



# Fish Passage Center

## Weekly Report #16-8

May 6, 2016

### Summary of Events

#### Water Supply

Precipitation throughout the Columbia Basin has varied between 0% and 28% of average at individual sub-basins over May. Precipitation above The Dalles has been 26% of average over May. Over the 2016 water year, precipitation has ranged between 88% and 111% of average.

**Table 1.** Summary of May precipitation and cumulative October through May 4 precipitation with respect to average (1971–2000) at select locations within the Columbia and Snake River Basins.

Location	Water Year 2016 May 1–4, 2016		Water Year 2016 October 1, 2015 to May 4, 2016	
	Observed (inches)	% Average	Observed (inches)	% Average
	Columbia above Coulee	0.10	25	26.2
Snake River above Ice Harbor	0.02	5	16.2	100
Columbia above The Dalles	0.08	26	20.3	102
Kootenai	0.08	21	25.9	101
Clark Fork	0.00	1	16.7	93
Flathead	0.00	0	25.4	105
Pend Oreille River Basin above Waneta Dam	0.02	5	22.4	100
Salmon River Basin	0.03	7	20.5	100
Upper Snake Tributaries	0.00	0	16.0	88
Clearwater	0.03	5	31.0	104
Willamette River above Portland	0.15	28	62.4	111

Snowpack within the Columbia Basin has been declining. Snowpack in the Columbia River for basins above the Snake River confluence is 61% of average. For Snake River Basins the snowpack is 71% of average. For lower Columbia Basins between McNary and Bonneville Dam snowpack is 41% of average.

Table 2 displays the May 4<sup>th</sup> ESP runoff volume forecasts for multiple reservoirs along with the April COE forecasts at Libby and Dworshak. The May 4<sup>th</sup> ESP forecast at The Dalles between April and August is 87,361 Kaf (100% of average).

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

Location	May 4, 2016 5-day QPF ESP	
	% Average (1981–2010)	Runoff Volume (Kaf)
The Dalles (Apr–Aug)	100	87,361
Grand Coulee (Apr–Aug)	101	57,491
Libby Res. Inflow, MT (Apr–Aug)	97 114*	5,706 6,681*
Hungry Horse Res. Inflow, MT (Apr–Aug)	95	1,835
Lower Granite Res. Inflow (Apr–July)	91	18,019
Brownlee Res. Inflow (Apr–July)	81	4,445
Dworshak Res. Inflow (Apr–July)	98 95*	2,376 2,303*

\* Denotes COE April Forecast

Grand Coulee Reservoir is at 1,247.2 feet (5-4-16) and has refilled 2.1 feet over the last week. Outflows at Grand Coulee have ranged between 115.5 and 141.0 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2,407.9 feet (5-4-16) and has refilled 2.3 feet over the previous week. Daily average outflows at Libby Dam have been 16.5 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3,535.1 feet (5-4-16) and has refilled 1.5 feet over the last week. Outflows at Hungry Horse have been 4.7–6.1 Kcfs over the last week.

Dworshak is currently at an elevation of 1,568.9 feet (5-4-16) and has refilled 2.0 feet over the last week.

Outflows have been reduced from 15.0 to 5.6 Kcfs over the last week.

The Brownlee Reservoir was at an elevation of 2,052.3 feet on May 4, 2016, and has refilled 2.0 feet over the last week. Inflows at Brownlee have ranged between 18.3 and 22.7 Kcfs over the last week.

The Biological Opinion flow period began on April 3<sup>rd</sup> in the lower Snake River (Lower Granite). According to the April Final Water Supply Forecast (April 7, 2016), the flow objective this spring will be 96 Kcfs at Lower Granite. Flows at Lower Granite Dam averaged 90.6 Kcfs last week and 92.0 Kcfs between April 3 and May 4, 2016.

Based on the April Final Water Supply Forecast, the Spring Biological Opinion Flow Objectives (which began April 10<sup>th</sup>) will be 243 Kcfs at McNary Dam and 135 Kcfs at Priest Rapids Dam. Over the last week, flows at McNary have averaged 278.9 Kcfs and 173.1 Kcfs at Priest Rapids. Between April 10 and May 4, 2016, flows averaged 297.3 Kcfs at McNary Dam. Priest Rapids Dam flows were 186.5 Kcfs during this timeframe.

**Spill and River Temperature**

Spill at Dworshak Dam was curtailed on May 1<sup>st</sup>. Outflow at the project was decreased from 15 Kcfs on 4/30 to 5.5 Kcfs on 5/3.

Project	Spill Level Day/Night
Lower Granite	20 Kcfs/20 Kcfs
Little Goose	30%/30%
Lower Monumental	Gas Cap/Gas Cap
Ice Harbor	April 3–April 28: 45 Kcfs/Gas Cap  April 28–June 20: 30%/30% vs. 45 Kcfs/Gas Cap

This past week all Lower Snake River projects (Lower Granite, Little Goose, Lower Monumental and Ice Harbor dams) have spilled at, or above, the 2016 Fish Operations Plan (FOP) levels. Spill at Lower Monumental Dam has varied between 24 and 27 Kcfs.

Spill for fish passage began on April 10<sup>th</sup> at the middle Columbia River projects. Spill for fish passage

at the middle Columbia River projects is to occur at the following amounts described in the 2016 FOP.

Project	Spill Level Day/Night
McNary	40%/40%
John Day	April 10-April 28: 30%/30% April 28-June 15: 30%/30% and 40%/40%
The Dalles	40%/40%
Bonneville	100 Kcfs/100 Kcfs

Over the past week spill at McNary, John Day, and The Dalles dams met the levels specified in the FOP. At Bonneville Dam spill exceeded the 100 Kcfs earlier in the week, but decreased to the 100 Kcfs on the night of April 30<sup>th</sup> and continued at that level through the week.

At times this past week, the TDG readings were in excess of the waiver limits at some projects. The increased TDG was related to several factors including: increasing flow and spill amounts, changes in environmental conditions, and uncontrolled spill.

**Note:** The State of Oregon TDG waiver requires compliance only with 120% TDG in the tailrace, while the State of Washington requires compliance with both a 115% TDG forebay requirement and a 120% tailrace TDG requirement. The State of Oregon and the State of Washington also use different methodologies to estimate the 12-hour average TDG. For Oregon, the 12-hour average is based on the 12 highest hourly TDG measurements in a single calendar day (not necessarily consecutive). For Washington, the 12-hour average is based on 12-hour rolling averages. The highest of the rolling averages is what is reported as the 12-hour average for a given day. The location of a TDG monitor will dictate which of these methodologies is used for compliance monitoring. The Washington methodology will apply to all the lower Snake River projects, as well as the middle Columbia River forebay monitors. On any given day the compliance of the tailrace monitors at the middle Columbia River projects will be determined using either the Washington or Oregon methodology, whichever is the most restrictive, and spill will be decreased if needed.

Monitoring for signs of gas bubble trauma (GBT) occurred at Lower Granite, Little Goose, Lower

Monumental, Rock Island, McNary and Bonneville dams over the past week. One percent of the sample was observed with minor signs of GBT at Rock Island Dam in samples collected on 5/3 and 5/5.

**Temperature:** As can be seen from the graphs (see page 23) the current forebay temperatures at McNary and Bonneville dams are similar to those observed last year (2015) at this time. The temperatures are also above the 10-year average temperatures at the project (2006–2015). At Ice Harbor and Lower Granite the temperatures remain higher than the average for the past 10 years, but are within the range observed over the past 10 years.

### Smolt Monitoring

Smolt Monitoring Program (SMP) sampling is ongoing at all SMP traps and bypass facilities.

This week's samples at Bonneville Dam (BON) were dominated by yearling Chinook. In fact, yearling Chinook passage at BON increased substantially when compared to the previous week. This week's daily average passage index for yearling Chinook at BON was approximately 113,000 per day, whereas that for last week was about 69,600 per day. Steelhead, sockeye, and coho passage also increased this week. This week's daily average passage indices were about 40,700 per day for steelhead, 12,800 per day for sockeye, and 20,000 per day for coho. Last week's daily average passage indices were about 5,800, 1,200, and 13,300 per day, respectively. Subyearling Chinook passage at BON also increased this week, when compared to the previous week. This week's daily average passage index for subyearling Chinook at BON was about 1,500 per day, whereas that for last week was about 480 per day. No Pacific lamprey ammocoetes were sampled at BON this week. Pacific lamprey macrophthalmia were encountered in only four of this week's samples. Collection estimates on these four days ranged from 20 to about 290 lamprey macrophthalmia.

Sampling at John Day Dam (JDA) in 2016 is every-other-day for the entire SMP season. This is the first time every-other-day sampling has occurred at this site over the entire season. Yearling Chinook continued to dominate the collections at JDA this week, with a daily average passage index of nearly 127,000 fish per day. This is very similar to last week's daily average passage

index, which was about 129,000 yearling Chinook per day. Steelhead were the second most abundant salmonid this week, with a daily average passage index of nearly 60,400 fish per day, which is an increase over last week's daily average passage index of nearly 39,000 per day. Sockeye passage also increased this week, when compared to the previous week. This week's daily average passage index for sockeye at JDA was nearly 17,000 per day. Last week's daily average passage index was about 5,500 per day. Coho and subyearling Chinook passage decreased this week when compared to the previous week. This week's daily average passage indices for these two species were about 2,700 for coho and 800 for subyearling Chinook. Last week's daily average passage indices for these two species were nearly 3,900 for coho and 925 for subyearling Chinook. Unlike previous weeks, only about 82% of the subyearling Chinook sampled this week were fry. No Pacific lamprey ammocoetes were encountered in this week's samples. Pacific lamprey macrophthalmia were collected in all three of this week's samples, with a daily average collection of about 1,200 macrophthalmia per day.

As in recent years, sampling at McNary Dam (MCN) in 2016 will be every-other-day for the entire SMP season. Yearling Chinook continue to dominate samples at MCN this week, with a daily average passage index of nearly 230,000 per day. This is a substantial increase over last week's daily average passage index of nearly 130,000 yearling Chinook per day. Passage of coho, sockeye, and steelhead also increased this week when compared to the previous week. This week's daily average passage indices for these three species were about 5,100, 47,400, and 78,000 per day, respectively. Last week's daily average passage indices were about 2,700 for coho, 13,000 for sockeye, and 40,000 for steelhead. Subyearling Chinook passage decreased this week, when compared to the previous week. This week's daily average passage index for subyearling Chinook at MCN was about 7,300 per day, whereas that for last week was about 12,500. Approximately 89% of the subyearling Chinook juveniles that were collected this week were fry. Finally, Pacific lamprey macrophthalmia were collected in all four of this week's samples, with a daily average collection of about 1,300 per day. No Pacific ammocoetes have been collected at MCN so far this year.

Collections for transportation began at Lower Granite Dam (LGR) on May 1<sup>st</sup>, with the first barge leaving on May 2<sup>nd</sup>. At the time of writing this report, data for the samples on May 3<sup>rd</sup> and May 5<sup>th</sup> were not available for LGR. Based on the data that were available from this week, samples at LGR continued to be dominated by yearling Chinook. This week's daily average passage index for yearling Chinook was about 151,000 per day, which is a decrease from last week's daily average passage index of nearly 244,000 per day. Steelhead were the second most abundant salmonid this week, with a daily average passage index of about 68,000 per day. This is also a decrease from last week's daily average passage index of nearly 194,000 per day. Coho and subyearling Chinook passage also decreased slightly this week, with daily average passage indices of about 3,500 and 1,100 per day, respectively. Last week's daily average passage indices for these two species were 4,000 per day for coho and 1,300 for subyearling Chinook. Unlike previous weeks, only about 95% of the subyearling Chinook sampled this week were fry. Sockeye were collected at LGR on one day this week (May 1<sup>st</sup>). Finally, one Pacific lamprey macrophthalmia were encountered in one of this week's samples (April 29<sup>th</sup>).

Sampling at Little Goose Dam (LGS) was limited to a 24-hour sample every-other-day until transportation began, at which time sampling switched to daily. Collections for transportation began at LGS on May 1<sup>st</sup>, with the first barge leaving on May 2<sup>nd</sup>. Yearling Chinook continued to dominate the collections at LGS this week. This week's daily average passage index for yearling Chinook at LGS was about 180,000 fish per day. This is a decrease from last week's daily average passage index of about 267,400 yearling Chinook per day. Steelhead passage also decreased this week, when compared to last week. This week's daily average passage index for steelhead at LGS was about 81,300 per day, whereas that for last week was nearly 173,300 per day. Subyearling Chinook were encountered in four of this week's five samples. As with many of the other sites, not all of subyearling Chinook juveniles collected at LGS this week were fry. In fact, only 67% of the subyearling Chinook collected at LGS this week were fry. Coho passage increased this week when compared to the previous week. This week's daily average passage index for coho at LGS was about 4,100, whereas that for last week was about

1,900. Sockeye were encountered in two of this week's samples (May 2<sup>nd</sup> and 3<sup>rd</sup>). Up until then, no sockeye juveniles had been collected at LGS this year. Finally, Pacific lamprey macrophthalmia were encountered in four of this week's five samples. The estimated collections on these four days ranged from 400 to 3,600 macrophthalmia.

Sampling at Lower Monumental Dam (LMN) was limited to a 24-hour sample every-third-day through the April 14<sup>th</sup> and every-other-day from April 16<sup>th</sup> to April 30<sup>th</sup>. Collections for transportation began at LMN on May 1<sup>st</sup>, with the first barge leaving on May 2<sup>nd</sup>. With the initiation of transportation at LMN, sampling will be daily until the end of the season. To facilitate transportation operations, the sample on May 1<sup>st</sup> lasted only 8 hours, which means that the Passage Index estimate for this sample is biased low and should not be used to assess trends in passage. At the time of writing this report, data for the sample on May 5<sup>th</sup> were not available for LMN. As with last week, this week's samples at LMN were dominated by yearling Chinook. The daily average passage index of yearling Chinook this week was about 255,000 fish per day. This represents an increase over last week's daily average passage index of about 232,500 per day. Steelhead were the second most abundant salmonid species in this week's samples. This week's daily average passage index for steelhead was about 93,000 fish per day, which is a decrease from last week's daily average passage index of nearly 140,000 per day. Coho passage increased this week, when compared to last week. This week's daily average passage index for coho at LMN was about 1,250 per day, whereas that for last week was about 750 per day. No sockeye juveniles have been collected at LMN so far this year and subyearling Chinook have been encountered only once (May 4<sup>th</sup>). All of the subyearling Chinook that were collected on May 4<sup>th</sup> were fry. Finally, Pacific lamprey macrophthalmia were collected in four of this week's five samples. Collections on these four days ranged from 200 to 1,200 macrophthalmia. One other thing of note, collections from May 1<sup>st</sup> and May 2<sup>nd</sup> were so high that the transportation raceways began to reach their capacity. To avoid overcrowding, LMN switched to secondary bypass during this time and, thus, returned a portion of the salmonids passing the project at this time to the river. Collections for transportation resumed later in the afternoon of May 2<sup>nd</sup>.

At the time of writing this report, data for the sample on May 5<sup>th</sup> were not available for Rock Island Dam (RIS). Yearling Chinook and sockeye both dominated the samples at RIS, with daily average passage indices of about 3,560 and 3,660 per day, respectively. This represents an increase in passage over last week's daily average passage indices for these two species, which were about 1,230 for yearling Chinook and 830 for sockeye. Coho and steelhead passage also increased this week when compared to last week. This week's daily average passage indices for these two species were about 1,260 and 690, respectively. Last week's daily average passage indices were about 100 for coho and 200 for steelhead. Finally, only one lamprey juvenile was encountered in this week's samples, a Pacific lamprey macrophthalmia on May 4<sup>th</sup>.

The Grande Ronde Trap (GRN) is operated by the Oregon Department of Fish and Wildlife and is located at river kilometer 2 in the Grande Ronde River. Yearling Chinook continued to dominate the collections this week. The daily average collection for yearling Chinook this week was about 125 per day, which is a decrease from last week's daily average collection of about 330 per day. Steelhead collections also decreased at GRN this week, when compared to the previous week. This week's daily average collection for steelhead was about 40 fish per day, whereas that for last week was about 90 fish per day. The only other salmonids that were encountered in this week's samples were subyearling Chinook. Of the subyearling Chinook that were collected this week, about 76% were fry.

The Salmon River Trap at Whitebird (WTB) is located at river kilometer 103 and operated by Idaho Department of Fish and Game. Similar to 2015, sampling at the Salmon River Trap in 2016 is five days per week. Sampling at WTB has been suspended since the April 21 sample due to unsafe conditions associated with increased flows. Sampling at WTB will resume when conditions are deemed safe.

The Snake River Trap at Lewiston (LEW) is located at river kilometer 225 and is operated by Idaho Department of Fish and Game. Due to concerns over increased handling of listed hatchery yearling Chinook, sampling at LEW occurred at a reduced level (i.e., 8-hour sample) from April 18<sup>th</sup> to April 29<sup>th</sup>. Full sampling (24-hour) was resumed for the sample

on April 30<sup>th</sup>. However, the sample for May 5<sup>th</sup> was an incomplete sample, as the trapping mechanism was suspended by debris. With all the changes in operations over the last two weeks, it is not appropriate to compare collections from this week to those from previous weeks. With that said, steelhead dominated this week's collections at LEW, followed by yearling Chinook. All other species of salmonids were encountered in this week's collections, but in relatively low numbers.

The Imnaha River Trap (IMN) is located at river kilometer 7 and is operated by the Nez Perce Tribe. Sampling at the Imnaha River Trap is year-round and, for 2016, the Fish Passage Center has been receiving data since the January 1, 2016 sample. However, due to the remote nature of the trap, the Nez Perce Tribe is able to send collection data to the FPC only periodically. Currently, the FPC has data from IMN through April 27<sup>th</sup>. Due to high flows and debris, sampling at IMN was suspended from April 23<sup>rd</sup> through April 25<sup>th</sup>. Collections resumed for the sample on April 26<sup>th</sup>. Over the period of April 22<sup>nd</sup> through April 27<sup>th</sup>, steelhead dominated the samples at IMN. The daily average collection for steelhead at IMN during this period was about 520 per day. Yearling Chinook collections over this period averaged about 70 per day. No other species of salmonids were encountered at IMN during this period.

## 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. The Idaho Department of Fish and Game was scheduled to release approximately 540,000 sockeye juveniles into Redfish Lake Creek this week. These sockeye juveniles were reared at Springfield Hatchery. This is only the second year of releases of sockeye from this new facility, which will be the primary rearing facility for Snake River sockeye beginning next year. The only other new releases that were scheduled for this zone this week were of steelhead juveniles. In all, these steelhead releases were expected to total nearly 530,000 juveniles. These releases were scheduled to take place throughout this zone, including releases to the Salmon River (16%), the Wallowa River (53%), and the Imnaha River (31%).

Approximately 1.4 million subyearling fall Chinook are scheduled for release to this zone over the next two weeks. Of these, approximately 71% are scheduled to be released just below Hells Canyon Dam on or around May 18<sup>th</sup>. The remaining 29% are scheduled to be released into the Grande Ronde River on or around May 20<sup>th</sup>. In addition, about 90,000 sockeye juveniles are scheduled to be released into Redfish Lake Creek, beginning on or around May 10<sup>th</sup>. These sockeye juveniles were reared at Oxbow Hatchery in Oregon. This is the last release year for Snake River sockeye reared at Oxbow Hatchery. The only other new release that is scheduled for this zone over the next two weeks is of 160,000 summer steelhead to the Wallowa River. These steelhead juveniles are scheduled to be released on or around May 8<sup>th</sup>.

**Mid-Columbia Zone:** The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. Approximately 1.96 million subyearling fall Chinook juveniles were scheduled to be released into this zone this week. Of these, approximately 99% were scheduled to be released by the Yakama Tribe into the Yakima River. The remaining 1% were scheduled to be released by Washington Department of Fish and Wildlife COOPs. These COOP releases were scheduled to occur directly into the Mid-Columbia River (between McNary Dam and Priest Rapids Dam), the Wenatchee River, or the Yakima River. In addition, nearly 171,500 yearling summer Chinook were scheduled to be released from the Carlton Acclimation Ponds on the Methow River this week. Just over 336,000 coho juveniles were scheduled to be released into the Wenatchee River this week. These coho juveniles are part of the Yakama Tribal program to reintroduce coho to the Wenatchee, Methow, and Yakima rivers. In addition to these new coho releases, many of the volitional releases of coho that began in past weeks were scheduled to end this week. Finally, about 100,000 summer steelhead juveniles were scheduled to be released into the Methow River this week.

No new releases of juvenile salmonids are scheduled for this zone over the next two weeks. However, several volitional releases of yearling spring Chinook, yearling summer Chinook, and summer steelhead that began several weeks ago are scheduled to end over the next two weeks.

**Lower Columbia Zone:** The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Approximately 1.0 million coho juveniles were scheduled to be released into the Klickitat River this week. The only other releases that were scheduled for this zone this week were of summer steelhead juveniles. In all, about 25,000 summer steelhead juveniles were scheduled to be released into the Deschutes River this week.

On May 9<sup>th</sup>, approximately 4.5 million subyearling fall Chinook tules are scheduled to be released from Spring Creek NFH. In addition, approximately 600,000 subyearling fall Chinook are scheduled to be released into the Umatilla River, beginning on or around May 17<sup>th</sup>.

### Adult Passage

Adult counts at Bonneville Dam have been updated through 5/5/16. The 2016 adult spring Chinook count at Bonneville Dam of 81,002 is about 51.5% of the 2015 count of 157,232, while having 2,506 more fish than the 10-year average count of 78,496. The 2016 spring Chinook jack count of 2,217 is about 76.8% of the 2015 count of 2,887 and 67% of the 10-year average count of 3,311. At Willamette Falls, 6,660 adult spring Chinook have been counted so far this year. In 2015, 23,558 adult spring Chinook were counted at Willamette Falls. This year's count is about 28.3% of the 2015 count and 77.5% of the 10-year average count of 8,594. As of May 6<sup>th</sup>, a total of 47,165 adult spring Chinook have been counted at The Dalles Dam and 11,158 have been counted at McNary Dam. The Dalles Dam 2016 adult spring Chinook count is about 36% of the 2015 count and 92.1% of the 10-year average count. The 2016 McNary Dam adult spring Chinook count is about 12.7% of the 2015 count and 48% of the 10-year average count. A total of 1,851 spring chinook have been counted at Lower Granite Dam as of May 5<sup>th</sup>.

The 2016 Bonneville Dam adult steelhead count of 3,880 is about 90.2% of the 2015 count of 4,302 and has 59 fewer fish than the 10-year average count of 3,939. The 2016 Bonneville Dam adult wild steelhead count of 1,614 is about 70% of the 2015 count of 2,303, while having 353 more fish than the 10-year average count of 1,261. At upriver sites, adult steelhead continue to move through the hydrosystem to reach

their tributaries and spawning sites. The majority of these fish over-wintered in pools and will complete their trip to their spawning grounds in March through early May. Daily adult steelhead counts at Lower Granite Dam ranged from 9 to 16 adults per day last week. This year's Lower Granite steelhead count of 5,357 is 59.3% of the 2015 count of 9,027 and 59.6% of the 10-year average count of 8,983. The 2016 Lower Granite Dam adult wild steelhead count of 3,031 is 71.8% of the 2015 count of 4,221 and is about 91.2% of the 10-year average count of 3,325. At Willamette Falls, the 2016 count for steelhead was 7,417 as of May 4<sup>th</sup>. This year's steelhead count is about 1.5 times greater than the 2015 count of 4,793, while having 9 fewer fish than the 10-year average count of 7,426.

## Hatchery Releases Last Two Weeks

Hatchery Release Summary									
From:		4/23/2016		to		05/06/16			
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Colville Tribe	Chief Joseph Hatchery	CH1	SP	2016	204,000	04-15-16	04-30-16	Riverside Pond	Okanogan River
Colville Tribe	Chief Joseph Hatchery	CH1	SP	2016	527,000	04-15-16	04-30-16	Chief Joseph Hatchery	Wells Pool
Colville Tribe	Chief Joseph Hatchery	CH1	SU	2016	256,000	04-15-16	04-30-16	Omak Pond	Okanogan River
Colville Tribe	Chief Joseph Hatchery	CH1	SU	2016	342,500	04-15-16	04-30-16	Similkameen River	Okanogan River
Colville Tribe	Chief Joseph Hatchery	CH1	SU	2016	402,000	04-15-16	04-30-16	Chief Joseph Hatchery	Wells Pool
Colville Tribe	Wells Hatchery	ST	SU	2016	2,000	04-20-16	04-23-16	Aneas Creek	Okanogan River
Colville Tribe	Wells Hatchery	ST	SU	2016	10,000	04-13-16	04-30-16	Omak Creek	Okanogan River
Colville Tribe	Wells Hatchery	ST	SU	2016	25,000	04-20-16	04-23-16	Similkameen Acclim Pd	Okanogan River
Colville Tribe	Wells Hatchery	ST	SU	2016	40,000	04-20-16	04-23-16	Salmon Creek (Okanogan)	Okanogan River
<b>Colville Tribe Total</b>					<b>1,808,500</b>				
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2016	90,000	04-13-16	04-26-16	Salmon River (ID)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2016	93,600	04-25-16	04-26-16	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2016	124,830	04-22-16	04-25-16	Squaw Creek	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2016	155,000	04-26-16	04-27-16	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2016	200,000	04-26-16	05-03-16	Yankee Fk (Salmon R)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2016	230,000	04-27-16	05-03-16	Yankee Fk (Salmon R)	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2016	200,000	04-21-16	04-24-16	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2016	250,000	04-24-16	04-30-16	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2016	2,500,000	03-14-16	04-29-16	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game	Springfield Hatchery	SO	UN	2016	540,000	05-02-16	05-13-16	Redfish Lake Creek	Salmon River (ID)
<b>Idaho Dept. of Fish and Game Total</b>					<b>4,383,430</b>				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2016	120,000	05-04-16	05-04-16	Wallowa Acclim Pond	Wallowa River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2016	160,000	04-30-16	04-30-16	Big Canyon Acclim.Pd (Grande Ronde)	Wallowa River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2016	165,000	04-30-16	04-30-16	Little Sheep Creek	Imnaha River
Oregon Dept. of Fish and Wildlife	Umatilla Hatchery	ST	SU	2016	50,000	04-27-16	04-27-16	Thornhollow Acclim Pond	Umatilla River
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	ST	SU	2016	10,000	04-25-16	04-25-16	Wychus Creek	Deschutes River
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	ST	SU	2016	10,000	05-05-16	05-05-16	Wychus Creek	Deschutes River
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	ST	SU	2016	15,000	04-25-16	04-25-16	Crooked River (OR)	Deschutes River
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	ST	SU	2016	15,000	05-05-16	05-05-16	Crooked River (OR)	Deschutes River
<b>Oregon Dept. of Fish and Wildlife Total</b>					<b>545,000</b>				
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2016	84,500	05-01-16	05-01-16	East Fk Salmon River	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2016	1,404,000	04-06-16	04-30-16	S Fk Salmon River	Salmon River (ID)
<b>U.S. Fish and Wildlife Service Total</b>					<b>1,488,500</b>				
Umatilla Tribe	Umatilla Hatchery	ST	SU	2016	50,000	04-27-16	04-27-16	Minthorn Acclimation Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	ST	SU	2016	50,000	04-27-16	04-27-16	Pendelton Acclim Pond	Umatilla River
<b>Umatilla Tribe Total</b>					<b>100,000</b>				
Warm Springs Tribe	Oak Springs Hatchery	ST	WI	2016	50,000	04-29-16	04-29-16	E Fk Irrig Dist Sand Trap	Hood River
<b>Warm Springs Tribe Total</b>					<b>50,000</b>				
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	CH1	SP	2016	230,000	04-15-16	05-01-16	Nason Creek	Wenatchee River
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	ST	SU	2016	199,000	04-25-16	05-07-16	Chiwawa Hatchery	Wenatchee River
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2016	175	05-01-16	05-31-16	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2016	1,025	05-01-16	05-31-16	Above McNary Dam	McNary Pool
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2016	3,850	05-01-16	05-31-16	Above McNary Dam	McNary Pool
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2016	3,975	05-01-16	05-31-16	Above McNary Dam	McNary Pool
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2016	13,600	05-01-16	05-31-16	Yakama River	Yakima River
Washington Dept. of Fish and Wildlife	COOP	CH0	SU	2017	225	04-20-16	05-01-16	Similkameen River	Okanogan River
Washington Dept. of Fish and Wildlife	COOP	CH0	SU	2017	225	05-01-16	05-31-16	Methow River	Methow River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2016	535,000	04-25-16	05-30-16	Dryden Acclim Pond	Wenatchee River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SU	2016	171,500	05-01-16	05-15-16	Carlton Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	ST	SU	2016	100,000	04-30-16	05-07-16	Methow Hatchery	Methow River
Washington Dept. of Fish and Wildlife	Similkameen Hatchery	CH1	SU	2016	240,000	04-15-16	04-30-16	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2016	90,000	04-20-16	04-30-16	Klickitat River	Klickitat River
<b>Washington Dept. of Fish and Wildlife Total</b>					<b>1,588,575</b>				



## Hatchery Releases Last Two Weeks

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Yakama Tribe	Cascade Hatchery	CO	UN	2016	68,020	05-01-16	05-31-16	Twisp Acclim Pond	Methow River
Yakama Tribe	Cascade Hatchery	CO	UN	2016	79,496	05-01-16	05-31-16	Coulter Creek	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2016	110,086	04-01-16	04-30-16	Leavenworth Hatchery	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2016	110,126	04-01-16	04-30-16	Leavenworth Hatchery	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2016	135,272	05-01-16	05-31-16	Butcher Creek Acclim. Pond	Wenatchee River
Yakama Tribe	Klickitat Hatchery	CO	NO	2016	1,000,000	05-01-16	05-01-16	Klickitat Hatchery	Klickitat River
Yakama Tribe	Marion Drain Hatchery	CH0	FA	2016	37,000	05-06-16	05-06-16	Roza Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2016	20,000	05-06-16	05-06-16	Yakama River	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2016	180,000	05-06-16	05-06-16	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2016	1,700,000	05-04-16	05-04-16	Prosser Acclim Pond	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2016	58,499	04-01-16	04-30-16	Leavenworth Hatchery	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2016	110,615	04-01-16	04-30-16	Leavenworth Hatchery	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2016	121,443	05-01-16	05-31-16	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Winthrop NFH	CO	UN	2016	38,503	04-01-16	04-30-16	Methow River	Methow River
Yakama Tribe	Winthrop NFH	CO	UN	2016	42,471	04-01-16	04-30-16	Winthrop Hatchery	Methow River
Yakama Tribe	Winthrop NFH	CO	UN	2016	47,124	04-01-16	04-30-16	Methow River	Methow River
Yakama Tribe	Winthrop NFH	CO	UN	2016	212,356	04-01-16	04-30-16	Winthrop Hatchery	Methow River
<b>Yakama Tribe Total</b>					<b>4,071,011</b>				
<b>Grand Total</b>					<b>14,035,016</b>				

## Hatchery Releases Next Two Weeks

<b>Hatchery Release Summary</b>									
<b>From:</b>		<b>5/7/2016 to 5/20/2016</b>							
<b>Agency</b>	<b>Hatchery</b>	<b>Species</b>	<b>Race</b>	<b>MigYr</b>	<b>NumRel</b>	<b>RelStart</b>	<b>RelEnd</b>	<b>RelSite</b>	<b>RelRiver</b>
Idaho Dept. of Fish and Game	Oxbow-Oregon	SO	UN	2016	90,000	05-10-16	05-10-16	Redfish Lake Creek	Salmon River (ID)
Idaho Dept. of Fish and Game	Springfield Hatchery	SO	UN	2016	540,000	05-02-16	05-13-16	Redfish Lake Creek	Salmon River (ID)
<b>Idaho Dept. of Fish and Game Total</b>					<b>630,000</b>				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	CH0	FA	2016	400,000	05-20-16	05-20-16	Grande Ronde River	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	CH0	FA	2016	1,000,000	05-18-16	05-22-16	Hells Canyon Dam	Snake River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2016	160,000	05-08-16	05-08-16	Big Canyon Acclim.Pd (Grande Ronde)	Wallowa River
<b>Oregon Dept. of Fish and Wildlife Total</b>					<b>1,560,000</b>				
U.S. Fish and Wildlife Service	Spring Creek NFH	CH0	FA	2016	4,500,000	05-09-16	05-09-16	Spring Creek Hatchery	Bonneville Pool
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2016	130,700	04-15-16	05-15-16	Winthrop Hatchery	Methow River
<b>U.S. Fish and Wildlife Service Total</b>					<b>4,630,700</b>				
Umatilla Tribe	Umatilla Hatchery	CH0	FA	2016	600,000	05-17-16	05-17-16	Reith Bridge	Umatilla River
<b>Umatilla Tribe Total</b>					<b>600,000</b>				
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	ST	SU	2016	199,000	04-25-16	05-07-16	Chiwawa Hatchery	Wenatchee River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SU	2016	171,500	05-01-16	05-15-16	Carlton Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	ST	SU	2016	100,000	04-30-16	05-07-16	Methow Hatchery	Methow River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	WI	2016	15,500	04-15-16	05-15-16	Rock Cr (Stevenson)	Bonneville Pool
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2016	320,000	04-15-16	05-07-16	Wells Hatchery	Rocky Reach Pool
<b>Washington Dept. of Fish and Wildlife Total</b>					<b>806,000</b>				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2016	220,000	03-15-16	05-15-16	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2016	220,000	03-15-16	05-15-16	Easton Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2016	220,000	03-15-16	05-15-16	Jack Creek Acclim Pond	Yakima River
<b>Yakama Tribe Total</b>					<b>660,000</b>				
<b>Grand Total</b>					<b>8,886,700</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
04/22/2016	150.8	0.0	167.0	24.7	203.2	56.8	210.0	52.4	221.5	73.4	233.5	97.6	237.6	134.1
04/23/2016	145.3	0.0	136.7	22.0	171.1	28.8	172.1	26.3	188.6	40.4	195.3	73.5	199.3	115.7
04/24/2016	146.2	0.0	144.4	14.3	178.4	32.1	181.2	29.5	195.6	52.7	204.0	83.0	210.4	110.4
04/25/2016	137.6	0.0	141.0	0.0	169.3	35.2	171.2	15.0	185.6	41.5	192.3	63.8	195.3	87.4
04/26/2016	150.0	0.0	142.6	0.0	166.9	35.2	170.9	13.9	182.4	37.6	188.8	54.7	190.1	86.3
04/27/2016	142.4	0.0	147.1	0.0	172.3	37.4	176.6	19.8	185.9	36.2	192.5	59.8	193.8	87.4
04/28/2016	141.0	0.0	147.7	0.0	170.4	27.2	180.9	23.7	190.0	35.9	196.1	62.9	196.5	94.0
04/29/2016	122.1	0.0	121.1	0.0	148.0	12.5	155.7	3.5	169.3	18.6	175.8	37.0	175.5	58.4
04/30/2016	116.1	0.0	117.0	0.0	139.3	13.7	134.3	0.0	147.7	15.3	158.2	22.8	172.0	32.1
05/01/2016	138.9	0.0	130.4	0.0	155.5	18.3	151.6	3.2	163.9	18.8	168.2	39.6	171.8	48.2
05/02/2016	128.5	0.0	136.2	0.0	159.8	15.8	161.9	8.1	173.6	23.8	172.6	41.3	155.3	37.5
05/03/2016	118.3	0.0	124.0	0.0	149.1	13.2	147.4	6.5	161.6	18.7	168.2	33.5	167.2	50.0
05/04/2016	115.5	0.0	115.4	0.0	141.7	13.5	142.1	12.5	156.9	20.3	160.1	31.6	159.3	43.2
05/05/2016	124.4	0.0	122.9	0.0	150.7	21.8	157.4	21.3	173.6	28.0	178.0	44.3	174.7	50.2

**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
04/22/2016	16.1	6.2	---	19.7	106.1	20.3	101.8	30.5	99.8	25.9	105.8	66.8
04/23/2016	15.0	5.0	---	21.9	115.9	38.7	111.9	38.1	108.7	26.0	115.4	86.3
04/24/2016	15.1	5.2	---	20.8	129.3	46.5	123.9	37.2	122.8	30.3	132.4	80.0
04/25/2016	15.0	5.1	---	22.3	125.1	38.1	118.9	35.6	118.8	29.4	124.0	82.9
04/26/2016	14.9	5.1	---	21.1	110.5	23.6	106.2	31.9	103.7	26.3	110.4	75.8
04/27/2016	15.0	5.1	---	25.8	105.3	20.4	101.6	30.4	100.6	27.0	105.6	69.1
04/28/2016	13.3	5.1	---	25.5	105.1	20.6	101.9	30.4	98.8	26.4	104.1	66.6
04/29/2016	13.9	5.4	---	22.9	96.3	20.6	92.3	27.7	91.7	26.4	97.9	53.0
04/30/2016	15.0	5.2	---	19.4	94.4	20.6	90.6	27.2	88.3	26.9	91.7	50.4
05/01/2016	9.8	0.0	---	19.1	84.6	20.7	81.8	24.4	79.2	27.0	83.9	57.1
05/02/2016	9.9	0.0	---	19.5	85.3	20.5	82.3	24.5	81.5	25.8	87.7	57.4
05/03/2016	9.9	0.0	---	15.5	85.9	20.5	83.2	25.0	80.3	25.1	85.2	60.0
05/04/2016	5.6	0.0	---	16.6	83.1	20.2	79.2	23.7	79.4	25.6	84.0	38.9
05/05/2016	5.5	0.0	---	18.9	94.9	20.9	91.5	27.4	87.1	24.0	92.3	37.3

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

Date	McNary		John Day		The Dalles		Bonneville			
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
04/22/2016	350.6	176.8	338.2	101.9	322.6	123.2	331.3	144.8	65.3	108.7
04/23/2016	342.6	170.1	328.6	119.0	315.6	112.1	350.3	163.2	65.9	108.9
04/24/2016	341.5	169.8	344.3	115.9	330.2	116.5	347.4	159.7	65.9	109.4
04/25/2016	342.4	169.6	342.6	102.8	331.6	128.1	350.8	164.5	66.3	107.6
04/26/2016	318.6	152.3	324.3	97.4	308.0	123.2	336.9	150.6	66.8	107.1
04/27/2016	305.8	131.7	300.7	89.6	285.8	114.1	306.6	120.0	67.0	107.3
04/28/2016	313.9	139.8	311.7	93.1	299.1	119.3	304.9	119.9	68.2	104.4
04/29/2016	305.2	131.2	298.2	93.8	280.1	111.9	303.4	118.6	69.0	103.4
04/30/2016	280.3	112.5	276.6	109.6	268.8	108.0	296.1	111.3	68.8	103.6
05/01/2016	269.5	108.3	265.0	100.5	258.5	103.6	285.3	100.4	68.9	103.6
05/02/2016	265.1	106.3	260.8	78.1	249.0	99.2	273.0	100.3	59.0	101.2
05/03/2016	256.8	103.0	248.3	78.7	234.7	94.0	254.8	100.1	44.3	98.0
05/04/2016	261.7	104.7	249.4	99.6	239.3	95.7	260.4	101.0	41.9	105.2
05/05/2016	264.7	114.2	251.0	95.2	233.6	93.5	249.3	101.1	26.2	109.6

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

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank			
								Rank 1	Rank 2	Rank 3	Rank 4
<b>Lower Granite Dam</b>	04/28/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Little Goose Dam</b>	04/25/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/02/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Lower Monumental Dam</b>	04/27/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>McNary Dam</b>	04/24/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/28/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/02/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Bonneville Dam</b>	04/23/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/26/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/30/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/03/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Rock Island Dam</b>	04/26/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/29/16	Chinook + Steelhead	100	4	4	4.00%	0.00%	4	0	0	0
	05/03/16	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/05/16	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0

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

**Total Dissolved Gas Saturation Data at Upper Columbia River Sites**

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
4/22	101.9	102.4	103.1	24	---	---	---	0	111.2	111.7	112.1	24	108.5	108.8	109.1	24	108.3	108.6	108.8	24
4/23	101.5	101.9	102.5	24	---	---	---	0	110.0	110.4	111.1	24	107.6	108.0	108.4	24	107.6	107.9	108.1	24
4/24	101.5	101.9	102.5	24	---	---	---	0	109.8	110.2	110.8	24	107.4	107.7	108.1	24	107.3	107.6	108.0	24
4/25	101.9	102.3	102.8	24	---	---	---	0	108.6	108.9	109.1	24	107.0	107.4	107.6	24	107.0	107.4	107.8	24
4/26	102.3	103.0	103.5	24	---	---	---	0	108.2	108.3	108.4	24	106.9	107.2	107.5	24	106.8	107.2	107.6	24
4/27	103.5	104.7	105.6	24	---	---	---	0	108.5	108.7	109.1	24	107.2	107.5	107.8	24	107.0	107.2	107.4	24
4/28	104.3	105.0	105.3	24	---	---	---	0	109.2	109.8	110.5	24	107.0	107.4	107.6	24	106.9	107.2	107.6	24
4/29	104.5	104.7	104.7	24	---	---	---	0	109.2	109.8	110.8	24	106.9	107.1	107.4	24	107.1	107.5	107.8	24
4/30	103.6	103.8	103.9	24	---	---	---	0	108.0	108.6	109.3	24	106.0	106.1	106.4	24	106.2	106.4	106.8	24
5/1	103.3	103.5	103.8	24	---	---	---	0	108.0	108.7	109.1	24	106.3	106.8	107.1	24	106.5	107.2	107.6	24
5/2	103.4	103.9	104.4	24	---	---	---	0	109.0	109.6	110.6	24	106.7	107.1	107.5	24	107.0	107.4	107.9	24
5/3	102.4	103.0	103.7	24	---	---	---	0	110.2	111.0	111.7	24	107.3	107.7	108.0	24	107.2	107.7	107.9	24
5/4	103.3	104.5	105.0	24	---	---	---	0	110.0	110.4	110.7	24	107.5	107.8	108.3	24	107.7	108.1	108.3	24
5/5	103.7	104.7	105.7	23	---	---	---	0	109.7	110.0	110.5	20	107.8	108.2	111.7	20	107.5	107.8	108.1	20

**Total Dissolved Gas Saturation Data at Mid Columbia River Sites**

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
4/22	110.5	110.8	110.9	24	107.8	107.9	108.1	23	116.9	117.9	120.8	23	112.9	114.5	114.9	24	122.7	123.1	123.6	24
4/23	109.9	110.2	110.5	24	107.1	107.3	107.6	24	112.0	114.0	115.9	24	115.6	116.5	117.3	24	120.4	122.9	123.6	24
4/24	108.7	110.0	110.1	24	106.9	107.2	107.6	24	112.3	114.2	114.8	24	111.4	112.4	113.7	24	117.9	121.8	122.8	24
4/25	106.4	106.8	107.1	24	106.2	106.5	106.7	24	113.0	115.1	117.4	24	110.4	111.1	111.7	24	115.3	117.0	120.9	24
4/26	106.4	106.7	106.9	24	106.2	106.4	106.6	24	113.9	114.6	115.6	24	111.6	112.5	113.0	24	115.6	116.7	117.4	24
4/27	106.6	106.8	107.1	24	106.4	106.6	106.8	24	114.2	114.7	115.8	24	113.1	113.4	113.7	24	117.6	118.4	119.4	24
4/28	106.4	106.8	107.4	24	106.4	106.7	106.9	24	113.0	115.5	116.6	24	112.4	112.6	112.9	24	118.6	119.5	120.1	24
4/29	106.9	107.3	107.9	24	106.5	106.8	106.9	24	109.6	109.9	110.2	24	113.2	113.9	114.3	24	114.6	116.1	119.5	24
4/30	106.5	106.9	107.3	24	105.7	105.9	106.3	24	108.6	108.9	109.2	24	108.9	109.2	110.2	24	109.1	109.5	110.5	24
5/1	106.2	106.7	107.1	24	106.2	106.7	106.9	24	110.2	110.6	111.7	24	108.5	109.0	109.3	24	109.6	111.0	113.5	24
5/2	106.6	106.9	107.2	24	106.7	107.0	107.3	24	110.3	111.0	111.8	24	110.0	110.8	111.4	24	113.2	115.7	116.8	24
5/3	107.2	107.5	107.8	24	106.9	107.1	107.5	24	109.8	110.3	110.7	24	110.3	110.9	111.4	24	112.1	114.2	115.7	24
5/4	107.7	108.2	108.7	24	106.9	107.1	107.5	24	109.9	110.3	110.8	24	110.1	110.4	110.6	24	112.8	115.6	120.3	24
5/5	107.6	107.9	109.1	20	106.4	106.5	106.6	19	110.1	110.7	111.5	19	109.5	109.7	110.0	20	114.9	118.2	120.4	20

**Total Dissolved Gas Saturation at Mid Columbia River Sites**

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
4/22	113.9	114.6	115.3	24	121.6	122.2	123.0	24	116.2	117.1	118.5	24	120.6	122.1	123.8	24	120.2	122.1	123.1	24
4/23	114.5	114.7	114.8	24	118.4	119.7	121.1	24	114.0	114.4	114.7	24	117.1	118.6	120.5	24	115.0	115.6	115.8	24
4/24	112.5	114.3	114.8	24	117.9	119.2	122.2	24	113.8	114.6	115.1	24	118.7	121.8	126.9	24	116.7	120.2	124.8	24
4/25	110.6	111.6	112.3	24	115.6	116.6	117.8	24	113.0	113.5	113.8	24	114.9	116.2	119.6	24	114.1	115.5	117.1	24
4/26	110.6	111.3	111.8	24	115.1	115.8	116.3	24	112.8	113.9	114.7	24	113.8	114.6	115.8	24	112.3	113.3	115.0	24
4/27	112.3	112.7	113.0	24	116.3	116.6	117.2	24	112.9	113.5	114.5	24	114.3	115.1	120.0	24	113.1	113.8	115.2	24
4/28	112.5	113.1	114.0	24	116.7	117.0	117.3	24	113.7	114.9	116.7	24	115.1	116.7	121.2	24	113.5	115.1	118.2	24
4/29	112.1	112.4	112.6	24	114.7	115.3	116.1	24	113.0	113.6	114.1	24	113.5	113.7	114.1	24	112.1	113.0	115.1	24
4/30	108.3	109.0	111.2	24	111.1	112.3	114.6	24	112.6	113.3	114.4	24	112.8	113.0	113.3	24	110.7	111.3	112.3	24
5/1	107.6	108.2	108.6	24	110.5	111.5	112.3	24	113.0	113.8	115.2	24	113.1	113.3	113.8	24	112.7	113.2	113.9	24
5/2	109.4	110.7	112.1	24	112.8	113.9	114.7	24	112.2	113.2	114.5	23	112.6	112.9	113.1	23	112.6	113.1	113.8	23
5/3	109.0	110.0	111.1	24	112.5	113.5	114.6	23	112.1	113.6	116.2	24	112.3	112.9	113.6	24	112.2	112.6	113.1	24
5/4	109.5	109.9	110.3	24	113.5	115.3	120.2	24	111.8	112.7	113.8	24	112.7	113.3	113.5	24	111.7	111.9	112.2	24
5/5	110.1	111.2	111.9	20	113.9	114.5	116.9	20	---	---	---	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>Clrwr-Peck</u>			#	<u>Anatone</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
4/22	120.9	121.2	121.7	24	---	---	---	0	109.8	110.0	110.4	24	103.7	104.0	104.7	24	104.1	104.4	104.7	24
4/23	118.4	119.6	120.3	24	---	---	---	0	106.2	106.3	106.5	24	102.3	102.6	103.5	24	103.8	104.1	104.2	24
4/24	119.2	119.8	120.4	24	---	---	---	0	106.5	106.7	106.8	24	103.0	103.4	103.7	24	104.9	105.5	106.0	24
4/25	117.1	118.2	118.6	24	---	---	---	0	105.9	106.1	106.4	24	102.9	103.5	104.0	24	105.0	105.6	106.1	24
4/26	116.7	117.2	117.9	24	---	---	---	0	106.1	106.6	106.9	24	115.0	127.3	143.9	24	105.0	105.7	106.3	24
4/27	117.2	117.7	118.2	24	---	---	---	0	106.7	106.9	107.3	24	103.2	103.8	104.2	24	104.7	105.0	105.5	23
4/28	117.7	118.0	118.3	24	---	---	---	0	107.9	109.6	114.9	24	103.0	103.6	105.3	24	104.1	104.5	105.1	24
4/29	114.8	116.3	118.5	24	---	---	---	0	109.5	112.8	119.8	24	103.5	104.5	106.9	24	103.6	103.7	104.0	24
4/30	111.5	111.8	112.4	24	---	---	---	0	106.7	106.9	107.4	24	102.8	103.4	103.8	24	103.5	104.0	104.5	24
5/1	113.6	114.7	115.2	24	---	---	---	0	97.0	97.4	98.2	24	100.4	100.8	102.7	17	104.3	105.2	106.0	24
5/2	113.3	114.0	114.5	23	---	---	---	0	97.1	97.6	97.8	24	100.8	101.6	102.2	24	104.4	105.2	106.0	24
5/3	114.2	115.1	116.6	24	---	---	---	0	97.3	97.7	98.1	24	101.0	101.9	102.6	24	104.5	105.4	106.2	24
5/4	113.6	114.6	116.6	24	---	---	---	0	97.3	97.7	98.2	23	101.5	102.4	103.0	23	104.7	105.5	106.1	23
5/5	---	---	---	0	---	---	---	0	97.8	98.4	98.8	23	102.0	102.9	103.6	23	105.0	105.8	106.5	23

### Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwr-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>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
4/22	102.8	103.2	103.7	24	105.1	105.4	105.5	24	110.0	110.3	110.5	24	110.8	111.1	111.5	24	115.1	115.3	115.4	24
4/23	101.6	101.8	102.1	24	103.4	103.8	103.9	24	115.8	116.6	116.7	24	108.2	108.7	109.5	24	116.4	116.7	117.0	24
4/24	102.1	102.6	103.0	24	102.3	102.5	102.7	24	117.9	120.5	122.8	24	106.3	106.6	107.0	24	115.6	116.1	116.3	24
4/25	102.3	102.9	103.3	24	102.6	103.1	103.4	24	115.8	116.4	116.6	24	109.3	110.4	111.6	24	115.8	116.5	117.4	24
4/26	102.5	103.3	104.2	24	103.5	103.7	104.0	24	111.2	112.7	113.3	24	111.8	112.2	112.9	24	115.3	115.6	115.8	24
4/27	102.7	103.5	104.3	24	104.2	104.3	104.4	24	109.5	109.7	109.8	24	111.5	111.7	112.0	24	114.9	115.4	115.5	24
4/28	102.1	102.5	102.9	24	104.3	104.4	104.5	24	109.6	109.8	110.1	24	109.9	110.3	110.7	24	114.7	115.1	115.3	24
4/29	102.2	102.8	103.8	24	103.7	104.0	104.2	24	109.4	109.6	109.7	24	108.0	108.2	108.4	24	113.5	114.3	114.7	24
4/30	102.1	102.9	103.5	24	102.3	102.5	102.6	24	109.2	109.3	109.5	24	106.9	107.1	107.4	24	113.2	113.4	113.8	24
5/1	102.0	102.7	103.7	24	102.4	102.9	103.3	24	109.3	109.6	110.4	24	106.9	107.2	107.3	24	113.0	113.4	113.7	24
5/2	101.4	102.5	103.5	24	103.6	104.1	104.5	24	109.3	109.6	110.4	24	107.6	108.0	108.3	24	113.1	113.4	113.6	24
5/3	101.5	102.7	103.7	24	104.5	104.8	105.2	24	109.6	109.9	110.4	24	108.5	108.9	109.6	24	113.8	114.1	114.3	24
5/4	101.5	102.6	103.5	23	104.4	104.7	105.0	23	109.7	109.9	110.1	23	109.7	110.1	111.1	23	113.5	113.8	114.1	23
5/5	101.9	102.8	103.4	23	104.2	104.4	104.6	23	110.1	110.3	112.0	23	110.0	110.6	111.9	23	114.2	114.7	115.0	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>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
4/22	116.0	116.1	116.2	24	119.4	119.7	120.1	24	117.7	118.1	118.7	24	118.4	119.7	120.2	24	---	---	---	0
4/23	114.2	114.6	115.3	24	119.2	119.5	119.8	24	115.1	115.5	116.2	24	119.1	120.0	120.2	24	---	---	---	0
4/24	114.0	114.7	115.3	24	117.5	119.0	119.6	24	113.6	113.8	114.1	24	119.2	119.9	120.3	24	---	---	---	0
4/25	113.5	113.8	114.6	24	118.3	119.2	119.5	24	112.8	113.2	113.6	24	119.1	119.6	120.1	24	---	---	---	0
4/26	113.8	114.5	115.0	24	119.5	119.8	120.6	24	113.8	114.2	114.6	24	118.5	119.2	119.8	24	---	---	---	0
4/27	115.1	115.5	115.8	24	120.2	120.5	120.8	24	114.3	114.7	115.3	24	118.0	118.9	119.7	24	---	---	---	0
4/28	115.0	115.4	116.0	24	120.3	120.6	121.0	24	115.2	115.6	116.1	24	117.6	119.0	119.7	24	---	---	---	0
4/29	114.6	114.9	115.2	24	119.6	120.0	120.6	24	115.6	115.8	116.0	24	117.3	118.6	119.7	24	---	---	---	0
4/30	113.3	113.7	114.1	24	119.8	120.1	120.4	24	114.6	114.9	115.2	24	116.2	116.5	116.6	24	---	---	---	0
5/1	113.0	113.3	113.9	24	120.2	120.5	120.8	24	115.7	116.4	116.7	24	116.1	116.5	116.9	24	---	---	---	0
5/2	114.0	114.3	114.4	24	119.9	120.6	120.9	24	116.7	116.9	117.0	24	116.3	116.8	117.4	24	---	---	---	0
5/3	114.0	114.1	114.3	24	119.2	119.7	119.9	24	117.4	117.7	118.0	24	116.1	116.7	117.7	24	---	---	---	0
5/4	114.2	114.4	114.7	23	119.4	120.2	120.5	23	117.6	117.7	118.0	23	116.5	116.9	117.1	23	---	---	---	0
5/5	114.4	114.5	114.7	22	119.6	120.4	122.7	22	117.1	117.3	117.5	23	116.3	116.8	117.9	23	---	---	---	0

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

### Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>McNary-Wash</u>			#	<u>McNary Tlwr</u>			#	<u>John Day</u>			#	<u>John Day Tlwr</u>			#	<u>The Dalles</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>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>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>AVG</u>	<u>High</u>	
4/22	116.3	116.7	117.4	24	119.7	120.5	120.8	24	117.6	118.1	118.3	24	118.4	119.3	119.6	24	114.8	115.6	116.3	24
4/23	113.1	113.6	114.9	24	118.9	119.0	119.1	24	113.5	114.4	115.8	24	118.8	118.9	119.1	24	112.2	112.6	113.1	24
4/24	111.4	111.7	111.9	24	118.7	118.9	119.1	24	110.4	110.9	111.8	24	118.8	118.9	119.0	24	111.1	111.4	111.7	24
4/25	110.8	111.3	111.8	24	118.7	118.8	118.9	24	108.0	108.3	108.9	24	118.1	118.4	118.6	24	108.7	109.0	109.7	24
4/26	113.1	113.8	114.6	24	118.4	118.8	118.9	24	107.3	107.6	107.8	24	117.5	118.0	118.6	24	109.0	109.8	110.3	24
4/27	113.9	114.1	114.4	24	117.1	117.7	117.9	24	108.1	108.4	108.6	24	116.6	117.1	117.5	24	109.3	109.7	109.9	24
4/28	113.2	113.5	114.0	24	117.7	117.8	117.9	24	109.1	109.9	110.3	24	117.1	117.7	118.1	24	109.3	110.0	110.4	24
4/29	112.7	113.0	113.3	24	117.1	117.5	117.7	24	109.9	110.1	110.3	24	117.2	118.2	120.3	24	109.2	109.5	110.2	24
4/30	111.6	111.8	112.0	24	115.5	115.6	115.8	24	109.4	109.7	110.0	24	118.9	119.9	120.8	24	111.0	112.9	113.6	24
5/1	112.5	113.1	113.5	24	115.6	115.8	115.9	24	111.0	111.7	112.1	24	118.1	119.3	121.3	24	113.8	114.3	114.6	24
5/2	113.1	113.8	114.7	24	115.7	116.1	116.5	24	111.5	111.8	112.1	24	115.7	117.0	117.4	24	113.6	114.1	114.2	24
5/3	112.5	113.1	113.6	24	115.5	115.8	116.0	24	112.1	112.4	112.6	24	115.3	117.0	118.8	24	112.4	112.6	113.2	24
5/4	113.4	113.6	114.0	24	115.6	115.9	116.1	24	112.9	113.3	113.6	24	117.7	118.6	119.5	24	112.8	113.9	114.2	24
5/5	112.3	112.4	112.6	20	115.8	116.1	117.3	20	113.4	113.6	113.8	20	117.6	118.1	118.4	20	113.4	113.8	114.4	20

### 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>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
4/22	117.5	118.2	118.8	24	116.7	117.5	117.7	24	118.8	119.3	119.8	24	116.1	116.6	116.9	24	121.7	122.7	123.2	24
4/23	115.1	115.4	116.4	24	113.9	114.1	114.6	24	118.2	118.5	119.1	24	116.4	116.7	116.9	24	122.5	122.7	123.2	24
4/24	114.4	114.9	115.6	24	112.9	113.1	113.5	24	117.6	117.9	118.1	24	115.2	115.5	115.8	24	123.0	123.1	123.3	24
4/25	113.7	114.3	114.9	24	111.4	111.7	112.4	24	117.0	117.3	117.6	24	114.9	115.2	115.7	24	122.9	123.0	123.1	24
4/26	115.0	115.5	116.1	24	112.3	112.9	113.7	24	116.8	117.3	117.5	24	115.5	116.6	117.2	24	122.4	122.9	123.2	24
4/27	115.0	115.3	115.7	24	113.6	113.9	114.2	24	115.7	115.8	116.0	24	114.7	115.0	115.5	24	119.9	120.0	120.1	24
4/28	114.8	115.1	115.5	24	112.7	112.9	113.5	24	115.2	115.3	115.6	24	113.9	114.2	114.7	24	119.6	119.7	119.8	24
4/29	114.3	114.8	115.2	24	111.8	112.0	112.6	24	114.7	114.9	115.3	24	112.9	113.2	113.5	24	119.5	119.6	119.8	24
4/30	115.2	116.6	117.8	24	111.3	111.8	112.0	24	114.1	114.3	114.6	24	112.7	113.8	114.6	24	118.9	119.3	119.4	24
5/1	117.7	118.5	119.0	24	114.5	115.9	117.3	24	115.3	115.9	116.2	24	113.7	114.6	115.0	24	118.6	118.8	119.0	24
5/2	117.4	117.9	118.4	24	117.2	117.9	118.7	24	117.0	117.2	117.5	24	114.1	115.8	117.0	24	118.6	118.8	119.0	24
5/3	116.4	116.8	117.3	24	117.6	118.4	118.9	24	117.5	117.9	118.0	24	116.0	117.1	118.1	24	118.2	118.4	118.9	24
5/4	116.4	117.0	118.0	24	114.6	114.9	115.2	24	116.0	116.3	116.5	24	115.0	115.3	115.7	24	118.2	118.4	118.7	24
5/5	117.1	117.4	117.9	20	113.4	113.7	113.8	20	115.9	116.0	116.2	20	113.8	114.2	115.1	20	117.8	117.9	118.2	20

## Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 5/6/2016 7:00

\* 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>

<b>COMBINED YEARLING CHINOOK</b>												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
04/22/2016	*	---	103	571	47	119,798	260,639	209,292	974	---	73,197	76,607
04/23/2016	*	---	---	846	---	263,888	---	---	969	93,984	---	84,355
04/24/2016	*	---	---	209	---	287,177	348,092	224,535	614	---	151,166	66,832
04/25/2016	*	---	---	113	208	313,481	---	---	736	107,189	---	76,342
04/26/2016	*	---	33	268	96	343,493	208,554	371,724	1,400	---	150,076	83,713
04/27/2016	*	---	71	199	21	201,413	---	---	1,480	188,358	---	53,112
04/28/2016	*	---	---	125	35	176,701	252,288	124,457	2,483	---	141,860	46,484
04/29/2016	*	---	---	240	59	182,679	---	---	3,956	233,817	---	81,466
04/30/2016	*	---	---	176	71	185,500	295,382	175,124	4,043	---	198,035	100,446
05/01/2016	*	---	---	81	71	176,576	---	61,289	3,803	209,452	---	124,166
05/02/2016	*	---	---	58	177	136,483	166,423	315,373	3,295	---	81,549	169,295
05/03/2016	*	---	---	99	215	---	140,689	318,502	3,305	275,944	---	142,373
05/04/2016	*	---	---	74	95	75,688	206,256	209,950	2,955	---	101,225	82,611
05/05/2016	*	---	---	153	5	---	95,363	0	2,215	203,375	---	91,176
05/06/2016	*	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>207</b>	<b>3,212</b>	<b>1,100</b>	<b>2,462,877</b>	<b>1,973,686</b>	<b>2,010,246</b>	<b>32,228</b>	<b>1,312,119</b>	<b>897,108</b>	<b>1,278,978</b>
<b># Days:</b>		<b>0</b>	<b>3</b>	<b>14</b>	<b>12</b>	<b>12</b>	<b>9</b>	<b>10</b>	<b>14</b>	<b>7</b>	<b>7</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>69</b>	<b>229</b>	<b>92</b>	<b>205,240</b>	<b>219,298</b>	<b>201,025</b>	<b>2,302</b>	<b>187,446</b>	<b>128,158</b>	<b>91,356</b>
<b>YTD</b>		<b>27,295</b>	<b>55,373</b>	<b>14,408</b>	<b>6,458</b>	<b>4,252,990</b>	<b>2,649,246</b>	<b>2,404,907</b>	<b>35,644</b>	<b>1,498,523</b>	<b>1,103,926</b>	<b>1,755,914</b>

<b>COMBINED SUBYEARLING CHINOOK</b>												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
04/22/2016	*	---	0	0	0	501	1,143	0	49	---	1,003	539
04/23/2016	*	---	---	0	---	0	---	---	87	7,452	---	620
04/24/2016	*	---	---	1	---	0	0	0	66	---	451	343
04/25/2016	*	---	---	1	167	3,717	---	---	282	16,961	---	626
04/26/2016	*	---	0	2	45	1,953	0	0	102	---	1,431	639
04/27/2016	*	---	0	4	36	2,009	---	---	32	13,156	---	298
04/28/2016	*	---	---	5	44	994	0	0	14	---	815	278
04/29/2016	*	---	---	7	52	1,254	---	---	20	19,376	---	1,151
04/30/2016	*	---	---	5	63	254	1,717	0	10	---	436	854
05/01/2016	*	---	---	9	46	257	---	0	3	4,758	---	277
05/02/2016	*	---	---	27	111	2,404	2,859	0	14	---	1,111	1,893
05/03/2016	*	---	---	22	111	---	2,858	0	25	678	---	1,119
05/04/2016	*	---	---	18	33	1,328	2,905	878	19	---	872	3,622
05/05/2016	*	---	---	1	12	---	0	0	10	4,393	---	1,639
05/06/2016	*	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>102</b>	<b>720</b>	<b>14,671</b>	<b>11,482</b>	<b>878</b>	<b>733</b>	<b>66,774</b>	<b>6,119</b>	<b>13,898</b>
<b># Days:</b>		<b>0</b>	<b>3</b>	<b>14</b>	<b>12</b>	<b>12</b>	<b>9</b>	<b>10</b>	<b>14</b>	<b>7</b>	<b>7</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>7</b>	<b>60</b>	<b>1,223</b>	<b>1,276</b>	<b>88</b>	<b>52</b>	<b>9,539</b>	<b>874</b>	<b>993</b>
<b>YTD</b>		<b>0</b>	<b>12</b>	<b>131</b>	<b>1,007</b>	<b>44,122</b>	<b>12,628</b>	<b>878</b>	<b>6,122</b>	<b>156,060</b>	<b>8,009</b>	<b>1,099,778</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)	
04/22/2016	*	---	0	0	1	0	572	1,106	60	---	573	14,566
04/23/2016	*	---	---	0	---	1,291	---	---	98	1,242	---	11,785
04/24/2016	*	---	---	0	---	2,741	2,990	526	33	---	2,254	9,360
04/25/2016	*	---	---	0	9	4,027	---	---	113	2,827	---	13,454
04/26/2016	*	---	0	0	25	7,813	1,145	1,065	166	---	9,611	18,532
04/27/2016	*	---	0	0	1	4,018	---	---	112	4,135	---	14,253
04/28/2016	*	---	---	0	3	8,201	2,860	277	156	---	3,058	11,412
04/29/2016	*	---	---	0	15	4,264	---	---	283	5,117	---	14,681
04/30/2016	*	---	---	0	8	2,795	11,449	1,128	559	---	3,047	13,374
05/01/2016	*	---	---	0	15	3,341	---	311	943	5,754	---	21,294
05/02/2016	*	---	---	0	27	2,938	1,716	1,508	1,328	---	2,000	30,679
05/03/2016	*	---	---	0	25	---	1,715	891	2,236	3,379	---	21,244
05/04/2016	*	---	---	0	20	4,249	1,162	1,464	2,225	---	3,048	18,076
05/05/2016	*	---	---	0	0	---	4,568	0	1,938	6,080	---	20,662
05/06/2016	*	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>149</b>	<b>45,678</b>	<b>28,177</b>	<b>8,276</b>	<b>10,250</b>	<b>28,534</b>	<b>23,591</b>	<b>233,372</b>
<b># Days:</b>		<b>0</b>	<b>3</b>	<b>14</b>	<b>12</b>	<b>12</b>	<b>9</b>	<b>10</b>	<b>14</b>	<b>7</b>	<b>7</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>3,807</b>	<b>3,131</b>	<b>828</b>	<b>732</b>	<b>4,076</b>	<b>3,370</b>	<b>16,669</b>
<b>YTD</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>230</b>	<b>50,778</b>	<b>28,750</b>	<b>8,303</b>	<b>10,429</b>	<b>33,869</b>	<b>25,786</b>	<b>488,981</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)	
04/22/2016	*	---	707	208	390	69,959	83,448	93,764	128	---	30,797	5,395
04/23/2016	*	---	---	179	---	209,923	---	---	168	24,425	---	4,342
04/24/2016	*	---	---	16	---	323,417	294,855	117,401	92	---	32,891	6,427
04/25/2016	*	---	---	10	249	182,141	---	---	168	29,924	---	2,190
04/26/2016	*	---	433	144	292	333,168	167,882	201,040	199	---	45,800	10,225
04/27/2016	*	---	426	69	98	124,816	---	---	227	65,038	---	3,868
04/28/2016	*	---	---	31	35	116,807	147,021	146,343	436	---	46,063	8,072
04/29/2016	*	---	---	40	340	78,049	---	---	549	96,537	---	18,711
04/30/2016	*	---	---	43	169	37,608	207,225	92,497	683	---	74,862	34,715
05/01/2016	*	---	---	23	274	51,919	---	46,044	800	93,337	---	43,970
05/02/2016	*	---	---	24	396	74,251	66,911	104,923	777	---	53,774	41,283
05/03/2016	*	---	---	34	477	---	43,513	100,423	746	73,016	---	21,617
05/04/2016	*	---	---	33	313	96,668	54,612	74,083	589	---	52,463	32,438
05/05/2016	*	---	---	80	10	---	34,261	0	572	48,982	---	92,158
05/06/2016	*	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>1,566</b>	<b>934</b>	<b>3,043</b>	<b>1,698,726</b>	<b>1,099,728</b>	<b>976,518</b>	<b>6,134</b>	<b>431,259</b>	<b>336,650</b>	<b>325,411</b>
<b># Days:</b>		<b>0</b>	<b>3</b>	<b>14</b>	<b>12</b>	<b>12</b>	<b>9</b>	<b>10</b>	<b>14</b>	<b>7</b>	<b>7</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>522</b>	<b>67</b>	<b>254</b>	<b>141,561</b>	<b>122,192</b>	<b>97,652</b>	<b>438</b>	<b>61,608</b>	<b>48,093</b>	<b>23,244</b>
<b>YTD</b>		<b>755</b>	<b>17,848</b>	<b>2,254</b>	<b>6,247</b>	<b>2,648,293</b>	<b>1,542,375</b>	<b>1,147,887</b>	<b>6,813</b>	<b>534,834</b>	<b>388,656</b>	<b>358,393</b>

## 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)	
04/22/2016	*	---	0	0	0	0	0	792	---	1,862	270	
04/23/2016	*	---	---	0	---	0	---	1,097	9,108	---	930	
04/24/2016	*	---	---	0	---	0	0	1,250	---	3,379	343	
04/25/2016	*	---	---	0	4	310	---	421	8,077	---	2,190	
04/26/2016	*	---	0	0	7	0	0	219	---	8,997	2,556	
04/27/2016	*	---	0	0	4	0	---	347	21,804	---	774	
04/28/2016	*	---	---	0	3	0	0	1,843	---	7,746	1,392	
04/29/2016	*	---	---	0	1	0	---	1,795	50,854	---	2,879	
04/30/2016	*	---	---	0	1	0	0	3,021	---	19,586	2,276	
05/01/2016	*	---	---	0	0	257	---	0	3,272	39,585	7,190	
05/02/2016	*	---	---	0	12	0	572	0	4,226	---	10,666	
05/03/2016	*	---	---	0	2	---	572	0	6,439	47,990	15,280	
05/04/2016	*	---	---	0	4	0	0	0	3,205	---	20,680	
05/05/2016	*	---	---	0	0	---	0	0	2,399	51,010	23,614	
05/06/2016	*	---	---	---	---	---	---	---	---	---	---	
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>567</b>	<b>1,144</b>	<b>0</b>	<b>30,326</b>	<b>228,428</b>	<b>72,916</b>	<b>98,164</b>
<b># Days:</b>		<b>0</b>	<b>3</b>	<b>14</b>	<b>12</b>	<b>12</b>	<b>9</b>	<b>10</b>	<b>14</b>	<b>7</b>	<b>7</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>47</b>	<b>127</b>	<b>0</b>	<b>2,166</b>	<b>32,633</b>	<b>10,417</b>	<b>7,012</b>
<b>YTD</b>		<b>1</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>890</b>	<b>1,144</b>	<b>0</b>	<b>36,343</b>	<b>255,134</b>	<b>74,520</b>	<b>101,268</b>

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)	
04/22/2016	*	---	0	0	0	800	400	0	---	500	0	
04/23/2016	*	---	---	0	---	0	---	2	600	---	100	
04/24/2016	*	---	---	0	---	1	0	7	---	571	0	
04/25/2016	*	---	---	0	0	1	---	3	1,000	---	100	
04/26/2016	*	---	0	0	0	7	0	3	---	1,286	400	
04/27/2016	*	---	0	0	10	---	---	2	600	---	0	
04/28/2016	*	---	---	0	1	2,400	400	0	---	1,143	0	
04/29/2016	*	---	---	0	0	1	---	0	1,400	---	100	
04/30/2016	*	---	---	0	0	1,600	400	0	---	1,429	0	
05/01/2016	*	---	---	0	0	0	200	0	2,000	---	0	
05/02/2016	*	---	---	0	0	3,600	600	0	---	1,143	0	
05/03/2016	*	---	---	0	0	1,600	0	0	400	---	143	
05/04/2016	*	---	---	0	0	400	1,200	1	---	1,000	20	
05/05/2016	*	---	---	0	0	---	0	0	1,400	---	286	
05/06/2016	*	---	---	---	---	---	---	---	---	---	---	
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>10,400</b>	<b>3,600</b>	<b>18</b>	<b>7,400</b>	<b>7,072</b>	<b>1,149</b>	
<b># Days:</b>		<b>0</b>	<b>3</b>	<b>14</b>	<b>12</b>	<b>12</b>	<b>9</b>	<b>10</b>	<b>14</b>	<b>7</b>	<b>14</b>	
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1,156</b>	<b>360</b>	<b>1</b>	<b>1,057</b>	<b>1,010</b>	<b>82</b>	
<b>YTD</b>		<b>0</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>92</b>	<b>12,900</b>	<b>3,820</b>	<b>83</b>	<b>12,450</b>	<b>11,676</b>	<b>6,972</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:

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:

5/6/16 6:59 AM

		<b>04/22/16 TO 05/06/16</b>					
		<b>Species</b>					
<b>Site</b>	<b>Data</b>	<b>CH0</b>	<b>CH1</b>	<b>CO</b>	<b>ST</b>	<b>SO</b>	<b>Grand Total</b>
<b>LGR</b>	Sum of NumberCollected	10,800	1,828,111	34,400	1,241,290	400	3,115,001
	Sum of NumberBarged	2,780	158,316	5,397	127,192	0	293,685
	Sum of NumberBypassed	8,010	1,669,556	28,999	1,114,057	400	2,821,022
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	3	39	1	11	0	54
	Sum of FacilityMorts	7	140	3	5	0	155
	Sum of ResearchMorts	0	60	0	25	0	85
	Sum of TotalProjectMorts	10	239	4	41	0	294
<b>LGS</b>	Sum of NumberCollected	8,000	1,367,399	19,600	759,310	800	2,155,109
	Sum of NumberBarged	5,990	423,616	6,400	138,848	800	575,654
	Sum of NumberBypassed	2,008	943,643	13,200	620,449	0	1,579,300
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	2	9	0	1	0	12
	Sum of FacilityMorts	0	131	0	12	0	143
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2	140	0	13	0	155
<b>LMN</b>	Sum of NumberCollected	600	1,524,100	8,600	736,100	200	2,269,600
	Sum of NumberBarged	0	489,797	5,400	223,103	200	718,500
	Sum of NumberBypassed	600	1,034,106	3,199	512,949	0	1,550,854
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	38	0	7	0	45
	Sum of FacilityMorts	0	159	1	41	1	202
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	197	1	48	1	247
<b>Total Sum of NumberCollected</b>		<b>19,400</b>	<b>4,719,610</b>	<b>62,600</b>	<b>2,736,700</b>	<b>1,400</b>	<b>7,539,710</b>
<b>Total Sum of NumberBarged</b>		<b>8,770</b>	<b>1,071,729</b>	<b>17,197</b>	<b>489,143</b>	<b>1,000</b>	<b>1,587,839</b>
<b>Total Sum of NumberBypassed</b>		<b>10,618</b>	<b>3,647,305</b>	<b>45,398</b>	<b>2,247,455</b>	<b>400</b>	<b>5,951,176</b>
<b>Total Sum of Numbertrucked</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Sum of SampleMorts</b>		<b>5</b>	<b>86</b>	<b>1</b>	<b>19</b>	<b>0</b>	<b>111</b>
<b>Total Sum of FacilityMorts</b>		<b>7</b>	<b>430</b>	<b>4</b>	<b>58</b>	<b>1</b>	<b>500</b>
<b>Total Sum of ResearchMorts</b>		<b>0</b>	<b>60</b>	<b>0</b>	<b>25</b>	<b>0</b>	<b>85</b>
<b>Total Sum of TotalProjectMorts</b>		<b>12</b>	<b>576</b>	<b>5</b>	<b>102</b>	<b>1</b>	<b>696</b>

## YTD Transportation Summary

Source: Fish Passage Center

Updated:

5/6/16 6:59 AM

TO: 05/06/16

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
<b>LGR</b>	Sum of NumberCollected	34,190	3,251,595	38,470	650	1,983,117	5,308,022
	Sum of NumberBarged	2,780	158,316	5,397	0	127,192	293,685
	Sum of NumberBypassed	31,350	3,092,884	33,069	650	1,855,871	5,013,824
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	11	72	1	0	20	104
	Sum of FacilityMorts	49	203	3	0	9	264
	Sum of ResearchMorts	0	120	0	0	25	145
	Sum of TotalProjectMorts	60	395	4	0	54	513
<b>LGS</b>	Sum of NumberCollected	8,800	1,839,268	20,000	800	1,068,616	2,937,484
	Sum of NumberBarged	5,990	423,616	6,400	800	138,848	575,654
	Sum of NumberBypassed	2,808	1,415,436	13,600	0	929,747	2,361,591
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	2	15	0	0	3	20
	Sum of FacilityMorts	0	201	0	0	18	219
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2	216	0	0	21	239
<b>LMN</b>	Sum of NumberCollected	600	1,794,994	8,620	200	854,364	2,658,778
	Sum of NumberBarged	0	489,797	5,400	200	223,103	718,500
	Sum of NumberBypassed	600	1,304,988	3,219	0	631,211	1,940,018
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	50	0	0	9	59
	Sum of FacilityMorts	0	159	1	1	41	202
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	209	1	1	50	261
Total Sum of NumberCollected		43,590	6,885,857	67,090	1,650	3,906,097	10,904,284
Total Sum of NumberBarged		8,770	1,071,729	17,197	1,000	489,143	1,587,839
Total Sum of NumberBypassed		34,758	5,813,308	49,888	650	3,416,829	9,315,433
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		13	137	1	0	32	183
Total Sum of FacilityMorts		49	563	4	1	68	685
Total Sum of ResearchMorts		0	120	0	0	25	145
Total Sum of TotalProjectMorts		62	820	5	1	125	1,013

Cumulative Adult Passage at Mainstem Dams Through: 05/05

DAM	END DATE	Spring Chinook						Summer Chinook						Fall Chinook					
		2016		2015		10-Yr Avg.		2016		2015		10-Yr Avg.		2016		2015		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	05/05	81002	2217	157232	2887	78496	3311	0	0	0	0	0	0	0	0	0	0	0	0
TDA	05/05	47165	1605	130844	2443	51192	1957	0	0	0	0	0	0	0	0	0	0	0	0
JDA	05/05	35905	733	109909	2177	39400	1425	0	0	0	0	0	0	0	0	0	0	0	0
MCN	05/04	11158	239	88004	1470	23231	496	0	0	0	0	0	0	0	0	0	0	0	0
IHR	05/05	7378	114	64788	402	16512	262	0	0	0	0	0	0	0	0	0	0	0	0
LMN	05/04	3679	68	44680	577	10541	145	0	0	0	0	0	0	0	0	0	0	0	0
LGS	05/04	2526	51	36555	465	7678	152	0	0	0	0	0	0	0	0	0	0	0	0
LGR	05/05	1851	30	30771	320	6361	85	0	0	0	0	0	0	0	0	0	0	0	0
PRD	05/04	976	2	8891	91	2447	7	0	0	0	0	0	0	0	0	0	0	0	0
WAN	05/04	567	3	6250	22	2076	1	0	0	0	0	0	0	0	0	0	0	0	0
RIS	05/04	294	0	6901	11	1504	3	0	0	0	0	0	0	0	0	0	0	0	0
RRH	05/04	74	1	2200	1	395	0	0	0	0	0	0	0	0	0	0	0	0	0
WEL	05/01	1	0	215	0	42	1	0	0	0	0	0	0	0	0	0	0	0	0
WFA	05/04	6660	133	23558	645	8594	130	0	0	0	0	0	0	0	0	0	0	0	0

DAM	END DATE	Coho						Sockeye			Steelhead						Lamprey		
		2016		2015		10-Yr Avg.		2016	2015	10-Yr Avg.	2016	2015	10-Yr Avg.	Wild 2016	Wild 2015	10-Yr Avg.	2016	2015	10-Yr Avg.
		Adult	Jack	Adult	Jack	Adult	Jack												
BON	05/05	0	0	0	0	0	0	1	1	0	3880	4302	3939	1614	2303	1261	34	1	1
TDA	05/05	0	0	0	0	0	0	0	0	0	299	313	2291	166	159	910	0	0	0
JDA	05/05	0	0	0	0	0	1	0	0	0	345	472	4559	239	316	1760	107	14	-1
MCN	05/04	0	0	0	0	1	0	1	0	0	482	618	5396	318	401	1825	4	7	2
IHR	05/05	0	0	0	0	0	0	0	0	0	1291	989	5018	678	637	1502	1	2	0
LMN	05/04	-2	0	0	0	0	0	0	0	0	1358	3309	8139	940	1776	2700	0	0	0
LGS	05/04	0	0	0	0	0	0	0	0	0	3270	1378	2870	1891	918	1343	0	0	0
LGR	05/05	0	0	0	0	0	0	0	0	0	5357	9027	8983	3031	4221	3325	0	0	0
PRD	05/04	0	0	0	0	0	0	0	0	0	12	25	32	0	0	0	15	4	0
WAN	05/04	0	0	0	0	0	0	0	0	0	16	43	74	0	0	0	6	3	0
RIS	05/04	0	0	0	0	0	0	1	0	0	26	80	88	12	57	50	0	0	0
RRH	05/04	0	0	0	0	0	0	0	0	0	67	90	245	20	63	170	0	0	0
WEL	05/01	0	0	0	0	0	0	0	0	0	5	5	5	1	3	3	0	0	0
WFA	05/04	0	0	1	0	0	0	0	0	0	7417	4793	7426	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.

