



Fish Passage Center

Weekly Report #16-5

April 15, 2016

Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 30% and 71% of average at individual sub-basins over April. Precipitation above The Dalles has been 48% of average over April. Over the 2016 water year, precipitation has ranged between 87% and 113% of average.

Table 1. Summary of April precipitation and cumulative October through April 14 precipitation with respect to average (1971–2000) at select locations within the Columbia and Snake River Basins.

Location	Water Year 2016 April 1–14, 2016		Water Year 2016 October 1, 2015 to April 14, 2016	
	Observed (inches)	% Average	Observed (inches)	% Average
	Columbia above Coulee	0.48	41	25.0
Snake River above Ice Harbor	0.53	60	15.0	102
Columbia above The Dalles	0.46	48	19.3	105
Kootenai	0.41	35	25.0	106
Clark Fork	0.43	42	15.1	93
Flathead	0.38	30	23.5	106
Pend Oreille River Basin above Waneta Dam	0.41	36	20.8	102
Salmon River Basin	0.85	71	19.0	102
Upper Snake Tributaries	0.78	67	14.4	87
Clearwater	0.74	49	29.0	105
Willamette River above Portland	0.97	41	59.4	113

Snowpack within the Columbia Basin has been declining. Snowpack in the Columbia River for basins above the Snake River confluence is 90% of average. For Snake River Basins the snowpack is 86% of average. For lower Columbia Basins between McNary and Bonneville Dam snowpack is 75% of average.

Table 2 displays the April 14th ESP runoff volume forecasts for multiple reservoirs along with the April COE forecasts at Libby and Dworshak. The April 14th ESP forecast at The Dalles between April and August is 88,842 Kaf (101% of average).

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

Location	April 7, 2016 5-day QPF ESP	
	% Average (1981–2010)	Runoff Volume (Kaf)
The Dalles (Apr–Aug)	101	88,842
Grand Coulee (Apr–Aug)	102	57,863
Libby Res. Inflow, MT (Apr–Aug)	100 114*	5,905 6,681*
Hungry Horse Res. Inflow, MT (Apr–Aug)	97	1,873
Lower Granite Res. Inflow (Apr–July)	97	19,331
Brownlee Res. Inflow (Apr–July)	88	4,792
Dworshak Res. Inflow (Apr–July)	102 95*	2,460 2,303*

* Denotes COE April Forecast

Grand Coulee Reservoir is at 1,250.8 feet (4-14-16) and has drafted 2.2 feet over the last week. Outflows at Grand Coulee have ranged between 83.7 and 162.2 Kcfs over the last week. The April 30th FC Elevation at Grand Coulee is currently 1,243.8 feet. Grand Coulee will be drafted to 1,255 ft. and below this year for a period of eight weeks for drum gate maintenance. The BOR expects to be finished with drum gate maintenance on May 6, 2016.

The Libby Reservoir is currently at elevation 2,398.7 feet (4-14-16) and has refilled 0.3 feet over the previous week. Daily average outflows at Libby Dam have been 10.5–17.0 Kcfs over the last week. The April 30th FC Elevation at Libby is currently 2,387.4 feet.

Hungry Horse is currently at an elevation of 3,523.9 feet (4-14-16) and has filled 3.8 feet over the last week. Outflows at Hungry Horse have been 2.2–3.2 Kcfs over the last week. The April 30th FC Elevation at Hungry Horse is currently 3,545.0 feet.

Dworshak is currently at an elevation of 1,563.6 feet (4-14-16) and has refilled 0.3 feet over the last week. Outflows have been 16.2–16.7 Kcfs over the last week. The April 30th System FC Elevation at Dworshak is currently 1,543.5. The COE is planning to deviate from the mid-April FC elevation by 294 kaf to avoid excessive drafts and will intersect the refill curve (begin refill) before the end of April.

The Brownlee Reservoir was at an elevation of 2,051.8 feet on April 14, 2016, and has refilled 7.1 feet over the last week. The April 30th FC Elevation at Brownlee is currently 2,046.9 feet.

The Biological Opinion flow period began on April 3rd 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 have averaged 87.7 last week and 78.5 Kcfs between April 3 and April 14, 2016.

Based on the April Final Water Supply Forecast, the Spring Biological Opinion Flow Objectives (which began April 10th) will be 243 Kcfs at McNary Dam and 135 Kcfs at Priest Rapids Dam. Between April 10 and April 14, flows at McNary Dam were 260.9 Kcfs and 152.5 Kcfs at Priest Rapids Dam.

Spill

Spill in excess of hydraulic capacity is presently occurring at Dworshak Dam as outflows were increased above the hydraulic capacity of the project. This increase in project outflow was necessary because the Corps of Engineers issued a new water supply forecast that was significantly greater than they had been predicting would occur. Previously they estimated the April through July inflow to the project at 84% of average, while now they are estimating inflow to be 95% of average. This inflow increase of approximately 200 Kaf requires that the project draft to a deeper end of April flood control elevation. The new end of April flood control elevation of 1,543.5 feet would require a draft of approximately 20 feet from the project. A draft

of this magnitude would mean spilling considerable amounts of water that would cause the TDG below the project to exceed the 110% water quality standard. Consequently, to minimize the TDG level the COE has requested a flood control deviation of 20 feet by mid-April and will intersect the refill curve (begin refill) before the end of April.

Outflow from Dworshak has been slightly over 16 Kcfs, with a spill level ranging from 6.3 Kcfs to 6.8 Kcfs. For the most part, the total dissolved gas levels have remained below the 110% standard thus far, but have been as high as 110.0%.

The 2016 spill for fish passage program at the lower Snake River projects began just after midnight on April 3rd.

Project	Spill Level Day/Night
Lower Granite	20 Kcfs/20 Kcfs
Little Goose	30%/30%
Lower Monumental	Gas Cap/Gas Cap
Ice Harbor	45 Kcfs/Gas Cap

Thus far all of the lower Snake River projects have spilled at the 2016 Fish Operations Plan (FOP) levels over the past week.

Spill for fish passage began on April 10th at the lower Columbia River projects. Spill for fish passage occurred at the lower Columbia River projects at the following amounts described in the 2016 FOP.

Project	Spill Level Day/Night
McNary	40%/40%
John Day	30%/30%
The Dalles	40%/40%
Bonneville	100 Kcfs/100 Kcfs

Over the past week some levels of uncontrolled spill (above the fish spill program levels) have occurred at McNary, John Day, The Dalles, and Bonneville dams.

Total dissolved gas measurements from planned spill were under the waiver limits at most projects. The exceptions were at the Ice Harbor forebay monitor earlier this week and the Bonneville Dam forebay and tailrace monitors later in the week. At Ice Harbor

Dam, the forebay gage reading is a function of several parameters, in addition to spill levels. The readings decreased considerably over the past few days without a change in spill levels at Lower Monumental Dam. At The Dalles and Bonneville dams, spill was uncontrolled and in excess of the fish spill requirements at times, which was likely responsible for the higher TDG readings.

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 and McNary dams over the past week. There were no fish observed with signs of GBT.

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 subyearling Chinook. Spring Creek NFH released approximately 6.3 million subyearling fall Chinook tules on the morning of April 11th. Spring Creek NFH subyearling Chinook were first observed at BON at around 12:15 AM, April 12th. High passage numbers for these subyearlings continued for the next

48 hours and then decreased substantially by the time the sample for April 14th was completed. There were no instances of high mortality or descaling during the peak passage period for these subyearling Chinook from Spring Creek NFH. This week's daily average passage index for subyearling Chinook at BON was nearly 150,000 per day, with a peak passage index of about 640,000 on April 12th. Coho were the second most dominant species at BON this week. This week's daily average passage index for coho at BON was about 18,500 per day, which is a substantial increase over last week's daily average passage index of about 2,200. Passage of yearling Chinook, steelhead, and sockeye all increased this week when compared to the previous week. This week's daily average passage indices were about 9,750 for yearling Chinook, 1,100 for steelhead, and 100 for sockeye. Last week's daily average passage indices for these three species were 1,250, 260, and less than 20, respectively. No Pacific lamprey ammocoetes were sampled at BON this week. Pacific lamprey macrophthalmia were encountered in six of this week's samples. The daily average collection for Pacific lamprey macrophthalmia for this week was about 170 per day, which was higher than last week's daily average collection of about 80 per day.

For 2016, sampling at John Day Dam (JDA) has been modified to 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 just over 11,400 fish per day. This is an increase over last week's daily average passage index of about 2,500 per day. Steelhead were the second most abundant salmonid this week, with a daily average passage index of about 1,550 fish per day, which is an increase over last week's daily average passage index of only about 300 per day. Other salmonids encountered in this week's samples included subyearling Chinook (fry), coho, and sockeye. Passage numbers for these salmonids were low most of the week, although increasing over the last couple of samples. Pacific lamprey ammocoetes were encountered in three of this week's four samples. The daily average collection for Pacific lamprey ammocoetes this week was about 30 per day. Pacific lamprey macrophthalmia were collected in all four of this week's samples, with a daily average collection of about 490 macrophthalmia per day.

This daily average collection was similar to last week's daily average collection of just over 450 per day.

Similar to recent years, sampling at McNary Dam (MCN) in 2016 will be every-other-day for the entire SMP season. This is the first full week of sampling at MCN. Yearling Chinook dominated this week's samples at MCN, with a daily average passage index of about 5,600 per day. Over the last three samples, it appears that yearling Chinook passage is increasing. Passage of coho, sockeye, and steelhead also seem to be increasing over the last three samples. This week's daily average passage indices for these three species were about 400, 120, and 2,900 per day, respectively. Subyearling Chinook (fry) passage seems to be decreasing this week. The passage index for subyearling Chinook started at just over 6,000 in the sample from April 9th but decreased in the two subsequent samples (April 11th and 13th). The passage index for subyearling Chinook in the April 13 sample was only about 1,200. All of the subyearling Chinook juveniles that have been encountered so far at MCN are fry. Finally, Pacific lamprey macrophthalmia were collected in all three of this week's samples, with a daily average collection of nearly 70 per day.

This week's samples at Lower Granite Dam (LGR) continued to be dominated by yearling Chinook. This week's daily average passage index for yearling Chinook was nearly 104,000 per day, which is an increase over last week's daily average passage index of about 12,350 per day. Steelhead were the second most abundant salmonid this week, with a daily average passage index of just over 43,000 per day. This is also an increase over last week's daily average passage index of about 7,700 per day. Passage of subyearling Chinook also increased this week, with a daily average passage index of nearly 1,250 per day. To date, all of the subyearling Chinook that have been collected at LGR this year have been fry. Coho were also collected at LGR this week but in relatively low numbers. No sockeye were collected at LGR this week. Finally, Pacific lamprey macrophthalmia were encountered in two of this week's samples. The sample counts on these two days were one (April 13th) and five (April 14th).

Sampling at Little Goose Dam (LGS) was delayed due to a leak in a water supply pipe. Therefore, sampling did not begin until April 9th, with the first sample tallied and reported on April 10th. In addition,

sampling at LGS is limited to a 24-hour sample every-other-day until transportation begins. To date, LGS has conducted only three samples. Yearling Chinook dominated the collections in all three samples to date. This week's daily average passage index for yearling Chinook at LGS was nearly 60,000 fish per day. Based on these three samples, it appears that yearling Chinook passage at LGS is increasing. Steelhead were the second most abundant salmonid species at LGS this week, with a daily average passage index of about 50,500 fish per day. Steelhead numbers also seem to be increasing over the last three samples. Subyearling Chinook and coho were collected in one of this week's samples, but in relatively low numbers. As with other sites, all of the subyearling Chinook collected at LGS so far this season have been fry. Finally, Pacific lamprey macrophthalmia were encountered in one sample this week (April 12th). The estimated collection on this day was 100 fish.

Sampling at Lower Monumental Dam (LMN) is limited to a 24-hour sample every-third-day through April 15th and then every-other-day until transportation begins. 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 32,300 fish 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 nearly 8,000 fish per day. Based on the last three samples, it appears that yearling Chinook and steelhead passage is increasing at LMN. No other salmonids were encountered in this week's samples at LMN. Finally, Pacific lamprey macrophthalmia were encountered in the April 11th sample, with an estimated collection of 200 fish.

Sockeye juveniles dominated this week's samples at Rock Island Dam (RIS), with a daily average passage index of about 465 per day. This represents an increase over last week's daily average passage index of about 100 per day. Subyearling Chinook were the second most abundant species in this week's samples. This week's daily average passage index for subyearling Chinook was about 300 per day, which is a decrease over last week's daily average passage index of about 410 per day. To date, all of the subyearling Chinook that have been sampled at RIS this year have been fry. Yearling Chinook passage increased this week when compared to last week. This week's daily average

passage index for yearling Chinook at RIS was about 100 per day, whereas that for last week was just over 10 per day. Steelhead and coho were encountered every day this week but in relatively low numbers. Finally, only Pacific lamprey macrophthalmia were collected in five of this week's samples at RIS.

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 640, which represents an increase over last week's daily average collection of about 240 per day. Steelhead collections also increased at GRN this week, when compared to the previous week. This week's daily average collection for steelhead was about 25 fish per day. The only other salmonids that were encountered in this week's samples were a few subyearling Chinook (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 this week remained at a reduced level (an 8-hour sample) and the trap was moved to a less efficient location. The reduction in time was to avoid handling too many listed hatchery yearling Chinook while the move to a less efficient location was to avoid debris. However, due to increasing flows in the Salmon River and large amounts of debris, sampling at WTB was suspended after the sample on April 13th. Yearling Chinook dominated the three collections from WTB this week. Yearling Chinook and steelhead were the only salmonids collected in this week's samples. This week's daily average collections for these two species were about 330 and 45 per day, respectively. Assuming conditions are safe, sampling at WTB will resume for Monday, April 18th, but likely at a reduced level.

The Snake River Trap at Lewiston (LEW) is located at river kilometer 225 and operated by Idaho Department of Fish and Game. Yearling Chinook dominated this week's collections at LEW, with a daily average collection of about 530 fish per day. This is an increase over last week's daily average collection of about 30 fish. Steelhead collections also increased this week when compared to previous weeks. This week's daily

average collection for steelhead at LEW was about 160 fish per day, whereas that for last week was about 60 fish per day. Other than yearling Chinook and steelhead, subyearling Chinook and coho were collected in this week's samples at LEW, but in relatively low numbers.

The Imnaha River Trap is located at river kilometer seven 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 Imnaha Trap only through March 31st. Through March 31st, yearling Chinook dominated the collections over the last week (Mar. 25–31), with a daily average collection of about 90 fish per day. Steelhead juveniles were also collected at the trap that same week, but in relatively low numbers. The daily average collection for steelhead juveniles at the trap during this period (Mar. 25–31) was about 10 per day. Finally, one Pacific lamprey ammocoetes was encountered in the sample from March 29th. This is the second Pacific lamprey ammocoetes collected at this trap so far this season.

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. Approximately 1.14 million yearling spring Chinook were scheduled for release into this zone this week. Of these, about 57% were scheduled to be released into the Grande Ronde River and its tributaries. The remaining 43% were scheduled to be released into the Imnaha River. The only other new releases that were scheduled to begin in this zone were of summer steelhead. In all, about 3.36 million summer steelhead were scheduled for release into this zone this week. Of these, about 94% were scheduled to be released above Lower Granite Dam. These steelhead releases above Lower Granite Dam include releases into the Clearwater River and its tributaries (totaling just over 2.3 million), releases to the Salmon River and its tributaries (totaling 474,000), and releases into the Wallowa River (totaling about 360,000). The remaining 6% of the steelhead juveniles scheduled for

release this week were scheduled to be released below Little Goose Dam, either from Lyons Ferry Hatchery (108,000) or into the Tucannon River (94,500).

Approximately 189,000 yearling spring Chinook are scheduled to be released to this zone over the next two weeks. All of these yearling Chinook juveniles are scheduled for release into the Yankee Fork of the Salmon River. There are several releases of summer steelhead juveniles scheduled for this zone over the next two weeks. These releases are expected to total about 1.4 million summer steelhead. All of these steelhead juveniles are scheduled to be released into the Salmon River and its tributaries.

Mid-Columbia Zone: The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. Just over 2.75 million yearling spring Chinook were scheduled to be released into this zone this week. These spring Chinook releases are scheduled to occur on the Wenatchee River (52%), Methow River (22%), Okanogan River (7%), and directly into the Columbia River just below Chief Joseph Dam (19%). In addition, just over 2.0 million yearling summer Chinook were scheduled for release into this zone this week. Of these, approximately 59% were scheduled to be released directly into the Columbia River either at Chelan Falls, from Wells Hatchery (below Wells Dam), or from Chief Joseph Hatchery (below Chief Joseph Dam). The remaining 41% were scheduled to be released into the Okanogan River and its tributaries. Just over 1.0 million coho juveniles were scheduled to be released into the Yakima River this week. These coho releases are part of a Yakama Tribal Coho Reintroduction Program on the Wenatchee, Methow, and Yakima River basins. Finally, nearly 400,000 summer steelhead juveniles were scheduled for release into this zone this week. These steelhead releases were scheduled to occur throughout this river zone, including releases to the Okanogan River (10%), the Methow River (33%), directly to the Columbia River (at Ringgold Hatchery) (45%), and the Touchet River (12%).

Approximately 535,000 yearling summer Chinook juveniles are scheduled to be released from the Dryden Acclimation Ponds on the Wenatchee River later this month. The only other releases that are scheduled for this zone over the next two weeks are of summer steelhead. Over the next two weeks, about 450,000

total summer steelhead juveniles are scheduled to be released into this zone. These steelhead releases are scheduled to occur throughout this zone, including: the Okanogan River (15%), directly to the Columbia River (below Wells Dam) (35%), and the Wenatchee River (50%).

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Approximately 6.35 million subyearling fall Chinook tules were released from Spring Creek National Fish Hatchery on the morning of April 11th. These subyearling fall Chinook were first observed at the Bonneville Dam juvenile fish facility at about 12:15 AM on April 12th. It appears that the majority of the release had passed Bonneville Dam by 7:00 AM on April 14th. Several releases of yearling spring Chinook juveniles were scheduled to begin in this zone this week. In all, these spring Chinook releases were expected to total just over 2.75 million juveniles and were scheduled to occur throughout the river zone; including releases into the Deschutes (10%), Little White Salmon (48%), and Wind (42%) rivers. Approximately 960,000 yearling spring Chinook were scheduled to be released to this zone this week. Of these about 885,000 (92%) were scheduled to be released into the Umatilla River while the remaining 75,000 (8%) were scheduled to be released into Hood River. In addition, about 162,000 summer steelhead juveniles were scheduled to be released into the Deschutes River this week. About 21,000 summer steelhead juveniles were scheduled to be released into the Deschutes River this week. Finally, about 15,500 winter steelhead juveniles were scheduled to be released into Rock Creek (near Stevenson, Washington) this week.

Approximately 500,000 coho juveniles are scheduled to be released into the Umatilla River, on or around April 16th. About 265,000 summer steelhead juveniles are scheduled for release into this zone over the next two weeks. Of these, about 57% are scheduled to be released into the Umatilla River, 34% are scheduled to be released into the Klickitat River, and 9% are scheduled to be released into the Deschutes River. Finally, about 50,000 winter steelhead juveniles are scheduled to be released into Hood River at the end of the month.

Adult Passage

Adult counts at Bonneville Dam have been updated through April 14, 2016. The 2016 adult spring Chinook count at Bonneville Dam of 3,457 is about 32.5% of the 2015 count of 10,629 and 77% of the 10-year average count of 4,488. At Willamette Falls 678 adult spring Chinook have been counted so far this year.

The 2016 Bonneville Dam adult steelhead count of 3,316 is about 91.6% of the 2015 count of 3,618, while having 207 more fish than the 10-year average count of 3,109. This year's Lower Granite steelhead count of 4,802 is about 57.2% of the 2015 count of 8,398 and 63.4% of the 10-year average count of 7,574. At Willamette Falls, the 2016 count for steelhead was 5,153 as of April 10th. This year's steelhead count is about 1.5 times greater than the 2015 count of 3,528 and has 349 more fish than the 10-year average count of 4,804.

Between March 1st and April 14th, a total of 143 steelhead, 23 salmon, and 6 other salmonid species were observed over the separator at the Bonneville Juvenile Monitoring Facility (JMF). 2016 Kelt passage at the Bonneville JMF can be found at: <http://www.fpc.org/adultsalmon/bonkeltcounts.htm>.

Hatchery Releases Last Two Weeks

Hatchery Release Summary
From: 4/2/2016 to 04/15/16

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	Mid-Columbia River
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	Mid-Columbia 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	30,000	04-15-16	04-20-16	Omak Creek	Okanogan River
Colville Tribe Total					1,771,500				
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2016	474,513	04-04-16	04-05-16	N Fk Clearwater River	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2016	123,816	04-04-16	04-05-16	Newsome Creek	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2016	227,969	04-11-16	04-11-16	Redhouse (SFk ClearH20 R)	S Fk Clearwater River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2016	90,000	04-12-16	04-12-16	Shoup Br (Salmon R)	Salmon River (ID)
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	94,000	04-11-16	04-12-16	Salmon River (ID)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2016	200,000	04-14-16	04-15-16	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2016	154,869	04-04-16	04-08-16	Knox Bridge	Salmon River (ID)
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2016	875,460	04-04-16	04-08-16	Knox Bridge	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2016	218,735	04-05-16	04-08-16	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2016	565,145	03-21-16	04-05-16	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2016	66,859	04-01-16	04-14-16	Pahsimeroi Hatchery	Pahsimeroi River
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2016	1,054,263	04-01-16	04-14-16	Pahsimeroi Hatchery	Pahsimeroi River
Idaho Dept. of Fish and Game Total					4,235,629				
Nez Perce Tribe	Dworshak NFH	ST	SU	2016	200,000	04-11-16	04-22-16	Lolo Creek	Clearwater River M F
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2016	250,000	04-15-16	04-15-16	Lostine Accim Pond	Wallowa River
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2016	123,000	04-08-16	04-08-16	Big Canyon (Clearwater River)	Clearwater River M F
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2016	154,000	04-07-16	04-07-16	Pittsburg Landing Acclim Pond	Snake River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH1	SP	2016	185,260	04-04-16	04-07-16	Nez Perce Tribal Hatchery	Clearwater River M F
Nez Perce Tribe Total					912,260				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2016	360,000	04-10-16	04-10-16	Wallowa Acclim Pond	Wallowa River
Oregon Dept. of Fish and Wildlife	Lookingglass Hatchery	CH1	SP	2016	250,000	04-15-16	04-15-16	Lookingglass Creek	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Lookingglass Hatchery	CH1	SP	2016	490,000	04-15-16	04-15-16	Imnaha Acclim Pond	Imnaha River
Oregon Dept. of Fish and Wildlife	Opal Springs Hatchery	ST	SU	2016	1,000	04-15-16	04-15-16	Crooked River (OR)	Deschutes River
Oregon Dept. of Fish and Wildlife	Opal Springs Hatchery	ST	SU	2016	20,000	04-15-16	04-15-16	Crooked River (OR)	Deschutes River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	CH1	SP	2016	240,000	04-15-16	05-31-16	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	ST	SU	2016	162,000	04-08-16	04-08-16	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife	Umatilla Hatchery	CH1	SP	2016	165,000	04-07-16	04-07-16	Corporation Guard Station	Umatilla River
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	CH1	SP	2016	5,000	04-15-16	04-15-16	Crooked River (OR)	Deschutes River
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	CH1	SP	2016	5,000	04-15-16	04-15-16	Wychus Creek	Deschutes River
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	CH1	SP	2016	15,000	04-15-16	04-15-16	Metolius River	Deschutes River
Oregon Dept. of Fish and Wildlife Total					1,713,000				
U.S. Fish and Wildlife Service	Carson NFH	CH1	SP	2016	1,170,000	04-12-16	04-12-16	Carson Hatchery	Wind River
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2016	300,000	04-11-16	04-22-16	Clear Creek	Clearwater River M F
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2016	400,000	04-11-16	04-22-16	Redhouse (SFk ClearH20 R)	S Fk Clearwater River
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2016	1,200,000	04-11-16	04-22-16	Dworshak Hatchery	Clearwater River M F
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2016	129,000	03-31-16	04-03-16	McNabb/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)
U.S. Fish and Wildlife Service	Leavenworth NFH	CH1	SP	2016	1,050,000	04-11-16	04-11-16	Icicle Creek	Wenatchee River
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH1	SP	2016	1,320,000	04-14-16	04-14-16	Little White Salmon Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service	Spring Creek NFH	CH0	FA	2016	6,349,372	04-11-16	04-11-16	Spring Creek Hatchery	L Col R (D/s McN Dam)
U.S. Fish and Wildlife Service	Winthrop NFH	CH1	SP	2016	405,500	04-15-16	04-21-16	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2016	130,700	04-15-16	05-15-16	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service Total					13,858,572				

Hatchery Releases Last Two Weeks

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2016	150,000	04-15-16	04-15-16	Catherine Cr Acclim Pond	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2016	250,000	03-15-16	04-15-16	Grande Ronde Acclim Pond	Grande Ronde River
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2016	240,000	04-07-16	04-07-16	Thornhollow Acclim Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2016	480,000	04-07-16	04-07-16	Imeques Acclim Pond	Umatilla River
Umatilla Tribe Total					1,120,000				
Warm Springs Tribe	Round Butte Hatchery	CH1	SP	2016	37,500	04-08-16	04-08-16	W Fk Hood River	Hood River
Warm Springs Tribe	Round Butte Hatchery	CH1	SP	2017	37,500	04-08-16	04-08-16	W Fk Hood River	Hood River
Warm Springs Tribe Total					75,000				
Washington Dept. of Fish and Wildli	Chelan Hatchery	CH1	SU	2016	110,000	04-15-16	04-15-16	Chelan Falls	Mid-Columbia River
Washington Dept. of Fish and Wildli	Chelan Hatchery	CH1	SU	2016	119,000	04-15-16	04-15-16	Chelan Falls	Mid-Columbia River
Washington Dept. of Fish and Wildli	Chelan Hatchery	CH1	SU	2016	120,000	04-15-16	04-15-16	Chelan Falls	Mid-Columbia River
Washington Dept. of Fish and Wildli	Chelan Hatchery	CH1	SU	2016	121,000	04-15-16	04-15-16	Chelan Falls	Mid-Columbia River
Washington Dept. of Fish and Wildli	Chiwawa Hatchery	CH1	SP	2016	144,000	04-15-16	04-15-16	Chiwawa Hatchery	Wenatchee River
Washington Dept. of Fish and Wildli	Chiwawa Hatchery	CH1	SP	2016	230,000	04-15-16	05-01-16	Nason Creek	Wenatchee River
Washington Dept. of Fish and Wildli	Lyons Ferry Hatchery	CH1	FA	2016	487,000	04-04-16	04-06-16	Lyons Ferry Hatchery	Snake River
Washington Dept. of Fish and Wildli	Lyons Ferry Hatchery	ST	SU	2016	44,500	04-10-16	04-15-16	Tucannon River	Tucannon River
Washington Dept. of Fish and Wildli	Lyons Ferry Hatchery	ST	SU	2016	47,000	04-15-16	04-20-16	Baileysburg Bridge	Touchet River
Washington Dept. of Fish and Wildli	Lyons Ferry Hatchery	ST	SU	2016	85,000	03-25-16	04-15-16	Dayton Acclim Pond	Touchet River
Washington Dept. of Fish and Wildli	Lyons Ferry Hatchery	ST	SU	2016	100,000	04-07-16	04-15-16	Walla Walla River	Walla Walla River
Washington Dept. of Fish and Wildli	Lyons Ferry Hatchery	ST	SU	2016	108,000	04-10-16	04-10-16	Lyons Ferry Hatchery	Snake River
Washington Dept. of Fish and Wildli	Lyons Ferry Hatchery	ST	SU	2016	200,000	03-20-16	04-07-16	Cottonwood Acclim Pond	Grande Ronde River
Washington Dept. of Fish and Wildli	Methow Hatchery	CH1	SP	2016	36,300	04-15-16	04-20-16	Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildli	Methow Hatchery	CH1	SP	2016	157,000	04-15-16	04-20-16	Methow Hatchery	Methow River
Washington Dept. of Fish and Wildli	Ringold Springs Hatchery	ST	SU	2016	180,000	04-09-16	04-19-16	Ringold Springs Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildli	Similkameen Hatchery	CH1	SU	2016	240,000	04-15-16	04-30-16	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildli	Skamania Hatchery	ST	WI	2016	15,500	04-15-16	05-15-16	Rock Cr (Stevenson)	Columbia River
Washington Dept. of Fish and Wildli	Tucannon Hatchery	CH1	SP	2016	220,000	04-01-16	04-15-16	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildli	Tucannon Hatchery	ST	SU	2016	50,000	04-15-16	04-15-16	Tucannon River	Tucannon River
Washington Dept. of Fish and Wildli	Wells Hatchery	CH1	SU	2016	320,000	04-15-16	05-07-16	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					3,134,300				
Yakama Tribe	Eagle Creek NFH	CO	UN	2016	95,939	04-15-16	06-01-16	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2016	193,067	04-15-16	06-01-16	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2016	215,045	04-15-16	06-01-16	Easton Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2016	74,227	04-15-16	06-01-16	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2016	74,951	04-15-16	06-01-16	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2016	76,167	04-15-16	06-01-16	Yakama River	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2016	299,959	04-15-16	06-01-16	Prosser Acclim Pond	Yakima River
Yakama Tribe Total					1,029,355				
Grand Total					27,849,616				

Hatchery Releases Next Two Weeks

Hatchery Release Summary From: 4/16/2016 to 4/29/2016

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
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	25,000	04-20-16	04-23-16	Similkameen Acclim Pd	Okanogan River
Colville Tribe	Wells Hatchery	ST	SU	2016	30,000	04-15-16	04-20-16	Omak Creek	Okanogan River
Colville Tribe	Wells Hatchery	ST	SU	2016	40,000	04-20-16	04-23-16	Salmon Creek (Okanogan)	Okanogan River
Colville Tribe Total					97,000				
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2016	40,000	04-18-16	04-18-16	Little Salmon River	Salmon River (ID)
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	90,000	04-21-16	04-22-16	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2016	120,000	04-20-16	04-21-16	Squaw Creek	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2016	150,000	04-22-16	04-26-16	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2016	160,000	04-18-16	04-20-16	Little Salmon River	Salmon River (ID)
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	Sawtooth Hatchery	CH1	SP	2016	189,000	04-20-16	04-20-16	Yankee Fk (Salmon R)	Salmon River (ID)
Idaho Dept. of Fish and Game Total					4,219,000				
Nez Perce Tribe	Dworshak NFH	ST	SU	2016	200,000	04-11-16	04-22-16	Lolo Creek	Clearwater River M F
Nez Perce Tribe Total					200,000				
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	15,000	04-25-16	04-25-16	Crooked River (OR)	Deschutes River
Oregon Dept. of Fish and Wildlife Total					75,000				
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2016	300,000	04-11-16	04-22-16	Clear Creek	Clearwater River M F
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2016	400,000	04-11-16	04-22-16	Redhouse (SFk ClearH20 R)	S Fk Clearwater River
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2016	1,200,000	04-11-16	04-22-16	Dworshak Hatchery	Clearwater River M F
U.S. Fish and Wildlife Service	Winthrop NFH	CH1	SP	2016	405,500	04-15-16	04-21-16	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service Total					2,305,500				
Umatilla Tribe	Cascade Hatchery	CO	UN	2016	500,000	04-16-16	04-16-16	Pendelton Acclim Pond	Umatilla River
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
Umatilla Tribe Total					600,000				
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
Warm Springs Tribe Total					50,000				
Washington Dept. of Fish and Wildl	Chiwawa Hatchery	ST	SU	2016	199,000	04-25-16	05-07-16	Chiwawa Hatchery	Wenatchee River
Washington Dept. of Fish and Wildl	COOP	CH0	SU	2017	225	04-20-16	05-01-16		Okanogan River
Washington Dept. of Fish and Wildl	Eastbank Hatchery	CH1	SU	2016	535,000	04-25-16	05-30-16	Dryden Acclim Pond	Wenatchee River
Washington Dept. of Fish and Wildl	Eastbank Hatchery	ST	SU	2016	24,000	04-20-16	05-31-16	Blackbird Island Acc Pond	Wenatchee River
Washington Dept. of Fish and Wildl	Lyons Ferry Hatchery	ST	SU	2016	47,000	04-15-16	04-20-16	Baileysburg Bridge	Touchet River
Washington Dept. of Fish and Wildl	Methow Hatchery	CH1	SP	2016	36,300	04-15-16	04-20-16	Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildl	Methow Hatchery	CH1	SP	2016	157,000	04-15-16	04-20-16	Methow Hatchery	Methow River
Washington Dept. of Fish and Wildl	Ringold Springs Hatchery	ST	SU	2016	180,000	04-09-16	04-19-16	Ringold Springs Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildl	Skamania Hatchery	ST	SU	2016	90,000	04-20-16	04-30-16	Klickitat River	Klickitat River
Washington Dept. of Fish and Wildl	Wells Hatchery	ST	SU	2016	160,000	04-20-16	05-31-16	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					1,428,525				
Grand Total					8,975,025				

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
04/01/2016	114.8	0.0	116.2	0.0	116.8	0.0	110.1	0.0	115.5	0.0	115.6	0.0	120.4	0.0
04/02/2016	66.5	0.0	68.9	0.0	78.5	0.0	79.9	0.0	91.7	0.0	98.1	0.0	100.1	0.0
04/03/2016	104.4	0.0	105.9	0.0	102.6	0.0	93.0	0.0	101.8	0.0	87.4	0.0	86.5	0.0
04/04/2016	114.2	0.0	113.7	0.0	120.4	1.1	115.6	0.5	129.9	0.0	118.3	0.8	104.4	1.3
04/05/2016	125.1	0.0	121.2	0.0	131.7	2.0	129.7	1.3	143.6	0.4	147.2	1.9	144.2	5.2
04/06/2016	112.9	0.0	120.8	0.0	133.1	0.1	132.3	0.2	147.3	0.7	156.8	0.0	154.9	18.1
04/07/2016	81.1	0.0	84.3	0.0	105.6	0.0	113.3	0.0	129.3	0.1	152.7	0.0	153.8	4.1
04/08/2016	84.7	0.0	78.8	0.0	97.3	0.0	94.8	0.0	107.2	0.0	131.6	0.0	133.5	0.0
04/09/2016	83.7	0.0	90.9	0.0	105.5	7.7	103.2	0.0	117.1	0.4	130.0	0.0	134.5	0.0
04/10/2016	113.8	0.0	109.1	0.0	129.4	9.7	121.9	0.0	135.6	14.7	141.6	0.0	130.5	0.0
04/11/2016	117.2	0.0	119.4	0.0	137.7	10.0	134.9	0.0	151.4	15.3	142.0	0.0	143.7	0.0
04/12/2016	130.1	0.0	136.4	0.0	148.7	10.0	141.6	0.0	158.6	17.0	138.8	11.1	137.4	0.0
04/13/2016	149.7	0.0	146.1	5.2	162.0	20.8	157.8	15.2	170.0	22.5	166.5	44.1	155.4	21.3
04/14/2016	162.2	0.0	157.3	17.0	180.7	32.5	178.6	25.0	185.9	35.5	192.8	65.4	195.4	85.8

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

Date	Dworshak		Brownlee Inflow	Hells Canyon	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill		Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
04/01/2016	14.5	4.6	---	19.5	59.2	0.0	57.1	0.0	58.0	0.0	59.1	0.0
04/02/2016	15.1	5.2	---	19.2	61.2	0.0	59.5	0.0	63.5	0.0	64.7	0.0
04/03/2016	15.0	5.2	---	19.0	61.3	20.0	62.8	18.7	65.2	27.9	66.8	49.8
04/04/2016	15.2	5.3	---	19.0	65.6	20.0	64.7	19.3	67.6	27.8	66.1	48.5
04/05/2016	15.7	5.8	---	13.7	68.6	20.0	67.2	20.2	68.9	28.0	70.7	55.1
04/06/2016	16.5	6.5	---	14.9	66.2	20.0	63.7	19.1	64.4	28.0	66.8	50.1
04/07/2016	16.4	6.5	---	17.8	65.9	20.2	65.5	19.5	67.7	28.0	71.8	51.5
04/08/2016	16.3	6.3	---	17.1	68.6	20.5	66.7	20.0	66.7	28.0	67.9	50.7
04/09/2016	16.2	6.2	---	16.8	72.7	20.4	69.9	21.0	70.2	28.0	71.8	52.7
04/10/2016	16.2	6.2	---	16.9	82.3	20.4	80.3	24.2	82.3	27.9	86.6	57.8
04/11/2016	16.2	6.2	---	17.9	91.3	20.4	89.0	26.7	88.3	28.0	89.8	55.9
04/12/2016	16.4	6.5	---	16.7	94.5	20.3	92.4	27.7	93.8	28.0	96.2	63.0
04/13/2016	16.7	6.7	---	21.4	100.4	20.3	96.9	29.0	96.6	28.0	99.8	66.3
04/14/2016	16.7	6.8	---	21.7	104.0	20.4	100.0	30.0	101.6	29.1	103.9	66.2

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

Date	McNary		John Day		The Dalles		Bonneville			
	Flow	Spill	Flow	Spill	Flow	Spill	Spill	PH1	PH2	
04/01/2016	200.7	27.1	209.6	0.0	209.9	0.0	227.0	1.2	84.7	128.7
04/02/2016	182.1	10.8	185.6	0.0	185.2	0.0	200.5	1.2	70.9	116.0
04/03/2016	167.7	0.0	172.4	0.0	172.2	0.0	179.4	1.4	55.7	109.9
04/04/2016	159.9	0.1	169.9	0.0	170.1	0.0	186.5	1.4	66.7	106.0
04/05/2016	207.0	36.5	206.4	10.2	205.7	8.2	218.2	6.7	84.5	114.5
04/06/2016	224.5	54.7	223.2	0.0	219.4	0.0	229.7	1.4	90.2	125.7
04/07/2016	242.5	72.2	236.0	18.2	234.3	14.5	250.3	15.6	89.7	132.6
04/08/2016	239.5	63.6	242.8	15.6	246.7	15.9	264.5	25.4	93.0	133.7
04/09/2016	213.1	38.0	213.7	0.0	210.2	0.0	238.6	2.5	92.8	130.9
04/10/2016	236.0	94.7	240.3	72.3	227.3	90.3	241.6	99.8	33.3	96.0
04/11/2016	238.3	95.6	235.5	70.8	222.4	89.4	256.3	98.8	44.8	100.3
04/12/2016	249.9	119.8	250.7	77.2	238.1	106.2	258.8	106.7	40.7	99.1
04/13/2016	265.3	128.9	266.9	79.7	253.5	100.9	272.6	100.3	58.9	101.0
04/14/2016	315.2	155.5	306.7	92.7	289.2	115.7	301.6	121.4	67.1	100.8

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

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank			
								Rank 1	Rank 2	Rank 3	Rank 4
Lower Granite Dam											
	04/07/16	Chinook + Steelhead	101	0	0	0.00%	0.00%	0	0	0	0
	04/14/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Little Goose Dam											
	04/13/16	Chinook + Steelhead	99*	0	0			0	0	0	0
Lower Monumental Dam											
	04/07/16	Chinook + Steelhead	78*	0	0			0	0	0	0
McNary Dam											
	04/14/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
Rock Island Dam											
	04/12/16	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0

* Sample size criteria not met, therefore no % fish with GBT estimated for this sample day.

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>							
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
4/1	95.5	95.8	96.2	24	---	---	---	0	105.5	106.5	107.4	24	110.2	112.0	155.1	15	103.8	104.0	104.3	24
4/2	96.0	96.4	96.8	24	---	---	---	0	106.3	107.2	107.9	24	104.3	104.9	105.6	24	104.7	105.4	105.9	24
4/3	96.0	96.3	96.8	24	---	---	---	0	105.2	105.4	105.9	24	104.5	104.7	104.8	24	105.3	105.7	106.0	24
4/4	96.1	96.3	96.6	24	---	---	---	0	105.9	107.1	108.1	24	103.9	104.3	104.8	24	104.9	105.3	105.5	24
4/5	95.5	95.7	95.9	24	---	---	---	0	103.3	103.5	103.8	24	102.0	102.2	102.4	24	103.8	104.0	104.0	24
4/6	95.9	96.5	96.9	24	---	---	---	0	104.0	104.3	104.5	24	102.6	103.1	103.6	24	103.2	103.5	103.8	24
4/7	95.8	96.1	96.5	24	---	---	---	0	105.3	105.9	106.9	24	103.7	104.5	105.0	24	103.6	104.2	104.6	24
4/8	96.4	96.9	97.1	24	---	---	---	0	107.1	107.7	109.3	24	105.3	106.0	106.5	24	105.0	105.8	106.4	24
4/9	97.0	97.3	97.6	24	---	---	---	0	107.5	108.0	108.6	24	105.7	106.3	106.6	24	106.1	106.4	106.7	24
4/10	96.3	96.6	97.1	24	---	---	---	0	107.0	107.3	107.5	24	105.2	105.5	105.8	24	106.4	107.0	107.4	24
4/11	96.6	96.8	97.1	24	---	---	---	0	106.8	107.2	110.9	24	105.0	105.8	106.3	24	106.5	106.8	107.2	24
4/12	96.6	96.7	96.9	24	---	---	---	0	106.8	107.3	111.2	24	105.0	105.4	105.9	24	105.8	106.1	106.4	24
4/13	96.7	96.9	97.1	24	---	---	---	0	106.3	106.6	106.9	24	104.9	105.4	105.6	24	105.6	106.1	106.3	24
4/14	97.1	97.3	97.6	23	---	---	---	0	107.6	107.9	108.3	23	105.8	106.0	106.3	23	106.0	106.4	106.6	23

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
4/1	104.1	104.6	105.2	24	103.9	104.4	104.7	24	104.2	104.8	105.3	24	104.0	104.5	104.7	24	104.5	105.0	105.3	24
4/2	105.5	106.4	107.3	24	104.6	105.3	105.8	24	104.9	105.7	106.2	24	105.2	105.6	106.2	24	105.3	105.5	105.7	24
4/3	105.1	105.4	105.7	24	104.9	105.5	105.7	24	105.1	105.7	105.8	24	105.5	105.8	106.0	24	105.6	106.2	106.4	24
4/4	105.0	105.8	107.0	24	104.8	105.3	105.4	24	105.4	105.7	107.1	24	105.2	105.5	105.8	24	105.7	106.0	106.9	24
4/5	103.7	104.1	104.8	24	103.2	103.4	103.6	24	104.3	104.9	107.2	24	103.7	103.8	104.3	24	104.9	105.9	111.2	24
4/6	103.0	103.3	103.6	24	103.7	104.1	104.4	24	104.2	104.8	106.1	24	104.2	104.8	105.0	24	104.8	105.3	106.2	24
4/7	104.0	104.4	105.1	24	104.1	104.7	105.1	24	104.4	105.1	105.5	24	105.1	105.7	105.9	24	105.4	105.9	106.2	24
4/8	105.0	105.3	105.9	24	105.4	106.3	106.7	24	105.6	106.6	107.0	24	106.3	106.8	107.1	24	106.4	107.0	107.2	24
4/9	106.1	106.3	106.8	24	105.8	106.2	106.7	24	107.2	107.7	108.2	24	107.0	107.3	107.5	24	107.1	107.4	107.7	24
4/10	106.3	106.5	107.2	24	105.6	106.2	106.7	24	107.4	107.9	108.6	24	106.7	107.0	107.3	24	106.9	107.2	107.5	24
4/11	106.6	107.0	107.6	24	105.9	106.3	106.7	24	107.6	108.2	108.7	24	106.9	107.1	107.3	24	107.2	107.4	107.6	24
4/12	105.3	105.6	105.7	24	105.7	105.9	106.1	24	107.7	107.9	108.1	24	106.8	107.1	107.3	24	107.1	107.3	107.4	24
4/13	105.7	106.7	108.2	24	105.3	105.5	105.6	24	109.3	110.4	111.4	24	107.3	107.8	108.0	24	112.6	115.4	117.3	24
4/14	108.0	109.2	110.7	23	105.5	105.8	106.0	22	111.1	111.9	112.1	22	108.5	109.0	109.3	23	115.7	117.9	119.1	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>24 h</u>	<u>12 h</u>		<u>#</u>
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
4/1	103.7	104.1	104.5	24	103.9	104.2	104.7	24	104.2	104.5	104.7	24	104.3	104.6	104.8	24	104.8	105.3	106.0	24
4/2	104.4	104.9	105.1	24	104.5	104.9	105.1	24	105.1	105.4	105.6	24	105.2	105.5	105.8	24	105.5	106.1	107.8	24
4/3	105.1	105.3	105.6	24	105.1	105.4	105.8	24	105.2	105.6	105.8	24	105.3	105.7	105.9	24	105.7	106.6	107.4	24
4/4	104.5	104.8	105.6	24	104.6	105.0	105.8	24	104.9	105.2	105.5	24	104.9	105.2	105.7	24	105.0	105.5	106.7	24
4/5	103.0	103.6	105.1	24	103.4	103.7	104.4	21	103.5	103.7	104.1	24	103.7	104.1	106.6	24	103.4	103.7	103.9	24
4/6	103.6	104.2	104.8	24	103.6	104.3	104.8	24	104.0	104.8	105.3	24	103.7	104.2	104.4	24	104.0	104.5	105.4	24
4/7	104.7	105.3	105.8	24	104.6	105.1	105.8	24	---	---	---	0	---	---	---	0	---	---	---	0
4/8	105.9	106.6	107.0	24	105.9	106.4	106.9	24	---	---	---	0	---	---	---	0	---	---	---	0
4/9	106.4	106.8	106.9	24	106.3	106.7	107.1	24	108.7	109.8	110.9	24	107.4	107.7	107.9	24	107.8	108.4	109.6	24
4/10	105.8	106.3	106.5	24	108.4	109.2	111.3	24	108.2	109.1	110.2	24	107.3	107.6	107.8	24	107.7	108.4	109.7	24
4/11	105.8	106.3	106.6	24	107.8	108.4	108.7	24	107.1	107.6	107.9	24	106.8	107.1	107.1	24	107.3	107.8	109.6	24
4/12	105.8	106.1	106.2	24	108.5	109.1	109.8	23	106.9	107.3	107.9	24	108.1	109.5	110.6	24	106.8	107.4	108.2	24
4/13	107.0	108.4	109.9	24	110.3	111.7	113.2	24	108.0	109.4	110.9	24	111.4	113.0	114.8	24	108.3	109.8	111.3	24
4/14	109.3	109.9	110.3	23	114.1	114.9	115.9	23	---	---	---	0	---	---	---	0	---	---	---	0

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

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

Date	<u>Priest R. Dnst</u>			<u>Pasco</u>			<u>Dworshak</u>			<u>Clrwtr-Peck</u>			<u>Anatone</u>			#				
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>hr</u>			
4/1	103.6	103.8	104.0	24	---	---	---	0	104.4	105.5	106.2	24	102.4	103.4	104.1	24	102.2	103.1	104.0	24
4/2	104.4	104.7	104.9	24	---	---	---	0	106.1	106.3	106.7	24	103.3	104.0	104.6	24	102.5	103.4	104.4	24
4/3	104.7	105.1	105.3	24	---	---	---	0	105.9	106.1	106.4	24	103.1	103.7	104.3	24	102.4	103.2	104.1	24
4/4	104.5	104.8	105.3	24	---	---	---	0	105.5	105.7	106.0	24	102.0	102.3	102.9	24	101.5	101.8	102.1	24
4/5	104.0	104.6	107.3	24	---	---	---	0	105.8	106.5	108.1	24	102.2	103.0	103.4	24	101.5	102.4	103.0	23
4/6	105.4	107.4	110.2	24	---	---	---	0	107.9	108.1	108.2	24	103.7	104.4	104.9	23	102.6	103.6	104.4	24
4/7	---	---	---	0	---	---	---	0	107.9	108.3	108.4	24	104.0	104.8	105.4	24	103.0	104.0	104.8	24
4/8	---	---	---	0	---	---	---	0	108.4	108.7	109.0	24	104.2	104.9	105.5	24	103.2	104.1	104.9	24
4/9	106.6	106.8	106.9	24	---	---	---	0	108.7	108.9	109.3	24	104.0	104.4	105.0	24	103.0	103.7	104.4	24
4/10	106.4	106.5	106.6	24	---	---	---	0	108.5	108.7	109.0	24	103.4	103.9	104.4	24	102.8	103.5	104.1	24
4/11	106.1	106.3	106.4	24	---	---	---	0	108.2	108.5	108.8	24	103.3	104.1	104.5	24	103.1	103.8	104.5	23
4/12	105.8	106.0	106.2	24	---	---	---	0	108.3	108.8	109.2	24	102.9	103.4	103.6	24	102.8	103.1	103.3	24
4/13	108.8	111.1	111.7	24	---	---	---	0	109.3	109.5	110.0	24	103.6	104.2	104.5	24	103.7	104.5	104.8	24
4/14	---	---	---	0	---	---	---	0	109.6	109.8	109.8	23	103.6	103.8	104.3	23	103.9	104.1	104.4	23

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwtr-Lewiston</u>			<u>Lower Granite</u>			<u>L. Granite Tlwr</u>			<u>Little Goose</u>			<u>L. Goose Tlwr</u>			#				
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>hr</u>			
4/1	101.5	102.3	102.7	24	101.7	102.1	102.6	24	101.1	101.5	101.8	24	100.0	100.2	100.3	24	100.3	100.7	100.9	24
4/2	102.5	103.3	103.8	24	102.5	102.7	102.9	24	101.8	102.2	102.3	24	101.9	103.5	104.2	24	101.1	101.4	101.6	24
4/3	102.6	103.3	103.6	24	102.7	102.9	103.3	24	109.6	110.0	110.6	24	102.7	103.3	104.0	24	107.4	108.6	108.9	24
4/4	101.9	102.3	102.6	24	102.7	102.9	103.5	24	109.0	109.3	110.1	24	101.9	102.2	102.7	24	107.9	108.2	108.7	24
4/5	100.9	101.3	101.7	24	101.6	101.7	102.1	24	109.2	109.7	111.5	24	100.8	101.1	101.3	24	108.0	108.5	108.8	24
4/6	102.8	104.3	105.4	24	101.7	101.8	102.2	24	109.3	109.6	109.9	24	102.3	103.3	103.9	24	108.5	108.8	109.0	24
4/7	103.4	104.9	106.2	24	102.1	102.6	103.0	24	109.5	110.0	110.7	24	106.0	107.2	107.5	24	109.7	110.3	110.6	24
4/8	103.6	105.1	106.3	24	104.3	104.9	105.4	24	110.3	110.9	111.9	24	109.4	110.5	111.1	24	110.9	111.3	111.5	24
4/9	103.4	104.6	105.7	24	105.7	105.8	105.9	24	110.8	111.0	111.4	24	112.1	112.6	113.3	24	112.0	112.3	112.6	24
4/10	102.7	103.7	104.6	24	105.0	105.4	106.1	24	110.2	110.3	110.7	24	111.8	112.2	112.5	24	113.0	113.6	113.8	24
4/11	102.6	103.6	104.4	24	103.6	103.9	104.5	24	109.9	110.0	110.5	24	111.5	111.9	112.6	24	114.0	115.1	116.2	24
4/12	101.9	102.1	102.5	24	102.6	102.8	103.2	24	109.2	109.5	109.7	24	109.7	110.2	111.1	24	113.7	114.1	114.5	24
4/13	102.8	103.7	104.6	24	102.9	103.4	103.7	24	109.3	109.7	109.9	24	108.6	108.9	109.3	24	113.9	114.6	114.8	24
4/14	102.7	103.0	103.4	23	103.4	103.6	103.8	23	109.5	109.6	109.8	23	108.2	108.6	109.1	23	114.4	114.5	114.8	23

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

Date	<u>Lower Mon.</u>			<u>L. Mon. Tlwr</u>			<u>Ice Harbor</u>			<u>Ice Harbor Tlwr</u>			<u>McNary-Oregon</u>			#				
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>hr</u>			
4/1	101.0	101.0	101.1	24	101.0	101.2	101.4	24	102.0	102.2	102.3	24	102.0	102.4	102.7	24	---	---	---	0
4/2	101.5	101.8	102.0	24	101.5	101.8	101.9	24	102.5	102.8	102.9	24	102.6	102.9	103.5	24	---	---	---	0
4/3	101.9	102.2	102.4	24	115.5	116.1	116.7	24	102.7	102.8	103.0	24	114.5	115.3	115.6	24	---	---	---	0
4/4	102.0	102.1	102.5	24	115.8	116.3	117.0	24	102.3	102.5	102.9	24	114.6	115.1	115.6	24	---	---	---	0
4/5	102.2	102.9	103.7	24	116.9	117.2	117.6	24	104.4	105.7	106.8	24	114.8	115.1	115.4	24	---	---	---	0
4/6	105.3	106.1	106.5	24	117.7	118.2	118.3	24	108.0	108.8	109.7	24	115.1	115.4	115.7	24	---	---	---	0
4/7	107.9	109.0	110.0	24	118.4	118.8	119.8	24	112.1	113.9	114.5	24	115.5	115.7	115.9	24	---	---	---	0
4/8	111.1	111.6	111.9	24	119.0	119.2	119.4	24	116.3	117.0	117.2	24	115.6	115.8	115.9	24	---	---	---	0
4/9	112.2	112.5	112.6	24	119.5	119.7	119.9	24	117.6	117.8	117.9	24	115.7	115.9	116.0	24	---	---	---	0
4/10	112.2	112.3	112.7	24	119.3	119.5	119.8	24	117.4	117.6	117.7	24	116.0	116.4	116.8	24	---	---	---	0
4/11	112.0	112.3	112.9	24	118.9	119.1	119.3	24	115.8	116.2	117.0	24	116.1	116.7	117.2	24	---	---	---	0
4/12	112.2	112.4	112.9	24	118.9	119.1	119.4	24	114.1	114.5	115.4	24	116.8	117.3	117.9	24	---	---	---	0
4/13	113.1	113.6	114.6	24	119.3	120.3	121.5	24	113.3	113.8	114.3	24	117.7	118.9	120.6	24	---	---	---	0
4/14	114.1	114.3	114.9	18	119.2	120.4	121.4	18	114.2	114.3	114.7	23	117.7	118.9	120.8	23	---	---	---	0

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>McNary-Wash</u>			<u>McNary Tlwr</u>			<u>John Day</u>			<u>John Day Tlwr</u>			<u>The Dalles</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>AVG</u>	<u>High</u>	<u>hr</u>				
4/1	104.4	104.8	105.4	24	109.2	112.3	112.4	24	103.5	103.8	104.2	24	103.0	103.3	103.4	24	102.7	103.0	103.2	24
4/2	105.2	105.4	105.8	24	107.3	108.3	109.5	24	103.6	103.8	104.0	24	103.2	103.4	103.6	24	103.1	103.2	103.3	24
4/3	105.7	105.9	106.3	24	105.4	105.9	106.1	24	103.9	104.4	104.5	24	103.7	104.1	104.4	24	103.4	103.7	104.0	24
4/4	104.7	105.1	106.0	24	104.4	104.8	105.7	24	103.1	103.5	104.2	24	102.8	103.1	103.8	24	102.7	103.1	103.3	24
4/5	103.6	104.2	105.8	24	109.4	113.6	113.9	24	102.2	102.5	102.7	24	106.1	110.4	116.0	24	101.8	101.9	102.1	24
4/6	105.1	105.4	105.8	24	112.2	112.9	113.3	24	103.3	103.9	104.5	24	103.6	104.2	104.7	24	103.8	104.8	106.0	23
4/7	107.2	108.2	109.0	24	113.8	114.9	115.3	24	105.2	105.8	106.2	24	110.6	115.8	117.1	24	104.5	105.1	105.6	24
4/8	109.8	110.8	111.7	24	114.7	115.1	116.1	24	106.5	106.9	107.5	24	111.0	115.5	117.1	24	108.0	109.2	109.6	24
4/9	111.0	111.7	113.1	24	115.2	115.6	115.9	24	106.8	107.0	107.2	24	106.5	106.6	106.8	24	106.1	106.9	109.2	24
4/10	110.1	110.6	112.0	24	114.5	114.8	115.2	24	107.4	108.3	108.8	24	115.3	116.9	119.0	24	105.6	106.8	108.4	24
4/11	108.6	109.1	109.8	24	113.9	114.2	114.5	24	108.3	108.6	109.0	24	114.3	114.9	115.6	24	107.8	108.2	108.6	24
4/12	107.2	107.7	108.2	24	115.0	116.4	116.9	24	108.7	109.0	109.1	24	114.2	114.7	115.7	24	108.5	108.8	109.1	24
4/13	107.2	107.8	109.2	24	115.7	117.1	117.5	24	109.1	109.6	110.2	24	114.9	115.7	115.9	24	109.9	110.9	111.6	24
4/14	108.4	108.7	109.3	23	117.7	117.9	118.1	23	109.9	110.1	110.2	23	116.2	116.5	118.1	23	110.5	110.8	111.3	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			<u>Bonneville</u>			<u>Warrendale</u>			<u>Camas\Washougal</u>			<u>Cascade Island</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>AVG</u>	<u>High</u>	<u>hr</u>				
4/1	102.1	102.3	102.5	24	103.7	104.1	104.5	24	104.5	104.8	105.1	24	105.1	106.2	107.2	24	107.7	108.4	108.8	24
4/2	102.5	102.6	102.8	24	104.0	104.3	104.5	24	104.8	105.3	105.6	24	105.1	106.2	107.1	24	107.7	108.3	108.7	24
4/3	102.8	103.1	103.3	24	104.2	104.6	104.9	24	105.9	106.3	106.8	24	106.0	107.4	108.4	24	106.3	106.6	106.9	24
4/4	102.0	102.4	102.5	24	103.0	103.5	104.1	24	104.6	105.3	106.0	24	104.4	104.9	105.4	24	105.4	105.6	105.9	24
4/5	101.8	102.5	103.5	24	102.1	102.4	102.8	24	103.5	103.7	103.9	24	103.6	104.5	105.3	24	106.0	107.5	109.8	23
4/6	103.4	104.8	106.1	24	103.4	104.1	104.5	24	104.6	105.3	105.6	24	104.3	105.6	106.4	24	106.9	107.9	108.6	24
4/7	104.7	106.0	106.5	24	105.3	105.9	107.1	24	106.2	106.8	107.1	24	104.9	105.8	106.2	24	109.0	110.0	110.6	24
4/8	108.3	109.1	109.7	24	106.4	106.9	107.4	24	107.5	107.8	107.9	24	106.6	108.0	109.0	24	110.5	111.2	112.6	24
4/9	105.9	107.0	109.0	24	107.8	108.2	108.6	24	108.1	108.6	109.0	24	106.8	107.8	108.6	24	109.5	110.1	110.5	24
4/10	111.3	112.3	113.1	24	105.9	106.7	107.5	24	111.8	112.7	113.0	24	107.9	109.1	110.2	24	117.2	117.3	117.4	24
4/11	113.5	114.0	114.3	24	105.8	107.8	108.3	24	111.4	111.8	112.2	24	108.9	109.4	110.0	24	117.3	117.6	117.8	24
4/12	115.8	117.8	120.2	24	109.3	110.4	110.9	24	113.7	114.6	115.8	24	109.6	110.4	111.0	24	118.0	118.6	119.7	24
4/13	115.2	115.9	116.4	24	113.7	116.2	118.1	24	115.2	116.2	117.5	24	112.4	113.6	114.7	24	118.2	118.7	119.5	24
4/14	115.9	116.2	116.4	23	115.2	115.6	116.2	23	116.8	117.1	117.6	23	113.8	114.4	115.0	23	120.1	120.6	121.0	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 4/15/2016 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/currentsmpsubmitdata.asp>

COMBINED YEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
04/01/2016 *	1,780	---	53	7	9,700	---	---	5	---	---	395
04/02/2016 *	---	---	68	---	12,700	---	870	3	---	1,420	844
04/03/2016 *	---	---	667	---	10,977	---	---	8	---	---	673
04/04/2016 *	3,868	---	324	---	12,866	---	---	12	---	1,985	799
04/05/2016 *	2,087	---	278	27	14,365	---	438	21	---	---	1,161
04/06/2016 *	1,070	---	242	21	9,199	---	---	15	---	3,999	2,276
04/07/2016 *	977	---	79	57	16,647	---	---	24	498	---	2,646
04/08/2016 *	1,155	---	280	63	27,875	---	19,295	70	---	4,891	4,163
04/09/2016 *	---	---	478	96	34,419	---	---	53	449	---	5,664
04/10/2016 *	---	---	610	73	47,246	16,303	---	84	---	3,475	5,289
04/11/2016 *	668	---	704	185	60,859	---	18,424	220	4,069	---	3,234
04/12/2016 *	178	---	1,232	1,423	138,101	48,800	---	162	---	16,855	4,804
04/13/2016 *	157	---	294	1,029	198,635	---	---	106	12,305	---	13,428
04/14/2016 *	---	---	862	---	219,877	111,794	59,105	51	---	20,495	31,665
04/15/2016	---	---	---	---	---	---	---	---	---	---	---
Total:	11,940	0	6,171	2,981	813,466	176,897	98,132	834	17,321	53,120	77,041
# Days:	9	0	14	10	14	3	5	14	4	7	14
Average:	1,327	0	441	298	58,105	58,966	19,626	60	4,330	7,589	5,503
YTD	26,197	1,773	8,653	3,109	883,572	176,902	98,132	834	17,321	53,120	85,559

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)
04/01/2016 *	0	---	0	5	0	---	---	158	---	---	438
04/02/2016 *	---	---	1	---	50	---	0	232	---	0	631
04/03/2016 *	---	---	1	---	221	---	---	302	---	---	640
04/04/2016 *	0	---	2	---	735	---	---	537	---	5	580
04/05/2016 *	0	---	2	0	715	---	0	600	---	---	401
04/06/2016 *	0	---	1	2	144	---	---	781	---	10	884
04/07/2016 *	0	---	1	10	857	---	---	261	487	---	657
04/08/2016 *	0	---	1	16	0	---	0	374	---	9	597
04/09/2016 *	---	---	0	0	427	---	---	176	6,091	---	941
04/10/2016 *	---	---	0	6	0	0	---	224	---	22	571
04/11/2016 *	0	---	0	43	2,911	---	0	476	2,882	---	294
04/12/2016 *	0	---	0	13	2,572	0	---	390	---	43	637,918
04/13/2016 *	0	---	4	62	2,295	---	---	294	1,183	---	391,563
04/14/2016 *	---	---	0	---	497	573	0	185	---	71	13,903
04/15/2016	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	13	157	11,424	573	0	4,990	10,643	160	1,050,018
# Days:	9	0	14	10	14	3	5	14	4	7	14
Average:	0	0	1	16	816	191	0	356	2,661	23	75,001
YTD	0	3	25	223	13,964	573	0	4,990	10,643	160	1,076,941

Two-Week Summary of Passage Indices

COMBINED COHO												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
04/01/2016	*	0	---	0	0	50	---	---	1	---	---	154
04/02/2016	*	---	---	0	---	0	---	10	0	---	0	588
04/03/2016	*	---	---	0	---	55	---	---	1	---	---	754
04/04/2016	*	0	---	0	---	0	---	---	1	---	0	729
04/05/2016	*	0	---	0	0	0	---	17	1	---	---	1,964
04/06/2016	*	0	---	0	0	72	---	---	3	---	5	5,575
04/07/2016	*	0	---	0	1	0	---	---	0	66	---	5,629
04/08/2016	*	0	---	0	0	289	---	0	1	---	36	8,755
04/09/2016	*	---	---	0	0	0	---	---	4	73	---	10,707
04/10/2016	*	---	---	0	0	137	0	---	3	---	22	10,959
04/11/2016	*	0	---	0	0	0	---	0	13	407	---	11,073
04/12/2016	*	0	---	0	4	0	0	---	6	---	43	21,472
04/13/2016	*	0	---	0	2	0	---	---	1	690	---	31,573
04/14/2016	*	---	---	0	---	497	573	0	9	---	286	35,184
04/15/2016	*	---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	7	1,100	573	27	44	1,236	392	145,116
# Days:		9	0	14	10	14	3	5	14	4	7	14
Average:		0	0	0	1	79	191	5	3	309	56	10,365
YTD		0	0	0	8	1,320	573	27	44	1,236	392	145,498

COMBINED STEELHEAD												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
04/01/2016	*	1	---	0	53	1,100	---	---	0	---	---	112
04/02/2016	*	---	---	0	---	2,150	---	750	1	---	340	119
04/03/2016	*	---	---	0	---	3,751	---	---	1	---	---	105
04/04/2016	*	3	---	0	---	6,102	---	---	4	---	185	141
04/05/2016	*	36	---	0	56	12,936	---	303	6	---	---	401
04/06/2016	*	65	---	1	26	17,607	---	---	9	---	404	516
04/07/2016	*	20	---	3	91	10,074	---	---	17	1,216	---	444
04/08/2016	*	8	---	15	65	14,285	---	674	11	---	779	840
04/09/2016	*	---	---	13	47	14,507	---	---	6	1,368	---	1,035
04/10/2016	*	---	---	28	69	44,925	14,719	---	20	---	880	1,065
04/11/2016	*	61	---	41	63	28,048	---	3,838	16	1,814	---	1,127
04/12/2016	*	31	---	45	302	88,724	42,926	---	56	---	1,418	1,107
04/13/2016	*	45	---	7	336	41,818	---	---	35	5,482	---	1,090
04/14/2016	*	---	---	17	---	69,814	93,967	19,008	30	---	3,106	1,279
04/15/2016	*	---	---	---	---	---	---	---	---	---	---	---
Total:		270	0	170	1,108	355,841	151,612	24,573	212	9,880	7,112	9,381
# Days:		9	0	14	10	14	3	5	14	4	7	14
Average:		30	0	12	111	25,417	50,537	4,915	15	2,470	1,016	670
YTD		279	383	174	1,175	362,102	151,612	24,573	212	9,880	7,112	10,086

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)
04/01/2016 *	0	---	0	0	0	---	---	7	---	---	9
04/02/2016 *	---	---	0	---	0	---	0	6	---	0	9
04/03/2016 *	---	---	0	---	0	---	---	12	---	---	16
04/04/2016 *	0	---	0	---	74	---	---	80	---	0	8
04/05/2016 *	0	---	0	0	0	---	0	200	---	---	0
04/06/2016 *	0	---	0	0	0	---	---	188	---	5	18
04/07/2016 *	0	---	0	0	0	---	---	152	0	---	36
04/08/2016 *	0	---	0	0	0	---	0	207	---	0	93
04/09/2016 *	---	---	0	0	0	---	---	247	20	---	94
04/10/2016 *	---	---	0	0	0	---	0	376	---	0	38
04/11/2016 *	0	---	0	0	0	---	0	582	34	---	98
04/12/2016 *	0	---	0	0	0	---	0	797	---	14	0
04/13/2016 *	0	---	0	0	0	---	---	576	316	---	363
04/14/2016 *	---	---	0	---	0	---	0	470	---	71	0
04/15/2016	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	74	0	0	3,900	370	90	782
# Days:	9	0	14	10	14	3	5	14	4	7	14
Average:	0	0	0	0	5	0	0	279	93	13	56
YTD	0	0	0	0	74	0	0	3,900	370	90	989

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)
04/01/2016 *	0	---	0	0	0	---	---	0	---	---	55
04/02/2016 *	---	---	0	---	0	---	20	1	---	528	95
04/03/2016 *	---	---	0	---	0	---	---	1	---	---	40
04/04/2016 *	0	---	0	---	0	---	---	1	---	430	40
04/05/2016 *	0	---	0	0	0	---	0	1	---	---	85
04/06/2016 *	0	---	0	0	0	---	---	10	---	430	178
04/07/2016 *	0	---	0	0	0	---	---	5	20	---	80
04/08/2016 *	0	---	0	0	0	---	0	2	---	696	40
04/09/2016 *	---	---	0	0	0	---	---	0	75	---	210
04/10/2016 *	---	---	0	0	0	---	0	0	---	340	120
04/11/2016 *	0	---	0	0	0	---	200	7	100	---	240
04/12/2016 *	0	---	0	0	0	100	---	26	---	480	143
04/13/2016 *	0	---	0	0	1	---	---	5	30	---	429
04/14/2016 *	---	---	0	---	5	0	0	2	---	550	0
04/15/2016	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	6	100	220	61	225	3,454	1,755
# Days:	9	0	14	10	14	3	5	14	4	7	14
Average:	0	0	0	0	0	33	44	4	56	493	125
YTD	0	2	1	0	16	100	220	61	225	3,454	5,530

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

4/15/16 7:02 AM

		04/01/16		TO	04/15/16				
		Species							
Site	Data	CH0	CH1	CO	ST	SO	Grand Total		
LGR	Sum of NumberCollected	8,650	633,507	850	271,344	50	914,401		
	Sum of NumberBarged	0	0	0	0	0	0		
	Sum of NumberBypassed	8,608	633,440	850	271,340	50	914,288		
	Sum of Numbertrucked	0	0	0	0	0	0		
	Sum of SampleMorts	1	16	0	4	0	21		
	Sum of FacilityMorts	41	51	0	0	0	92		
	Sum of ResearchMorts	0	0	0	0	0	0		
	Sum of TotalProjectMorts	42	67	0	4	0	113		
LGS	Sum of NumberCollected	400	123,538	400	105,876		230,214		
	Sum of NumberBarged	0	0	0	0		0		
	Sum of NumberBypassed	400	123,522	400	105,874		230,196		
	Sum of Numbertrucked	0	0	0	0		0		
	Sum of SampleMorts	0	2	0	1		3		
	Sum of FacilityMorts	0	14	0	1		15		
	Sum of ResearchMorts	0	0	0	0		0		
	Sum of TotalProjectMorts	0	16	0	2		18		
LMN	Sum of NumberCollected		67,033	20	17,525		84,578		
	Sum of NumberBarged		0	0	0		0		
	Sum of NumberBypassed		67,030	20	17,523		84,573		
	Sum of Numbertrucked		0	0	0		0		
	Sum of SampleMorts		3	0	2		5		
	Sum of FacilityMorts		0	0	0		0		
	Sum of ResearchMorts		0	0	0		0		
	Sum of TotalProjectMorts		3	0	2		5		
Total Sum of NumberCollected		9,050	824,078	1,270	394,745	50	1,229,193		
Total Sum of NumberBarged		0	0	0	0	0	0		
Total Sum of NumberBypassed		9,008	823,992	1,270	394,737	50	1,229,057		
Total Sum of Numbertrucked		0	0	0	0	0	0		
Total Sum of SampleMorts		1	21	0	7	0	29		
Total Sum of FacilityMorts		41	65	0	1	0	107		
Total Sum of ResearchMorts		0	0	0	0	0	0		
Total Sum of TotalProjectMorts		42	86	0	8	0	136		

YTD Transportation Summary

Source: Fish Passage Center

Updated:

4/15/16 7:02 AM

TO: 04/15/16

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	11,190	703,607	1,070	50	277,604	993,521
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	11,148	703,536	1,070	50	277,600	993,404
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	1	20	0	0	4	25
	Sum of FacilityMorts	41	51	0	0	0	92
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	42	71	0	0	4	117
LGS	Sum of NumberCollected	400	123,538	400		105,876	230,214
	Sum of NumberBarged	0	0	0		0	0
	Sum of NumberBypassed	400	123,522	400		105,874	230,196
	Sum of NumberTrucked	0	0	0		0	0
	Sum of SampleMorts	0	2	0		1	3
	Sum of FacilityMorts	0	14	0		1	15
	Sum of ResearchMorts	0	0	0		0	0
	Sum of TotalProjectMorts	0	16	0		2	18
LMN	Sum of NumberCollected		67,033	20		17,525	84,578
	Sum of NumberBarged		0	0		0	0
	Sum of NumberBypassed		67,030	20		17,523	84,573
	Sum of NumberTrucked		0	0		0	0
	Sum of SampleMorts		3	0		2	5
	Sum of FacilityMorts		0	0		0	0
	Sum of ResearchMorts		0	0		0	0
	Sum of TotalProjectMorts		3	0		2	5
Total Sum of NumberCollected		11,590	894,178	1,490	50	401,005	1,308,313
Total Sum of NumberBarged		0	0	0	0	0	0
Total Sum of NumberBypassed		11,548	894,088	1,490	50	400,997	1,308,173
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		1	25	0	0	7	33
Total Sum of FacilityMorts		41	65	0	0	1	107
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		42	90	0	0	8	140

Cumulative Adult Passage at Mainstem Dams Through: 04/14

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	04/14	3457	9	10629	23	4488	6	0	0	0	0	0	0	0	0	0	0	0	0
TDA	04/14	1543	29	4643	71	1845	7	0	0	0	0	0	0	0	0	0	0	0	0
JDA	04/14	809	5	2370	24	961	10	0	0	0	0	0	0	0	0	0	0	0	0
MCN	04/14	341	0	917	3	273	0	0	0	0	0	0	0	0	0	0	0	0	0
IHR	04/14	113	8	377	1	121	0	0	0	0	0	0	0	0	0	0	0	0	0
LMN	04/14	96	-1	204	5	47	0	0	0	0	0	0	0	0	0	0	0	0	0
LGS	04/14	53	2	92	5	14	0	0	0	0	0	0	0	0	0	0	0	0	0
LGR	04/14	29	1	62	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
PRD		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WAN		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RRH		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WFA	04/10	678	0	895	3	240	0	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	04/14	0	0	0	0	0	0	1	1	0	3316	3618	3109	1441	1989	1028	-1	0	0
TDA	04/14	0	0	0	0	0	0	0	0	0	215	151	1963	132	84	754	0	0	0
JDA	04/14	0	0	0	0	0	1	0	0	0	224	224	3940	157	173	1380	0	0	-1
MCN	04/14	0	0	0	0	1	0	1	0	0	369	358	4810	259	215	1495	1	3	0
IHR	04/14	0	0	0	0	0	0	0	0	0	829	614	4222	487	385	1146	0	1	0
LMN	04/14	0	0	0	0	0	0	0	0	0	882	2616	6965	605	1267	2028	0	0	0
LGS	04/14	0	0	0	0	0	0	0	0	0	2738	822	1671	1482	517	702	0	0	0
LGR	04/14	0	0	0	0	0	0	0	0	0	4802	8398	7574	2601	3788	2569	0	0	0
PRD		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WAN		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RRH		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WFA	04/10	0	0	1	0	0	0	0	0	0	5153	3528	4804	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.