



Fish Passage Center

Weekly Report #15–20

July 31, 2015

Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 25% and 166% of average at individual sub-basins over July. Precipitation above The Dalles has been 89% of average over July. Over the 2015 water year, precipitation has ranged between 75% 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 1–29, 2015		Water Year 2015 October 1, 2014 to July 29, 2015	
	Observed (inches)	% Average	Observed (inches)	% Average
	Columbia above Coulee	1.71	72	32.0
Snake River above Ice Harbor	1.29	137	17.0	82
Columbia above The Dalles	1.23	89	21.5	85
Kootenai	1.77	67	33.1	94
Clark Fork	1.38	92	18.8	75
Flathead	1.03	49	27.7	84
Pend Oreille River Basin above Waneta Dam	1.14	64	24.1	80
Salmon River Basin	1.45	101	20.7	78
Upper Snake Tributaries	2.34	166	20.2	82
Clearwater	1.22	72	30.5	80
Willamette River above Portland	0.22	25	48.9	79

Table 2 displays the July 30th ESP runoff volume forecasts for multiple reservoirs along with the June COE forecasts at Libby and Dworshak. The July 30th ESP forecast at The Dalles between April and August is 58,353 Kaf (67% of average).

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

Location	July 30, 2015 5-day QPF ESP	
	% Average (1981–2010)	Runoff Volume (Kaf)
The Dalles (Apr–Aug)	67	58,353
Grand Coulee (Apr–Aug)	74	41,962
Libby Res. Inflow, MT (Apr–Aug)	71 86*	4,208 5,090*
Hungry Horse Res. Inflow, MT (Apr–Aug)	64	1,234
Lower Granite Res. Inflow (Apr–July)	53	10,563
Brownlee Res. Inflow (Apr–July)	45	2,449
Dworshak Res. Inflow (Apr–July)	44 42*	1,076 1,113*

* Denotes COE June Forecast

Grand Coulee Reservoir is at 1,287.4 feet (7-30-15) and has drafted 1.5 feet over the last week. Outflows at Grand Coulee have ranged between 80.5 and 111.4 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2,443.3 feet (7-30-15) and has drafted 0.2 feet over the previous week. Daily average outflows at Libby Dam have been 7.5 to 8.1 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3,546.3 feet (7-30-15) and drafted 0.7 feet over the last week. Outflows at Hungry Horse have been 1.8–2.0 Kcfs over the last week.

Dworshak is currently at an elevation of 1,559.7 feet (7-30-15) and drafted 6.4 feet over the last week. Outflows have been 7.8 to 10.0 Kcfs over of the last week.

The Brownlee Reservoir was at an elevation of 2,064.8 feet on July 30, 2015, and has drafted 3.1 feet over the last week. Hells Canyon outflows have ranged between 9.0 and 21.0 Kcfs over the last 4 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 29.3 Kcfs and, over the last week, have averaged 28.3 Kcfs.

The Summer Biological Opinion Flow Objective (which began July 1st) is 200 Kcfs at McNary Dam. Over July, flows at McNary have averaged 141.3 Kcfs. Flows at McNary have averaged 140.6 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 rather than on July 1, as part of rolled-over court ordered operations.

At the lower Snake River projects spill is planned 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 45Kcfs/gas cap spill. However, low flow over this past week and changes in project operations caused changes from the planned operation spill levels at all the Snake River projects.

Lower Granite Dam continued operating Unit 1 over the past week, which is a fixed blade unit that operates at a higher capacity. The switch was made to aid adult passage, and at the same time both the RSW was switched off and juvenile spill was decreased. This project is scheduled to return to Unit 2 operation early Monday morning (0459 hours), and the Fish Operations Plan spill level will be implemented. However, the removable spillway weir will not be operated and spill will be provided across the project in a uniform pattern. At Little Goose Dam a second test of a 16-hour daytime period with no spill, and a nighttime operation of 8 hours with spill in excess of powerhouse minimum, was conducted over 7/28 to 7/30. No improvement in sockeye adult passage

resulted, and the spill operations will now continue as described in the FOP. Daily averaged spill over the past week ranged from 3.9 Kcfs to 10.6 Kcfs.

Summer spill volumes at Lower Monumental Dam were equal to all flow in excess of the amount needed to operate one turbine unit. Daily average spill ranged from 12.9 Kcfs to 17.4 Kcfs. At Ice Harbor Dam spill for the remainder of the summer is supposed to be 45 cfs/gas cap. However, flows are sufficiently low that the 45 Kcfs/gas cap spill condition is not implementable. Spill is occurring as all flow in excess of the amount needed to operate one turbine unit. Spill averaged from 16 Kcfs to 21.7 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	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	30%/30%
The Dalles	40%/40%
Bonneville	June 16–Aug 31: 85 Kcfs/121 Kcfs and 95 Kcfs/95 Kcfs

High temperatures and low fish numbers have precluded sampling for GBT this past week. All TDG measurements have been considerably below the waiver limits as a result of low flow and, therefore, low spill levels.

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 (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 all SMP bypass facilities this week.

The Bonneville Dam (BON) Juvenile Fish Facility continued to operate under the high temperature sampling protocol this week. 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. Samples at BON continued to be dominated by subyearling Chinook. For the second week in a row, subyearling Chinook were the only target species encountered in the samples at BON. This week's daily average passage index for subyearling Chinook was nearly 2,000 per day which was a decrease over last week's daily average passage index of about 7,050 per day.

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. As with last week, no spring migrants were encountered in this week's samples. In addition, no lamprey juveniles were encountered in this week's samples.

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 1,400 per day, which is a decrease over last week's daily average passage index of about 5,400 per day. The only spring migrants that were encountered in this week's samples were coho and steelhead. Finally, Pacific lamprey macrophthalmia were encountered every day this week, with a daily average collection of 20 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 3,500 per day, which was a decrease over last week's daily average passage index of about 4,700 per day. Very few spring migrants were encountered in this week's samples. Only one Pacific lamprey macrophthalmia was sampled this week (July 29th).

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 420 fish per day, which is a decrease from last week's daily average passage index of nearly about 1,700 per day. 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 28th). Steelhead, however, were encountered in all of this week's samples, with a daily average passage index of only 11 per day. This is a decrease over last week's daily average passage index of about 66 per day. Finally, Pacific lamprey macrophthalmia were

encountered in five 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 90 per day. This is a decrease over last week's daily average passage index of about 240 per day. The only spring migrants that were encountered in this week's samples were steelhead, which were encountered only on two sample days (July 25th and 27th). Finally, Pacific lamprey macrophthalmia were encountered in one of this week's samples (July 30th). No ammocoetes were encountered at LMN this week.

Although passage has been relatively low, 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 40 fish per day, which is a decrease over last week's daily average passage index of about 170 per day. Sockeye and steelhead were the only spring migrants encountered in this week's samples, although their numbers were extremely low. Finally, Pacific lamprey macrophthalmia were encountered in six of this week's samples. 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 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. 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. No new releases were scheduled for this zone this week and no releases are scheduled for this zone over the next 2 weeks.

Adult Passage

In the lower Snake River, adult passage has been intermittent. On July 7, 2015, 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). 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. IDFG implemented an emergency trap and haul operation for sockeye in the Snake River beginning Monday, July 13, 2015. At the TMT meeting held on July 30, 2015, IDFG requested that the emergency trap and haul operation at Lower Granite be terminated at noon on July 31, 2015.

Over the last several weeks, several FPOM and TMT meetings were held that focused on the passage of sockeye at both Lower Granite and Little Goose dams. At Lower Granite Dam, some salmon managers have questioned the priority operation of Unit #1, which limits juvenile protections by spill reductions. Based on daily count information, it appears fish passage is more related to ladder temperatures than the tailrace hydraulics created by either Unit #1 or Unit #2 (without the RSW in operation). This week, several managers recommended moving back to a Unit #2 priority at Lower Granite Dam. However, both the COE and NOAA felt that Unit #1 is a better operation for adult passage, due to it passing more discharge closer to the south entrance and also feel that it may pull cooler water from the Lower Granite forebay. Others have stated

that the outflow temperature is not drastically different between the Unit #1 or Unit #2 priority operation, and the adult passage problem is more of a thermal rather than a hydraulic attraction issue. Restoring the Unit #2 priority would provide better juvenile passage conditions at Lower Granite. At the TMT meeting held on July 30, 2015, it was agreed that Lower Granite Dam would revert back to a Unit #2 priority beginning on Monday, August 3, 2015.

At Little Goose Dam, IDFG recommended modifying operations to attempt to pass adult salmonids. The proposal was to operate with a powerhouse only operation from 0400 to 2000 and spill everything above minimum generation during the remaining nighttime hours for a 2- day period. This operation was discussed at both FPOM and TMT, with no regional consensus on an operation. The COE decided to implement this request primarily based on the support of NOAA fisheries, with the operation beginning at 0400 on 7/23/15 and ending at 0400 at 7/25/15. Both ODFW and the USFWS disagreed with implementing this operation based on a review of ladder exit temperatures and adult passage. Over the initial 2-day operation, sockeye counts totaled 22 at Little Goose; whereas the previous 2 days sockeye count was 12 at Little Goose. Although there was a slight increase in sockeye counts during the modified operation at Little Goose, water temperatures were also decreasing. Although all parties could not agree that the operation was successful, NOAA fisheries requested that the COE initiate a second 2-day modified operation at Little Goose beginning at 4:00 AM on July 28, 2015, and ending at 4:00 AM on July 30, 2015. Sockeye numbers over the second 2-day test period totaled 3 sockeye, which was a decrease relative to the previous 2-day total of 15 sockeye. At the TMT meeting held on July 30, 2015, it was agreed to revert back to the normal FOP operation at Little Goose.

Daily passage numbers at Bonneville Dam ranged between 995 and 1,517 adult summer Chinook in the last week. The 2015 summer Chinook count of 160,456 is about 1.5 times greater than the 2014 count and 1.8 times greater than the 10-year average. The 2015 summer Chinook jack count of 17,580 is about 70% of the 2014 count and 88% of the 10-year average count. As of July 29th, a total of 88,840 adult summer Chinook

have been counted at McNary Dam and 13,552 have been counted at Lower Granite Dam. The 2015 McNary Dam adult summer Chinook count has 4,458 more fish than the 2014 count, while being 1.5 times greater than the 10-year average count. The 2015 Lower Granite Dam adult summer Chinook count has 461 fewer fish than the 2014 count and 1,721 fewer fish than the 10-year average count.

The 2015 Bonneville Dam adult steelhead count of 64,313 is 65.8% of the 2014 count of 97,778 and 63.8% of the 10-year average count of 100,751. The 2015 Bonneville Dam adult wild steelhead count of 34,999 is about 70.1% of the 2014 count of 49,923 and 78.2% of the 10-year average count of 44,737. Daily adult steelhead counts at Lower Granite Dam ranged from 35 to 87 adults per day last week. This year's Lower Granite steelhead count of 10,065 has 2,122 fewer fish than the 2014 count of 12,187 and 1,961 fewer fish than the 10-year average count of 12,026. The 2015 Lower Granite Dam adult wild steelhead count of 4,910 has 1,074 fewer fish than the 2014 count of 5,984, while having 403 more fish than the 10-year average count of 4,507.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 345 and 957 last week. The 2015 adult sockeye count at Bonneville Dam of 508,734 is 83% 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 274,731 is 50.5% 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 379 has 2,176 fewer fish than the 2014 count and 518 fewer fish than the 10-year average. As of July 29th at Bonneville Dam, the adult shad count was 1,812,787. This year's shad count is about 69.7% of the 2014 count of 2,602,306 and 72.4% of the 10-year average count of 2,504,773.

Hatchery Releases Last Two Weeks

Hatchery Release Summary									
From: 7/18/2015 to 07/31/15									
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 Total					2,000,000				
Grand Total					2,000,000				

Hatchery Releases Next Two Weeks

Hatchery Release Summary
From: 8/1/2015 to 08/13/15

No Releases Scheduled

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

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

Date	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
07/17/2015	110.7	0.0	110.8	0.0	114.9	8.2	110.3	8.7	114.9	20.1	122.3	18.4	119.9	27.6
07/18/2015	105.5	0.0	103.4	0.0	105.7	8.3	102.4	8.4	104.3	18.4	107.6	17.4	106.6	27.0
07/19/2015	98.4	0.0	107.7	0.0	111.3	8.2	106.3	8.5	108.2	18.4	113.0	18.4	112.8	27.7
07/20/2015	99.1	0.0	98.8	0.0	103.4	8.1	101.0	8.7	102.1	21.1	109.4	18.2	108.4	27.6
07/21/2015	79.4	0.0	81.9	0.0	87.6	6.7	87.1	9.4	89.4	20.8	99.6	18.2	100.8	26.3
07/22/2015	89.4	0.0	88.1	0.0	89.4	8.0	84.4	8.3	84.1	17.2	84.3	16.8	81.3	26.4
07/23/2015	102.2	0.0	93.7	0.0	96.6	7.7	93.8	8.4	94.8	18.6	105.1	17.4	104.6	27.0
07/24/2015	110.0	0.0	104.8	0.0	105.3	8.0	101.5	8.0	102.9	18.4	101.1	17.9	98.5	27.7
07/25/2015	90.0	0.0	105.3	0.0	105.9	7.7	104.2	7.8	106.5	17.4	103.6	20.0	100.4	29.4
07/26/2015	80.5	0.0	83.8	0.0	89.1	6.9	84.3	7.4	87.2	16.9	98.4	19.4	98.9	28.3
07/27/2015	91.8	0.0	89.9	0.0	90.8	6.8	88.0	8.6	89.7	20.5	95.5	18.0	94.0	27.9
07/28/2015	111.4	0.0	97.3	4.8	100.8	7.9	96.5	8.7	98.4	20.6	108.2	18.4	106.7	28.8
07/29/2015	108.6	0.0	107.9	3.2	111.9	8.9	113.1	12.9	112.5	21.3	117.8	18.0	117.2	27.5
07/30/2015	101.4	0.0	105.0	0.0	109.2	9.0	104.3	8.7	107.6	21.0	118.0	18.6	118.5	27.8

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
07/17/2015	9.7	0.0	---	11.3	30.3	11.8	28.2	9.2	27.2	14.9	28.2	18.6
07/18/2015	9.8	0.0	---	12.7	31.0	12.3	31.0	10.9	29.9	17.0	29.9	20.2
07/19/2015	9.8	0.0	---	11.8	31.0	12.5	30.4	11.0	30.2	16.4	32.2	22.6
07/20/2015	9.8	0.0	---	12.2	29.3	10.5	29.0	11.0	27.6	15.3	28.0	17.5
07/21/2015	9.9	0.0	---	12.6	29.8	11.2	27.5	11.0	27.4	14.3	27.4	17.4
07/22/2015	9.9	0.0	---	14.7	32.3	13.8	30.8	9.3	29.8	14.3	29.2	19.3
07/23/2015	9.8	0.0	---	14.4	31.2	12.5	31.8	3.8	32.8	16.4	35.4	25.3
07/24/2015	7.7	0.0	---	12.8	30.5	11.7	27.1	4.9	25.3	13.0	26.8	16.9
07/25/2015	7.8	0.0	---	11.9	27.3	8.6	26.6	10.4	27.5	17.4	26.4	16.3
07/26/2015	10.0	0.0	---	11.0	25.7	7.0	26.5	9.3	25.4	13.0	26.1	16.3
07/27/2015	9.9	0.0	---	9.8	28.8	10.0	27.9	9.4	25.3	13.0	26.7	17.0
07/28/2015	10.0	0.0	---	12.1	27.5	8.9	27.1	3.9	28.1	15.5	28.2	18.2
07/29/2015	7.8	0.0	---	12.6	29.8	11.3	26.8	4.6	25.4	12.9	26.4	16.0
07/30/2015	7.8	0.0	---	12.5	28.5	9.9	31.3	10.6	30.7	17.4	31.6	21.7

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		
07/17/2015	136.8	68.5	136.4	40.6	124.7	49.8	132.6	87.6	0.9	31.7
07/18/2015	151.6	75.9	144.4	45.4	130.8	52.2	141.6	91.7	0.9	36.6
07/19/2015	151.7	76.1	137.2	54.7	120.8	48.5	141.3	94.2	0.9	33.8
07/20/2015	151.5	75.7	141.1	54.2	127.0	50.7	134.3	88.9	0.9	32.1
07/21/2015	143.2	71.6	138.8	41.3	125.4	50.1	138.3	90.8	0.9	34.2
07/22/2015	127.9	63.9	129.7	38.9	116.3	46.6	140.2	95.1	0.8	31.9
07/23/2015	124.7	62.6	112.9	33.9	103.9	41.5	119.3	74.8	0.8	31.2
07/24/2015	137.7	69.2	127.1	37.9	113.9	45.7	126.1	81.5	0.9	31.3
07/25/2015	129.4	65.0	124.5	37.5	115.7	46.5	135.3	87.5	0.9	34.5
07/26/2015	145.2	72.8	125.2	37.4	110.1	44.4	128.3	83.3	0.9	31.8
07/27/2015	135.3	67.8	126.0	37.7	112.7	45.0	126.7	81.5	0.9	31.9
07/28/2015	130.3	65.2	129.8	38.8	120.5	48.0	131.7	86.6	0.9	31.8
07/29/2015	152.9	76.6	136.8	40.8	123.7	49.2	137.5	90.5	5.7	29.0
07/30/2015	153.7	77.0	154.6	46.1	142.2	57.1	157.5	99.8	1.0	44.3

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

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank			
								Rank 1	Rank 2	Rank 3	Rank 4
Little Goose Dam											
	07/20/15	Chinook + Steelhead	80*	0	0			0	0	0	0
Lower Monumental Dam											
	07/22/15	Chinook + Steelhead	5*	0	0			0	0	0	0
Bonneville Dam											
	07/19/15	Chinook + Steelhead	23*	0	0			0	0	0	0

*) Sample size criteria not met, therefore no % fish with GBT 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>				
7/17	105.3	105.7	105.9	24	---	---	---	0	108.7	108.8	109.1	24	106.3	107.1	107.7	24	106.3	106.6	107.0	24
7/18	105.5	106.0	106.6	24	---	---	---	0	109.0	109.3	109.5	24	106.4	107.4	107.9	24	106.1	106.5	106.9	24
7/19	104.7	104.9	105.1	24	---	---	---	0	109.0	109.2	109.7	24	106.4	107.4	107.8	24	106.7	107.2	107.5	24
7/20	104.6	105.2	105.7	24	---	---	---	0	109.4	109.5	109.8	24	106.8	107.6	108.8	24	107.6	108.1	108.4	24
7/21	105.2	105.9	106.7	23	---	---	---	0	109.6	109.7	109.9	24	106.6	107.6	108.3	24	107.7	108.0	108.2	24
7/22	102.6	104.2	105.8	24	---	---	---	0	109.4	109.6	109.9	24	107.0	107.9	108.7	24	107.9	108.2	108.6	24
7/23	103.5	105.8	108.9	24	---	---	---	0	109.0	109.1	109.4	24	106.7	107.3	108.3	24	107.2	107.4	107.6	24
7/24	102.5	103.7	104.6	24	---	---	---	0	108.6	108.7	108.8	24	106.2	106.8	107.2	24	107.0	107.4	107.8	24
7/25	104.8	105.4	105.7	24	---	---	---	0	108.5	108.6	108.7	24	105.7	106.5	107.2	24	106.7	106.9	107.0	24
7/26	105.4	106.0	106.6	24	---	---	---	0	108.5	108.6	108.7	24	106.2	106.7	107.1	24	105.7	106.1	106.5	24
7/27	105.0	105.6	106.0	24	---	---	---	0	108.0	108.2	108.4	24	106.2	106.6	107.1	24	105.3	105.5	105.6	24
7/28	104.7	105.2	105.5	24	---	---	---	0	107.5	107.7	107.8	24	105.7	106.2	106.6	24	105.2	105.8	106.2	24
7/29	105.0	105.5	105.7	24	---	---	---	0	107.5	107.6	107.8	24	105.7	106.4	107.7	24	106.0	106.6	106.9	24
7/30	104.1	104.6	105.4	23	---	---	---	0	107.5	107.7	108.1	23	105.3	106.3	106.8	23	106.5	107.1	107.6	24

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>				
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
7/17	105.6	106.1	106.4	24	106.7	107.4	108.2	22	107.8	108.5	109.1	22	107.9	108.3	108.7	24	111.5	112.3	113.0	24
7/18	105.8	106.5	107.6	24	107.0	107.6	108.3	22	108.2	108.9	110.0	22	108.4	108.7	109.2	24	111.7	112.4	113.0	24
7/19	106.1	106.6	107.0	24	107.4	108.3	108.8	24	108.5	109.4	110.1	24	108.6	108.9	109.2	24	111.9	112.8	113.6	24
7/20	107.2	107.3	107.7	24	107.7	108.2	108.9	23	108.6	109.4	110.3	23	109.1	109.4	109.8	24	111.8	112.4	113.0	24
7/21	108.1	108.6	109.4	24	107.7	108.3	108.6	24	108.2	109.0	109.5	24	108.9	109.3	109.7	24	111.6	112.3	112.9	24
7/22	107.7	108.2	109.1	24	107.4	108.2	108.9	24	108.2	109.3	109.9	24	107.9	108.2	108.7	24	110.6	111.6	112.4	24
7/23	107.1	107.8	108.8	24	106.6	106.6	106.9	7	107.3	107.3	107.8	7	107.2	107.5	107.9	24	110.2	111.0	111.7	24
7/24	106.4	106.8	107.1	24	106.8	107.2	107.9	22	108.7	109.1	109.8	22	107.2	107.6	108.0	24	110.2	110.8	111.8	24
7/25	106.3	106.5	106.8	24	105.9	106.1	106.5	22	107.7	107.9	108.4	22	107.3	107.4	107.6	24	110.1	110.6	111.2	24
7/26	106.0	106.5	107.2	24	105.1	105.5	105.9	23	107.0	107.5	107.9	23	106.5	106.7	107.0	24	109.3	109.7	110.1	24
7/27	104.8	105.2	105.7	24	104.9	105.3	106.0	21	106.8	107.2	107.9	21	105.3	105.6	105.8	24	109.0	109.7	110.1	24
7/28	105.8	106.7	109.0	24	104.9	105.4	106.2	20	106.6	107.2	108.3	20	105.2	105.6	105.9	24	109.2	110.2	110.6	24
7/29	105.7	106.5	107.3	24	105.6	106.6	107.1	23	107.7	108.6	109.2	23	105.9	106.4	106.6	24	110.7	112.2	113.6	24
7/30	106.0	106.5	106.9	23	106.6	107.5	108.2	22	108.2	109.4	110.1	22	106.8	107.3	107.8	23	110.4	111.2	111.6	23

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>				
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
7/17	108.2	109.0	109.7	24	113.1	113.9	114.2	24	107.3	108.7	109.6	24	109.7	110.0	110.3	24	107.4	108.7	110.2	24
7/18	108.8	109.5	110.1	24	113.8	114.6	115.9	24	108.2	110.8	111.6	24	110.6	111.2	111.4	24	109.3	110.0	111.2	24
7/19	108.9	109.4	109.8	24	113.3	113.8	114.4	24	110.2	111.4	112.2	24	111.5	111.7	112.1	24	111.2	111.6	112.0	24
7/20	109.1	109.5	109.7	24	114.5	114.9	115.5	24	109.1	109.5	110.7	24	110.9	110.9	112.2	12	110.1	110.7	111.2	24
7/21	108.8	109.1	109.6	24	114.3	115.0	115.7	24	108.3	108.7	108.9	24	111.4	111.5	112.2	16	108.7	109.2	109.5	24
7/22	108.2	108.5	108.8	24	114.1	115.0	117.1	24	106.8	107.4	108.0	24	110.3	110.9	112.7	24	107.8	108.3	108.7	24
7/23	107.1	107.9	108.5	24	112.9	113.9	115.6	24	107.3	108.3	109.5	24	110.5	111.0	112.4	24	107.3	107.9	109.0	24
7/24	107.0	107.5	108.2	24	112.1	112.8	114.0	24	106.5	107.1	107.6	24	110.3	110.8	112.1	24	107.7	108.1	108.7	24
7/25	107.0	107.4	108.1	24	112.1	112.9	113.6	24	106.6	106.9	107.0	24	111.5	112.6	114.5	24	107.7	108.2	109.6	24
7/26	106.5	106.8	107.2	24	111.8	112.8	116.2	24	106.1	106.4	106.6	24	110.4	111.1	112.0	24	108.0	108.5	110.0	24
7/27	105.6	105.9	106.4	24	112.5	113.4	115.1	24	104.4	104.8	105.2	24	109.3	110.2	112.9	24	105.9	106.4	106.9	24
7/28	105.5	106.1	106.7	24	112.3	113.0	114.6	24	104.8	106.2	107.4	24	109.5	110.6	112.5	24	105.6	106.8	108.3	24
7/29	106.3	107.0	107.5	24	112.5	113.3	115.1	24	106.0	108.3	108.9	24	110.2	110.8	111.7	24	109.0	109.8	110.3	24
7/30	107.3	107.7	108.3	23	112.8	113.4	114.2	23	---	---	---	0	---	---	---	0	---	---	---	0

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

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

Date	<u>Priest R. Dnst</u>			<u>Pasco</u>			<u>Dworshak</u>			<u>Clrwtr-Peck</u>			<u>Anatone</u>			#				
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>hr</u>			
7/17	111.8	113.0	116.2	24	---	---	---	0	98.6	99.0	99.4	24	100.7	101.7	102.8	24	101.1	102.0	102.7	24
7/18	113.4	115.0	116.9	24	---	---	---	0	98.4	98.8	99.0	24	100.6	101.6	102.8	24	102.0	103.2	104.4	24
7/19	113.7	114.6	117.2	24	---	---	---	0	98.5	98.9	99.2	24	100.8	101.9	103.2	24	102.2	103.5	104.5	24
7/20	113.4	114.5	116.9	24	---	---	---	0	98.8	99.3	99.7	24	101.2	102.4	103.7	24	102.5	103.9	105.4	22
7/21	111.9	112.6	115.8	24	---	---	---	0	99.1	99.5	99.9	24	101.5	102.7	104.1	23	102.5	104.0	105.4	24
7/22	113.2	114.8	116.0	24	---	---	---	0	99.2	99.5	99.8	24	101.4	102.4	103.6	24	102.2	103.2	104.3	24
7/23	112.1	113.5	115.2	24	---	---	---	0	98.8	99.2	99.6	24	101.1	102.0	103.2	24	101.9	102.9	103.9	24
7/24	112.6	114.2	116.4	24	---	---	---	0	98.9	99.3	99.8	24	101.4	102.6	104.2	24	101.9	103.3	104.5	24
7/25	112.5	113.9	116.4	24	---	---	---	0	99.0	99.4	99.8	24	101.4	102.7	103.9	24	102.1	103.3	104.4	24
7/26	111.8	112.6	114.9	24	---	---	---	0	98.8	99.0	99.4	24	100.6	101.3	102.5	24	100.3	100.3	100.8	8
7/27	111.5	112.9	115.4	24	---	---	---	0	98.6	99.0	99.2	24	100.3	101.0	102.1	24	100.7	101.2	101.7	20
7/28	111.8	113.4	115.8	24	---	---	---	0	98.1	98.4	98.8	24	99.8	100.8	102.2	24	101.5	103.1	104.3	24
7/29	112.5	114.1	116.8	24	---	---	---	0	98.4	98.9	99.2	24	100.8	102.1	103.6	24	102.1	103.4	105.0	23
7/30	---	---	---	0	---	---	---	0	98.7	99.2	99.5	23	99.8	99.9	101.4	13	102.3	103.7	105.2	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>			
7/17	103.9	106.5	108.2	24	101.8	102.5	102.7	24	105.9	107.0	107.4	24	105.9	106.1	106.7	24	108.2	108.6	109.0	24
7/18	104.0	106.7	108.5	24	101.9	102.4	102.6	24	105.5	106.6	108.7	24	105.9	106.1	106.4	24	108.4	109.0	109.6	24
7/19	104.1	106.7	108.5	24	102.0	102.1	102.4	24	107.3	109.3	110.7	24	104.1	104.9	105.6	24	107.7	108.1	108.7	24
7/20	104.4	107.0	108.9	24	101.3	101.6	101.8	24	106.4	108.2	110.2	24	102.9	103.3	104.2	24	107.5	108.0	109.4	24
7/21	104.3	106.8	108.7	24	101.7	101.9	102.2	24	108.0	109.9	111.0	24	104.8	105.2	105.9	24	107.9	108.3	108.6	24
7/22	103.9	106.4	108.2	24	102.5	103.1	103.7	24	109.0	111.6	112.0	24	105.0	105.3	105.6	24	107.4	107.9	108.6	24
7/23	103.6	106.0	107.8	24	103.2	103.3	103.7	24	109.7	111.1	111.5	24	105.6	106.0	106.3	24	105.7	106.4	107.5	24
7/24	104.1	106.8	108.8	24	102.4	102.7	103.1	24	108.8	110.4	111.2	24	104.5	104.7	104.9	24	104.6	105.8	107.9	24
7/25	103.6	105.7	106.9	24	102.1	102.2	102.5	24	106.6	107.6	108.1	24	103.6	104.1	104.5	24	106.8	107.4	107.9	24
7/26	103.4	105.4	107.0	24	101.8	101.9	102.0	24	105.1	105.5	106.1	24	103.4	103.5	103.7	24	105.9	106.4	107.0	24
7/27	102.4	103.9	105.1	24	101.2	101.4	101.7	24	107.0	108.1	110.2	24	103.4	103.5	103.7	24	105.4	105.9	106.3	24
7/28	103.2	105.7	107.5	24	100.7	100.9	101.0	24	105.8	106.2	106.7	24	102.8	103.0	103.4	24	101.8	103.0	104.8	24
7/29	103.6	106.2	108.2	24	100.2	100.3	100.5	24	107.4	108.9	109.4	24	102.0	102.1	102.3	24	101.3	102.8	105.1	24
7/30	103.9	106.5	108.4	23	99.7	99.9	100.1	23	106.9	108.3	108.8	23	101.9	102.1	102.2	23	105.0	105.4	105.9	23

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

Date	<u>Lower Mon.</u>			<u>L. Mon. Tlwr</u>			<u>Ice Harbor</u>			<u>Ice Harbor Tlwr</u>			<u>McNary-Oregon</u>			#				
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>hr</u>			
7/17	106.9	107.2	107.4	24	114.2	114.7	115.0	24	108.7	109.4	110.2	24	112.2	113.4	114.3	24	---	---	---	0
7/18	106.6	106.9	107.4	24	115.5	116.1	116.5	24	109.8	110.2	110.8	24	112.9	113.8	114.3	24	---	---	---	0
7/19	105.7	106.0	106.2	24	115.1	115.6	115.8	24	110.0	110.2	110.5	24	113.2	113.9	114.3	24	---	---	---	0
7/20	104.8	105.1	106.0	24	113.9	114.7	115.1	24	108.9	109.4	110.0	24	112.2	113.3	113.7	24	---	---	---	0
7/21	105.8	106.3	106.7	24	114.4	115.3	116.0	24	110.2	110.7	111.5	24	111.9	113.2	114.1	24	---	---	---	0
7/22	105.2	105.5	106.1	24	113.9	115.0	115.8	24	110.7	111.1	111.6	24	111.3	112.4	113.2	24	---	---	---	0
7/23	104.9	105.3	106.4	24	114.8	115.3	115.8	24	110.6	111.0	111.8	24	113.0	113.6	114.5	24	---	---	---	0
7/24	105.1	105.5	106.1	24	112.6	112.9	114.2	24	108.6	109.1	110.1	24	111.2	111.8	112.7	24	---	---	---	0
7/25	105.0	105.3	105.9	24	114.1	114.7	115.3	24	108.5	108.9	109.2	24	109.7	110.3	110.8	24	---	---	---	0
7/26	105.9	106.2	106.5	24	112.6	112.9	113.2	24	108.3	108.7	109.2	24	110.1	111.1	111.9	24	---	---	---	0
7/27	104.3	105.4	106.7	24	112.1	112.6	113.3	24	107.7	108.0	108.7	24	109.8	110.7	111.6	24	---	---	---	0
7/28	103.4	103.6	103.9	24	113.8	114.9	115.5	24	108.0	108.5	109.1	24	111.9	113.5	114.7	24	---	---	---	0
7/29	103.1	103.5	104.4	24	112.0	112.5	113.2	24	108.8	109.0	109.4	24	110.9	111.9	112.6	24	---	---	---	0
7/30	103.0	103.3	103.7	23	115.0	115.5	117.3	23	109.7	110.1	110.9	23	112.8	114.3	114.8	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>		
	<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>	
7/17	106.2	106.4	107.0	24	114.3	114.6	115.3	24	101.1	101.4	101.7	24	107.9	108.5	109.0	24	104.7	105.9	106.5	24
7/18	106.2	106.3	106.5	24	115.3	116.4	117.0	24	101.3	101.7	102.8	24	108.8	110.1	111.1	24	107.0	107.5	107.8	24
7/19	106.5	106.8	107.3	24	115.6	116.0	117.0	24	102.6	102.9	103.2	24	108.1	108.3	108.6	24	107.2	107.6	108.0	24
7/20	107.7	107.9	108.2	24	115.1	115.6	116.1	24	102.4	102.9	103.2	24	108.0	108.4	109.2	24	106.4	106.8	107.0	24
7/21	107.9	108.1	108.4	24	114.9	115.4	115.9	24	102.9	103.3	103.7	24	110.7	114.0	114.4	24	105.3	105.5	106.5	24
7/22	106.5	106.8	107.2	24	113.8	114.3	114.7	24	103.0	103.3	103.6	24	112.6	113.1	113.7	24	104.3	104.5	104.7	24
7/23	105.6	105.8	106.1	24	113.4	113.8	114.2	24	102.8	103.0	103.3	23	111.6	111.9	112.1	23	103.4	103.8	104.1	24
7/24	104.7	104.8	105.0	24	113.9	114.3	114.9	24	102.5	102.8	103.1	24	112.2	113.2	113.8	24	103.5	104.3	104.5	24
7/25	104.5	104.7	105.0	24	112.8	114.6	115.5	24	102.1	102.3	102.4	24	111.7	112.3	112.4	24	104.7	105.1	105.2	24
7/26	104.3	104.5	104.6	24	113.9	115.3	116.1	24	101.6	101.7	101.9	24	111.3	111.8	112.1	24	104.4	104.6	104.8	24
7/27	103.8	103.9	104.1	24	113.5	113.8	114.4	24	100.8	101.0	101.5	24	110.6	111.0	111.6	24	103.7	103.9	104.1	24
7/28	103.6	103.8	104.1	24	113.7	114.2	114.5	24	100.1	100.4	100.7	24	110.8	111.4	112.3	24	104.1	105.0	105.3	24
7/29	104.7	105.4	107.6	24	115.3	116.0	116.5	24	101.1	102.1	103.4	24	110.5	111.3	111.6	24	107.1	108.2	108.6	24
7/30	106.6	107.0	107.8	23	115.4	115.9	116.6	23	103.3	104.0	105.7	23	111.1	111.6	112.4	23	107.6	107.9	108.2	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			#	<u>Bonneville</u>			#	<u>Warrendale</u>			#	<u>Camas\Washougal</u>			#	<u>Cascade Island</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>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>		
	<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>	
7/17	111.1	111.8	112.0	24	104.2	104.9	105.6	24	115.0	115.6	116.4	24	111.2	112.8	113.7	24	114.5	115.0	116.6	24
7/18	112.3	113.1	113.6	24	106.0	107.2	108.2	24	116.0	117.0	117.8	24	113.1	114.3	114.8	24	116.0	117.1	117.2	24
7/19	112.3	113.0	113.5	24	109.5	110.3	110.7	24	116.4	117.0	117.4	24	114.3	115.4	116.5	24	117.0	117.1	117.2	24
7/20	111.6	111.9	112.1	24	108.1	108.4	109.3	24	115.6	116.1	116.4	24	113.6	114.7	115.5	24	114.6	115.4	117.0	24
7/21	110.9	111.3	112.0	24	105.3	105.7	107.1	24	114.8	115.4	116.0	24	111.6	112.6	113.3	24	114.6	115.4	117.0	24
7/22	110.6	111.2	111.6	24	103.7	103.9	104.5	24	115.7	116.2	116.4	24	110.6	112.1	113.1	24	116.3	116.8	117.0	24
7/23	109.6	110.1	110.8	24	103.1	103.3	103.6	24	114.7	115.1	115.5	24	112.1	113.1	113.9	24	113.1	113.2	113.3	24
7/24	109.9	110.5	111.0	24	103.0	103.3	103.6	24	114.5	115.0	115.4	24	111.6	112.9	113.6	24	113.6	114.1	117.3	24
7/25	110.7	111.2	111.5	24	103.4	103.5	103.6	24	114.8	115.3	116.0	24	111.1	111.9	112.7	24	113.9	114.5	116.5	24
7/26	110.2	110.6	110.9	24	103.5	103.8	103.9	24	114.6	114.8	115.1	24	111.6	112.8	113.6	24	113.3	113.4	113.4	24
7/27	110.1	110.4	110.8	24	103.7	103.7	103.8	24	114.3	114.6	114.9	24	111.2	112.0	112.7	24	113.2	113.2	113.3	24
7/28	110.8	111.6	111.9	24	104.6	105.3	105.8	24	115.2	115.9	116.4	24	111.8	113.5	114.2	24	113.6	114.0	116.4	24
7/29	112.3	113.3	113.6	24	106.6	107.8	108.6	24	115.7	116.2	116.6	24	113.9	115.2	115.8	24	114.5	115.3	117.6	24
7/30	113.4	113.9	114.2	23	109.8	110.5	111.1	23	117.6	118.3	118.8	23	114.8	116.1	117.4	23	117.2	117.4	117.7	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 7/31/2015 6:56

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

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

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

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

COMBINED YEARLING CHINOOK												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	
07/17/2015	*	---	---	---	---	0	0	0	0	---	0	---
07/18/2015	*	---	---	---	---	34	0	0	0	0	---	0
07/19/2015	*	---	---	---	---	34	0	0	0	---	---	---
07/20/2015	*	---	---	---	---	0	0	0	0	0	---	0
07/21/2015	*	---	---	---	---	0	0	0	0	---	0	---
07/22/2015	*	---	---	---	---	0	0	0	0	0	---	0
07/23/2015	*	---	---	---	---	0	0	0	0	---	---	---
07/24/2015	*	---	---	---	---	0	0	0	0	0	0	0
07/25/2015	*	---	---	---	---	0	0	0	0	---	---	---
07/26/2015	*	---	---	---	---	0	0	0	0	0	---	0
07/27/2015	*	---	---	---	---	0	0	0	0	---	---	---
07/28/2015	*	---	---	---	---	0	0	0	0	0	0	0
07/29/2015	*	---	---	---	---	0	0	0	0	---	---	---
07/30/2015	*	---	---	---	---	0	0	0	0	0	---	0
07/31/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	68	0	0	0	0	0	0
# Days:		0	0	0	0	14	14	14	14	7	4	7
Average:		0	0	0	0	5	0	0	0	0	0	0
YTD		40,054	68,276	7,458	1,081	1,769,194	1,156,885	1,126,664	16,457	1,340,101	664,378	1,712,479

COMBINED SUBYEARLING CHINOOK												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	
07/17/2015	*	---	---	---	---	2,282	4,043	254	243	---	2,051	---
07/18/2015	*	---	---	---	---	5,797	1,802	337	269	4,571	---	16,232
07/19/2015	*	---	---	---	---	7,814	1,345	366	181	---	---	---
07/20/2015	*	---	---	---	---	6,907	1,277	287	190	8,654	---	2,016
07/21/2015	*	---	---	---	---	3,902	1,168	197	87	---	909	---
07/22/2015	*	---	---	---	---	2,780	1,015	139	100	3,068	---	2,922
07/23/2015	*	---	---	---	---	3,456	971	102	93	---	---	---
07/24/2015	*	---	---	---	---	4,964	823	198	78	2,395	1,518	4,667
07/25/2015	*	---	---	---	---	4,369	656	136	65	---	---	---
07/26/2015	*	---	---	---	---	3,196	282	87	40	1,399	---	2,487
07/27/2015	*	---	---	---	---	4,279	430	51	32	---	---	---
07/28/2015	*	---	---	---	---	3,494	255	46	17	915	971	492
07/29/2015	*	---	---	---	---	2,839	307	51	23	---	---	---
07/30/2015	*	---	---	---	---	1,683	181	46	37	878	---	161
07/31/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	57,762	14,555	2,297	1,455	21,880	5,449	28,977
# Days:		0	0	0	0	14	14	14	14	7	4	7
Average:		0	0	0	0	4,126	1,040	164	104	3,126	1,362	4,140
YTD		1	114	1,292	2,077	1,092,457	948,374	330,107	20,439	1,560,359	825,224	2,185,510

Two-Week Summary of Passage Indices

COMBINED COHO												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
07/17/2015	*	---	---	---	0	2	0	5	---	0	---	
07/18/2015	*	---	---	---	17	0	0	1	0	---	0	
07/19/2015	*	---	---	---	17	0	0	0	---	---	---	
07/20/2015	*	---	---	---	0	0	0	0	0	---	0	
07/21/2015	*	---	---	---	0	0	0	0	---	0	---	
07/22/2015	*	---	---	---	0	0	0	4	0	---	0	
07/23/2015	*	---	---	---	19	1	0	0	---	---	---	
07/24/2015	*	---	---	---	0	0	0	0	0	0	0	
07/25/2015	*	---	---	---	0	0	0	0	---	---	---	
07/26/2015	*	---	---	---	0	0	0	0	0	---	0	
07/27/2015	*	---	---	---	0	0	0	0	---	---	---	
07/28/2015	*	---	---	---	0	3	0	0	0	0	0	
07/29/2015	*	---	---	---	0	0	0	0	---	---	---	
07/30/2015	*	---	---	---	0	0	0	0	10	---	0	
07/31/2015		---	---	---	---	---	---	---	---	---	---	
<hr/>												
Total:		0	0	0	0	53	6	0	10	10	0	0
# Days:		0	0	0	0	14	14	14	14	7	4	7
Average:		0	0	0	0	4	0	0	1	1	0	0
YTD		0	0	0	47	40,372	60,300	37,631	14,703	66,248	70,099	692,863

COMBINED STEELHEAD												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
07/17/2015	*	---	---	---	60	152	0	6	---	0	---	
07/18/2015	*	---	---	---	34	2	0	1	0	---	0	
07/19/2015	*	---	---	---	84	91	0	2	---	---	---	
07/20/2015	*	---	---	---	66	50	0	1	83	---	0	
07/21/2015	*	---	---	---	62	68	0	0	---	0	---	
07/22/2015	*	---	---	---	0	66	9	0	41	---	0	
07/23/2015	*	---	---	---	168	33	8	0	---	---	---	
07/24/2015	*	---	---	---	64	18	0	0	0	0	0	
07/25/2015	*	---	---	---	16	13	23	0	---	---	---	
07/26/2015	*	---	---	---	0	19	0	0	21	---	0	
07/27/2015	*	---	---	---	29	19	17	1	---	---	---	
07/28/2015	*	---	---	---	15	3	0	0	0	0	0	
07/29/2015	*	---	---	---	15	2	0	0	---	---	---	
07/30/2015	*	---	---	---	16	5	0	0	10	---	0	
07/31/2015		---	---	---	---	---	---	---	---	---	---	
<hr/>												
Total:		0	0	0	629	541	57	11	155	0	0	
# Days:		0	0	0	14	14	14	14	7	4	7	
Average:		0	0	0	45	39	4	1	22	0	0	
YTD		2,567	40,594	672	11,678	1,300,021	1,073,226	576,043	12,754	456,548	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)
07/17/2015	*	---	---	---	0	0	0	1	---	0	---
07/18/2015	*	---	---	---	0	0	0	1	0	---	0
07/19/2015	*	---	---	---	0	0	0	2	---	---	---
07/20/2015	*	---	---	---	0	0	0	1	0	---	0
07/21/2015	*	---	---	---	0	0	0	4	---	0	---
07/22/2015	*	---	---	---	0	0	0	3	41	---	0
07/23/2015	*	---	---	---	0	0	0	5	---	---	---
07/24/2015	*	---	---	---	0	0	0	0	0	0	0
07/25/2015	*	---	---	---	0	0	0	1	---	---	---
07/26/2015	*	---	---	---	0	0	0	1	0	---	0
07/27/2015	*	---	---	---	0	0	0	3	---	---	---
07/28/2015	*	---	---	---	0	0	0	3	0	0	0
07/29/2015	*	---	---	---	0	0	0	3	---	---	---
07/30/2015	*	---	---	---	0	0	0	0	0	---	0
07/31/2015		---	---	---	---	---	---	---	---	---	---
<hr/>											
Total:		0	0	0	0	0	0	28	41	0	0
# Days:		0	0	0	0	14	14	14	14	7	4
Average:		0	0	0	0	0	0	2	6	0	0
YTD		74	0	4	47	16,228	19,851	11,030	3,904	128,904	104,372

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)
07/17/2015	*	---	---	---	0	0	0	2	---	0	---
07/18/2015	*	---	---	---	0	0	0	0	0	---	0
07/19/2015	*	---	---	---	1	0	0	2	---	---	---
07/20/2015	*	---	---	---	0	10	0	4	100	---	0
07/21/2015	*	---	---	---	0	0	0	4	---	0	---
07/22/2015	*	---	---	---	0	0	4	1	40	---	0
07/23/2015	*	---	---	---	0	10	0	1	---	---	---
07/24/2015	*	---	---	---	0	0	0	2	20	0	0
07/25/2015	*	---	---	---	0	5	0	1	---	---	---
07/26/2015	*	---	---	---	0	0	0	2	20	---	0
07/27/2015	*	---	---	---	0	4	0	2	---	---	---
07/28/2015	*	---	---	---	0	4	0	0	20	0	0
07/29/2015	*	---	---	---	1	2	0	1	---	---	---
07/30/2015	*	---	---	---	0	2	4	3	20	---	0
07/31/2015		---	---	---	---	---	---	---	---	---	---
<hr/>											
Total:		0	0	0	2	37	8	25	220	0	0
# Days:		0	0	0	0	14	14	14	14	7	4
Average:		0	0	0	0	3	1	2	31	0	0
YTD		0	1	0	0	30	8,153	2,334	121	8,685	19,949

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:

7/31/15 6:56 AM

		07/17/15 TO 07/31/15				
		Species				
Site	Data	CH0	CH1	CO	ST	Grand Total
LGR	Sum of NumberCollected	36,140	40	30	380	36,590
	Sum of NumberBarged	30,793	39	30	348	31,210
	Sum of NumberBypassed	0	0	0	1	1
	Sum of Numbertrucked	4,139	0	0	19	4,158
	Sum of SampleMorts	27	0	0	0	27
	Sum of FacilityMorts	106	1	0	2	109
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	133	1	0	2	136
LGS	Sum of NumberCollected	9,773		4	354	10,131
	Sum of NumberBarged	16,360		2	534	16,896
	Sum of NumberBypassed	0		0	0	0
	Sum of Numbertrucked	0		0	0	0
	Sum of SampleMorts	21		0	1	22
	Sum of FacilityMorts	223		2	8	233
	Sum of ResearchMorts	0		0	0	0
	Sum of TotalProjectMorts	244		2	9	255
LMN	Sum of NumberCollected	1,013			24	1,037
	Sum of NumberBarged	1,177			34	1,211
	Sum of NumberBypassed	5			0	5
	Sum of Numbertrucked	0			0	0
	Sum of SampleMorts	3			0	3
	Sum of FacilityMorts	19			0	19
	Sum of ResearchMorts	0			0	0
	Sum of TotalProjectMorts	22			0	22
Total Sum of NumberCollected		46,926	40	34	758	47,758
Total Sum of NumberBarged		48,330	39	32	916	49,317
Total Sum of NumberBypassed		5	0	0	1	6
Total Sum of Numbertrucked		4,139	0	0	19	4,158
Total Sum of SampleMorts		51	0	0	1	52
Total Sum of FacilityMorts		348	1	2	10	361
Total Sum of ResearchMorts		0	0	0	0	0
Total Sum of TotalProjectMorts		399	1	2	11	413

YTD Transportation Summary

Source: Fish Passage Center

Updated:

7/31/15 6:56 AM

TO: 07/31/15

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	648,880	1,150,138	26,300	10,910	826,674	2,662,902
	Sum of NumberBarged	633,684	473,291	22,790	10,480	363,197	1,503,442
	Sum of NumberBypassed	8,362	676,470	3,499	160	463,117	1,151,608
	Sum of NumberTrucked	4,139	0	0	0	19	4,158
	Sum of SampleMorts	188	43	1	7	30	269
	Sum of FacilityMorts	1,432	318	10	256	261	2,277
	Sum of ResearchMorts	0	16	0	7	40	63
	Sum of TotalProjectMorts	1,620	377	11	270	331	2,609
LGS	Sum of NumberCollected	637,515	807,530	42,062	13,866	748,636	2,249,609
	Sum of NumberBarged	634,796	545,396	40,316	13,819	535,128	1,769,455
	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	116	21	0	2	12	151
	Sum of FacilityMorts	2,331	147	26	5	272	2,781
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2,447	168	26	7	284	2,932
LMN	Sum of NumberCollected	173,100	642,436	22,120	6,690	322,636	1,166,982
	Sum of NumberBarged	171,772	581,534	21,816	6,640	285,459	1,067,221
	Sum of NumberBypassed	617	60,572	300	30	36,797	98,316
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	64	45	2	0	39	150
	Sum of FacilityMorts	627	315	2	20	341	1,305
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	691	360	4	20	380	1,455
Total Sum of NumberCollected		1,459,495	2,600,104	90,482	31,466	1,897,946	6,079,493
Total Sum of NumberBarged		1,440,252	1,600,221	84,922	30,939	1,183,784	4,340,118
Total Sum of NumberBypassed		9,115	999,008	5,519	230	713,134	1,727,006
Total Sum of NumberTrucked		4,139	0	0	0	19	4,158
Total Sum of SampleMorts		368	109	3	9	81	570
Total Sum of FacilityMorts		4,390	780	38	281	874	6,363
Total Sum of ResearchMorts		0	16	0	7	40	63
Total Sum of TotalProjectMorts		4,758	905	41	297	995	6,996

Cumulative Adult Passage at Mainstem Dams Through: 07/30

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	07/30	220480	13314	188083	26094	132065	23978	160456	17580	109174	25129	86823	19997	0	0	0	0	0	0
TDA	07/30	194116	12307	143142	21080	101070	20309	119903	14944	94269	18669	73369	15643	0	0	0	0	0	0
JDA	07/30	166015	11514	123224	19103	88117	19021	102951	10331	83489	16529	65243	15680	0	0	0	0	0	0
MCN	07/30	156151	8767	107147	16033	79364	15788	88840	8032	84382	15711	61169	11456	0	0	0	0	0	0
IHR	07/30	116462	5745	79298	12428	55061	10384	20337	2716	16698	4368	16644	4510	0	0	0	0	0	0
LMN	07/30	111511	8697	79942	14020	55282	9560	16557	4566	15109	7937	18224	5099	0	0	0	0	0	0
LGS	07/30	105124	8553	77966	13649	51473	10681	14199	4237	15973	7248	17237	5708	0	0	0	0	0	0
LGR	07/30	104873	8379	79167	13732	50576	11930	13552	3866	14013	6888	15273	6154	0	0	0	0	0	0
PRD	07/29	27716	1570	23742	2649	15720	1631	65806	2915	72567	3012	48720	1532	0	0	0	0	0	0
WAN	07/29	25982	1077	0	0	15431	2202	63783	1694	0	0	44699	1280	0	0	0	0	0	0
RIS	07/28	31749	1092	23247	2934	15126	2669	69208	1860	69880	3884	44445	3786	0	0	0	0	0	0
RRH	07/28	15244	609	12376	2377	6372	1183	56120	1308	49739	2676	32212	2494	0	0	0	0	0	0
WEL	07/29	19971	1520	15377	2544	5959	1398	40291	2246	40029	3084	22771	1861	0	0	0	0	0	0
WFA	07/29	50710	2014	29770	1531	33514	1151	0	0	0	0	0	0	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	07/30	0	0	5	-2	0	0	508734	612684	240975	64313	97778	100751	34999	49923	44737	27800	25941	16255
TDA	07/30	0	0	0	0	0	0	426630	584554	206567	22726	51584	52739	13608	28457	25223	9126	7590	3777
JDA	07/30	0	0	0	1	0	1	361342	555355	204984	10489	31889	39685	6124	16234	17288	5957	5112	2916
MCN	07/30	13	5	0	0	1	0	274731	543797	181116	7998	25356	27143	4276	12841	10662	1083	650	559
IHR	07/30	0	0	0	0	0	0	964	2315	733	4696	12744	15171	2205	4735	4578	456	192	77
LMN	07/30	0	0	0	0	0	0	835	2735	888	6053	16077	15302	3156	6378	5009	110	62	17
LGS	07/30	0	0	0	0	0	0	542	2689	850	2575	7970	7177	1665	4283	2956	98	40	7
LGR	07/30	0	0	0	0	0	0	379	2555	897	10065	12187	12026	4910	5984	4507	28	16	0
PRD	07/29	0	0	0	0	0	0	292764	600968	213904	1752	2575	2194	0	0	0	3293	1241	471
WAN	07/29	0	0	0	0	0	0	285919	0	189754	1383	0	2279	0	0	0	2173	0	173
RIS	07/28	0	-2	0	0	0	0	253914	565854	208211	1034	1373	1399	641	793	776	0	69	48
RRH	07/28	0	0	0	0	0	0	206606	473486	175946	581	719	1119	348	404	606	0	41	8
WEL	07/29	0	0	0	0	0	0	178949	467975	168102	360	453	476	214	253	248	0	0	2
WFA	07/29	1	0	9	0	0	0	0	0	0	6939	25940	22820	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.