,108

YTD Transportation Summary

Source: Fish Passage Center

Updated:

7/17/15 12:56 PM

TO: 07/17/15

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	612,740	1,150,098	26,270	10,910	826,294	2,626,312
	Sum of NumberBarged	602,891	473,252	22,760	10,480	362,849	1,472,232
	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	161	43	1	7	30	242
	Sum of FacilityMorts	1,326	317	10	256	259	2,168
	Sum of ResearchMorts	0	16	0	7	40	63
	Sum of TotalProjectMorts	1,487	376	11	270	329	2,473
LGS	Sum of NumberCollected	627,742	807,530	42,058	13,866	748,282	2,239,478
	Sum of NumberBarged	618,436	545,396	40,314	13,819	534,627	1,752,592
	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	95	21	0	2	11	129
	Sum of FacilityMorts	2,108	147	24	5	264	2,548
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2,203	168	24	7	275	2,677
LMN	Sum of NumberCollected	171,867	642,436	22,120	6,690	322,602	1,165,715
	Sum of NumberBarged	170,595	581,534	21,816	6,640	285,425	1,066,010
	Sum of NumberBypassed	612	60,572	300	30	36,797	98,311
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	61	45	2	0	39	147
	Sum of FacilityMorts	599	315	2	20	341	1,277
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	660	360	4	20	380	1,424
Total Sum of NumberCollected		1,412,349	2,600,064	90,448	31,466	1,897,178	6,031,505
Total Sum of NumberBarged		1,391,922	1,600,182	84,890	30,939	1,182,901	4,290,834
Total Sum of NumberBypassed		9,110	999,008	5,519	230	713,133	1,727,000
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		317	109	3	9	80	518
Total Sum of FacilityMorts		4,033	779	36	281	864	5,993
Total Sum of ResearchMorts		0	16	0	7	40	63
Total Sum of TotalProjectMorts		4,350	904	39	297	984	6,574

Cumulative Adult Passage at Mainstem Dams Through: 07/16

DAM	ENDDATE	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	07/16	220480	13314	188083	26094	132065	23978	141508	15524	99155	21549	79075	17978	0	0	0	0	0	0
TDA	07/16	194116	12307	143142	21080	101070	20309	102720	12731	85655	15805	66295	13845	0	0	0	0	0	0
JDA	07/16	166015	11514	123224	19103	88117	19021	86340	8468	75954	14231	58667	13704	0	0	0	0	0	0
MCN	07/16	156151	8767	107147	16033	79364	15788	74446	6600	75311	13206	54213	10068	0	0	0	0	0	0
IHR	07/16	116462	5745	79298	12428	55061	10384	19462	2622	15329	4019	15776	4272	0	0	0	0	0	0
LMN	07/16	111511	8697	79942	14020	55282	9560	15650	4224	13332	7108	17122	4728	0	0	0	0	0	0
LGS	07/16	105124	8553	77966	13649	51473	10681	13138	3877	13804	6386	15928	5250	0	0	0	0	0	0
LGR	07/16	104873	8379	79167	13732	50576	11930	11319	3247	11864	5810	14111	5551	0	0	0	0	0	0
PRD	07/13	27716	1570	23742	2649	15720	1631	50795	2389	56360	2030	36354	1105	0	0	0	0	0	0
WAN	07/13	25982	1077	0	0	15431	2202	49699	1312	0	0	32266	958	0	0	0	0	0	0
RIS	07/15	31749	1092	23247	2934	15126	2669	53269	1356	55454	1772	33220	2473	0	0	0	0	0	0
RRH	07/15	15244	609	12376	2377	6372	1183	41623	914	36919	1239	21561	1449	0	0	0	0	0	0
WEL	07/15	19971	1520	15377	2544	5959	1398	25153	1380	26010	1377	13381	857	0	0	0	0	0	0
WFA	07/15	50005	1992	29147	1399	32830	1082	0	0	0	0	0	0	0	0	0	0	0	0

DAM	ENDDATE	Coho						Sockeye			Steelhead						Lamprey		
		2015		2014		10-Yr Avg.		2015	2014	10-Yr Avg.	2015	2014	Avg.	2015	2014	10-Yr Avg.	2015	2014	10-Yr Avg.
		Adult	Jack	Adult	Jack	Adult	Jack												
BON	07/16	0	0	5	-2	0	0	491783	591063	236511	24752	47074	44044	13610	23125	19454	19986	19156	11652
TDA	07/16	0	0	0	0	0	0	406204	559367	201239	7573	24931	22569	4279	13609	10630	7674	4005	2145
JDA	07/16	0	0	0	1	0	1	343381	526956	198027	5547	18413	19787	3139	9208	8005	5165	3190	1491
MCN	07/16	13	5	0	0	1	0	264990	507378	172449	4554	12128	13730	2252	5888	4779	839	261	221
IHR	07/16	0	0	0	0	0	0	859	1872	627	3499	7263	9110	1590	2514	2599	347	59	20
LMN	07/16	0	0	0	0	0	0	758	1936	715	4998	9582	10470	2485	3129	3183	79	17	2
LGS	07/16	0	0	0	0	0	0	467	1725	635	1993	3739	4793	1250	1960	1979	57	11	0
LGR	07/16	0	0	0	0	0	0	278	1320	604	9464	8788	10147	4489	4033	3667	13	4	0
PRD	07/13	0	0	0	0	0	0	282602	456428	171341	1031	1074	707	0	0	0	1721	177	121
WAN	07/13	0	0	0	0	0	0	274016	0	148091	720	0	768	0	0	0	1011	0	61
RIS	07/15	0	-2	0	0	0	0	246796	408300	160711	551	694	556	375	419	315	0	9	10
RRH	07/15	0	0	0	0	0	0	198719	304554	125884	318	404	623	207	233	377	0	2	0
WEL	07/15	0	0	0	0	0	0	167556	262181	104841	141	214	199	90	121	116	0	0	2
WFA	07/15	1	0	9	0	0	0	0	0	0	6862	24901	22143	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.