



## Fish Passage Center

# Weekly Report #15–24

August 28, 2015

### Summary of Events

#### Water Supply

Precipitation throughout the Columbia Basin has varied between 5% and 130% of average at individual sub-basins over August. Precipitation above The Dalles has been 44% of average over July. Over the 2015 water year, precipitation has ranged between 72% and 91% of average.

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

Location	Water Year 2015		Water Year 2015	
	August 1–27, 2015		October 1, 2014 to August 27, 2015	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia above Coulee	0.88	45	32.8	90
Snake River above Ice Harbor	0.47	60	17.4	81
Columbia above The Dalles	0.51	44	22.0	83
Kootenai	1.10	51	34.2	91
Clark Fork	0.28	20	19.1	72
Flathead	0.29	19	28.0	80
Pend Oreille River Basin above Waneta Dam	0.26	18	24.4	77
Salmon River Basin	0.54	48	21.3	76
Upper Snake Tributaries	1.51	130	21.7	83
Clearwater	0.23	18	30.7	77
Willamette River above Portland	0.05	5	48.9	78

Grand Coulee Reservoir is at 1,277.6 feet (8-27-15) and has drafted 1.6 feet over the last week. Outflows at Grand Coulee have ranged between 102.0 and 131.1 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2,441.1 feet (8-27-15) and has drafted 0.5 feet over the previous week. Daily average outflows at Libby Dam have been 7.1 to 7.2 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3,542.1 feet (8-27-15) and drafted 1.0 feet over the last week. Outflows at Hungry Horse have been 2.4 to 2.5 Kcfs over the last week.

Dworshak is currently at an elevation of 1,536.6 feet (8-27-15) and drafted 4.3 feet over the last week. Outflows have ranged between 4.6 and 5.8 Kcfs over the last week.

The Brownlee Reservoir was at an elevation of 2,056.2 feet on August 27, 2015, and has held steady over the last week. Hells Canyon outflows have ranged between 7.7 and 9.9 Kcfs over the last 4 days.

The Summer Biological Opinion flow period began on June 21<sup>st</sup> with a flow objective of 50 Kcfs. Over the Summer Flow Period, flows at Lower Granite Dam have averaged 26.3 Kcfs and, over the last week, have averaged 18.4 Kcfs.

The Summer Biological Opinion Flow Objective (which began July 1<sup>st</sup>) is 200 Kcfs at McNary Dam. Over the summer flow period, flows at McNary have averaged 144.1 Kcfs. Flows at McNary have averaged 151.4 Kcfs over the last week.

#### Spill

The 2015 summer fish spill program was initiated at the lower Snake River projects on June 21<sup>st</sup>. At the middle Columbia River projects, summer spill was initiated on June 16<sup>th</sup> 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 21<sup>st</sup>, 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 and Little Goose dams continued at reduced spill levels—spilling all water in excess of that needed to operate one turbine unit. Daily average spill at Lower Granite Dam ranged from 3.9 to 6.8 Kcfs while that at Little Goose Dam ranged from 2.8 Kcfs to 7.3 Kcfs.

Summer spill volumes at Lower Monumental Dam were equal to all flow in excess of the amount needed to operate one turbine unit. Daily average spill ranged from 3.6 Kcfs to 8.7 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 7.0 Kcfs to 11.0 Kcfs at this project.

<b>Project</b>	<b>Summer Spill Level (June 21–August 31) Day/Night</b>
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.

<b>Project</b>	<b>Summer Spill Level (June 16–August 31) Day/Night</b>
McNary	50%/50%
John Day	30%/30%
The Dalles	40%/40%
Bonneville	<b>June 16–Aug 31:</b> 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 extremely 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, except at Lower Monumental and Rock Island dams where passage this week was the same as last 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 29<sup>th</sup>. 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. In fact, subyearling Chinook have been the only target species encountered in the samples at BON for the last 6 weeks of sampling. This week’s daily average passage index for subyearling Chinook was approximately 120 per day, which as a decrease over last week’s daily average passage index of about 425 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 29<sup>th</sup>. 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. The only other target species that was encountered in this week's samples was one steelhead in the August 21<sup>st</sup> sample.

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 1<sup>st</sup> 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 30 per day, which is a decrease over last week's daily average passage index of about 90 per day. The only spring migrants that were encountered in this week's samples were steelhead, which were encountered in the sample from August 23<sup>rd</sup>. Finally, Pacific lamprey macrophthalmia were encountered in all four of this week's samples, with a daily average collection of about 15 per day. This daily average collection is a decrease over last week's daily average collection of about 40 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 600 per day, which was a decrease over last week's daily average passage index of about 1,300 per day. The only other salmonids that were encountered in this week's samples were steelhead but in very low numbers. Finally, Pacific lamprey macrophthalmia

were encountered in one of this week's samples. No ammocoetes were encountered at LGR this week.

Sampling at Little Goose Dam (LGS) was limited to a 24-hour sample every other day from April 2<sup>nd</sup> to April 30<sup>th</sup>. Little Goose Dam began collecting fish for transportation on May 1<sup>st</sup> 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 200 fish per day, which is a decrease over last week's daily average passage index of about 480 per day. The only spring migrants that were encountered in this week's samples were coho and steelhead. Coho were encountered in only two of this week's samples (August 21<sup>st</sup> and 22<sup>nd</sup>) while steelhead were encountered in five of this week's samples. Finally, Pacific lamprey macrophthalmia were encountered in six of this week's samples, with daily collections ranging from 0 to 3 fish per day.

Sampling at Lower Monumental Dam (LMN) was limited to a 24-hour sample every third day from April 4<sup>th</sup> to April 13<sup>th</sup> and every other day from April 15<sup>th</sup> to May 1<sup>st</sup>. At 1500 on May 1<sup>st</sup>, 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 50 per day, which is very similar to last week's daily average passage index. The only other salmonids that were encountered in this week's samples were steelhead, which were encountered only once (August 23<sup>rd</sup>). Finally, no lamprey juveniles were encountered in this week's samples.

Juvenile salmonid passage at Rock Island Dam (RIS) has been very low this week. This week's daily average passage index for subyearling Chinook at RIS was only 5 fish per day, which is the same as last week's daily average passage index. The only other salmonids that were encountered in this week's samples were sockeye and steelhead, although their passage numbers were even lower than subyearling Chinook. Finally, Pacific lamprey macrophthalmia were encountered in five of the seven samples this week, with daily collections ranging from 0 to 2 fish per day. No Pacific lamprey ammocoetes were encountered in this week's samples.

SMP sampling at RIS for 2015 is planned to end after the August 31<sup>st</sup> sample.

### 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. However, approximately 500,000 spring Chinook pre-smolts are scheduled for release into the Clearwater River and its tributaries, beginning on or around September 10<sup>th</sup>. These pre-smolts are 100% unmarked and are not expected to out-migrate until spring of 2016.

**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

Fall Chinook counts began at Bonneville Dam on August 1st. The adult fall Chinook count of 66,181 is about 1.4 times greater than the 2014 count of 47,548 and 1.4 times greater than the 10-year average count of 47,855. The 2015 Bonneville Dam fall Chinook jack count of 5,537 is about 76% of the 2014 count of 7,331 and 67% of the 10-year average count of 8,323. The 2015 adult fall Chinook count of 4,603 at Ice Harbor Dam in the Snake River has 2,324 more fish than the 2014 count and 2,567 more fish than the 10-year average count. The 2015 Lower Granite fall Chinook adult count of 1,877 has 826 more fish than the 2014 count and 1,241 more fish than the 10-year average count.

The 2015 Bonneville Dam adult steelhead count of 174,527 is about 85% of the 2014 count of 205,088 and

about 71% of the 10-year average count of 244,745. The 2015 Bonneville Dam adult wild steelhead count of 71,562 is about 76% of the 2014 count of 94,319 and 82% of the 10-year average count of 87,593. Daily adult steelhead counts at Lower Granite Dam ranged from 129 to 273 adults per day last week. This year's Lower Granite steelhead count of 12,813 is about 77% of the 2014 count of 16,715 and 68% of the 10-year average count of 18,944. The 2015 Lower Granite Dam adult wild steelhead count of 6,410 is about 76% of the 2014 count of 8,394 and 89% of the 10-year average count of 7,202. At Willamette Falls, the 2015 count for steelhead was 7,033 as of August 24th. This year's steelhead count is 26% of the 2014 count of 26,592 and 30% of the 10-year average count of 23,221.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 11 and 25 last week. The 2015 adult sockeye count at Bonneville Dam of 510,585 is about 83% of the 2014 count of 614,159, while being 2.1 times greater than the 10-year average count of 241,298. Two of the major spawning sites for sockeye in the Upper Columbia River zone are Lake Wenatchee and Lake Osoyoos (Okanogan basin). The 2015 McNary Dam adult sockeye count of 278,509 is about 51% of the 2014 count of 545,957, while being 1.5 times greater than the 10-year average count of 181,613. The Lower Granite Dam 2015 adult sockeye count of 413 has 2,328 fewer fish than the 2014 count and 529 fewer fish than the 10-year average count of 942.

2,299 adult coho have crossed Bonneville Dam so far this year. As of August 27th at Bonneville Dam, the adult shad count was 1,814,936.

## Hatchery Releases Last Two Weeks

### Hatchery Release Summary

From 8/15/2015 to 8/28/2015

No Releases

## Hatchery Releases Next Two Weeks

### Hatchery Release Summary

From: 8/29/2015 to 9/10/2015

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Nez Perce Tribe	Dworshak NFH	CH1	SP	2016	200,000	09-10-15	09-10-15	Nez Perce Tribal Hatchery	Clearwater River M F
Nez Perce Tribe	Dworshak NFH	CH1	SP	2016	300,000	09-10-15	09-10-15	Selway River	Clearwater River M F
<b>Nez Perce Tribe Total</b>					<b>500,000</b>				
<b>Grand Total</b>					<b>500,000</b>				

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

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

Date	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
08/14/2015	114.6	0.0	118.7	9.7	123.4	9.3	117.6	0.0	122.3	0.0	124.8	1.9	121.9	11.2
08/15/2015	110.4	0.0	105.6	0.0	111.9	8.8	111.5	0.0	115.5	0.0	124.4	1.8	123.1	2.5
08/16/2015	117.9	0.0	112.8	5.1	115.8	9.2	107.6	0.0	112.5	0.0	121.0	1.6	120.4	2.5
08/17/2015	127.9	0.0	128.1	20.1	129.8	10.0	118.5	3.7	121.3	0.0	122.5	1.7	118.5	2.5
08/18/2015	120.8	0.0	118.2	9.9	118.5	18.2	115.5	0.0	118.6	0.0	123.5	1.9	120.8	2.6
08/19/2015	125.9	0.0	128.4	20.2	131.0	9.8	125.0	4.1	128.1	0.0	129.6	2.0	126.8	2.6
08/20/2015	104.7	0.0	110.9	1.3	117.8	0.0	112.9	0.0	116.7	0.0	137.3	1.8	125.9	2.6
08/21/2015	117.9	0.0	115.4	1.5	113.1	0.0	116.1	0.0	120.9	0.0	122.4	1.9	119.8	2.5
08/22/2015	110.3	0.0	116.9	1.4	125.0	0.0	116.0	0.0	120.5	0.0	133.2	1.8	132.5	2.5
08/23/2015	100.9	0.0	104.8	0.0	106.0	0.0	108.0	0.0	114.3	0.0	127.7	3.7	128.3	2.5
08/24/2015	120.8	0.0	112.2	7.6	112.3	0.0	105.3	0.0	109.9	0.0	111.8	1.8	113.3	1.4
08/25/2015	131.1	0.0	124.6	16.6	125.3	0.0	117.8	0.0	121.8	0.0	122.6	1.5	119.8	1.4
08/26/2015	102.4	0.0	112.1	5.2	114.2	0.0	116.2	0.0	122.7	0.0	126.2	1.7	125.4	1.6
08/27/2015	102.0	0.0	95.2	0.0	103.7	0.0	97.1	0.0	102.5	0.0	121.9	1.4	124.6	1.6

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

Date	Dworshak		Brownlee Inflow	Hells Canyon Outflow		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill		Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
08/14/2015	7.5	0.0	---	9.8	21.1	8.5	21.3	7.2	22.2	9.8	21.1	11.6	
08/15/2015	7.5	0.0	---	7.9	24.7	11.6	22.0	7.2	21.9	9.5	23.7	14.0	
08/16/2015	5.7	0.0	---	7.8	20.1	7.1	20.9	6.6	22.1	9.8	21.1	11.1	
08/17/2015	5.7	0.0	---	7.7	19.5	6.2	18.1	5.5	19.3	7.0	18.8	8.8	
08/18/2015	5.7	0.0	---	8.3	19.3	6.4	17.9	5.5	19.4	7.0	17.6	7.4	
08/19/2015	5.7	0.0	---	7.9	19.3	6.4	18.1	5.5	18.2	6.0	18.3	7.9	
08/20/2015	5.8	0.0	---	7.8	19.5	6.4	19.3	5.6	19.3	7.2	19.9	10.2	
08/21/2015	5.2	0.0	---	7.8	18.8	5.7	17.4	4.5	18.8	6.6	18.6	9.3	
08/22/2015	5.7	0.0	---	7.7	17.6	4.8	15.9	3.7	17.3	5.0	17.3	7.8	
08/23/2015	5.8	0.0	---	8.0	18.5	5.8	16.9	4.7	17.3	5.0	17.6	7.8	
08/24/2015	5.2	0.0	---	7.6	21.1	8.2	21.3	7.3	21.0	8.7	19.1	9.3	
08/25/2015	4.6	0.0	---	7.7	16.6	4.0	18.2	5.1	19.6	7.1	20.8	11.0	
08/26/2015	5.3	0.0	---	8.4	17.1	3.9	15.0	2.8	15.9	3.6	16.7	7.0	
08/27/2015	5.8	0.0	---	8.3	19.4	6.8	18.2	5.6	18.1	5.7	18.4	8.6	

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
08/14/2015	154.3	77.4	132.9	40.0	120.3	48.0	135.0	90.3	0.9	31.4
08/15/2015	142.0	71.2	139.4	41.6	127.2	51.0	139.6	93.2	3.2	30.7
08/16/2015	157.5	78.9	150.3	45.1	134.0	53.7	147.2	95.2	0.9	38.7
08/17/2015	144.9	72.6	144.4	43.2	133.3	53.2	147.8	93.0	0.8	41.5
08/18/2015	144.9	72.6	136.3	40.8	120.8	48.3	138.9	94.0	0.9	31.7
08/19/2015	163.6	81.8	152.0	45.6	140.5	56.2	149.5	97.7	0.9	38.5
08/20/2015	153.0	77.0	138.4	41.5	118.6	47.2	140.8	95.1	0.9	32.5
08/21/2015	142.9	71.8	136.4	40.9	121.8	48.7	133.7	89.8	0.8	30.7
08/22/2015	148.9	74.8	139.1	42.0	128.9	51.5	143.3	90.8	0.9	39.3
08/23/2015	152.4	76.5	148.2	44.6	134.1	53.8	144.0	96.2	0.9	34.5
08/24/2015	155.1	77.6	148.7	44.6	136.4	54.3	150.1	95.2	0.9	41.7
08/25/2015	157.2	78.8	149.9	45.0	138.1	55.2	152.7	89.2	0.9	50.2
08/26/2015	142.8	71.7	140.6	42.1	128.4	51.4	139.9	91.3	0.9	35.3
08/27/2015	160.7	80.3	140.3	42.1	128.8	51.4	141.9	94.1	0.9	34.4

## 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>				
8/14	103.9	104.3	104.6	24	---	---	---	0	107.0	107.2	107.5	24	105.5	106.0	106.6	24	105.8	105.9	106.6	13
8/15	103.9	104.2	104.8	24	---	---	---	0	105.9	106.1	106.5	24	104.9	105.3	105.7	24	---	---	---	0
8/16	103.5	103.9	104.5	23	---	---	---	0	105.8	106.1	106.3	24	104.4	104.8	105.2	24	---	---	---	0
8/17	104.0	104.4	104.8	24	---	---	---	0	105.9	106.0	106.6	24	104.4	104.9	105.3	24	105.0	105.3	106.0	16
8/18	103.8	104.0	104.2	24	---	---	---	0	105.8	105.9	106.3	24	104.2	104.7	105.2	24	105.0	105.4	105.8	24
8/19	103.4	103.9	104.3	24	---	---	---	0	106.2	106.6	106.8	24	104.6	105.3	105.8	24	105.3	106.0	106.4	24
8/20	103.7	104.0	104.1	24	---	---	---	0	106.4	106.5	106.7	16	104.6	104.8	105.5	16	105.3	105.5	106.2	16
8/21	103.8	104.0	104.5	23	---	---	---	0	105.9	106.3	106.5	24	104.4	104.8	105.1	24	104.5	104.9	105.2	24
8/22	103.8	104.1	104.2	24	---	---	---	0	104.8	105.0	105.4	24	103.0	103.6	103.9	24	102.7	103.2	103.5	24
8/23	103.3	103.8	104.0	24	---	---	---	0	104.5	104.8	105.2	23	103.2	103.8	104.2	24	102.9	103.4	103.8	24
8/24	103.2	103.5	103.8	24	---	---	---	0	103.9	104.3	104.8	24	103.0	103.4	103.7	24	103.2	103.6	103.9	24
8/25	102.6	102.8	102.9	24	---	---	---	0	102.9	103.2	104.0	24	102.6	103.0	103.3	24	103.0	103.5	103.9	24
8/26	103.0	103.8	104.0	24	---	---	---	0	103.7	104.1	105.1	24	102.6	103.1	104.4	24	103.0	103.4	103.7	24
8/27	103.8	103.9	104.1	23	---	---	---	0	103.7	103.9	104.0	23	102.8	103.3	104.9	23	102.9	103.4	103.8	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>				
8/14	107.1	108.3	108.9	24	106.7	107.5	108.4	24	108.1	108.9	109.9	24	107.8	108.1	108.2	24	107.3	107.9	108.8	24
8/15	104.1	104.6	105.3	24	104.1	104.4	104.9	24	105.5	106.0	106.4	24	106.2	106.5	107.0	24	105.5	105.8	106.3	24
8/16	104.5	105.9	107.9	24	103.9	104.4	104.7	24	105.3	106.1	106.5	24	104.9	105.2	105.5	24	104.2	104.4	104.6	24
8/17	108.1	108.4	108.6	24	104.5	104.9	105.2	24	106.2	106.8	107.2	24	105.2	105.5	105.8	24	105.7	107.1	110.0	24
8/18	106.4	107.6	108.1	24	105.4	106.1	106.4	24	109.2	112.4	121.5	24	105.9	106.3	106.6	24	105.5	105.9	106.9	24
8/19	108.3	108.6	109.0	24	106.0	106.4	107.0	24	107.8	108.5	109.2	24	107.2	108.0	111.3	24	107.0	108.4	111.7	24
8/20	105.2	105.6	108.2	16	105.8	106.0	106.6	16	105.6	105.9	106.6	16	110.4	110.9	111.9	16	109.4	109.7	111.2	16
8/21	104.1	104.6	107.1	24	104.3	104.8	105.1	24	105.1	105.8	106.0	24	106.3	107.3	108.0	24	105.8	106.7	107.5	24
8/22	102.9	103.7	107.7	24	102.5	102.9	103.2	24	102.7	103.2	103.5	24	102.9	103.2	104.0	24	102.7	103.0	103.6	24
8/23	102.4	103.0	103.4	24	103.0	103.6	104.1	24	103.2	103.9	104.4	24	103.0	103.1	103.4	24	102.6	102.8	103.0	24
8/24	104.3	106.4	108.0	24	102.9	103.3	103.7	23	103.1	103.5	104.0	23	103.0	103.2	103.3	24	102.6	102.7	102.8	24
8/25	106.8	107.8	108.0	24	103.1	103.8	104.2	24	103.2	103.8	104.2	24	102.9	103.0	103.1	24	102.5	102.7	102.7	24
8/26	104.0	105.2	107.6	24	103.9	104.4	104.9	23	104.0	104.6	105.2	23	102.7	103.0	103.3	24	102.2	102.4	102.6	24
8/27	102.9	103.3	104.3	23	103.6	104.0	104.4	23	103.8	104.2	104.4	23	103.2	103.5	103.8	23	102.7	102.9	103.1	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>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>				
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
8/14	107.8	108.9	110.7	24	108.0	109.2	110.5	24	107.8	108.8	109.9	24	108.0	108.9	109.4	24	107.8	108.4	109.3	24
8/15	105.3	105.8	106.3	24	105.4	105.8	106.2	24	104.1	104.5	104.8	24	104.3	104.6	104.8	24	104.8	105.3	105.7	24
8/16	104.5	104.9	105.1	24	104.5	105.0	105.2	24	105.0	106.7	107.7	24	103.9	104.8	105.3	24	103.1	103.6	103.9	24
8/17	104.2	105.1	105.5	24	104.5	105.1	105.5	24	104.3	104.4	106.0	13	105.0	105.4	105.7	24	103.9	104.7	105.1	24
8/18	105.5	105.9	106.1	24	105.5	105.8	106.0	24	107.9	108.1	108.7	14	105.1	105.5	106.0	24	105.0	105.4	105.7	24
8/19	106.0	106.6	106.9	24	106.0	106.5	106.8	24	106.8	107.3	107.8	24	105.5	105.8	106.0	24	105.8	106.3	106.8	24
8/20	108.1	108.7	110.7	16	108.0	108.5	110.6	16	105.1	105.5	105.8	24	104.8	105.2	105.6	24	104.7	105.0	105.3	24
8/21	105.9	106.4	107.4	24	106.0	106.6	108.0	24	103.1	103.6	104.5	24	102.7	103.1	103.6	24	102.3	102.9	103.5	24
8/22	103.1	103.5	104.4	24	103.2	103.6	104.5	24	104.3	106.0	106.7	24	102.7	103.8	104.6	24	100.8	101.7	102.3	24
8/23	102.6	103.2	103.5	24	102.6	103.2	103.5	24	106.0	106.6	107.3	24	105.0	105.4	107.3	24	103.3	104.3	104.7	24
8/24	102.8	103.2	103.4	24	102.8	103.2	103.4	24	104.9	105.5	105.9	24	104.5	104.9	106.4	24	103.9	104.6	105.1	24
8/25	102.6	103.2	103.5	24	102.6	103.2	103.4	24	103.9	104.7	105.5	24	102.9	103.2	103.5	24	101.4	102.9	103.6	24
8/26	102.5	102.9	103.1	24	102.5	102.9	103.1	24	104.0	104.7	105.4	24	102.9	103.3	103.5	24	102.1	102.9	103.3	24
8/27	102.7	103.3	103.6	23	102.7	103.2	103.5	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 Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High					
8/14	110.0	113.0	116.0	24	---	---	---	0	99.6	100.0	100.6	24	101.6	102.7	104.1	24	101.0	101.9	103.1	24
8/15	104.6	105.0	105.3	24	---	---	---	0	98.8	99.1	99.4	24	100.8	102.1	103.3	24	101.1	102.6	103.9	24
8/16	102.9	103.2	103.4	24	---	---	---	0	99.0	99.5	99.9	24	101.1	102.7	104.1	24	101.2	102.5	103.7	24
8/17	103.8	104.4	104.8	24	---	---	---	0	99.2	99.5	100.0	24	100.9	102.2	103.7	24	101.3	102.4	103.8	23
8/18	104.7	105.1	105.5	24	---	---	---	0	99.4	99.9	100.4	24	101.3	102.9	104.4	24	101.7	102.9	104.2	22
8/19	105.4	106.0	106.4	24	---	---	---	0	99.8	100.3	100.8	24	101.4	102.9	104.5	24	101.8	102.9	104.2	23
8/20	104.5	104.9	105.0	24	---	---	---	0	100.2	100.6	101.1	24	101.7	103.2	104.6	24	101.3	101.6	104.1	15
8/21	102.5	103.0	103.5	24	---	---	---	0	100.0	100.5	101.1	24	101.5	103.0	104.6	24	101.4	101.6	102.7	13
8/22	101.0	101.6	102.0	24	---	---	---	0	99.0	99.3	99.6	24	100.3	101.5	102.6	24	100.3	101.3	102.5	23
8/23	103.4	104.2	104.4	24	---	---	---	0	99.3	99.7	100.0	24	100.4	101.5	102.6	24	101.0	102.3	103.5	24
8/24	104.2	104.6	105.0	24	---	---	---	0	99.5	99.8	100.8	24	100.6	101.7	102.7	24	100.9	101.7	102.5	23
8/25	103.2	103.5	103.8	24	---	---	---	0	99.4	99.7	100.3	24	100.7	101.7	103.2	20	100.9	102.0	103.0	24
8/26	103.0	103.3	103.6	24	---	---	---	0	99.4	99.8	100.2	24	101.8	101.8	102.6	9	100.9	101.9	103.0	23
8/27	---	---	---	0	---	---	---	0	99.3	99.6	100.0	23	102.3	102.3	103.5	8	100.6	101.6	102.6	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 Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High					
8/14	102.2	103.7	105.4	24	99.3	99.5	99.7	24	105.1	105.4	106.0	24	104.3	104.9	105.6	24	107.3	107.9	108.2	24
8/15	102.8	104.9	106.6	24	98.9	99.2	99.5	24	108.0	109.6	110.2	24	102.4	102.7	102.9	24	106.7	107.2	107.7	24
8/16	102.9	105.0	106.7	24	98.7	99.0	99.4	24	104.8	106.3	107.0	24	103.0	103.4	103.6	24	107.5	108.1	108.4	24
8/17	102.5	104.4	105.9	24	98.8	99.1	99.3	24	104.0	104.6	104.9	24	103.9	104.4	106.0	24	106.7	107.2	107.8	24
8/18	102.9	105.0	106.6	24	99.2	99.4	99.6	24	104.4	104.7	105.0	24	103.9	104.6	105.2	24	106.0	106.6	107.2	24
8/19	102.6	104.3	106.5	22	99.6	99.9	100.3	24	104.4	104.8	105.1	24	103.2	103.9	104.5	24	106.4	107.1	108.0	24
8/20	102.9	105.0	106.3	24	99.6	99.7	99.8	24	104.2	104.4	104.7	24	103.2	103.5	103.7	24	120.6	134.4	148.0	23
8/21	102.3	104.0	105.2	24	99.4	99.7	99.9	24	103.5	104.0	104.3	24	101.5	101.8	102.0	24	105.7	106.3	107.0	24
8/22	101.8	103.6	105.0	24	98.7	98.9	99.2	24	102.4	103.1	103.4	24	102.1	102.5	103.2	24	104.7	105.4	105.9	24
8/23	101.6	102.9	103.9	24	101.3	103.7	104.5	24	103.3	104.0	105.4	24	103.0	103.6	103.9	24	105.5	106.5	107.3	24
8/24	101.6	103.0	104.0	24	100.1	100.9	103.1	24	105.4	105.9	106.5	24	103.7	104.2	104.5	24	107.8	108.4	108.9	24
8/25	102.1	104.1	105.6	24	98.2	98.6	99.4	24	103.1	103.7	105.0	24	101.8	102.4	103.4	24	106.0	106.9	107.5	24
8/26	101.6	102.9	104.0	24	99.2	99.2	99.4	5	102.3	102.9	104.5	24	99.6	100.2	100.8	24	103.0	103.4	103.7	24
8/27	102.0	103.9	105.3	23	---	---	---	0	103.2	104.4	104.8	23	98.1	98.6	99.3	23	105.0	106.6	107.3	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 Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High					
8/14	103.9	105.0	105.5	24	108.7	109.1	109.3	24	106.3	107.6	108.3	24	106.9	107.3	107.8	24	---	---	---	0
8/15	103.3	103.3	103.4	24	108.5	109.3	110.0	24	104.1	104.2	104.5	24	109.1	110.0	110.5	24	---	---	---	0
8/16	103.3	103.5	103.6	24	108.3	109.6	110.3	24	103.7	104.0	104.4	24	110.0	110.7	111.5	24	---	---	---	0
8/17	103.3	103.5	103.7	24	106.5	107.2	107.5	24	103.5	103.8	104.1	24	109.4	110.2	110.8	24	---	---	---	0
8/18	102.8	102.9	103.0	24	106.5	106.8	107.0	24	102.6	102.8	103.0	24	107.0	108.2	108.7	24	---	---	---	0
8/19	102.6	103.1	103.5	24	106.2	106.8	108.5	24	102.6	102.9	103.3	24	105.7	106.6	107.2	24	---	---	---	0
8/20	104.2	104.8	105.2	24	106.6	108.4	109.7	24	103.7	104.3	104.8	24	107.5	108.4	109.3	24	---	---	---	0
8/21	104.8	105.1	105.3	24	106.4	107.4	109.1	24	103.9	104.4	104.7	24	107.1	107.9	108.6	24	---	---	---	0
8/22	103.8	104.0	104.3	24	104.4	105.0	105.5	24	102.2	102.5	102.9	24	106.1	107.0	107.8	24	---	---	---	0
8/23	104.9	105.2	105.5	24	104.6	105.2	105.9	24	103.6	103.8	104.1	24	106.2	106.9	107.8	24	---	---	---	0
8/24	103.4	103.9	104.6	24	106.9	108.1	109.2	24	103.5	103.7	103.9	24	106.4	107.3	107.8	24	---	---	---	0
8/25	101.8	102.3	102.7	24	106.3	108.0	109.3	24	102.8	103.3	103.8	24	107.9	109.4	110.3	24	---	---	---	0
8/26	102.5	102.8	103.0	24	104.4	105.0	105.6	24	101.7	101.9	102.1	24	105.6	106.3	106.9	24	---	---	---	0
8/27	101.8	101.9	102.4	23	104.8	106.5	107.4	23	101.7	102.0	102.3	23	106.2	107.4	108.6	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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>	
8/14	106.2	107.0	107.3	24	114.5	116.0	116.7	24	104.7	105.2	105.7	24	112.4	113.2	113.8	24	105.2	106.0	106.2	24
8/15	103.6	103.8	104.3	24	113.8	114.2	114.6	24	103.4	103.6	103.8	24	110.7	111.3	111.9	24	103.6	104.1	104.3	24
8/16	103.0	103.5	104.0	24	114.3	114.9	115.5	24	102.9	103.2	103.4	24	109.4	109.8	110.4	24	105.3	106.0	106.3	24
8/17	102.8	103.0	103.3	24	114.5	115.2	115.7	24	103.6	104.0	105.6	24	106.3	107.1	107.8	24	107.8	108.5	109.1	24
8/18	103.4	104.0	104.7	24	113.8	114.1	114.8	24	104.5	105.1	105.7	24	103.6	106.3	106.9	24	108.6	109.2	109.8	24
8/19	104.7	105.2	105.9	24	114.8	115.8	116.0	24	104.7	105.0	105.7	24	108.7	114.1	114.6	24	108.7	109.3	109.7	24
8/20	104.3	104.4	105.2	16	114.2	114.6	115.8	16	103.7	103.8	104.1	16	112.6	112.7	113.7	16	107.1	107.2	107.7	15
8/21	103.6	103.9	104.6	24	113.5	114.1	114.9	24	102.3	102.6	103.1	24	111.6	112.0	112.4	24	103.2	103.5	104.0	24
8/22	102.3	102.8	103.4	24	113.8	114.5	115.3	24	101.6	102.4	102.9	24	111.5	111.8	112.1	24	103.4	104.4	105.2	24
8/23	102.5	103.2	103.8	24	114.5	115.4	115.8	24	102.9	103.5	104.0	24	111.7	112.7	113.1	24	107.0	107.7	108.1	24
8/24	102.1	102.3	103.1	24	115.2	115.7	116.1	24	103.1	103.4	103.7	24	111.4	112.6	113.1	24	107.0	107.3	107.7	24
8/25	102.2	102.4	102.6	24	115.2	115.8	116.2	24	102.6	103.1	103.5	24	111.8	112.8	113.2	24	106.2	106.4	106.5	24
8/26	102.8	103.0	104.0	24	114.2	114.9	115.3	24	102.6	103.0	103.5	24	110.7	111.5	112.1	24	106.9	107.3	107.6	24
8/27	103.2	103.8	104.8	23	114.6	115.7	116.1	23	102.6	102.9	103.2	23	110.3	111.5	112.0	23	106.7	107.2	107.6	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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>	
8/14	110.7	111.2	111.8	24	104.5	105.2	106.5	24	115.0	115.6	116.7	24	109.9	110.9	113.3	24	114.4	114.9	117.3	24
8/15	109.7	110.3	110.7	24	103.4	103.7	103.9	24	115.4	115.9	116.2	24	110.3	112.0	112.9	24	116.2	117.0	117.0	24
8/16	111.2	112.1	112.3	24	104.2	105.1	105.8	24	116.4	116.8	117.5	24	112.8	114.1	115.1	24	117.1	117.2	117.4	24
8/17	112.7	113.5	113.9	24	106.5	107.5	107.8	24	116.0	116.3	117.0	24	113.1	114.4	115.1	24	115.3	116.4	117.5	24
8/18	113.1	113.9	114.5	24	108.8	109.6	109.9	24	117.4	117.9	118.5	24	113.6	115.6	116.7	24	115.3	116.6	117.6	24
8/19	113.5	114.1	114.6	24	110.7	111.3	111.8	24	117.7	118.1	118.4	24	115.3	116.7	117.9	24	117.4	117.5	117.7	24
8/20	112.2	112.3	112.8	15	108.3	109.1	110.6	22	116.1	116.6	117.2	22	112.1	113.0	114.2	22	117.1	117.2	117.6	22
8/21	109.7	110.1	110.6	24	104.3	104.9	106.5	24	115.4	115.6	115.9	24	111.3	112.5	113.4	24	114.9	116.0	117.0	24
8/22	109.9	110.6	110.9	24	103.0	103.3	103.6	24	115.0	115.6	116.6	24	110.2	110.9	112.3	24	114.9	116.0	116.7	24
8/23	111.8	112.6	112.9	24	104.3	105.2	106.1	24	116.0	116.7	117.4	24	109.5	111.5	113.2	24	116.8	117.0	117.1	24
8/24	112.0	112.5	113.0	24	106.8	107.4	107.8	24	115.9	116.3	116.8	24	112.1	113.0	113.7	24	117.0	117.2	117.4	24
8/25	111.8	112.6	112.9	24	106.6	107.0	107.3	24	114.9	115.4	115.7	24	112.0	113.1	113.7	24	115.3	116.4	117.2	24
8/26	111.8	112.5	113.0	24	106.6	107.1	107.4	24	116.0	116.4	116.7	24	112.3	114.1	115.4	24	115.1	116.4	117.8	24
8/27	111.8	112.4	112.8	23	107.3	107.9	108.4	23	116.8	117.1	117.7	23	113.5	115.0	116.5	23	116.2	117.1	117.5	23

## Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 8/28/2015 7:02

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

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

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

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

COMBINED YEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
08/14/2015 *	---	---	---	---	0	0	0	0	---	0	---
08/15/2015 *	---	---	---	---	0	0	0	0	0	---	0
08/16/2015 *	---	---	---	---	0	0	0	0	---	---	---
08/17/2015 *	---	---	---	---	0	0	0	0	0	---	0
08/18/2015 *	---	---	---	---	0	0	0	0	---	0	---
08/19/2015 *	---	---	---	---	0	0	0	0	0	---	0
08/20/2015 *	---	---	---	---	0	0	0	0	---	---	---
08/21/2015 *	---	---	---	---	0	0	0	0	0	---	0
08/22/2015 *	---	---	---	---	0	0	0	0	---	---	---
08/23/2015 *	---	---	---	---	0	0	0	0	0	---	0
08/24/2015 *	---	---	---	---	0	0	0	0	---	---	---
08/25/2015 *	---	---	---	---	0	0	0	0	0	0	0
08/26/2015 *	---	---	---	---	0	0	0	0	---	---	---
08/27/2015 *	---	---	---	---	---	0	---	0	0	---	0
08/28/2015	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b># Days:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>7</b>	<b>4</b>	<b>7</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>YTD</b>	<b>40,054</b>	<b>68,276</b>	<b>7,458</b>	<b>1,081</b>	<b>1,769,194</b>	<b>1,156,885</b>	<b>1,126,664</b>	<b>16,457</b>	<b>1,340,101</b>	<b>664,378</b>	<b>1,712,479</b>

COMBINED SUBYEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
08/14/2015 *	---	---	---	---	1,352	816	67	7	---	57	---
08/15/2015 *	---	---	---	---	1,381	743	38	9	135	---	534
08/16/2015 *	---	---	---	---	2,450	336	50	5	---	---	---
08/17/2015 *	---	---	---	---	1,098	342	33	6	83	---	522
08/18/2015 *	---	---	---	---	1,067	375	31	4	---	22	---
08/19/2015 *	---	---	---	---	857	497	51	1	62	---	218
08/20/2015 *	---	---	---	---	920	245	48	6	---	---	---
08/21/2015 *	---	---	---	---	783	105	50	7	58	40	134
08/22/2015 *	---	---	---	---	376	78	73	9	---	---	---
08/23/2015 *	---	---	---	---	507	101	59	5	42	---	84
08/24/2015 *	---	---	---	---	657	178	71	2	---	---	---
08/25/2015 *	---	---	---	---	684	390	30	4	16	4	90
08/26/2015 *	---	---	---	---	648	393	37	2	---	---	---
08/27/2015 *	---	---	---	---	---	175	---	5	8	---	168
08/28/2015	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12,780</b>	<b>4,774</b>	<b>638</b>	<b>72</b>	<b>404</b>	<b>123</b>	<b>1,750</b>
<b># Days:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>7</b>	<b>4</b>	<b>7</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>983</b>	<b>341</b>	<b>49</b>	<b>5</b>	<b>58</b>	<b>31</b>	<b>250</b>
<b>YTD</b>	<b>1</b>	<b>114</b>	<b>1,292</b>	<b>2,077</b>	<b>1,146,718</b>	<b>959,262</b>	<b>331,761</b>	<b>20,805</b>	<b>1,563,059</b>	<b>826,246</b>	<b>2,188,927</b>

## Two-Week Summary of Passage Indices

<b>COMBINED COHO</b>											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
08/14/2015	*	---	---	---	0	0	0	0	---	0	---
08/15/2015	*	---	---	---	0	0	0	0	0	---	0
08/16/2015	*	---	---	---	0	1	0	0	---	---	---
08/17/2015	*	---	---	---	0	0	0	0	0	---	0
08/18/2015	*	---	---	---	0	0	0	0	---	0	---
08/19/2015	*	---	---	---	0	0	0	0	0	---	0
08/20/2015	*	---	---	---	0	0	0	0	---	---	---
08/21/2015	*	---	---	---	0	1	0	0	0	0	0
08/22/2015	*	---	---	---	0	3	0	0	---	---	---
08/23/2015	*	---	---	---	0	0	0	0	0	---	0
08/24/2015	*	---	---	---	0	0	0	0	---	---	---
08/25/2015	*	---	---	---	0	0	0	0	0	0	0
08/26/2015	*	---	---	---	0	0	0	0	---	---	---
08/27/2015	*	---	---	---	---	0	---	0	0	---	0
08/28/2015	*	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b># Days:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>7</b>	<b>4</b>	<b>7</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>YTD</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>47</b>	<b>40,398</b>	<b>60,308</b>	<b>37,631</b>	<b>14,704</b>	<b>66,248</b>	<b>70,109</b>	<b>692,863</b>

<b>COMBINED STEELHEAD</b>											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
08/14/2015	*	---	---	---	0	66	0	0	---	0	---
08/15/2015	*	---	---	---	9	14	0	0	0	---	0
08/16/2015	*	---	---	---	10	6	0	0	---	---	---
08/17/2015	*	---	---	---	0	1	0	0	0	---	0
08/18/2015	*	---	---	---	8	1	0	0	---	1	---
08/19/2015	*	---	---	---	0	3	0	0	10	---	0
08/20/2015	*	---	---	---	8	0	0	1	---	---	---
08/21/2015	*	---	---	---	0	1	0	0	0	1	0
08/22/2015	*	---	---	---	0	1	0	0	---	---	---
08/23/2015	*	---	---	---	0	0	1	0	8	---	0
08/24/2015	*	---	---	---	9	1	0	1	---	---	---
08/25/2015	*	---	---	---	6	3	0	0	0	0	0
08/26/2015	*	---	---	---	0	3	0	0	---	---	---
08/27/2015	*	---	---	---	---	0	---	0	0	---	0
08/28/2015	*	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>50</b>	<b>100</b>	<b>1</b>	<b>2</b>	<b>18</b>	<b>2</b>	<b>0</b>
<b># Days:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>7</b>	<b>4</b>	<b>7</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>
<b>YTD</b>	<b>2,567</b>	<b>40,594</b>	<b>672</b>	<b>11,678</b>	<b>1,300,217</b>	<b>1,073,521</b>	<b>576,052</b>	<b>12,756</b>	<b>456,617</b>	<b>201,081</b>	<b>1,021,904</b>

## Two-Week Summary of Passage Indices

<b>COMBINED SOCKEYE</b>												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
08/14/2015	*	---	---	---	---	0	0	0	1	---	0	---
08/15/2015	*	---	---	---	---	0	0	0	1	0	---	0
08/16/2015	*	---	---	---	---	0	0	0	0	---	---	---
08/17/2015	*	---	---	---	---	0	0	0	0	0	---	0
08/18/2015	*	---	---	---	---	0	0	0	3	---	0	---
08/19/2015	*	---	---	---	---	0	0	0	0	0	---	0
08/20/2015	*	---	---	---	---	0	0	0	0	---	---	---
08/21/2015	*	---	---	---	---	0	0	0	2	0	0	0
08/22/2015	*	---	---	---	---	0	0	0	0	---	---	---
08/23/2015	*	---	---	---	---	0	0	0	0	0	---	0
08/24/2015	*	---	---	---	---	0	0	0	0	---	---	---
08/25/2015	*	---	---	---	---	0	0	0	1	0	0	0
08/26/2015	*	---	---	---	---	0	0	0	1	---	---	---
08/27/2015	*	---	---	---	---	---	0	---	1	0	---	0
08/28/2015	*	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b># Days:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>7</b>	<b>4</b>	<b>7</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>YTD</b>		<b>74</b>	<b>0</b>	<b>4</b>	<b>47</b>	<b>16,237</b>	<b>19,851</b>	<b>11,030</b>	<b>3,930</b>	<b>128,914</b>	<b>104,375</b>	<b>149,234</b>

<b>COMBINED LAMPREY JUVENILES</b>												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR <sup>†</sup> (Samp)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)	
08/14/2015	*	---	---	---	---	0	4	0	1	---	0	---
08/15/2015	*	---	---	---	---	0	2	0	3	40	---	0
08/16/2015	*	---	---	---	---	1	1	0	4	---	---	---
08/17/2015	*	---	---	---	---	1	4	0	2	25	---	0
08/18/2015	*	---	---	---	---	0	0	0	0	---	1	---
08/19/2015	*	---	---	---	---	3	1	0	1	50	---	0
08/20/2015	*	---	---	---	---	0	1	0	1	---	---	---
08/21/2015	*	---	---	---	---	1	2	0	2	12	0	0
08/22/2015	*	---	---	---	---	0	1	0	0	---	---	---
08/23/2015	*	---	---	---	---	0	1	0	1	28	---	0
08/24/2015	*	---	---	---	---	0	3	0	0	---	---	---
08/25/2015	*	---	---	---	---	0	0	0	1	20	0	0
08/26/2015	*	---	---	---	---	0	1	0	1	---	---	---
08/27/2015	*	---	---	---	---	---	2	---	1	4	---	0
08/28/2015	*	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>23</b>	<b>0</b>	<b>18</b>	<b>179</b>	<b>1</b>	<b>0</b>
<b># Days:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>7</b>	<b>4</b>	<b>7</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>26</b>	<b>0</b>	<b>0</b>
<b>YTD</b>		<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>8,194</b>	<b>2,334</b>	<b>169</b>	<b>8,979</b>	<b>19,950</b>	<b>4,105</b>

## Two-Week Summary of Passage Indices

\* See sampling comments

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

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

Two classes of fish counts are shown in these tables:

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

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

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

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

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

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

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

Therefore, only sample counts are provided in this report.

### Definitions for Smolt Index Counts

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

IMN (Collection) = Imnaha River Trap : Collection Counts

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## Two Week Transportation Summary

Source: Fish Passage Center

Updated: 8/28/15 11:57 AM

**08/14/15 TO 08/28/15**

		Species			
Site	Data	CH0	CO	ST	Grand Total
<b>LGR</b>	Sum of NumberCollected	7,784		30	7,814
	Sum of NumberBarged	1,290		10	1,300
	Sum of NumberBypassed	0		5	5
	Sum of Numbertrucked	7,179		23	7,202
	Sum of SampleMorts	15		2	17
	Sum of FacilityMorts	21		0	21
	Sum of ResearchMorts	10		0	10
	Sum of TotalProjectMorts	46		2	48
<b>LGS</b>	Sum of NumberCollected	3,257	4	68	3,329
	Sum of NumberBarged	1,084	2	49	1,135
	Sum of NumberBypassed	0	0	0	0
	Sum of Numbertrucked	2,565	4	22	2,591
	Sum of SampleMorts	11	0	0	11
	Sum of FacilityMorts	2	0	2	4
	Sum of ResearchMorts	0	0	0	0
	Sum of TotalProjectMorts	13	0	2	15
<b>LMN</b>	Sum of NumberCollected	397		1	398
	Sum of NumberBarged	96		0	96
	Sum of NumberBypassed	0		0	0
	Sum of Numbertrucked	361		1	362
	Sum of SampleMorts	0		0	0
	Sum of FacilityMorts	0		0	0
	Sum of ResearchMorts	0		0	0
	Sum of TotalProjectMorts	0		0	0
Total Sum of NumberCollected		11,438	4	99	11,541
Total Sum of NumberBarged		2,470	2	59	2,531
Total Sum of NumberBypassed		0	0	5	5
Total Sum of Numbertrucked		10,105	4	46	10,155
Total Sum of SampleMorts		26	0	2	28
Total Sum of FacilityMorts		23	0	2	25
Total Sum of ResearchMorts		10	0	0	10
Total Sum of TotalProjectMorts		59	0	4	63

**YTD Transportation Summary**

Source: Fish Passage Center

Updated:

8/28/15 7:03 AM

TO: 08/28/15

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
<b>LGR</b>	Sum of NumberCollected	678,259	1,150,138	26,315	10,915	826,779	2,692,406
	Sum of NumberBarged	656,833	473,291	22,805	10,483	363,282	1,526,694
	Sum of NumberBypassed	8,363	676,470	3,499	160	463,122	1,151,614
	Sum of NumberTrucked	11,318	0	0	0	42	11,360
	Sum of SampleMorts	233	43	1	8	32	317
	Sum of FacilityMorts	1,487	318	10	257	261	2,333
	Sum of ResearchMorts	25	16	0	7	40	88
	Sum of TotalProjectMorts	1,745	377	11	272	333	2,738
<b>LGS</b>	Sum of NumberCollected	644,575	807,530	42,068	13,866	748,826	2,256,865
	Sum of NumberBarged	639,246	545,396	40,318	13,819	535,296	1,774,075
	Sum of NumberBypassed	136	261,966	1,720	40	213,220	477,082
	Sum of NumberTrucked	2,565	0	4	0	22	2,591
	Sum of SampleMorts	143	21	0	2	14	180
	Sum of FacilityMorts	2,345	147	26	5	274	2,797
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2,488	168	26	7	288	2,977
<b>LMN</b>	Sum of NumberCollected	174,069	642,436	22,120	6,690	322,641	1,167,956
	Sum of NumberBarged	172,399	581,534	21,816	6,640	285,463	1,067,852
	Sum of NumberBypassed	617	60,572	300	30	36,797	98,316
	Sum of NumberTrucked	361	0	0	0	1	362
	Sum of SampleMorts	64	45	2	0	39	150
	Sum of FacilityMorts	628	315	2	20	341	1,306
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	692	360	4	20	380	1,456
Total Sum of NumberCollected		1,496,903	2,600,104	90,503	31,471	1,898,246	6,117,227
Total Sum of NumberBarged		1,468,478	1,600,221	84,939	30,942	1,184,041	4,368,621
Total Sum of NumberBypassed		9,116	999,008	5,519	230	713,139	1,727,012
Total Sum of NumberTrucked		14,244	0	4	0	65	14,313
Total Sum of SampleMorts		440	109	3	10	85	647
Total Sum of FacilityMorts		4,460	780	38	282	876	6,436
Total Sum of ResearchMorts		25	16	0	7	40	88
Total Sum of TotalProjectMorts		4,925	905	41	299	1,001	7,171

**Cumulative Adult Passage at Mainstem Dams Through: 08/27**

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	08/27	220480	13314	188083	26094	132065	23978	161735	17730	109734	25342	87270	20126	66181	5537	47548	7331	47855	8323
TDA	08/27	194116	12307	143142	21080	101070	20309	123915	15458	96134	19525	74749	16059	36676	3779	19791	4745	22078	4730
JDA	08/26	166015	11514	123224	19103	88117	19021	108768	10988	86033	17655	66973	16286	21525	2115	9146	2640	10198	2844
MCN	08/27	156151	8767	107147	16033	79364	15788	96287	8723	87974	17022	63834	12059	17717	1538	6876	2441	7340	1658
IHR	08/27	116462	5745	79298	12428	55061	10384	21408	2807	17433	4474	17149	4587	4603	295	2279	224	2036	371
LMN	08/27	111511	8697	79942	14020	55282	9560	17764	4835	16064	8136	18788	5227	3125	391	1780	188	1501	355
LGS	08/27	105124	8553	77966	13649	51473	10681	15494	4464	17058	7477	17984	5853	2291	187	1374	118	1109	171
LGR	08/27	104873	8379	79167	13732	50576	11930	14958	4222	14668	7106	15904	6380	1877	196	1051	162	636	139
PRD	08/26	27716	1570	23742	2649	15720	1631	78139	3550	78434	4889	53883	2434	5807	397	2756	1455	2589	1290
WAN	08/26	25982	1077	0	0	15431	2202	76636	2180	0	0	49981	2003	5770	314	0	0	2081	1035
RIS	08/26	31749	1092	23247	2934	15126	2669	88691	2476	77982	6494	51644	5343	4431	253	2104	1318	1506	905
RRH	08/26	15244	609	12376	2377	6372	1183	76246	1937	58569	5017	40639	3786	3064	143	1746	930	1161	535
WEL	08/26	19971	1520	15377	2544	5959	1398	61375	3273	48878	5814	30803	3399	0	0	0	0	0	0
WFA	08/24	51046	2042	30071	1598	33725	1204	0	0	0	0	0	0	54	6	98	17	73	16

DAM	END DATE	Coho						Sockeye			Steelhead						Lamprey		
		2015		2014		10-Yr Avg.		2015	2014	10-Yr Avg.	10-Yr		Wild 2015	Wild 2014	10-Yr Avg.	2015	2014	10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack				2015	2014							2015
BON	08/27	1096	258	2299	412	5474	444	510585	614159	241298	174527	205088	244745	71562	94319	87593	37342	30554	20131
TDA	08/27	186	61	170	104	768	201	429450	586126	206901	69433	87989	111851	33204	46076	45641	11494	10467	5505
JDA	08/26	101	31	40	4	254	99	365618	557495	205453	32248	49276	80713	16032	24560	31894	7300	7428	4843
MCN	08/27	26	8	10	2	57	12	278509	545957	181613	27499	45181	60026	13392	22370	22767	1455	1442	1364
IHR	08/27	0	0	0	0	0	0	1047	2391	742	13163	22644	32192	5864	8272	9347	700	600	217
LMN	08/27	0	0	0	0	0	0	885	2801	898	12433	26642	30014	6277	10797	9865	228	199	67
LGS	08/27	0	0	0	0	0	0	573	2808	879	6165	14358	16224	3632	7435	6203	115	112	34
LGR	08/27	0	0	0	0	0	0	413	2741	942	12813	16715	18944	6410	8394	7202	53	66	10
PRD	08/26	1	0	0	0	19	0	301159	608106	215739	5782	7385	7949	0	0	0	5673	4759	2481
WAN	08/26	5	2	0	0	5	0	296230	0	191338	5627	0	8191	0	0	0	4173	0	1193
RIS	08/26	0	-2	0	0	0	0	263768	580981	212262	4832	4625	6240	2410	2413	3083	0	1877	597
RRH	08/26	0	0	0	0	0	0	215629	492734	181075	3294	2667	4555	1608	1368	2083	0	2143	380
WEL	08/26	0	0	0	0	0	0	186271	490457	174894	2408	1792	2509	1154	956	1171	0	3	3
WFA	08/24	2	0	12	0	18	26	0	0	0	7033	26592	23221	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.