



Fish Passage Center

Weekly Report #18-15

June 15, 2018

This Week's Highlights

Water Supply

Precipitation throughout the Columbia Basin has varied between 8% and 118% of average at individual sub-basins over June. Precipitation above The Dalles has been 65% of average over June. Over the 2018 water year, precipitation has ranged between 89% and 113% of average.

Table 1. Summary of June precipitation and cumulative October through June precipitation with respect to average (1981-2010), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2018 June 1-14, 2018		Water Year 2018 October 1, 2017 to June 14, 2018	
	Observed (inches)	% Average	Observed (inches)	% Average
	Columbia Above Coulee	1.26	82	31.0
Snake River Above Ice Harbor	0.39	47	17.9	93
Columbia Above The Dalles	0.65	65	22.0	97
Kootenai	1.26	76	30.2	101
Clark Fork	1.10	83	24.3	110
Flathead	1.18	69	32.0	112
Pend Oreille River Basin above Waneta Dam	1.06	71	28.5	107
Salmon River Basin	0.82	71	23.6	98
Upper Snake Tributaries	0.07	8	20.8	95
Clearwater	1.25	84	39.1	113
Willamette River above Portland	1.50	118	54.1	89

Table 2 displays the June 14th ESP runoff volume forecasts for multiple reservoirs along with the June COE forecasts at Libby and Dworshak. The June 14th ESP forecast at The Dalles between April and August is 104,268 Kaf (119% of average).

Table 2. June 14 ESP Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.

Location	June 14, 2018 5-day QPF ESP	
	% Average (1981-2010)	Runoff Volume (Kaf)
The Dalles (Apr-Aug)	119	104,268
Grand Coulee (Apr-Aug)	120	68,272
Libby Res. Inflow, MT (Apr-Aug)	116 123**	6,847 7,213**
Hungry Horse Res. Inflow, MT (Apr-Aug)	151	2,918
Lower Granite Res. Inflow (Apr- July)	118	23,476
Brownlee Res. Inflow (Apr-July)	107	5,878
Dworshak Res. Inflow (Apr-July)	125 122**	3,029 2,966**

* Denotes COE June Forecast

Grand Coulee Reservoir is at 1281.6feet (6-14-18) and has refilled 3.2 feet over the last week. Outflows at Grand Coulee have ranged between 136.5 Kcfs and 165.9 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2436.0 feet (6-14-18) and has refilled 2.0 feet over the past week. Daily average outflows at Libby Dam have been 17.0-22.9 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3555.5 feet (6-14-18) and has refilled 3.8 feet last week. Outflows at Hungry Horse have been 2.9-8.5 Kcfs over the last week.

Dworshak is currently at an elevation of 1594.5 feet (6-14-18) and continues to refill, filling 5.4 feet over last week. Dworshak outflows have been 2.2 Kcfs.

The Brownlee Reservoir was at an elevation of 2074.0 feet on June 14th, 2018 and has refilled 2.0 feet. Outflows at Hells Canyon have ranged between 14.0 and 29.5 Kcfs over the last four days.

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 4th, 2018), the flow objective this spring is 100 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 84.1 Kcfs last week; over the spring season have averaged 115.6 Kcfs.

Based on the April Final Water Supply Forecast, the Spring Biological Opinion Flow Objectives is 260 Kcfs at McNary Dam and 135 Kcfs at Priest Rapids Dam (both began April 10th). Flows at McNary averaged 284.9 Kcfs last week at McNary and 368.0 Kcfs over the spring season. Flows averaged 190.4 Kcfs at Priest Rapids last week and 244.0 Kcfs over the spring season.

Spill

Flows in the Lower Snake River continued to decrease this week. Daily average flows at Lower Granite Dam ranged from 68.0 to 95.8 Kcfs this week. Flows in the Mid-Columbia and Upper Columbia rivers also decreased this week, when compared to the previous week. Daily average flows at McNary and Rock Island dams ranged from 230.3 to 307.9 Kcfs and 164.0 to 193.5 Kcfs this week, respectively.

The 2018 spill for fish passage program at the lower Snake River and Mid-Columbia FCRPS projects began just after midnight on April 3rd and April 10th, respectively. In response to the order from the U.S. District Court of the District of Oregon, the 2018 Fish Operations Plan (FOP) specifies that spring spill operations on the Snake and Mid-Columbia rivers will be to spill to the 115%/120% total dissolved gas (TDG) caps at all eight projects. The COE estimates spill caps for each project on a daily basis and projects will

be operated to these estimated spill caps. These daily spill caps are implemented at 1600 each day and are published on the TMT website (<http://pweb.crohms.org/tmt/documents/ops/spill/caps/>). The daily spill caps for spring spill operations at the Snake and Mid-Columbia river projects for the past week are summarized in Table 3. According to the FOP, summer spill operations will begin at 0001 on June 16th at the Mid-Columbia River sites and 0001 on June 21st at the Snake River sites. These summer spill operations will run through August 31st at all eight FCRPS projects. A summary of summer spill operations is also provided in Table 3.

Table 3. Spring and summer spill operations and estimated 115%/120% TDG spill caps at Snake and Mid-Columbia river projects. Estimated spill caps are for most recent week of spring spill operations.

Project	Spring Spill Level (Day/Night)	Estimated Spill Caps (6/8-6/14)	Summer Spill Level (Day/Night)
Lower Granite	Gas Cap/Gas Cap	35-37 Kcfs	18 Kcfs/18 Kcfs
Little Goose	Gas Cap/Gas Cap	26-30 Kcfs	30%/30%
Lower Monumental	Gas Cap/Gas Cap	27-33 Kcfs	17 Kcfs/17 Kcfs
Ice Harbor	Gas Cap/Gas Cap	80-90 Kcfs	Jun. 21-Jul. 13: 45 Kcfs/ Gas Cap or 30%/30% Jul. 13-Aug. 31: 45 Kcfs/ Gas Cap
McNary	Gas Cap/Gas Cap	145-190 Kcfs	50%/50%
John Day	Gas Cap/Gas Cap	95-140 Kcfs	Jun. 16-Jul. 20: 30%/30% or 40%/40% Jul. 20-Aug. 31 – 30%/30%
The Dalles	Gas Cap/Gas Cap	105 Kcfs	40%/40%
Bonneville	Gas Cap/Gas Cap	121 Kcfs	95 Kcfs/95 Kcfs or 85 Kcfs/121 Kcfs

The estimated 115%/120% spill cap for Lower Granite Dam (LGR) was gradually increased from 33 Kcfs late last week to 37 Kcfs on June 12th, where it has remained since. Spill volumes this week met the daily prescribed 115%/120% spill caps. Total dissolved gas (TDG) in the LGR tailrace has been in the 116%-118% range this week, which is below the 120% waiver limit.

Total dissolved gas in the Little Goose (LGS) forebay has been in the 110%-114% range this week, which is below the 115% waiver limit. The estimated spill cap for LGS was gradually increased from 26 Kcfs, where it had been since early May, to 30 Kcfs on June 12th, where it has remained. Spill volumes this week met or exceeded the daily prescribed 115%/120% spill caps. Total dissolved gas in the LGS tailrace has been in the 113%-114% range this week, which is well below the 120% waiver limit. Total dissolved gas in the Lower Monumental (LMN) forebay has been in the 111%-114% range this week, which is below the 115% waiver limit. The estimated spill cap for LMN was gradually increased from 27 Kcfs, where it had been since mid-May, to 33 Kcfs on June 13th, where it has remained. Spill volumes at LMN have met the daily prescribed 115%/120% spill caps. Total dissolved gas in the LMN tailrace has been in the 114%-115% range this week, which is well below the 120% waiver limit. Total dissolved gas in the Ice Harbor (IHR) forebay has been in the 110%-115% range, which is at or below the 115% waiver limit. The estimated spill cap for IHR was gradually increased from 80 Kcfs to 90 Kcfs on June 11th, where it has remained since. Spill volumes on June 8th and 9th met the prescribed daily 115%/120% spill caps. However, due to decreasing flows, spill volumes on June 10th through June 14th have mostly been below the prescribed daily spill caps. Instead, spill has generally been all flows in excess of powerhouse minimum requirements. Total dissolved gas in the IHR tailrace has been in the 116%-118% range this week, which is below the 120% waiver limit. Total dissolved gas in the McNary (MCN) forebay exceeded the 115% waiver limit on June 8th and 9th. Total dissolved has in the MCN forebay has been below the 115% waiver limit since June 10th and, in more recent days, has been in the 114%-115% range.

By June 8th, flows in the Mid-Columbia River had decreased to low enough levels to allow for spill to the estimated 115%/120% spill caps at all four projects (McNary, John Day, The Dalles, and Bonneville). Therefore, spill volumes at all four Mid-Columbia projects have met the prescribed daily 115%/120% spill caps this week. The estimated spill cap for McNary Dam (MCN) was gradually increased from 145 Kcfs, where it had been since April 27th, to 190 Kcfs on June 14th. Total dissolved gas levels were below the 120% waiver limit in the MCN tailrace all this week. In addition, TDG levels in the John Day (JDA) forebay

were below the 115% waiver limits all week. The estimated spill cap for JDA was gradually increased from 90 Kcfs, where it had been since April 27th, to 140 Kcfs on June 14th. Total dissolved gas levels in the JDA tailrace and The Dalles (TDA) forebay were below the 120% and 115% waiver limits, respectively, all this week. On June 8th, the estimated spill cap for The Dalles Dam was increased from 90 Kcfs, where it had been since April 29th, to 105 Kcfs. Total dissolved gas in the TDA tailrace has been below the 120% waiver limit all this week. Total dissolved gas in the Bonneville (BON) forebay exceeded the 115% waiver on June 13th but was below the 115% limit all other days this week. Finally, the estimated spill cap for BON has been 121 Kcfs all week. The tailrace monitor at Cascades Island has been out of service since May 13th, likely as a result of high flows and spill volumes. The 12-hour average TDG at the Warrendale gauge has been in the 115% to 118% range over the past week.

Note: The State of Oregon TDG waiver only requires compliance 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.

Gas bubble trauma (GBT) monitoring in smolts took place over the past week at Little Goose, Lower Monumental, Rock Island, McNary, and Bonneville dams this week. Due to continued decreases in yearling Chinook and steelhead collections, GBT monitoring at LGR did not occur this week. Signs of GBT were observed in four of the eight GBT samples conducted this week (June 8-June 14). Bonneville observed zero

signs of GBT in each of their samples on June 9th and June 12th. Levels of GBT continued to decrease at Rock Island this week, when compared to samples from May. In the samples on June 12th and June 14th, 1% and 3% of the fish examined had signs of fin GBT, respectively. Of the fish that had signs of fin GBT in these two samples, all were rank 1. McNary observed one fish (1.0%) with rank 1 signs of fin GBT in their sample on June 9th but zero fish had signs of GBT in their sample on June 11th. Little Goose observed six fish (6.0%) with rank 1 signs of GBT in their sample on June 11th. Lower Monumental observed zero fish with signs of fin GBT in their sample on June 13th. The action criteria for interruption of the voluntary spill for fish passage program is defined as either 15% of examined fish showing signs of GBT in their non-paired fins, or 5% of the fish examined showing severe signs of GBT in their non-paired fins. Severe signs of GBT are defined as more than 25% of the surface area of the fin is occluded by gas bubbles, which corresponds to a rank of 3 or 4. Neither of these action criteria were met this week.

Temperature

Forebay temperatures are now being reported for Lower Granite, Ice Harbor, McNary and Bonneville dams. Currently, forebay temperatures at Bonneville, McNary, and Lower Granite dams are very similar to their respective 10-year averages. The daily average temperature for June 14th was 60.4 °F at Bonneville, 59.9 °F at McNary, and 58.7 °F at Lower Granite. The current 10-year average temperatures at these three sites are 60.4 °F, 59.5 °F, and 57.9 °F, respectively. However, current temperatures at Ice Harbor are about three degrees above the current 10-year average for this site. The daily average temperature for June 14th was 61.7 °F, whereas the 10-year average temperature is 58.6 °F.

Smolt Monitoring

Smolt Monitoring Program (SMP) activities continued at all bypass facilities this week. Sampling also continued at the Imnaha River trap this week. This week's samples were dominated by subyearling Chinook at all seven SMP bypass facilities. When compared to last week, subyearling Chinook passage decreased at all three mid-Columbia sites, Rock Island in the Upper Columbia, and Lower Granite in the Snake River. Subyearling Chinook passage decreased at the other two Snake River sites (Little Goose and Lower

Monumental) this week. Passage of spring migrants (yearling Chinook, coho, sockeye, and steelhead) continued to decrease at all SMP bypass facilities this week.

This week's samples at Bonneville Dam (BON) were dominated by subyearling Chinook. This week's daily average passage index for subyearling Chinook was about 18,700 per day, which is a decrease from last week's daily average passage index of about 26,000 per day. Passage of spring migrants (yearling Chinook, coho, sockeye, and steelhead) continued to decrease this week, when compared to the previous week. This week's daily average passage indices for spring migrants were 400 for yearling Chinook, 830 for coho, 200 for sockeye, and about 250 for steelhead. Last week's daily average passage indices for these four species were 1,600, 1,400, 1,300, and 1,100 per day, respectively. Pacific lamprey macrophthalmia were encountered every day this week while ammocoetes were encountered only once this week (June 11th). This week's daily average collection for Pacific lamprey macrophthalmia was about 170 per day, which is a decrease from last week's daily average collection of about 600 per day.

Similar to the last two years, sampling at John Day Dam (JDA) is every-other-day. Subyearling Chinook again dominated the samples at JDA this week. This week's daily average passage index for subyearling Chinook was about 20,500 per day. This is a decrease from last week's daily average passage index of about 27,000 per day. Passage of spring migrants all decreased this week, when compared to last week. This week's daily average passage indices were 400 for yearling Chinook, 600 for coho, 400 for sockeye, and 700 for steelhead. Last week's daily average passage indices for these four species were 1,800, 2,000, 1,300, and 3,000 per day, respectively. Pacific lamprey macrophthalmia were encountered in all of this week's samples while ammocoetes were encountered in only one of this week's three samples. This week's daily average collection for Pacific lamprey macrophthalmia at JDA was 300 per day, which is a substantial decrease from last week's daily average collection of about 3,500 per day.

Similar to John Day, sampling at McNary (MCN) is every-other-day. Due to an equipment failure, sampling at MCN was suspended from the afternoon of June 3rd through June 6th. The sample for June

3rd is based on only 8.5 hours of sample data and, therefore, was not used in this report when comparing to samples from this week. Subyearling Chinook dominated this week's samples at MCN. This week's daily average passage index for subyearling Chinook was nearly 27,000 per day, which is substantially less than last week's daily average of 81,400 subyearling Chinook per day (June 1 and June 2). Passage of all spring migrants decreased this week, when compared to last week. This week's daily average passage indices for spring migrants were 1,000 for yearling Chinook, 830 for coho, 400 for sockeye, and 400 for steelhead. Last week's daily average passage indices for these four species were 7,500, 2,300, 2,600, and 700 per day, respectively. Finally, Pacific lamprey macrophthalmia were encountered in all of this week's samples while ammocoetes were not encountered this week. This week's daily average collection for Pacific macrophthalmia 400 per day, which is a large decrease from last week's daily average collection of about 5,700 macrophthalmia per day.

Subyearling Chinook continued to dominate the samples at Lower Granite Dam (LGR) this week. This week's daily average passage index for subyearling Chinook was nearly 15,000 per day, which is an increase over last week's daily average passage index of nearly 11,000 per day. Passage of spring migrants all decreased this week. This week's daily average passage indices for spring migrants were 300 for yearling Chinook, 400 for coho, 20 for sockeye, and 1,350 for steelhead. Last week's daily average passage indices for these four species were 1,200, 850, 130, and 3,850 per day, respectively. Finally, no Pacific lamprey macrophthalmia were encountered this week while Pacific lamprey ammocoetes were encountered in six of this week's samples.

Similar to recent years, sampling at Little Goose Dam (LGS) was every-other-day until the start of transportation (April 23rd), at which time sampling changed to every day. It is worth noting that, due to a separator cleanout, the sample on June 7th was a partial sample (21.75 hours) and, therefore, passage indices on this date are likely underestimates. Subyearling Chinook continued to dominate the samples at LGS this week. This week's daily average passage index for subyearling Chinook was about 15,200 per day, which is a slight decrease from last week's daily average passage index of about 16,400 per day. Yearling

Chinook, coho, sockeye, and steelhead passage all decreased this week, when compared to the previous week. This week's daily average passage indices for these four species were 200, 325, 50, and 800 per day, respectively. Finally, Pacific lamprey macrophthalmia were encountered in four of this week's samples while ammocoetes were encountered in five of this week's samples. This week's daily average collections for Pacific lamprey macrophthalmia and ammocoetes were 50 and 90 per day, respectively.

Sampling at Lower Monumental Dam (LMN) was every-third-day through April 14th, transitioned to every-other-day through April 23rd, and then transitioned to every day with the start of transportation. This week's samples at LMN were dominated by subyearling Chinook. This week's daily average passage index for subyearling Chinook was about 7,700 per day, which is a decrease from last week's daily average passage index of about 15,000 per day. Passage of spring migrants all decreased this week, when compared to last week. This week's daily average passage indices for spring migrants were 275 for yearling Chinook, 300 for coho, 30 for sockeye, and about 300 for steelhead. Last week's daily average passage indices for these four species were 900, 500, 170, and 1,600 per day, respectively. Finally, Pacific lamprey macrophthalmia were encountered every day this week while ammocoetes were encountered in four of this week's samples. This week's daily average collection for Pacific lamprey macrophthalmia was about 100 per day, which is a decrease from last week's daily average collection of about 800 per day.

Subyearling Chinook continued to dominate the samples at Rock Island Dam (RIS). This week's daily average passage index for subyearling Chinook was about 670 per day, which is an increase over last week's daily average passage index of about 540 per day. Passage of spring migrants decreased again this week, when compared to the previous week. In fact, there were several samples this week when zero yearling Chinook were encountered. Pacific lamprey macrophthalmia were encountered in four of this week's samples while ammocoetes were encountered in only two. When encountered, collections for both Pacific macrophthalmia and ammocoetes were very low.

The Imnaha River Trap (IMN) is located at river kilometer 7 of the Imnaha River and is operated by the Nez Perce Tribe. Sampling at the Imnaha River Trap

is year round. For 2018, the FPC currently has data from IMN for the period of February 15 through June 13th. Steelhead dominated the collections over the last week of available data (June 7-13). The daily average collection for steelhead during this period was about 40 per day, which is similar to the daily average collection from the previous week (May 31-June 6). The daily average collection for yearling Chinook over the last week (June 7-13) was about 15 fish per day, which is also similar to the daily average collection from the previous week (May 31-June 6).

Hatchery Releases

FPC has not received preliminary data from some hatcheries as of 06/15/18, therefore, this hatchery release schedule represents the most up to date accounting that are available, but should not be considered a finalized record of hatchery releases.

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. In the past week there were no scheduled releases into this zone, nor are there any scheduled for the next two.

Upper Columbia Zone:

The Upper Columbia Zone encompasses the area of the Columbia River and its tributaries from Priest Rapids Dam to Chief Joseph Dam. In the past week there were no scheduled releases into this zone, nor are there any scheduled for the next two.

Middle Columbia Zone:

The Middle Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to Priest Rapids Dam (excluding the Snake River). In the past week there were approximately 2 million fall Chinook subyearlings released into this zone. These were made up of two separate releases from Priest Rapids Hatchery of a million juveniles each.

In the next two weeks, there are approximately 3.5 million fall Chinook subyearlings planned for release into this zone. 2.5 million of these are planned for release on the 18th from Ringold Springs Hatchery, with the remaining million planned for release on the 20th from Priest Rapids Hatchery.

Lower Columbia Zone:

The Lower Columbia Zone is defined as the Columbia River and its tributaries below Bonneville Dam. There were no scheduled releases into this zone over the past week, nor are there any scheduled over the next two weeks.

Adult Passage

The summer Chinook adult passage count began June 1st at Bonneville Dam. Daily passage numbers at Bonneville Dam ranged between 967 and 1,769 adult Chinook in the last week. The 2018 adult summer Chinook count of 18,536 is about 83.6% of the 2017 count of 22,180 and about 61.1% of the 10-year average count of 30,343. The 2018 Bonneville Dam summer Chinook jack count of 995 is about 30% of the 2017 count and 15.8% of the 10-year average count. At Willamette Falls, 17,035 adult spring Chinook have been counted so far this year. In 2017, 21,745 adult spring Chinook were counted at Willamette Falls. This year's count is about 78.3% of the 2017 count and is about 67.1% the 10-year average count of 25,378. A total of 30,297 spring chinook have been counted at Lower Granite Dam as of June 14th. The 2018 Lower Granite Dam adult spring Chinook count is about 1.2 times greater than the 2017 count, while being 50.5% of the 10-year average count.

The 2018 Bonneville Dam adult steelhead count of 4,742 is about 1.2 times greater than the 2017 count of 3,849, while being about 64.7% of the 10-year average count of 7,330. The 2018 Bonneville Dam adult unclipped steelhead count of 1,886 is about 1.6 times greater than the 2017 count of 1,189, while being about 87.9% of the 10-year average count of 2,144. This year's Lower Granite steelhead count of 4,536 is about 62% of the 2017 count of 7,311 and about 52% of the 10-year average count of 8,733. The 2018 Lower Granite Dam adult unclipped steelhead count of 1,262 is about 41.3% of the 2017 count of 3,055 and about 34.4% of the 10-year average count of 3,667. At Willamette Falls, the 2018 count for steelhead was 6,229 as of June 10th. This year's steelhead count is about 3.5 times greater than the 2017 count of 1,773, while being about 44.6% of the 10-year average count of 13,917.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 737 and 2,762 last week. The 2018 adult sockeye count at Bonneville Dam of 11,826 is about 2 times greater than the 2017 count, while being about 64.3% of the 10-year average

count. A total of 7,256 lampreys have been counted at Bonneville Dam so far this year. The Bonneville 2018 lamprey count is about 56.7% of the 2017 count of 12,786, while being about 1.7 times greater than the 10-year average count of 4,269.

Hatchery Releases Last Two Weeks

Hatchery Release Summary
From: 6/2/2018 to 06/15/18

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver	Zone
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2018	300,000	06-04-18	06-05-18	Cedar Flats Acclim.	Selway River	SNAK
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2018	660,000	06-07-18	06-08-18	Nez Perce Tribal Hatchery	Clearwater River M F	SNAK
Nez Perce Tribe Total					960,000					
Washington Dept. of Fish and Wildlife	Priest Rapids Hatchery	CH0	FA	2018	1,000,000	06-11-18	06-11-18	Priest Rapids Hatchery	McNary Pool	MCOL
Washington Dept. of Fish and Wildlife	Priest Rapids Hatchery	CH0	FA	2018	1,000,000	06-15-18	06-15-18	Priest Rapids Hatchery	McNary Pool	MCOL
Washington Dept. of Fish and Wildlife Total					2,000,000					
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2018	1,000	06-05-18	06-05-18	Yakama River	Yakima River	MCOL
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2018	2,000	06-05-18	06-05-18	Prosser Acclim Pond	Yakima River	MCOL
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2018	2,000	06-05-18	06-05-18	Yakama River	Yakima River	MCOL
Yakama Tribe Total					5,000					
Grand Total					2,965,000					

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

Hatchery Releases Next Two Weeks

Hatchery Release Summary
From: 6/16/2018 to 6/29/2018

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver	Zone
Washington Dept. of Fish and Wildlife	Priest Rapids Hatchery	CH0	FA	2018	1,000,000	06-20-18	06-20-18	Priest Rapids Hatchery	McNary Pool	MCOL
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2018	2,500,000	06-18-18	06-18-18	Ringold Springs Hatchery	McNary Pool	MCOL
Washington Dept. of Fish and Wildlife Total					3,500,000					
Grand Total					3,500,000					

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

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

Date	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
06/01/2018	216.6	0.0	228.5	89.0	255.4	106.8	255.6	115.0	250.3	105.7	265.9	150.4	268.6	146.3
06/02/2018	214.5	0.0	213.7	61.3	235.6	84.2	242.6	101.9	239.4	94.6	258.8	122.9	262.0	138.6
06/03/2018	212.2	0.0	211.1	61.0	231.8	82.8	237.3	106.2	233.8	89.1	251.0	123.3	253.5	136.4
06/04/2018	192.6	8.8	194.1	61.7	211.5	62.4	215.4	75.3	214.5	69.0	229.3	101.5	235.7	132.8
06/05/2018	197.2	0.0	198.6	68.7	212.8	56.7	219.1	78.0	219.5	72.0	240.3	109.6	242.2	129.4
06/06/2018	191.1	0.0	194.1	45.7	208.1	51.4	213.8	73.1	215.1	67.4	227.2	87.1	228.5	109.0
06/07/2018	173.3	0.0	173.4	22.1	187.8	36.0	193.9	56.3	196.3	56.9	209.2	74.5	213.1	102.8
06/08/2018	165.2	0.0	170.3	0.0	187.2	35.2	189.3	51.4	193.5	49.6	206.4	73.6	207.3	99.1
06/09/2018	165.0	3.4	163.4	2.3	181.0	31.4	185.2	49.5	191.6	54.5	202.6	75.1	207.3	108.7
06/10/2018	160.9	0.0	154.1	0.0	166.5	24.0	169.1	32.4	173.7	40.4	203.2	70.0	204.6	113.1
06/11/2018	159.4	0.0	161.3	0.0	168.9	14.0	173.9	40.6	179.2	42.5	204.0	64.3	206.5	86.9
06/12/2018	160.3	0.0	165.5	0.0	172.7	18.7	176.5	42.8	181.2	37.1	181.7	46.2	178.3	44.1
06/13/2018	158.3	0.4	156.2	0.0	169.5	19.4	172.3	40.9	175.4	31.0	162.3	38.3	163.9	39.8
06/14/2018	136.5	0.2	144.8	0.0	158.3	21.9	160.5	25.5	164.0	29.9	168.6	43.1	164.8	47.2

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	
06/01/2018	6.1	1.7	---	---	153.6	45.4	145.2	55.8	143.6	54.9	148.3	96.9	
06/02/2018	6.1	1.7	---	---	139.9	33.9	136.7	46.6	136.0	58.7	145.2	92.1	
06/03/2018	6.1	1.7	---	---	123.5	30.7	116.2	27.0	116.3	29.3	123.9	81.5	
06/04/2018	5.2	0.9	---	---	111.7	30.9	107.7	25.3	103.7	26.9	113.0	80.4	
06/05/2018	4.3	0.0	---	---	113.2	31.0	110.8	27.7	110.1	31.4	117.4	80.3	
06/06/2018	4.3	0.0	---	---	108.9	30.9	106.3	25.2	105.0	29.5	112.0	80.2	
06/07/2018	4.3	0.0	---	---	103.9	31.6	101.8	25.2	99.3	26.7	103.2	80.0	
06/08/2018	2.2	0.0	---	---	95.8	33.7	91.2	25.2	88.5	27.0	96.3	79.9	
06/09/2018	2.2	0.2	---	---	95.0	35.5	93.1	25.2	91.9	26.9	97.2	80.1	
06/10/2018	2.2	0.0	---	---	87.1	35.5	83.4	25.2	82.5	27.0	89.2	79.1	
06/11/2018	2.2	0.0	---	---	87.7	35.4	84.4	28.0	82.7	26.7	89.7	79.6	
06/12/2018	2.2	0.0	---	---	82.9	35.9	80.7	27.7	79.1	29.5	85.2	74.7	
06/13/2018	2.2	0.0	---	---	72.3	37.0	71.2	29.0	68.8	31.1	73.4	63.3	
06/14/2018	2.2	0.0	---	---	68.0	37.2	66.4	29.1	63.6	33.0	70.2	60.0	

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	
06/01/2018	404.8	230.4	396.8	144.7	367.9	196.3	388.0	179.4	58.5	137.7
06/02/2018	412.5	239.4	420.1	156.1	404.9	204.9	422.0	207.8	58.0	143.9
06/03/2018	380.6	207.4	374.3	114.0	347.9	114.2	370.5	160.3	58.5	139.4
06/04/2018	356.1	191.2	364.6	105.0	353.3	120.0	369.4	159.8	58.7	138.4
06/05/2018	352.0	189.6	344.3	114.5	319.8	109.3	344.7	138.9	59.0	134.4
06/06/2018	347.7	192.8	354.6	126.8	329.9	121.0	348.8	141.8	57.9	136.7
06/07/2018	322.6	167.4	323.9	91.1	302.7	104.8	333.5	123.8	65.7	131.6
06/08/2018	301.1	145.1	295.1	91.7	279.9	95.0	299.2	120.2	66.2	100.4
06/09/2018	307.9	147.5	297.6	95.1	278.5	105.0	302.7	120.3	69.6	100.4
06/10/2018	295.1	145.1	292.1	96.7	270.5	105.0	293.1	120.2	61.6	98.9
06/11/2018	298.3	148.3	296.9	103.4	277.2	105.0	294.6	120.6	64.3	97.3
06/12/2018	303.0	156.5	308.5	114.7	284.5	105.0	301.0	120.9	66.5	101.2
06/13/2018	258.7	163.0	242.6	126.7	230.6	105.0	260.0	121.4	40.7	85.4
06/14/2018	230.3	173.5	234.2	133.4	218.5	105.0	242.4	120.6	15.2	94.3

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

Site	Date & Species	Number of Fish	Number w/ GBT signs	Number w/ Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank			
							Rank 1	Rank 2	Rank 3	Rank 4
Lower Granite Dam										
	06/07/18 Chinook + Steelhead	35*	2	1			1	0	0	0
Little Goose Dam										
	06/04/18 Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	06/11/18 Chinook + Steelhead	100	6	6	6.00%	0.00%	6	0	0	0
Lower Monumental Dam										
	06/06/18 Chinook + Steelhead	100	10	10	10.00%	0.00%	8	2	0	0
	06/13/18 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
McNary Dam										
	06/01/18 Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	06/07/18 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/09/18 Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	06/11/18 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam										
	06/02/18 Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	06/05/18 Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	06/09/18 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/12/18 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam										
	06/05/18 Chinook + Steelhead	100	14	14	14.00%	0.00%	12	2	0	0
	06/07/18 Chinook + Steelhead	100	7	6	6.00%	0.00%	6	0	0	0
	06/12/18 Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	06/14/18 Chinook + Steelhead	100	3	3	3.00%	0.00%	3	0	0	0

Samples marked with an asterisk indicate the sample size criteria of 100 fish was not met due to insufficient numbers of fish to sample that day. The inability to collect an adequate sample precludes the accurate estimation of the percentage of fish with GBT, and no estimate is provided.

The action criteria for interruption of the voluntary spill for fish program is defined as either 15% of examined fish showing signs of gas bubble trauma in their non-paired fins, or 5% of the fish examined showing severe signs of gas bubble trauma in their non-paired fins where severe signs constitute >25% of the surface area of the fin is occluded by gas bubbles, corresponding to ranks of 3 or 4.

FISH PASSAGE CENTER

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

[INTERNAL PURPOSES ONLY]

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Total Dissolved Gas Data at Upper Columbia Sites

Date	Hungry H. Dnst				Boundary				Grand Coulee				Grand C. Tlwr				Chief Joseph				Chief J. Dnst				Date
	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	
06/01									123.0	124.4	124.0	24	121.1	122.5	121.9	24	120.2	121.4	120.9	24	122.1	123.2	123.8	24	06/01
06/02									122.1	122.5	122.4	24	120.3	120.7	120.8	24	119.8	120.3	120.6	24	118.5	122.3	119.4	24	06/02
06/03									123.0	123.3	123.6	24	121.2	121.6	121.8	24	120.6	121.1	121.5	24	118.6	118.9	119.0	24	06/03
06/04									123.1	123.3	123.2	24	121.5	121.8	122.1	24	120.3	121.0	120.9	24	118.4	118.7	118.8	24	06/04
06/05									122.7	123.1	123.1	24	120.9	121.6	121.3	24	120.0	120.4	120.8	24	119.4	120.6	122.6	24	06/05
06/06									122.4	122.7	123.0	24	120.5	121.0	121.2	24	120.2	120.4	121.5	24	116.2	118.3	117.0	24	06/06
06/07									122.9	123.0	123.1	24	121.1	121.4	121.9	24	120.4	120.9	121.1	24	113.1	115.2	118.5	24	06/07
06/08									122.7	123.0	123.4	24	120.7	121.2	121.2	24	119.9	120.7	120.4	24	118.8	119.0	119.1	24	06/08
06/09									123.1	123.3	123.4	24	120.8	121.0	121.2	24	120.0	120.1	120.2	15	118.3	119.1	119.3	24	06/09
06/10									122.6	123.2	123.1	24	120.3	120.8	120.7	24	119.1	119.9	119.3	12	118.0	118.3	118.4	24	06/10
06/11									121.9	122.6	122.8	24	119.7	120.3	120.2	24	118.1	118.9	118.6	11	117.0	117.6	117.3	24	06/11
06/12									120.6	121.5	121.5	24	118.9	119.4	119.4	24	118.5	118.8	119.4	16	117.2	117.7	118.2	24	06/12
06/13									120.8	121.1	121.5	24	119.7	120.2	122.7	24	119.2	120.0	120.0	13	118.3	118.6	118.9	24	06/13
06/14									120.2	121.2	121.3	23	119.2	119.9	119.6	23	118.5	119.0	118.9	14	116.9	117.9	117.3	23	06/14

Total Dissolved Gas Data at Upper Columbia Sites

Date	Wells				Wells Dwnstrm				Rocky Reach				Rocky R. Tlwr				Rock Island				Rock I. Tlwr				Date
	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	
06/01	116.9	117.9	118.0	24	128.0	128.4	129.0	24	124.1	126.7	125.9	24	127.9	128.3	129.2	24	123.3	124.4	124.3	24	127.4	127.9	128.1	24	06/01
06/02	117.5	118.1	118.5	24	126.3	128.4	127.3	24	126.1	127.1	128.0	24	127.8	128.5	129.1	24	124.6	125.1	125.6	24	128.1	128.4	129.0	24	06/02
06/03	118.1	118.4	118.6	24	127.2	128.1	129.4	24	125.8	127.1	126.3	24	127.6	128.4	128.4	23	124.9	125.4	125.7	24	128.2	128.7	128.7	22	06/03
06/04	117.0	118.3	117.7	24	122.8	127.6	126.7	24	124.3	125.7	124.9	24	126.6	127.7	128.4	20	123.0	125.1	124.6	23	126.7	128.5	128.2	20	06/04
06/05	117.0	117.5	118.2	24	122.1	122.9	124.9	24	120.7	123.8	121.9	24	126.8	127.5	130.0	20	121.9	123.0	123.8	23	125.9	126.4	127.3	17	06/05
06/06	117.5	118.1	118.3	24	121.5	121.8	123.4	24	121.4	121.9	122.5	20	126.5	127.2	127.8	17	121.7	122.9	124.0	17	126.0	126.6	127.0	17	06/06
06/07	117.5	118.1	118.1	24	120.3	122.1	123.4	24	121.0	121.8	122.1	23	125.0	126.8	127.7	22	120.8	122.3	122.5	23	125.6	126.4	126.3	20	06/07
06/08	117.0	117.6	118.1	24	119.7	119.8	122.9	24	119.1	120.5	120.9	24	124.1	124.7	125.1	21	119.4	120.9	121.0	23	124.0	125.2	125.6	19	06/08
06/09	117.0	117.7	117.8	24	119.4	121.3	123.1	24	118.0	118.5	118.7	24	123.1	124.4	125.8	23	118.4	119.6	119.8	23	123.8	124.3	124.7	22	06/09
06/10	116.1	117.0	117.1	24	117.9	118.1	119.1	24	117.4	118.4	118.9	24	120.5	121.8	123.0	21	116.6	118.5	118.5	22	121.3	123.5	122.4	21	06/10
06/11	114.9	115.9	115.8	24	116.2	118.1	118.4	24	114.9	116.3	115.2	24	120.4	120.9	122.5	24	115.5	116.8	117.0	24	120.3	121.5	121.3	22	06/11
06/12	115.3	115.8	116.0	24	117.0	117.7	118.7	24	115.1	115.2	115.4	24	121.1	121.7	122.6	22	116.1	117.4	118.3	23	119.3	120.4	121.0	21	06/12
06/13	116.3	116.5	116.6	24	118.3	118.6	119.3	24	116.6	117.4	117.8	23	121.8	122.2	122.8	21	116.3	117.5	117.3	22	119.2	120.5	120.3	21	06/13
06/14	115.9	116.3	116.4	23	117.9	119.2	122.9	23	116.1	117.1	116.6	23	118.5	122.0	121.1	22	116.0	116.7	116.4	23	119.1	120.0	119.9	21	06/14

FISH PASSAGE CENTER

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

[INTERNAL PURPOSES ONLY]

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Total Dissolved Gas Data at Upper and Mid-Columbia Sites

Wanapum				Wanapum Tlwr				Priest Rapids				Priest R. Dnstr				Pasco				Date	
Date	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	Date
06/01	121.8	125.0	122.9	24	130.0	132.5	134.2	24	126.7	129.0	130.2	24	124.1	125.4	126.0	24	124.1	125.4	126.0	24	06/01
06/02	123.8	125.5	125.8	24	126.6	127.9	129.0	24	125.4	128.5	129.2	24	124.2	125.3	125.2	24	124.2	125.3	125.2	24	06/02
06/03	126.0	127.3	128.7	24	127.7	128.0	129.7	24	125.5	127.2	128.5	24	124.0	124.7	125.0	24	124.0	124.7	125.0	24	06/03
06/04	122.7	124.7	124.9	24	124.1	129.2	131.7	24	123.6	125.3	126.2	24	122.5	124.1	123.0	24	122.5	124.1	123.0	24	06/04
06/05	123.1	124.0	124.5	24	125.5	126.5	128.5	24	122.6	124.6	124.7	24	122.1	123.3	123.6	24	122.1	123.3	123.6	24	06/05
06/06	124.4	125.6	126.3	24	122.2	124.1	124.6	24	122.4	124.5	124.2	24	122.2	123.3	122.9	24	122.2	123.3	122.9	24	06/06
06/07	123.8	125.6	125.5	24	121.4	123.1	126.5	24	121.2	123.2	124.5	24	121.2	122.4	121.8	24	121.2	122.4	121.8	24	06/07
06/08	121.6	123.6	123.3	24	120.8	122.3	125.5	24	118.8	121.8	122.8	24	119.5	120.8	120.8	24	119.5	120.8	120.8	24	06/08
06/09	118.7	122.2	121.2	24	119.4	121.0	126.9	24	117.5	121.1	118.7	24	119.7	120.5	120.5	24	119.7	120.5	120.5	24	06/09
06/10	116.5	117.3	117.2	24	117.3	118.7	118.5	24	115.4	117.9	118.9	24	118.4	119.3	118.9	24	118.4	119.3	118.9	24	06/10
06/11	116.3	116.8	117.2	24	116.5	118.3	121.2	24	115.4	115.9	117.2	24	117.8	118.5	119.5	24	117.8	118.5	119.5	24	06/11
06/12	116.8	117.5	117.7	24	116.2	116.9	118.8	24	116.0	117.4	118.0	24	116.2	118.1	117.0	24	116.2	118.1	117.0	24	06/12
06/13	117.5	118.1	118.5	24	115.9	116.3	117.5	24	115.6	117.7	117.4	24	115.3	116.2	116.6	24	115.3	116.2	116.6	24	06/13
06/14	115.0	116.6	116.6	24	114.4	115.8	116.0	24	112.7	114.8	114.0	24	113.8	114.3	114.8	24	113.8	114.3	114.8	24	06/14

Total Dissolved Gas Data at Snake and Clearwater Sites

Dworshak				Clrwr Peck				Anatone				Clrwr-Lewiston				Lower Granite				Lower G. Tlwr				Date	
Date	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	Date
06/01	105.7	106.4	106.6	24	102.9	103.5	103.8	24	107.1	107.7	108.1	24	101.9	102.7	103.5	24	103.8	105.5	104.8	24	117.7	118.0	118.1	24	06/01
06/02	105.6	106.2	106.8	24	103.4	104.5	105.1	24	107.4	108.1	108.6	24	102.7	103.7	104.3	24	104.3	105.2	106.0	24	115.2	117.5	116.7	24	06/02
06/03	106.3	107.1	107.7	24	103.6	104.5	105.1	24	107.1	108.0	108.3	24	103.1	104.0	105.0	24	106.5	106.9	107.3	24	114.7	114.9	115.2	24	06/03
06/04	104.2	106.7	107.2	24	102.5	104.4	103.4	24	105.5	107.2	106.2	23	102.0	103.7	103.0	24	106.6	107.1	107.2	24	114.7	114.8	115.3	24	06/04
06/05	101.5	102.2	102.7	24	102.4	103.3	103.9	24	105.3	105.9	106.5	24	101.8	102.7	103.5	24	104.9	106.2	106.0	24	114.8	114.9	115.4	24	06/05
06/06	101.8	102.6	103.2	24	102.6	103.5	104.2	24	105.4	106.2	106.8	24	102.2	103.3	104.0	24	104.0	104.2	104.1	24	114.6	114.9	114.9	24	06/06
06/07	101.8	102.4	103.2	24	102.2	103.5	103.0	24	104.8	106.0	105.7	24	101.9	103.0	103.5	24	104.1	104.3	104.4	24	115.0	115.4	115.8	24	06/07
06/08	102.2	103.4	104.2	24	102.6	103.9	104.6	24	105.1	106.0	106.6	24	102.2	103.5	104.4	24	104.1	104.5	105.5	24	116.0	116.5	117.1	24	06/08
06/09	103.3	105.3	107.1	24	101.7	103.9	102.8	24	103.8	105.9	104.5	24	100.8	103.3	101.5	24	103.2	104.1	103.5	24	116.6	116.8	117.0	24	06/09
06/10	101.4	104.4	102.9	24	101.3	101.9	102.3	24	103.8	104.4	104.9	24	100.7	101.5	102.3	24	102.1	103.2	103.4	24	116.3	116.5	116.6	24	06/10
06/11	101.3	102.2	103.2	24	101.8	102.4	103.0	24	104.2	104.8	105.4	24	101.7	103.0	103.9	24	101.3	102.1	101.9	24	116.4	116.5	116.7	24	06/11
06/12	101.5	102.5	103.2	24	102.4	103.5	104.0	24	104.2	105.3	105.7	18	102.7	104.3	105.4	24	102.0	102.6	103.1	24	116.7	117.0	117.4	24	06/12
06/13	102.3	103.4	104.2	24	102.6	103.4	104.0	24	104.8	105.5	106.2	24	103.2	104.5	105.7	24	103.7	103.9	104.1	24	117.4	117.6	117.8	24	06/13
06/14	101.9	102.9	103.8	23	101.7	103.2	103.1	23	103.9	105.1	105.1	23	102.1	104.0	104.2	23	103.8	103.9	104.1	23	117.3	117.4	117.5	23	06/14

FISH PASSAGE CENTER

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

[INTERNAL PURPOSES ONLY]

Date 6/15/2018 7:15:10 AM

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Total Dissolved Gas Data at Lower Snake Sites

Little Goose				L. Goose Tlwr				Lower Mon.				Lwr. Mon. Tlwr				Ice Harbor				Tlwr Ice Harbor				Date	
Date	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	Date
06/01	112.7	115.0	114.5	24	120.2	122.3	123.6	24	119.4	124.1	124.2	24	119.9	120.3	122.1	24	117.6	120.9	120.4	24	121.6	122.7	127.6	24	06/01
06/02	110.5	111.7	111.5	24	118.5	122.9	123.4	24	120.4	122.6	124.5	24	120.5	121.4	122.2	24	117.3	118.2	119.9	24	121.7	125.2	127.9	24	06/02
06/03	113.0	113.9	114.3	24	114.6	118.3	117.5	24	121.4	124.2	125.1	24	116.0	119.7	119.1	24	120.5	121.0	121.4	24	119.4	119.9	120.1	24	06/03
06/04	112.8	114.0	113.7	24	113.7	114.2	114.0	24	116.7	120.0	119.2	24	113.8	114.8	114.2	24	119.3	121.0	120.3	24	118.6	119.0	119.1	24	06/04
06/05	111.4	112.2	111.8	24	113.8	114.5	117.8	24	113.7	115.7	114.6	24	115.1	116.4	118.0	24	116.2	118.5	119.2	23	118.7	118.9	119.0	23	06/05
06/06	111.7	112.1	112.4	24	113.6	113.9	114.1	24	113.7	114.6	115.9	24	114.7	115.5	115.9	24	114.7	115.8	115.5	24	118.1	118.6	118.8	24	06/06
06/07	112.7	113.1	113.5	24	113.8	114.1	114.5	24	114.0	114.8	114.4	24	114.2	114.7	115.6	24	114.6	115.1	115.1	24	117.7	118.4	118.4	24	06/07
06/08	112.3	113.1	113.6	24	113.9	114.4	114.6	24	113.3	114.0	113.8	24	113.8	114.4	114.4	24	113.6	114.8	114.5	24	117.3	117.7	117.6	24	06/08
06/09	111.4	112.9	112.5	24	113.6	114.2	113.8	24	113.2	113.6	113.6	24	114.0	114.2	115.1	24	112.8	113.8	113.5	24	117.3	117.5	117.8	24	06/09
06/10	110.2	111.0	110.9	24	113.4	113.5	113.7	24	111.2	113.0	112.7	24	113.5	114.1	114.0	24	110.6	112.5	112.0	24	116.6	117.3	117.6	24	06/10
06/11	108.9	110.1	109.6	24	113.4	114.1	115.0	24	110.0	110.7	110.7	24	113.3	113.7	114.0	24	109.1	110.2	109.7	24	116.7	117.4	117.9	24	06/11
06/12	109.4	110.2	111.1	24	112.9	113.4	113.5	24	111.5	112.2	112.6	24	113.8	114.2	114.8	24	110.4	111.3	111.8	24	116.7	117.5	119.0	24	06/12
06/13	112.8	113.7	114.3	24	113.8	114.0	114.1	24	113.8	114.2	114.7	24	114.0	114.3	114.3	10	113.0	113.3	113.7	24	116.0	117.6	118.0	24	06/13
06/14	112.3	113.5	112.7	23	114.2	114.5	114.7	23	112.0	113.6	112.6	23	114.4	114.6	114.6	11	112.9	113.2	113.2	23	115.8	116.2	116.7	23	06/14

Total Dissolved Gas Data at Mid-Columbia Sites

McNary-Wash.				Tlwr McNary				John Day				Tlwr John Day				The Dalles				Dnstr T. Dalles				Date	
Date	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	Date
06/01	115.0	118.0	117.0	24	120.6	122.0	122.3	21	115.2	116.8	116.3	24	120.2	121.3	122.0	24	113.9	115.2	115.4	24	118.1	119.0	119.6	24	06/01
06/02	114.9	116.5	117.7	24	122.9	123.3	123.9	24	116.3	116.8	117.2	24	121.4	122.0	122.3	24	117.6	119.2	119.9	24	120.2	121.0	121.7	24	06/02
06/03	119.6	120.7	121.4	24	121.1	122.8	122.2	24	115.2	116.9	116.7	24	119.1	120.6	119.5	24	115.7	119.3	118.9	24	115.5	120.5	118.1	24	06/03
06/04	118.5	120.6	119.2	24	120.3	121.0	120.9	24	114.9	115.6	116.3	24	118.4	119.3	118.8	24	113.0	114.3	113.6	24	112.1	114.0	113.2	24	06/04
06/05	116.6	118.1	117.6	24	120.1	120.5	120.5	24	116.5	117.0	117.2	24	118.1	118.5	118.8	24	114.7	115.5	116.0	24	114.0	117.1	117.6	24	06/05
06/06	117.1	117.5	117.8	24	120.3	120.5	120.7	24	116.1	116.9	116.5	24	118.8	119.0	119.3	24	116.1	117.0	117.6	24	118.5	119.0	119.6	24	06/06
06/07	117.4	118.1	118.5	24	119.0	120.2	119.6	24	114.7	116.0	115.6	24	116.7	118.6	118.5	24	112.8	117.1	116.4	24	115.8	118.8	118.4	24	06/07
06/08	116.1	118.0	117.3	24	117.8	118.5	118.3	24	114.3	114.8	115.5	24	116.5	116.8	117.2	24	112.1	113.3	113.6	24	114.8	115.7	116.8	24	06/08
06/09	113.5	116.3	115.2	24	117.8	118.0	118.7	24	113.3	114.8	114.4	24	116.8	117.0	117.2	24	112.0	113.5	113.6	24	115.9	116.6	116.9	24	06/09
06/10	110.3	113.3	112.1	24	117.2	117.7	117.5	24	110.1	112.5	111.3	24	116.7	117.0	117.2	24	110.8	111.2	111.5	24	115.4	115.8	116.1	24	06/10
06/11	109.0	109.9	110.2	24	117.5	117.7	118.0	24	108.4	109.7	109.0	24	117.2	117.5	117.9	24	110.4	111.2	111.1	24	115.3	115.7	116.2	24	06/11
06/12	112.2	113.6	114.2	24	118.1	118.4	118.5	24	108.3	108.9	109.2	24	118.0	118.2	118.5	24	111.9	113.0	113.4	24	115.8	116.4	116.9	24	06/12
06/13	114.2	114.6	115.1	24	118.3	118.4	118.5	24	108.7	109.1	109.1	24	116.8	118.2	117.8	24	112.0	113.1	112.9	24	117.4	117.8	118.1	24	06/13
06/14	112.6	114.6	113.7	23	119.0	119.3	119.5	23	108.4	108.8	109.0	23	116.5	116.9	117.2	23	111.9	112.8	113.4	23	118.4	118.9	119.9	23	06/14

FISH PASSAGE CENTER

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

[INTERNAL PURPOSES ONLY]

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Total Dissolved Gas Data at Mid-Columbia Sites

Date	Bonneville				Warrendale				CamasWashug.				Cascade Isld.				Date
	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	24 h Avg	12 h Avg	High	# Hr	
06/01	117.3	119.1	118.0	24	120.9	122.6	122.7	24	118.9	122.1	120.1	24					06/01
06/02	120.6	122.3	123.0	24	124.1	124.9	125.2	24	120.8	122.6	123.2	24					06/02
06/03	122.1	123.5	123.7	24	122.6	124.9	124.5	24	121.8	122.8	122.7	24					06/03
06/04	114.3	120.3	117.2	24	118.7	121.6	120.1	24	117.3	121.0	119.1	24					06/04
06/05	114.3	114.6	114.8	24	118.0	118.7	118.8	24	116.1	116.8	117.1	24					06/05
06/06	116.2	117.4	117.9	24	119.3	120.6	122.7	24	116.6	117.8	118.6	24					06/06
06/07	115.6	117.4	116.9	24	117.5	120.0	118.6	24	116.3	117.9	117.6	24					06/07
06/08	112.7	114.6	113.4	24	115.7	116.8	116.0	24	114.8	116.3	115.9	24					06/08
06/09	112.2	112.5	112.7	24	115.0	115.6	115.4	24	112.9	115.0	113.9	24					06/09
06/10	112.4	112.6	112.9	24	115.3	115.6	116.0	24	112.6	113.1	113.4	24					06/10
06/11	113.2	113.4	113.5	24	116.0	116.2	116.5	24	114.2	115.5	116.2	24					06/11
06/12	114.3	114.9	116.0	24	116.6	116.9	117.1	24	114.7	115.5	115.8	24					06/12
06/13	115.0	115.9	116.1	24	117.6	117.8	118.1	24	114.8	115.4	116.0	24					06/13
06/14	112.2	114.0	112.9	23	116.8	117.5	117.6	23	114.4	115.4	115.6	23					06/14

Hours used in calculating values:

24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
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FISH PASSAGE CENTER

Smolt Monitoring Program Two Week Passage Index Report

Date 6/15/2018 7:17:22 AM

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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)
06/01/2018		5			2,447	799	1,941	30	10,171	2,332	1,621
06/02/2018		23			840	506	1,484	24	4,899	2,891	2,078
06/03/2018		7			1,898	1,374	426	12	466	1,351	2,096
06/04/2018		15			1,092	646	471	4		1,721	2,514
06/05/2018		20			1,165	654	760	11		1,684	1,251
06/06/2018		18			623	907	583	4			725
06/07/2018		17			528	496	551	5		600	1,077
06/08/2018		20			624	336	254	5	1,253		1,038
06/09/2018		11			157	139	311	0		876	343
06/10/2018		21			652	348	294	0	1,241		241
06/11/2018		16			425	178	382	0		0	391
06/12/2018		18			169	194	189	5	837		232
06/13/2018		7			137	197	369	0		338	235
06/14/2018					54	0	127	0	608		338
06/15/2018											
Total:	0	198	0	0	10,811	6,774	8,142	100	19,475	11,793	14,180
# Days:	0	13	0	0	14	14	14	14	7	9	14
Average:	0	15	0	0	772	484	582	7	2,782	1,310	1,013
YTD:	23,452	41,107	21,824	12,792	4,638,273	2,837,753	2,044,140	49,702	1,492,048	1,256,379	1,889,445

Number of hours sampled:

- No data available or no sample conducted

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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FISH PASSAGE CENTER

Smolt Monitoring Program Two Week Passage Index Report

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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)
06/01/2018		0			8,740	32,064	42,223	443	76,759	9,013	7,653
06/02/2018		2			10,502	20,078	24,302	445	85,951	11,050	12,067
06/03/2018		0			9,032	26,202	11,228	499	17,251	26,955	14,992
06/04/2018		0			14,123	5,381	5,110	496		33,741	23,853
06/05/2018		0			10,686	4,140	9,049	666		43,360	31,648
06/06/2018		0			12,149	10,486	6,315	626			38,015
06/07/2018		0			10,307	16,276	5,922	591		36,434	53,740
06/08/2018		1			9,653	8,135	5,142	623	26,447		33,345
06/09/2018		0			10,967	16,917	8,053	738		28,320	22,864
06/10/2018		0			25,316	15,387	11,102	864	18,024		16,598
06/11/2018		1			19,113	14,592	8,963	779		17,035	15,786
06/12/2018		0			18,109	13,527	6,376	707	43,058		16,377
06/13/2018		1			14,625	26,845	8,886	466		16,228	16,050
06/14/2018					5,003	11,119	5,317	508	20,380		9,850
06/15/2018											
Total:	0	5	0	0	178,325	221,149	157,988	8,451	287,870	222,136	312,838
# Days:	0	13	0	0	14	14	14	14	7	9	14
Average:	0	0	0	0	12,738	15,796	11,285	604	41,124	24,682	22,346
YTD:	0	6	89	192	618,355	656,060	354,764	17,717	915,755	307,972	1,695,930

Number of hours sampled:

- No data available or no sample conducted

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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FISH PASSAGE CENTER

Smolt Monitoring Program Two Week Passage Index Report

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COMBINED COHO

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (Index)	LGS (Index)	LMN (Index)	RIS (Index)	MCN (Index)	JDA (Index)	BO2 (Index)
06/01/2018		0			1,049	956	647	389	3,698	2,773	681
06/02/2018		0			1,190	2,142	1,484	336	975	2,570	1,560
06/03/2018		0			785	1,591	284	373	932	1,842	1,623
06/04/2018		0			478	258	538	418		2,008	1,812
06/05/2018		0			891	777	276	396		1,684	1,663
06/06/2018		0			969	673	211	356			1,199
06/07/2018		0			598	726	138	260		1,349	1,159
06/08/2018		0			587	235	198	119	809		908
06/09/2018		0			590	624	283	135		438	686
06/10/2018		0			326	487	648	168	1,181		1,221
06/11/2018		0			255	463	411	131		754	394
06/12/2018		0			846	228	284	69	1,026		581
06/13/2018		0			137	236	67	73		592	823
06/14/2018					0	0	84	35	304		1,182
06/15/2018											
Total:	0	0	0	0	8,701	9,396	5,553	3,258	8,925	14,010	15,492
# Days:	0	13	0	0	14	14	14	14	7	9	14
Average:	0	0	0	0	622	671	397	233	1,275	1,557	1,107
YTD:	0	0	1,224	1,365	261,488	213,947	41,841	43,872	225,380	118,248	466,896

Number of hours sampled:

- No data available or no sample conducted

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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FISH PASSAGE CENTER

Smolt Monitoring Program Two Week Passage Index Report

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COMBINED STEELHEAD

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (Index)	LGS (Index)	LMN (Index)	RIS (Index)	MCN (Index)	JDA (Index)	BO2 (Index)
06/01/2018		47			6,712	3,985	3,721	529	925	5,042	1,534
06/02/2018		57			4,201	5,756	2,968	424	512	3,983	1,597
06/03/2018		40			4,843	4,840	1,563	310	0	2,640	1,147
06/04/2018		61			4,776	2,582	941	359		2,812	888
06/05/2018		37			2,740	1,687	1,243	283		2,386	927
06/06/2018		32			1,731	2,318	481	356			325
06/07/2018		19			1,935	1,617	138	295		1,050	1,323
06/08/2018		31			2,033	840	226	248	24		259
06/09/2018		64			1,651	971	283	224		1,022	340
06/10/2018		68			1,958	661	530	151	821		429
06/11/2018		64			1,614	747	470	160		603	294
06/12/2018		36			1,015	899	505	126	827		116
06/13/2018		18			729	1,103	302	78		423	147
06/14/2018					430	356	84	58	0		113
06/15/2018											
Total:	0	574	0	0	36,368	28,362	13,455	3,601	3,109	19,961	9,439
# Days:	0	13	0	0	14	14	14	14	7	9	14
Average:	0	44	0	0	2,598	2,026	961	257	444	2,218	674
YTD:	723	27,257	3,888	5,328	3,922,306	3,001,352	1,941,615	24,442	239,494	680,299	354,063

Number of hours sampled:

- No data available or no sample conducted

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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FISH PASSAGE CENTER

Smolt Monitoring Program Two Week Passage Index Report

Date 6/15/2018 7:17:22 AM

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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)
06/01/2018		0			280	327	0	60	3,698	1,639	2,163
06/02/2018		0			140	166	557	50	1,462	1,285	1,359
06/03/2018		0			131	290	426	45	466	1,105	1,592
06/04/2018		0			136	260	67	14		2,066	1,333
06/05/2018		0			206	194	0	22		702	800
06/06/2018		0			0	35	141	11			812
06/07/2018		0			0	99	0	13		900	869
06/08/2018		0			0	0	85	2	405		389
06/09/2018		0			157	0	28	14		292	440
06/10/2018		0			0	104	29	15	591		97
06/11/2018		0			0	36	0	10		754	0
06/12/2018		0			0	38	63	10	615		290
06/13/2018		0			0	80	0	2		169	147
06/14/2018					0	89	0	5	0		169
06/15/2018											
Total:	0	0	0	0	1,050	1,718	1,396	273	7,237	8,912	10,460
# Days:	0	0	0	0	75	123	100	20	1,034	990	747
Average:	0	0	0	0	75	123	100	20	1,034	990	747
YTD:	0	0	4	115	260,547	120,783	58,600	76,159	1,526,672	383,524	740,810

Number of hours sampled:

- No data available or no sample conducted

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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FISH PASSAGE CENTER

Smolt Monitoring Program Two Week Passage Index Report

Date 6/15/2018 7:17:22 AM

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COMBINED LAMPREY JUVENILES

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR* (Sample)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)
06/01/2018		0			3	100	400	2	3,800	10,040	1,312
06/02/2018		0			2	0	1,200	0	7,600	1,840	1,085
06/03/2018		0			15	1,000	400	2	2,200	1,360	565
06/04/2018		0			4	0	750	2		4,000	371
06/05/2018		0			2	0	1,750	0		4,000	246
06/06/2018		0			7	25	1,550	0			186
06/07/2018		0			10	225	0	1		700	617
06/08/2018		0			12	325	140	3	600		450
06/09/2018		0			8	250	180	0		200	317
06/10/2018		0			21	50	40	0	500		175
06/11/2018		0			0	0	20	0		400	100
06/12/2018		0			5	75	20	2	300		20
06/13/2018		0			6	50	340	3		400	100
06/14/2018					2	200	100	2	200		60
06/15/2018											
Total:	0	0	0	0	97	2,300	6,890	17	15,200	22,940	5,604
# Days:	0	13	0	0	17	20	22	18	7	15	18
Average:	0	0	0	0	6	115	313	1	2,171	1,529	311
YTD:		1	3		333	34,984	56,140	342	217,912	225,023	25,741

- No data available or no sample conducted

- 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.

Number of hours sampled:

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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FISH PASSAGE CENTER

Smolt Monitoring Program Two Week Passage Index Report

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Smolt Monitoring Program Sites and Agency Collaborations:

- 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
- LGS (Index) - Little Goose Bypass Collection System : Passage Index Counts
- LMN (Index) - Lower Monumental Dam Bypass Collection System : Passage Index Counts
- RIS (Index) - Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts
- MCN (Index) - McNary Dam Bypass Collection System : Passage Index Counts
- JDA (Index) - John Day Dam Bypass Collection System : Passage Index Counts
- BO2 (Index) - Bonneville Dam Second Powerhouse Bypass Collection System : Passage Index Counts

- No data available or no sample conducted

Number of hours sampled:



Important Information About this Report:

- For clip information see: <http://www.fpc.org/currentdaily/smpcomments.htm>
- Three 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. Equations for passage index are provided below for each site.
 - LGR, LGS, LMN, MCN, JDA (Index) = Lower Granite Dam Bypass Collection System : Passage Index Counts Passage Index = Collection Counts / (Powerhouse Flow / (Powerhouse Flow + Spill))
 - RIS, BO2 (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts Passage Index = Collection Counts / (Powerhouse 2 Flow / (Powerhouse 1 & 2 Flow + Spill))
- 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.
- 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.

FISH PASSAGE CENTER

Two Week Transportation Summary Report

6/1/2018 12:00:00 AM TO 6/15/2018 12:00:00 AM

Date 6/15/2018 7:17:59 AM

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Lower Granite Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	116,275	7,650	6,025	750	25,411	181,522
Sum of Number Barged	121,576	8,662	7,264	947	27,151	192,751
Sum of Number Bypassed	1,050	0	0	0	2,536	6,122
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	19	0	0	1	1	22
Sum of Facility Morts	212	13	11	2	23	284
Sum of Reseach Morts	5	0	0	0	0	5
Sum of Total Project Mort	236	13	11	3	24	311

Little Goose Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	149,716	4,794	6,455	1,185	19,421	200,992
Sum of Number Barged	183,082	5,769	7,639	1,291	21,791	241,363
Sum of Number Bypassed	32	0	0	0	0	32
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	13	0	0	1	0	14
Sum of Facility Morts	1,138	23	15	36	24	1,260
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	1,151	23	15	37	24	1,274

FISH PASSAGE CENTER

Two Week Transportation Summary Report

6/1/2018 12:00:00 AM TO 6/15/2018 12:00:00 AM

Date 6/15/2018 7:17:59 AM

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Lower Monumental Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	101,101	5,276	3,570	890	8,623	128,083
Sum of Number Barged	119,939	6,003	4,330	888	11,567	154,294
Sum of Number Bypassed	0	0	0	0	0	0
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	2	0	0	0	1	4
Sum of Facility Morts	35	2	0	2	14	67
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	37	2	0	2	15	71

Total

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	367,092	17,720	16,050	2,825	53,455	510,597
Sum of Number Barged	424,597	20,434	19,233	3,126	60,509	588,408
Sum of Number Bypassed	1,082	0	0	0	2,536	6,154
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	34	0	0	2	2	40
Sum of Facility Morts	1,385	38	26	40	61	1,611
Sum of Reseach Morts	5	0	0	0	0	5
Sum of Total Project Mort	1,424	38	26	42	63	1,656

FISH PASSAGE CENTER

YTD Transportation Summary Report

Date 6/15/2018 7:17:35 AM

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Lower Granite Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	403075	3040783	182275	188671	2521658	8858120
Sum of Number Barged	387501	2428782	178674	184038	1810053	6799101
Sum of Number Bypassed	12735	610813	3539	4464	711255	2054061
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	35	58	0	9	44	190
Sum of Facility Morts	592	1063	62	160	187	2251
Sum of Reseach Morts	5	42	0	0	35	117
Sum of Total Project Mort	632	1163	62	169	266	2558

Little Goose Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	391919	1856850	136365	74622	1967614	6394984
Sum of Number Barged	381385	1545967	135647	66043	1355359	4839760
Sum of Number Bypassed	841	306206	407	7716	611659	1538488
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	37	40	3	12	13	118
Sum of Facility Morts	3434	4637	308	801	385	9950
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	3471	4677	311	813	398	10068

FISH PASSAGE CENTER

YTD Transportation Summary Report

Date 6/15/2018 7:17:35 AM

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Lower Monumental Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	216249	1217411	24570	35290	1177890	3849300
Sum of Number Barged	213634	1017461	24428	33644	925535	3140237
Sum of Number Bypassed	0	199433	100	1598	252167	705465
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	5	7	0	3	7	29
Sum of Facility Morts	91	450	2	45	141	870
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	96	457	2	48	148	899

Total

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	1011243	6115044	343210	298583	5667162	19102404
Sum of Number Barged	982520	4992210	338749	283725	4090947	14779098
Sum of Number Bypassed	13576	1116452	4046	13778	1575081	4298014
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	77	105	3	24	64	337
Sum of Facility Morts	4117	6150	372	1006	713	13071
Sum of Reseach Morts	5	42	0	0	35	117
Sum of Total Project Mort	4199	6297	375	1030	812	13525

Cumulative Adult Passage at Mainstem Dams Through: 06/14

dam	enddate	Spring Chinook						Summer Chinook						Fall Chinook					
		2018		2017		10-Yr Avg.		2018		2017		10-Yr Avg.		2018		2017		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	06/14	87894	6456	83624	18110	152393	25835	18536	995	22180	3320	30343	6278	0	0	0	0	0	0
TDA	06/14	57935	4793	58310	12497	119227	21697	13215	738	14425	2252	19594	3805	0	0	0	0	0	0
JDA	06/14	50572	5053	46675	12475	103731	20380	10116	675	9959	1448	14436	2835	0	0	0	0	0	0
MCN	06/14	44277	3465	44292	7020	94405	16297	5805	322	5611	742	8962	1684	0	0	0	0	0	0
IHR	06/14	32600	2197	28306	6949	68113	11204	894	78	1828	423	2679	536	0	0	0	0	0	0
LMN	06/14	35398	3020	28545	8270	68100	11017	472	37	592	192	740	164	0	0	0	0	0	0
LGS	06/14	31598	2452	26152	8171	62952	11808	0	0	0	0	0	0	0	0	0	0	0	0
LGR	06/14	30297	2820	24690	7578	60020	12197	0	0	0	0	0	0	0	0	0	0	0	0
PRD	06/13	7067	949	7268	783	18018	1858	0	0	0	0	39	1	0	0	0	0	0	0
WAN	06/13	8071	964	6612	484	17542	2163	0	0	0	0	0	0	0	0	0	0	0	0
RIS	06/13	6953	966	7511	544	16502	2380	0	0	0	0	0	0	0	0	0	0	0	0
RRH	06/13	4975	779	5306	371	6872	1049	0	0	0	0	0	0	0	0	0	0	0	0
WEL	06/13	3654	862	3366	624	4845	1275	0	0	0	0	0	0	0	0	0	0	0	0
WFA	06/10	17035	1445	21745	1491	25378	1072	0	0	0	0	0	0	0	0	0	0	0	0

DAM	ENDDATE	Coho						Sockeye			Steelhead						Lamprey			
		2018		2017		10-Yr Avg.		2018		10-Yr Avg.	2018		2017		10-Yr Avg.	2018		2017		10-Yr Avg.
		Adult	Jack	Adult	Jack	Adult	Jack	2018	2017	Avg.	2018	2017	Avg.	Unclipped	Unclipped	Avg.	2018	2017	Avg.	
BON	06/14	1	-1	0	0	0	0	11826	5946	18400	4742	3849	7330	1886	1189	2144	7256	12786	4269	
TDA	06/14	4	0	0	0	0	0	5755	2490	9602	334	1548	2684	139	533	1047	178	65	335	
JDA	06/14	0	0	0	0	0	1	5855	2454	6974	472	548	4502	232	350	1907	245	418	215	
MCN	06/14	-4	0	0	0	1	0	2785	643	2715	391	2521	4433	176	749	1705	84	25	6	
IHR	06/14	-1	0	0	0	0	0	1	0	2	1334	1081	4322	435	503	1516	18	13	1	
LMN	06/14	0	0	0	0	0	0	2	0	0	1214	1457	8264	321	699	2810	18	5	0	
LGS	06/14	0	0	0	0	0	0	1	0	0	1229	1504	5028	318	658	2540	5	0	0	
LGR	06/14	0	0	0	0	0	0	0	0	0	4536	7311	8733	1262	3055	3667	0	0	0	
PRD	06/13	0	0	0	0	0	0	86	33	452	40	56	63	0	0	0	327	111	33	
WAN	06/13	0	0	0	0	0	0	37	27	226	57	44	126	0	0	0	211	35	16	
RIS	06/13	0	0	0	0	0	0	20	15	89	68	69	124	26	21	61	2	0	0	
RRH	06/13	0	0	0	0	0	0	6	6	39	89	128	333	30	31	217	0	0	0	
WEL	06/13	0	0	0	0	0	0	2	1	10	121	42	82	45	28	52	56	0	0	
WFA	06/10	0	2	117	117	0	0	0	0	0	6229	1773	13917	1810	702	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.

