



Fish Passage Center

Weekly Report #17-04

March 31, 2017

This Week's Highlights

System Reservoirs

This year at Dworshak, Unit #3 is out of service for rehabilitation through at least the early summer period. As Unit #3 is the largest in terms of outflow capacity of the three units at Dworshak, flow through the powerhouse is limited to 4.5-4.8 Kcfs. Any outflow beyond the constrained powerhouse capacity at Dworshak, must be spilled; creating concerns over TDG (Total Dissolved Gas supersaturation) in the river environment below Dworshak Dam and subsequently at Dworshak Hatchery as water to the hatchery is supplied by river water.

Currently, Dworshak is releasing a total outflow of 25 Kcfs, with spill levels around 20 Kcfs, which is producing TDG below Dworshak between 125-126%. These conditions are expected to last for the foreseeable future.

Drafting for flood control is also occurring at Grand Coulee Dam on the Upper Columbia River and at the Hells Canyon Complex on the Snake River.

Water Supply

Precipitation throughout the Columbia Basin has varied between 102% and 236% of average at individual sub-basins over March. Precipitation above The Dalles has been 181% of average over March. Over the 2017 water year, precipitation has ranged between 121% and 146% of average.

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

Location	Water Year 2017 March 1-29, 2017		Water Year 2017 October 1, 2016 to March 29, 2017	
	Observed (inches)	% Average	Observed (inches)	% Average
	Columbia Above Coulee	6.74	213	29.0
Snowpack within the Columbia Basin has been above average. Average snowpack in the Columbia River for basins above the Snake River confluence is 106% of average, for Snake River Basins the average snowpack is 131% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 126% of average.	3.48	158	19.0	139
Columbia Above The Dalles	4.52	181	21.9	128
Kootenai	6.50	208	30.2	136
Clark Fork	4.68	199	18.1	121
Flathead	7.42	236	29.1	142
Pend Oreille River Basin above Waneta Dam	6.37	221	25.5	134
Salmon River Basin	4.97	175	25.1	146
Upper Snake Tributaries	2.51	102	21.8	144
Clearwater	9.25	236	32.8	128
Willamette River above Portland	12.56	182	69.6	141

Snowpack within the Columbia Basin has been above average. Average snowpack in the Columbia River for basins above the Snake River confluence is 106% of average, for Snake River Basins the average snowpack is 131% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 126% of average.

Table 2 displays the March 30th ESP runoff volume forecasts for multiple reservoirs along with the March COE forecasts at Libby and Dworshak. The March 30th ESP forecast at The Dalles between April and August is 103,379 Kaf (118% of average).

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

Location	March 30, 2017 5-day QPF ESP	
	% Average (1981-2010)	Runoff Volume (Kaf)
The Dalles (Apr-Aug)	118	103,379
Grand Coulee (Apr-Aug)	113	64,066
Libby Res. Inflow, MT (Apr-Aug)	116 115*	6,845 6,783*
Hungry Horse Res. Inflow, MT (Apr-Aug)	119	2,309
Lower Granite Res. Inflow (Apr- July)	142	28,093
Brownlee Res. Inflow (Apr-July)	196	10,707
Dworshak Res. Inflow (Apr-July)	106 118*	2,556 2,867*

* Denotes COE March Forecast

Grand Coulee Reservoir is at 1,248.4 feet (3-30-17) and drafted 3.9 feet over the last week. Outflows at Grand Coulee have ranged between 205 Kcfs and 212 Kcfs over the last week. The end of March FC Elevation at Grand Coulee is 1,267.1 feet, the April 15th FC Elevation is 1,249.6 ft.

The Libby Reservoir is currently at elevation 2,386.6 feet (3-30-17) and has drafted 7.1 ft. over the past week. Daily average outflows at Libby Dam have been about 25 Kcfs over the last week. The end of March FC Elevation at Libby is 2,382.1 feet.

Hungry Horse is currently at an elevation of 3,538.0 feet (3-30-17) and has drafted 3.4 feet last week. Outflows at Hungry Horse have been 7.7-8.2 Kcfs over the last week. The end of March FC Elevation at Hungry Horse is 3,539.8 feet.

Dworshak is currently at an elevation of 1,528.2 feet (3-30-17) and has drafted 3.4 feet over the last week. Inflows to Dworshak ranged between 19.1 and 24 Kcfs last week. Dworshak outflows were 25 Kcfs over the past week.

The Brownlee Reservoir was at an elevation of 2,025.9 feet on March 30, 2017, and remained steady over the past week. Outflows at Hells Canyon have ranged between 69.4 and 75.4 Kcfs over the last four days. The minimum flow at Hells Canyon is 8.5 Kcfs. The end of March FC Elevation at Brownlee is 2,036.0 feet.

Spill

Flows in the Snake River remained high over the past week primarily due to flood control operations at Dworshak Dam and the Hells Canyon Complex and; and, also as a function of precipitation and some snowmelt. Consequently, flows at Lower Granite Dam have ranged between 153 and 179 Kcfs over the past week. Flows in the Upper Columbia have also increased as Grand Coulee has increased discharge for flood control operations. Both the Snake River and Upper Columbia River flows are contributing to the high flows in the middle Columbia River.

Due to the high river flows, significant spill has occurred at all of the mainstem federal projects, and at the Upper Columbia projects. BPA has indicated that the involuntary spill that is occurring in the Federal Columbia River Power System is mostly in excess of hydraulic capacity, as several projects are presently operating with generation unit outages, limiting hydraulic capacity.

Variations in total dissolved gas levels for the implementation of the voluntary fish spill programs begin in April, therefore, the 110% standard for total dissolved gas is currently in place. However, since the spill is considered involuntary, the exceedances of the 110% standards are not interpreted as violations by the US Army Corps of Engineers.

High TDG supersaturation (near 126%) levels are occurring below Dworshak Dam, as well as at the Hells Canyon Complex dams on the Snake River, due to discharge in excess of hydraulic capacity for flood control operations. Consequently, TDG supersaturation levels are already in excess of 100% when the river water enters the mainstem Snake River hydrosystem. All forebay monitoring sites are now operational, and TDG supersaturation at the Lower Granite Dam forebay monitor has averaged about 107% to 109% over the past week.

TDG production during lack of load involuntary spill conditions is managed throughout the FCRPS by the US Army Corps of Engineers with implementation of a spill priority list to evenly distribute spill throughout the FCRPS in an effort to manage/minimize TDG production

to the extent possible. However, since the present spill is not all due to lack of load, TDG supersaturation levels are variable throughout the system and are a function of hydraulic capacity. Yesterday's tailwater TDG supersaturation average of 12 highest hourly levels were 128% at Lower Granite Dam, 122% at Little Goose Dam, 124% at Lower Monumental Dam and 124% at Ice Harbor Dam. TDG supersaturation levels have also increased at the Middle Columbia projects, ranging from a low of 120% at the tailrace of The Dalles Dam to a high near 124% below John Day Dam.

Planned spill for fish passage will begin in the Snake River FCRPS at one minute after midnight on April 3, 2017. An early season sample of fish was collected at Lower Granite Dam on March 30th to determine the level of gas bubble trauma for fish migrating under the recent flood control operations. Three percent of fish were observed with rank 1 signs of GBT in their fins. This level is below the action criteria applied during the voluntary spill for fish season (April 3-Aug 31).

Smolt Monitoring

Bonneville and Lower Granite dams are the only bypass facilities that are currently sampling for the Smolt Monitoring Program (SMP). Sampling at Lower Granite began on March 25th, with the first sample being tallied on March 26th. SMP sampling at most of the other bypass facilities (e.g., Little Goose, Lower Monumental, John Day, and Rock Island dams) is expected to begin on or around April 1st, while sampling at McNary Dam is expected to begin around April 8th. Due to high flows, sampling at the Imnaha River Trap has been suspended for most of the last couple of weeks. High flows and debris loads had prevented sampling at the Grande Ronde River Trap until this week. After about 10 days of not sampling due to high flows and debris loads, sampling at the Salmon River Trap resumed this week. Sampling at the Snake River Trap has been terminated for the 2017 season.

Subyearling Chinook continued to dominate the samples at Bonneville Dam (BON) this week. This week's daily average passage index for subyearling Chinook was nearly 3,000, which is a decrease over last week's daily average passage index of about 4,760 per day. Nearly all of the subyearling Chinook juveniles sampled at BON so far this year have been fry. Yearling Chinook numbers this week were consistent with last week, with a daily average passage index of about

280 per day. As with previous weeks, a relatively small number of coho, sockeye, and steelhead were collected this week. Pacific lamprey macrophthalmia were encountered every day this week. This week's daily average collection for Pacific macrophthalmia was about 700 per day, which is similar to last week's daily average collection of about 650 per day. No Pacific lamprey ammocoetes were encountered in this week's collections.

Sampling at Lower Granite Dam (LGR) began on March 25th, with the first sample being tallied and reported on March 26th. Since this time, steelhead have dominated the samples at LGR, with a daily average passage index of nearly 55,000 per day. The steelhead passage index was over 110,000 for each of the first two samples but decreased to the 8,000-36,000 range thereafter. Approximately 98% of the steelhead collected at LGR this week were of hatchery origin and most of the PIT-tagged hatchery steelhead detected at LGR this week were tagged at Dworshak NFH. The high passage numbers on the 26th and 27th, and high number of PIT-tag detections, suggest that this was the peak passage of the 1.3 million hatchery steelhead that were released from Dworshak NFH on March 21st through March 23rd. This week's daily average passage index for yearling Chinook at LGR was nearly 8,000 per day. Coho and sockeye were also encountered at LGR this week but in relatively low numbers. Most, if not all, of the sockeye juveniles encountered at LGR this week were likely kokanee that have escaped from Dworshak reservoir through spill. Finally, Pacific lamprey macrophthalmia were encountered in three of this week's samples (March 26, 27, and 29th).

The Grande Ronde Trap (GRN) is operated by the Oregon Department of Fish and Wildlife and is located at river kilometer two in the Grande Ronde River. The start of sampling at GRN was delayed due to high flows and debris levels in the Grande Ronde River. Sampling began on March 27th, with the first sample tallied and reported on March 28th. The samples on March 28th and March 29th were dominated by yearling Chinook, with collections of 276 and 177, respectively. Coho and steelhead were also encountered in these two samples. The coho that were collected were likely part of a release of approximately 500,000 hatchery coho juveniles into the Lostine River on March 9th. Flows in the Grande Ronde River increased to unsafe levels after

the sample on March 29th and, thus, sampling at GRN has been suspended until flows are deemed safe for sampling.

The Salmon River Trap at Whitebird (WTB) is located at river kilometer 103 and is operated by Idaho Department of Fish and Game. Sampling at WTB began on March 5th, with the first sample being tallied and reported on March 6th. Sampling at WTB was suspended from March 17th to March 26th due to high flows and high debris loads. Similar to the last two years, sampling at WTB started out at 5-days per week. However, due to the termination of sampling at the Snake River Trap and the suspension of sampling from March 17th to 26th, sampling at WTB may be increased to 7-days per week for at least a portion of the 2017 season. Since sampling resumed on March 27th, collections at WTB have been dominated by yearling Chinook. This week's daily average collection for yearling Chinook at WTB was about 525 fish per day. Approximately 43% of the yearling Chinook juveniles collected in this week's samples were of hatchery origin. Steelhead collections at WTB remained low this week, with daily collections in range of 3-10 fish per day.

The Snake River Trap at Lewiston, ID (LEW) is located at river kilometer 225 and operated by Idaho Department of Fish and Game. Sampling at LEW began on March 5th, with the first sample being tallied and reported on March 6th. However, due to high river flows and debris, sampling at LEW was suspended from March 10th to March 28th. On March 28th, it was decided that sampling at the Snake River Trap would be terminated for the 2017 season. Flows on the Snake River, near Lewiston, are expected to remain at unsafe levels for much of the remainder of the trapping season and debris loads continue to be high. The risk of injury to the crew and damage to the trap were too high to warrant continued efforts to sample fish at this site.

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

Hatchery Release

Effective 2017, the FPC has reorganized our hatchery release zones in an effort to more closely match the geographical regions used by NOAA in their ESU designations. The new river zones are: 1) Lower Columbia, 2) Middle Columbia, 3) Upper Columbia, and 4) Snake River. In addition, the FPC now provides

a summary of hatchery releases below Bonneville Dam (i.e., Lower Columbia River Zone) in the weekly report.

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 355,000 fall Chinook parr were released in this zone this week. These parr were released either directly from Lyons Ferry Hatchery or into the Tucannon River. The release from Lyons Ferry Hatchery (245,000) was an accidental release that occurred during tagging with coded-wire-tags. The fish released to the Tucannon River were surplus production fish. In addition, 150,000 yearling fall Chinook were scheduled to be released from the Captain John Rapids Acclimation Facility on March 31st. Due to high flows in the Snake River, this release occurred about a week earlier than originally planned. Over 3.1 million yearling spring Chinook were also planned for release into this zone this week. Of these, approximately 1.9 million (61%) were scheduled to be released into the Clearwater River and its tributaries while the remaining 1.2 million (39%) were scheduled to be released into the Salmon River. Finally, approximately 1.36 million steelhead juveniles were scheduled to be released into this zone this week. Of these, 805,000 (59%) were scheduled to be released into the Pahsimeroi River. The remaining 560,000 (41%) were scheduled to be released into the Snake River, below Hells Canyon Dam.

Approximately 760,000 yearling fall Chinook juveniles are scheduled to be released to this zone over the next two weeks. Of these, approximately 300,000 (40%) are scheduled to be released from acclimation facilities above Lower Granite Dam while the remaining 460,000 (60%) are scheduled to be released from Lyons Ferry Hatchery, which is located above Lower Monumental Dam. In addition, approximately 853,500 yearling spring Chinook juveniles are scheduled to be released to this zone over the next two weeks. Of these, about 613,500 are scheduled to be released throughout the Snake River Zone above Lower Granite Dam, including the Imnaha (280,000), Grande Ronde (250,000), and Clearwater (83,500) rivers. The remaining 240,000 are scheduled to be released into the Tucannon River, which enters the Snake River above Lower Monumental Dam. Approximately 1.22 million yearling summer Chinook juveniles are scheduled to be released into the Salmon River and its

tributaries over the next two weeks. About 550,000 coho juveniles are scheduled to be released into Clear Creek, a tributary of the Clearwater River, beginning on or around April 5th. Finally, over 5.8 million steelhead juveniles are scheduled to be released to this zone over the next two weeks. Of these, approximately 5.67 million are scheduled to be released above Lower Granite Dam; into the Salmon (2.53 million), Clearwater (1.87 million), Pahsimeroi (531,000), Grande Ronde (520,000), and Imnaha (215,000) rivers. The remaining 135,000 are scheduled to be released above Lower Monumental Dam, either directly from Lyons Ferry Hatchery (125,000) or into the Tucannon River (25,000)

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. No releases were scheduled for this zone this week. However, approximately 64,000 yearling spring Chinook are scheduled to be released into the Methow River on or around April 1st. The only other release that is scheduled for this zone over the next two weeks is a release of approximately 500 subyearling summer Chinook parr to Chelan Falls. This release is part of the WDFW COOP program.

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). Nearly 275,000 yearling spring Chinook juveniles were scheduled to be released into this zone this week. Of these, nearly 250,000 (91%) were scheduled to be released into the Walla Walla River while the remaining 25,000 (9%) were scheduled to be released into the Deschutes River. These were the only salmonids scheduled for release to this zone this week.

Approximately 6.0 million subyearling fall Chinook tules are scheduled to be released from Spring Creek NFH, on or around April 10th. In addition, over 2.83 million yearling spring Chinook juveniles are scheduled to be released to this zone over the next two weeks. These releases are scheduled to occur in the Wind (45%), Little White Salmon (38%), Umatilla (9%), and Deschutes (8%) rivers. Approximately 3.05 million coho juveniles are scheduled to be released into this zone this week. Of these, about 2.55 million (84%) are scheduled to be released into the Klickitat River while the remaining 500,000 (16%) are scheduled to be released into the Umatilla River. Finally, about 197,000 summer steelhead juveniles are scheduled to

be released into this zone over the next two weeks. These steelhead juveniles are scheduled to be released into the Deschutes (162,000) and Walla Walla (35,000) rivers.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries below Bonneville Dam. Approximately 650,000 yearling spring Chinook juveniles were scheduled for release into this zone this week. All of the yearling spring Chinook juveniles that were scheduled for release this week were scheduled to be released from Select Area Net Pens at Tongue Point and Young's Bay. In addition, 290,000 chum juveniles were scheduled to be released into Big Creek this week. Finally, about 221,000 steelhead juveniles were scheduled to be released into tributaries of the Willamette River this week. Of these, 121,000 (55%) were summer steelhead that were released into the South Santiam River while the remaining 100,000 (45%) were winter steelhead that were released into Eagle Creek, a tributary of the Clackamas River.

Approximately 355,000 yearling spring Chinook juveniles are scheduled for release into this zone over the next two weeks. Of these, approximately 289,000 (81%) are scheduled to be released into the Willamette River and its tributaries while the remaining 66,000 (19%) are scheduled to be released into the Sandy River. Nearly 3.62 million coho juveniles are also scheduled to be released into this zone over the next two weeks. These coho releases are scheduled to occur throughout this river zone. Approximately 551,500 summer steelhead juveniles are scheduled to be released into this zone over the next two weeks. All of these summer steelhead are scheduled to be released into the Willamette River or its tributaries. Finally, about 460,000 winter steelhead juveniles are scheduled to be released to this zone over the next two weeks. These winter steelhead releases are scheduled to occur on the Sandy River (69%), Big Creek (13%), Gnat Creek (9%), and Klaskanine River (9%).

Adult Passage

Bonneville Dam uses video counts from January 1st through March 31st and direct counting after this period. Bonneville Dam counts adult salmon and steelhead year round. Lower Granite Dam uses video counts from March 1st through March 31st and direct counting after this period. Lower Granite Dam counts adult salmon and steelhead through December 30th

each year. Willamette Falls Dam also uses video counts and reports adult counts year round. Video counts can cause a delay in posting the count data to the web, because the counting staff at the projects has to review the tapes. The FPC collects the adult count data from projects several times a day and updates Adult Dam Count Report linked on our homepage (<http://www.fpc.org/>). During the winter season at Bonneville Dam (from 1/1/2017 through 3/29/2017), 14 adult Chinook and 1,514 adult steelhead were counted. In 2016 for the same time frame, 166 adult Chinook and 2,678 adult steelhead were counted. The 2017 Bonneville Dam winter season count of adult steelhead had 1,164 fewer fish than the 2016 count.

The Willamette Falls cumulative steelhead count from January 1st through March 28th is 474. The 2017 Willamette Falls winter steelhead count is about 11.1% of the 2016 count of 4,287 and 12.6% of the 10-year average count of 3,759. This year's Lower Granite steelhead count of 4,569 had 925 more fish than the 2016 count of 3,644 and 16 more fish than the 10-year average count of 4,553.

The Bonneville Dam corner collector was opened on March 22nd for kelt passage. Between March 2nd and March 22nd, a total of 20 steelhead and 1 salmon were observed over the separator at the Bonneville Juvenile Monitoring Facility (JMF). Kelt passage at the Bonneville JMF can be found at: <http://www.fpc.org/adultsalmon/bonkeltcounts.htm>.

The Corp of Engineers adult count project and ladder queries are now available on FPC.org at the following url: <http://www.fpc.org/environment/home.asp>.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 3/18/2017 to 03/31/17

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver	Zone
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2017	160,000	03-21-17	03-21-17	Kooskia Hatchery	Clearwater River M F	SNAK
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2017	389,115	03-19-17	03-19-17	N Fk Clearwater River	Clearwater River M F	SNAK
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2017	608,234	03-29-17	03-29-17	Kooskia Hatchery	Clearwater River M F	SNAK
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2017	1,289,231	03-27-17	03-30-17	Red River	S Fk Clearwater River	SNAK
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SU	2017	155,055	03-20-17	03-21-17	Selway River	Clearwater River M F	SNAK
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2017	560,000	03-20-17	03-29-17	Hells Canyon Dam	Snake River	SNAK
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2017	805,000	03-30-17	04-17-17	Pahsimeroi River	Pahsimeroi River	SNAK
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2017	200,000	03-20-17	03-20-17	Pinehurst Bridge	Little Salmon River	SNAK
Idaho Dept. of Fish and Game	Sawtooth Hatchery	CH1	SP	2017	119,299	03-29-17	03-29-17	Sawtooth Hatchery	Salmon River (ID)	SNAK
Idaho Dept. of Fish and Game	Sawtooth Hatchery	CH1	SP	2017	1,114,789	03-29-17	03-29-17	Sawtooth Hatchery	Salmon River (ID)	SNAK
Idaho Dept. of Fish and Game Total					5,400,723					
Nez Perce Tribe	Cascade Hatchery	CO	UN	2017	136,000	03-21-17	03-21-17	Lapwai Creek	Clearwater River M F	SNAK
Nez Perce Tribe	Cascade Hatchery	CO	UN	2017	350,000	03-16-17	03-18-17	Lapwai Creek	Clearwater River M F	SNAK
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2017	150,000	03-31-17	03-31-17	Cpt John Acclim Pond	Snake River	SNAK
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH1	SP	2017	190,000	03-20-17	03-20-17	Nez Perce Tribal Hatchery	Clearwater River M F	SNAK
Nez Perce Tribe Total					826,000					
Oregon Dept. of Fish and Wildlife	Big Creek Hatchery	CM	UN	2017	290,000	03-31-17	03-31-17	Big Creek Hatchery	Big Creek	LCOL
Oregon Dept. of Fish and Wildlife	Clatsop County Fisheries	CH1	SP	2017	250,000	03-31-17	03-31-17	Tongue Pt	Col R Bel. Bon Dam	LCOL
Oregon Dept. of Fish and Wildlife	Clatsop County Fisheries	CH1	SP	2017	300,000	03-22-17	03-22-17	Youngs Bay	Youngs River	LCOL
Oregon Dept. of Fish and Wildlife	Clatsop County Fisheries	CH1	SP	2017	400,000	03-31-17	03-31-17	Youngs Bay	Youngs River	LCOL
Oregon Dept. of Fish and Wildlife	Eagle Creek NFH	ST	WI	2017	100,000	03-31-17	03-31-17	Eagle Creek Hatchery	Eagle Creek	LCOL
Oregon Dept. of Fish and Wildlife	McKenzie Hatchery	CH1	SP	2017	202,000	03-21-17	03-21-17	McKenzie Hatchery	Willamette River	LCOL
Oregon Dept. of Fish and Wildlife	South Santiam Hatchery	ST	SU	2017	55,000	03-31-17	03-31-17	Minto Pond	Santiam River	LCOL
Oregon Dept. of Fish and Wildlife	Willamette Hatchery	CH1	SP	2017	234,000	03-24-17	03-24-17	Dexter Pond	Willamette River	LCOL
Oregon Dept. of Fish and Wildlife	Willamette Hatchery	ST	SU	2017	66,000	03-31-17	03-31-17	Minto Pond	Santiam River	LCOL
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	CH1	SP	2017	7,500	03-25-17	03-25-17	Metolius River	Deschutes River	MCOL
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	CH1	SP	2017	7,500	03-25-17	03-25-17	Wychus Creek	Deschutes River	MCOL
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	CH1	SP	2017	10,000	03-25-17	03-25-17	Crooked River (OR)	Deschutes River	MCOL
Oregon Dept. of Fish and Wildlife Total					1,922,000					
U.S. Fish and Wildlife Service	Dworshak NFH	CH1	SP	2017	1,500,000	03-20-17	03-20-17	Dworshak Hatchery	Clearwater River M F	SNAK
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2017	402,000	03-21-17	03-23-17	Clear Creek	Clearwater River M F	SNAK
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2017	950,000	03-21-17	03-23-17	Dworshak Hatchery	Clearwater River M F	SNAK
U.S. Fish and Wildlife Service Total					2,852,000					
Umatilla Tribe	Bonneville Hatchery	CH1	FA	2017	283,101	03-22-17	03-22-17	Pendelton Acclim Pond	Umatilla River	MCOL
Umatilla Tribe	Carson NFH	CH1	SP	2017	249,095	03-28-17	03-28-17	Walla Walla River	Walla Walla River	MCOL
Umatilla Tribe Total					532,196					
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH0	FA	2017	110,000	03-29-17	04-05-17	Tucannon River	Tucannon River	SNAK
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH0	FA	2017	245,000	03-20-17	03-27-17	Lyons Ferry Hatchery	Snake River	SNAK
Washington Dept. of Fish and Wildlife Total					355,000					
Grand Total					11,887,919					

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 4/1/2017 to 4/14/2017

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver	Zone
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2017	238,714	04-13-17	04-14-17	Redhouse (SFk ClearH20 R)	S Fk Clearwater River	SNAK
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2017	594,369	04-10-17	04-12-17	Meadow Creek - CLES	S Fk Clearwater River	SNAK
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2017	93,338	04-13-17	04-14-17	Pahsimeroi River	Pahsimeroi River	SNAK
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2017	155,680	04-14-17	04-18-17	Pahsimeroi River	Pahsimeroi River	SNAK
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2017	187,154	04-05-17	04-07-17	Little Salmon River	Salmon River (ID)	SNAK
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2017	217,796	04-10-17	04-12-17	Little Salmon River	Salmon River (ID)	SNAK
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2017	281,898	04-03-17	04-06-17	Pahsimeroi River	Pahsimeroi River	SNAK
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2017	625,970	04-12-17	04-25-17	Yankee Fk (Salmon R)	Salmon River (ID)	SNAK
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2017	162,707	04-03-17	04-06-17	Knox Bridge	Salmon River (ID)	SNAK
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2017	946,134	04-03-17	04-06-17	Knox Bridge	Salmon River (ID)	SNAK
Idaho Dept. of Fish and Game Total					3,503,760					
Nez Perce Tribe	Dworshak NFH	CO	UN	2017	550,000	04-05-17	04-05-17	Clear Creek Big Canyon	Clearwater River M F	SNAK
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2017	150,000	04-10-17	04-14-17	(Clearwater River) Pittsburg Landing	Clearwater River M F	SNAK
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2017	150,000	04-10-17	04-14-17	Acclim Pond	Snake River	SNAK
Nez Perce Tribe	McCall Hatchery	CH1	SU	2017	111,405	04-01-17	04-02-17	Johnson Cr Idaho	South Fork Salmon River	SNAK
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH1	SP	2017	83,500	04-12-17	04-12-17	Lolo Creek	Clearwater River M F	SNAK
Nez Perce Tribe Total					1,044,905					
Oregon Dept. of Fish and Wildlife	Big Creek Hatchery	ST	WI	2017	60,000	04-07-17	04-07-17	Big Creek Hatchery	Big Creek	LCOL
Oregon Dept. of Fish and Wildlife	Clackamas Hatchery	CH1	SP	2017	66,000	04-06-17	04-06-17	Bull Run Acclimation	Sandy River	LCOL
Oregon Dept. of Fish and Wildlife	Clackamas Hatchery	ST	SU	2017	125,000	04-07-17	04-07-17	Clackamas Hatchery	Clackamas River	LCOL
Oregon Dept. of Fish and Wildlife	Clatsop County Fisheries	CO	UN	2017	200,000	04-14-17	04-14-17	S Fk Klaskanine River	Klaskanine River	LCOL
Oregon Dept. of Fish and Wildlife	Clatsop County Fisheries	CO	UN	2017	400,000	04-14-17	04-14-17	Blind Slough	Col R Bel. Bon Dam	LCOL
Oregon Dept. of Fish and Wildlife	Clatsop County Fisheries	CO	UN	2017	825,000	04-14-17	04-14-17	Youngs Bay	Youngs River	LCOL
Oregon Dept. of Fish and Wildlife	Enhancement Program	CH1	SP	2017	55,000	04-07-17	04-07-17	Clackamas River	Clackamas River	LCOL
Oregon Dept. of Fish and Wildlife	Gnat Creek Hatchery	ST	WI	2017	40,000	04-07-17	04-07-17	Gnat Creek Hatchery	Col R Bel. Bon Dam	LCOL
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2017	215,000	04-01-17	04-30-17	Little Sheep Creek	Imnaha River	SNAK
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2017	320,000	04-01-17	04-01-17	Wallowa Acclim Pond	Wallowa River	SNAK
Oregon Dept. of Fish and Wildlife	Klaskanine Hatchery	ST	WI	2017	40,000	04-14-17	04-14-17	Klaskanine Hatchery	Klaskanine River	LCOL
Oregon Dept. of Fish and Wildlife	Leaburg Hatchery	ST	SU	2017	108,000	04-07-17	04-07-17	McKenzie River	Willamette River	SNAK
Oregon Dept. of Fish and Wildlife	Lookingglass Hatchery	CH1	SP	2017	250,000	04-01-17	04-01-17	Lookingglass Creek	Grande Ronde River	SNAK
Oregon Dept. of Fish and Wildlife	Lookingglass Hatchery	CH1	SP	2017	280,000	04-01-17	04-01-17	Imnaha Acclim Pond	Imnaha River	SNAK
Oregon Dept. of Fish and Wildlife	Roaring River Hatchery	ST	SU	2017	96,000	04-01-17	04-01-17	Willamette River	Willamette River	LCOL
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	CH1	SP	2017	240,000	04-14-17	05-31-17	Deschutes River	Deschutes River	MCOL
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	ST	SU	2017	162,000	04-07-17	04-07-17	Deschutes River	Deschutes River	MCOL
Oregon Dept. of Fish and Wildlife	Sandy Hatchery	CO	UN	2017	200,000	04-14-17	04-14-17	Cedar Creek (Sandy R)	Sandy River	LCOL
Oregon Dept. of Fish and Wildlife	Sandy Hatchery	ST	WI	2017	160,000	04-13-17	04-13-17	Cedar Creek (Sandy R)	Sandy River	LCOL
Oregon Dept. of Fish and Wildlife	Sandy Hatchery	ST	WI	2017	160,000	04-13-17	04-13-17	Cedar Creek (Sandy R)	Sandy River	LCOL
Oregon Dept. of Fish and Wildlife	South Santiam Hatchery	ST	SU	2017	161,500	04-03-17	04-03-17	South Santiam Hatchery	Santiam River	LCOL
Oregon Dept. of Fish and Wildlife	Willamette Hatchery	CH1	SP	2017	234,000	04-14-17	04-14-17	Dexter Pond	Willamette River	LCOL
Oregon Dept. of Fish and Wildlife	Willamette Hatchery	ST	SU	2017	61,000	04-05-17	04-05-17	Dexter Pond	Willamette River	LCOL
Oregon Dept. of Fish and Wildlife Total					4,458,500					
U.S. Fish and Wildlife Service	Carson NFH	CH1	SP	2017	1,263,440	04-10-17	04-10-17	Carson Hatchery	Wind River	MCOL
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2017	1,040,000	04-10-17	04-10-17	Dworshak Hatchery	Clearwater River M F	SNAK
U.S. Fish and Wildlife Service	Eagle Creek NFH	CO	SO	2017	350,000	04-10-17	04-10-17	Eagle Creek Hatchery	Eagle Creek	LCOL

U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2017	1,500,000	04-04-17	04-07-17	Sawtooth Hatchery Little White Salmon Hatchery	Salmon River (ID) Little White Salmon River	SNAK MCOL
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH1	SP	2017	1,080,000	04-12-17	04-12-17	Hatchery		
U.S. Fish and Wildlife Service	Spring Creek NFH	CH0	FA	2017	6,000,000	04-10-17	04-10-17	Spring Creek Hatchery	Bonneville Pool	MCOL
U.S. Fish and Wildlife Service Total					11,233,440					
Umatilla Tribe	Cascade Hatchery	CO	UN	2017	500,000	04-11-17	04-11-17	Pendelton Acclim Pond	Umatilla River	MCOL
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2017	250,000	04-03-17	04-03-17	Imeques Acclim Pond	Umatilla River	MCOL
Umatilla Tribe Total					750,000					
Washington Dept. of Fish and Wildlife	COOP	CH0	SU	2017	500	04-01-17	04-01-17	Chelan Falls Cathlamet Channel Net Pen	Rocky Reach Pool	UCOL
Washington Dept. of Fish and Wildlife	COOP	CO	NO	2017	5,000	04-01-17	04-01-17	Net Pen	Col R Bel. Bon Dam	LCOL
Washington Dept. of Fish and Wildlife	COOP	CO	NO	2018	39,000	04-01-17	06-01-17	Below Bonn Dam	Col R Bel. Bon Dam	LCOL
Washington Dept. of Fish and Wildlife	Lewis River Hatchery	CO	NO	2017	900,000	04-01-17	04-10-17	Lewis River Hatchery	Lewis River	LCOL
Washington Dept. of Fish and Wildlife	Lewis River Hatchery	CO	SO	2017	700,000	04-01-17	04-10-17	Lewis River Hatchery	Lewis River	LCOL
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH0	FA	2017	110,000	03-29-17	04-05-17	Tucannon River	Tucannon River	SNAK
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH1	FA	2017	460,000	04-01-17	04-06-17	Lyons Ferry Hatchery	Snake River	SNAK
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2017	25,000	04-10-17	04-10-17	Tucannon River	Tucannon River	SNAK
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2017	35,000	04-10-17	04-10-17	Walla Walla River	Walla Walla River	MCOL
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2017	110,000	04-10-17	04-10-17	Lyons Ferry Hatchery	Snake River	SNAK
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2017	200,000	04-10-17	04-17-17	Cottonwood Acclim Pond	Grande Ronde River	SNAK
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2017	64,000	04-01-17	04-01-17	Chewuch Acclim Pond	Methow River	UCOL
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2017	240,000	04-01-17	04-15-17	Curl Lake Acclim Pond	Tucannon River	SNAK
Washington Dept. of Fish and Wildlife	Washougal Hatchery	CO	NO	2017	2,550,000	04-01-17	04-01-17	Klickitat River	Klickitat River	MCOL
Washington Dept. of Fish and Wildlife Total					5,438,500					
Grand Total					26,429,105					

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
03/17/2017	147.1	0.6	147.4	49.7	145.7	1.4	141.1	14.4	147.9	5.6	138.0	1.7	133.8	33.0
03/18/2017	137.9	0.0	136.1	42.3	141.4	10.5	139.2	12.4	146.4	1.7	144.4	7.5	154.8	74.0
03/19/2017	150.6	7.2	150.0	79.9	151.9	13.5	149.1	19.2	151.2	9.1	162.0	18.8	158.7	68.6
03/20/2017	171.6	7.4	171.9	84.2	182.9	38.8	190.0	73.5	190.0	34.4	202.8	49.5	210.3	83.9
03/21/2017	173.1	13.0	170.0	91.9	178.6	29.5	180.7	57.8	178.8	24.1	189.8	40.7	192.7	69.9
03/22/2017	199.8	29.7	196.2	118.0	200.9	52.2	202.2	74.0	196.1	41.6	211.4	64.0	210.4	83.7
03/23/2017	205.4	29.0	215.7	137.2	221.8	70.3	224.8	90.5	215.1	64.5	250.5	94.3	253.1	124.5
03/24/2017	205.5	27.3	203.5	130.1	208.9	82.0	221.6	84.1	212.7	67.6	241.9	77.8	248.5	122.1
03/25/2017	204.5	27.3	210.6	135.0	208.8	53.9	217.1	81.8	211.1	55.5	211.3	71.7	208.4	87.1
03/26/2017	208.1	31.5	207.5	111.4	212.5	54.4	227.3	91.1	220.0	67.7	236.9	91.2	241.4	109.8
03/27/2017	209.7	32.1	214.4	148.3	219.3	62.5	219.4	85.8	210.1	56.8	226.9	100.0	231.7	106.4
03/28/2017	208.8	36.7	213.2	142.4	226.9	65.5	226.7	92.1	219.2	70.1	241.4	113.9	242.3	117.8
03/29/2017	211.7	35.0	212.9	147.3	221.8	60.2	224.0	91.0	218.5	70.3	237.2	115.4	239.2	114.6
03/30/2017	208.4	34.1	214.9	122.9	222.6	70.9	224.6	91.4	217.9	71.9	241.7	129.0	237.9	117.1

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
03/17/2017	12.4	7.5	---	68.2	189.2	99.3	192.2	64.1	213.1	131.6	212.9	153.9
03/18/2017	12.4	7.5	---	66.9	174.9	85.5	164.6	36.2	175.0	94.8	179.6	121.4
03/19/2017	7.8	3.0	---	68.1	194.0	103.1	190.8	62.7	204.1	123.5	202.5	143.5
03/20/2017	13.7	8.9	---	68.5	180.5	101.4	178.8	60.1	193.8	116.4	198.5	140.6
03/21/2017	25.0	20.2	---	72.3	184.7	107.8	191.0	70.4	204.3	137.2	198.4	144.3
03/22/2017	25.0	20.2	---	72.6	186.1	106.6	181.6	56.1	192.3	129.0	192.8	141.5
03/23/2017	24.9	20.1	---	72.4	184.1	105.7	181.3	59.9	195.9	123.7	194.9	139.1
03/24/2017	24.9	20.1	---	72.6	178.9	91.0	168.7	38.9	182.9	100.0	184.5	129.1
03/25/2017	24.9	20.1	---	72.2	172.3	85.5	167.2	52.3	176.2	92.5	179.3	123.8
03/26/2017	24.9	20.1	---	71.8	167.6	80.5	165.7	57.9	173.6	90.1	175.3	119.8
03/27/2017	24.8	20.0	---	71.5	161.5	75.3	160.8	47.7	168.3	85.1	171.0	119.0
03/28/2017	24.8	20.0	---	71.4	161.5	75.1	150.3	24.1	159.8	77.0	159.8	109.4
03/29/2017	24.8	20.0	---	71.0	152.9	80.2	143.0	34.9	153.3	71.7	157.9	106.6
03/30/2017	25.0	20.2	---	73.3	162.0	82.1	150.8	53.9	160.5	82.2	163.6	107.4

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

Date	McNary		John Day		The Dalles		Bonneville			
	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2		
03/17/2017	381.2	175.7	368.8	105.1	358.3	150.5	389.4	162.2	105.7	109.1
03/18/2017	375.7	160.4	400.0	132.7	383.7	161.5	411.8	186.8	107.1	105.5
03/19/2017	372.4	158.4	369.3	104.3	357.3	149.5	409.6	190.1	107.9	99.2
03/20/2017	420.5	207.2	404.7	143.3	384.3	179.8	417.6	202.5	107.0	95.7
03/21/2017	409.3	202.2	428.5	170.0	427.1	229.0	443.2	228.0	102.7	100.1
03/22/2017	416.6	216.1	435.6	174.0	422.9	249.2	450.4	240.2	100.2	97.7
03/23/2017	445.9	244.5	447.5	187.7	437.3	269.0	458.6	239.9	99.6	106.7
03/24/2017	460.3	262.4	435.8	178.9	427.1	269.0	459.3	237.2	99.2	110.6
03/25/2017	435.9	235.2	433.5	172.5	425.5	269.0	459.6	223.6	108.5	115.1
03/26/2017	417.9	216.2	427.2	166.4	419.9	260.7	453.6	225.5	98.2	117.5
03/27/2017	418.4	225.2	421.0	181.1	410.6	254.5	449.1	226.3	105.1	105.3
03/28/2017	410.2	222.6	427.8	191.9	426.2	266.6	446.8	242.8	100.9	90.6
03/29/2017	417.9	230.3	424.8	188.9	422.0	261.5	443.0	235.5	102.8	92.3
03/30/2017	412.4	216.9	418.2	180.6	411.0	254.3	440.5	235.3	95.0	97.8

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

Site	Date	Species	Number of Fish Examined	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	03/30/17	Chinook + Steelhead	100	3	3	3.00%	0.00%	3	0	0	0
Little Goose Dam											
Lower Monumental Dam											
McNary Dam											
Bonneville Dam											
Rock Island Dam											

* 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	Hungry H. Dnst				Boundary				Grand Coulee				Grand C. Tlwr				Chief Joseph			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
3/17	95.7	96.0	96.2	24	---	---	---	0	102.5	103.4	103.7	24	102.2	103.6	109.6	24	101.2	101.8	102.1	24
3/18	96.6	96.8	97.0	24	---	---	---	0	104.1	104.4	104.6	24	102.4	102.8	103.2	24	102.5	103.0	103.2	24
3/19	96.3	96.6	98.5	24	---	---	---	0	102.6	102.7	103.0	24	108.9	112.7	114.3	24	101.9	102.6	103.4	24
3/20	95.9	96.2	96.3	24	---	---	---	0	102.9	103.2	103.4	24	110.5	112.0	112.8	24	102.1	102.2	102.7	15
3/21	95.7	96.1	96.3	24	---	---	---	0	103.9	104.1	104.2	24	115.3	117.5	121.6	24	109.9	111.1	111.4	24
3/22	96.0	96.1	96.2	24	---	---	---	0	104.0	104.1	104.2	24	121.2	122.0	123.0	24	111.4	112.2	112.4	24
3/23	101.6	107.4	111.3	24	---	---	---	0	103.6	103.8	103.9	24	118.0	120.4	121.7	24	115.9	118.3	119.5	24
3/24	111.3	111.4	111.4	24	---	---	---	0	104.2	104.3	104.4	24	116.1	116.2	116.4	24	120.0	120.4	120.6	24
3/25	111.3	111.3	111.5	24	---	---	---	0	104.4	104.6	104.8	24	116.3	116.5	116.7	22	115.6	116.2	118.1	23
3/26	111.3	111.4	111.5	24	---	---	---	0	105.1	105.3	105.4	24	119.1	120.0	120.2	24	115.4	115.9	116.1	24
3/27	113.0	114.4	114.6	24	---	---	---	0	105.0	105.2	105.4	24	119.7	119.9	120.4	24	116.2	116.8	117.3	24
3/28	114.3	114.4	114.5	24	---	---	---	0	105.0	105.1	105.3	24	123.2	124.4	125.8	24	117.6	117.9	118.1	24
3/29	114.2	114.2	114.3	8	---	---	---	0	106.1	106.4	106.6	24	123.1	124.4	124.9	24	119.9	121.5	123.2	24
3/30	---	---	---	0	---	---	---	0	106.2	106.3	106.5	23	121.4	122.5	123.8	23	122.6	123.0	123.4	23

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	Chief J. Dnst				Wells				Wells Dwnstrm				Rocky Reach				Rocky R. Tlwr			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
3/17	114.8	117.9	121.7	24	101.1	101.7	102.7	24	101.1	101.8	102.7	24	101.1	101.5	101.9	24	107.4	112.4	114.6	23
3/18	113.4	117.1	117.8	24	107.3	108.5	109.1	24	108.2	111.4	118.5	24	102.4	102.6	102.7	23	107.7	110.1	115.3	22
3/19	117.6	119.5	122.1	24	107.6	107.6	107.7	3	109.3	109.3	109.4	3	102.7	103.9	108.2	24	107.4	112.4	121.8	24
3/20	119.1	119.5	119.9	24	---	---	---	0	---	---	---	0	108.1	109.4	112.1	24	121.7	122.6	123.8	22
3/21	119.5	119.9	121.1	24	112.4	113.0	114.1	15	114.4	114.9	116.4	15	114.6	117.1	118.0	24	122.3	122.9	123.4	20
3/22	121.7	122.3	123.0	24	114.9	115.6	116.5	24	119.6	120.5	123.4	24	114.8	115.9	117.6	24	124.2	124.8	125.2	21
3/23	119.4	121.4	122.5	24	117.2	118.2	119.1	24	122.8	124.2	129.0	24	118.3	118.8	120.0	23	126.2	126.5	127.0	18
3/24	117.1	117.4	117.9	24	117.8	118.1	118.6	24	126.0	128.9	134.9	24	122.9	124.0	125.9	23	126.9	127.1	127.6	21
3/25	117.1	117.4	118.1	23	116.8	116.9	117.2	24	121.6	122.6	123.9	24	124.6	126.0	127.8	24	126.9	127.4	127.8	20
3/26	116.7	117.3	118.1	24	116.1	116.2	116.6	24	121.5	122.8	123.7	24	122.1	122.8	123.6	24	127.3	127.7	128.2	22
3/27	117.6	117.9	118.1	24	115.8	116.3	116.9	22	121.2	122.3	123.5	22	121.0	122.2	122.9	24	126.5	127.4	128.6	23
3/28	117.5	117.9	118.1	24	116.7	117.1	117.2	24	122.0	122.9	123.5	24	120.2	120.9	121.5	24	126.9	127.5	127.9	22
3/29	117.8	118.0	118.1	24	117.8	118.5	118.7	24	122.5	123.2	124.1	24	122.3	123.0	123.6	24	127.5	127.9	128.4	23
3/30	117.1	117.6	118.5	23	117.8	118.1	118.5	23	123.4	124.4	125.8	23	121.7	122.7	123.1	23	127.1	127.8	128.4	21

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	Rock Island				Rock I. Tlwr				Wanapum				Wanapum Tlwr				Priest Rapids			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
3/17	101.4	102.6	105.1	24	102.5	104.4	107.0	23	101.2	101.6	101.9	24	101.6	102.1	103.7	24	102.5	102.8	103.0	24
3/18	103.5	104.4	104.7	24	104.2	105.2	106.2	22	102.2	102.5	102.8	24	103.9	105.3	114.6	24	103.1	103.5	103.6	24
3/19	103.0	104.1	105.2	24	104.3	106.0	110.5	23	101.4	101.9	102.5	24	104.9	107.0	117.9	21	104.6	107.5	110.7	24
3/20	111.1	113.3	113.8	23	114.0	115.6	117.8	21	102.7	103.0	103.3	24	---	---	---	0	108.3	112.5	114.2	24
3/21	114.9	116.1	116.8	22	116.6	117.2	117.8	19	107.2	110.0	112.3	24	---	---	---	0	112.0	112.5	114.3	24
3/22	117.3	117.6	118.0	22	119.5	120.4	121.2	20	113.2	113.8	114.2	24	---	---	---	0	113.2	114.7	115.6	24
3/23	117.9	120.2	121.0	20	123.0	124.1	125.0	18	115.7	117.2	118.2	24	121.3	122.1	125.9	16	116.7	118.6	119.2	24
3/24	121.7	122.3	122.6	23	125.0	125.5	126.1	20	119.6	120.5	120.8	24	121.5	123.0	125.3	24	119.7	120.6	120.9	24
3/25	123.2	123.9	125.2	23	125.1	125.6	126.6	20	120.8	121.2	121.6	24	122.0	124.6	126.7	24	119.9	121.4	122.5	24
3/26	122.5	122.9	124.1	23	124.9	125.1	125.8	20	122.2	122.7	123.0	24	123.7	123.9	124.2	24	120.5	121.4	121.8	24
3/27	121.9	122.5	123.2	23	124.6	125.5	126.3	23	122.5	122.9	123.3	24	125.0	127.0	129.4	24	121.1	121.3	121.8	24
3/28	121.2	122.1	122.5	23	124.6	124.9	125.4	20	121.4	121.6	121.9	24	125.1	125.3	126.7	16	123.5	124.3	126.0	24
3/29	122.4	123.0	123.6	24	125.7	126.1	126.5	23	122.8	123.2	123.4	24	124.8	124.8	125.0	8	124.7	125.7	126.9	24
3/30	121.8	122.3	122.5	22	125.3	125.6	125.9	19	---	---	---	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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>	
3/17	105.4	108.7	112.8	24	---	---	---	0	119.7	119.9	120.1	24	104.7	105.1	105.2	24	105.9	106.7	107.0	24
3/18	112.1	114.4	115.8	24	---	---	---	0	119.9	120.0	120.4	24	104.7	104.9	105.0	24	106.1	106.5	106.6	24
3/19	112.2	114.6	115.7	24	---	---	---	0	107.7	108.9	114.5	24	102.1	102.7	103.7	24	104.4	104.7	105.2	24
3/20	115.7	117.7	118.4	24	---	---	---	0	115.5	122.5	126.2	24	104.7	107.3	109.8	24	105.9	106.5	106.7	24
3/21	116.3	116.8	118.4	24	---	---	---	0	126.3	126.5	126.6	24	110.0	110.3	110.7	24	106.8	107.1	107.4	24
3/22	118.5	120.1	120.8	24	---	---	---	0	125.9	126.1	126.1	24	109.7	109.9	110.1	24	106.6	106.8	107.0	24
3/23	121.5	122.8	123.7	24	---	---	---	0	125.6	125.7	125.9	24	109.7	110.2	110.5	24	106.7	107.3	107.6	24
3/24	122.1	123.3	124.3	24	---	---	---	0	125.7	125.9	126.1	24	110.2	110.5	110.6	24	107.0	107.2	107.4	24
3/25	119.9	120.4	121.0	24	---	---	---	0	125.5	125.6	125.9	24	110.6	110.9	111.2	24	106.8	107.3	107.5	24
3/26	121.7	122.2	122.3	24	---	---	---	0	125.9	126.1	126.2	24	111.3	111.8	111.9	24	107.3	107.6	107.7	24
3/27	121.3	121.9	122.3	24	---	---	---	0	125.7	125.9	126.0	24	111.2	111.4	111.6	24	106.9	107.1	107.3	24
3/28	122.3	122.9	123.3	24	---	---	---	0	125.4	125.5	125.6	24	111.3	111.7	111.9	24	106.9	107.4	107.5	24
3/29	123.1	123.4	123.6	24	---	---	---	0	125.6	125.7	125.8	24	112.0	112.2	112.3	24	107.6	107.7	107.9	24
3/30	---	---	---	0	---	---	---	0	124.7	125.5	125.8	23	110.5	111.0	111.7	23	106.1	106.3	107.0	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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>	
3/17	103.4	103.8	104.2	24	105.9	106.3	106.5	24	131.4	132.7	133.3	24	120.0	122.2	124.1	24	125.7	127.2	127.9	24
3/18	103.3	103.7	103.8	24	106.7	106.9	107.1	24	128.4	129.0	129.4	24	124.8	125.8	126.1	24	120.2	120.5	120.6	24
3/19	101.8	102.2	102.4	24	105.3	105.6	106.1	24	131.5	131.8	131.9	24	120.0	120.6	122.0	24	125.1	125.5	125.7	24
3/20	102.1	103.0	105.3	24	105.5	105.9	106.2	24	129.2	130.7	131.7	24	122.2	123.7	124.8	24	124.7	126.6	127.6	24
3/21	107.1	107.5	107.9	24	106.6	106.9	107.2	24	129.5	130.8	132.2	24	124.7	125.1	125.9	24	127.2	128.9	129.7	24
3/22	106.8	107.1	107.8	24	107.3	107.5	107.5	24	130.0	130.7	131.3	24	124.0	124.4	124.9	24	123.2	124.6	126.6	24
3/23	106.9	107.5	108.1	24	106.9	107.2	107.4	24	130.1	131.1	131.5	24	122.2	122.8	123.2	24	123.6	125.9	126.8	24
3/24	107.0	107.3	107.5	24	107.9	108.2	108.4	24	126.5	127.5	128.5	24	123.5	124.4	125.4	24	120.0	120.3	120.6	24
3/25	107.3	107.8	108.3	24	107.3	107.4	107.6	24	126.3	126.4	126.5	24	121.4	122.0	123.0	24	121.7	122.8	122.9	24
3/26	107.7	108.2	108.5	24	108.1	108.5	108.7	24	126.2	126.6	126.8	24	121.0	121.3	121.5	24	122.8	123.1	123.2	24
3/27	107.5	107.9	108.5	24	107.7	108.1	108.5	24	126.2	126.3	126.4	24	119.8	120.4	121.2	24	120.3	122.7	123.0	24
3/28	107.3	107.9	108.4	24	106.9	107.1	107.4	24	126.0	127.0	127.5	24	117.3	117.6	118.1	24	116.8	117.0	117.5	24
3/29	108.0	108.3	108.5	24	108.5	109.0	109.4	24	125.7	127.0	127.8	24	119.0	119.7	120.1	24	118.2	119.1	119.3	24
3/30	107.0	107.3	107.9	23	108.7	109.1	109.4	23	126.0	127.7	130.5	23	118.9	119.3	119.7	23	121.3	121.5	121.7	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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>	
3/17	121.5	124.7	126.1	24	128.0	128.8	129.6	24	123.2	125.0	126.2	24	133.4	134.8	135.3	24	---	---	---	0
3/18	123.9	125.5	126.6	24	125.7	126.1	127.2	24	125.8	127.0	127.4	24	126.4	127.0	129.4	24	---	---	---	0
3/19	119.5	120.5	122.7	24	127.4	127.8	128.0	24	121.3	122.2	123.3	24	131.3	132.8	134.4	24	---	---	---	0
3/20	123.5	123.7	124.0	24	127.1	127.6	127.9	24	124.7	125.3	125.8	24	130.8	132.4	134.4	24	---	---	---	0
3/21	124.6	125.5	126.4	24	128.8	129.9	134.4	24	125.4	125.7	126.1	24	131.3	133.4	134.4	24	---	---	---	0
3/22	125.0	126.9	127.8	24	128.8	131.3	135.3	24	126.4	127.2	128.4	24	131.6	133.4	134.4	24	---	---	---	0
3/23	122.3	122.9	124.2	24	126.9	127.4	127.7	24	125.5	126.1	126.9	24	131.5	131.7	131.9	24	---	---	---	0
3/24	123.8	125.6	126.6	24	125.7	126.1	126.8	24	125.0	125.9	126.4	24	128.5	128.6	128.9	24	---	---	---	0
3/25	120.2	120.5	120.8	24	125.3	125.7	126.3	24	121.8	122.1	122.6	24	127.0	127.8	128.6	24	---	---	---	0
3/26	122.4	123.4	123.6	24	124.5	124.7	125.5	24	121.8	122.0	122.1	24	125.9	125.9	126.0	24	---	---	---	0
3/27	121.8	122.6	123.5	24	124.1	124.8	125.2	24	120.7	121.4	121.9	24	126.0	126.8	129.0	24	---	---	---	0
3/28	118.5	120.0	120.4	24	122.7	123.7	125.2	24	118.6	118.8	119.1	24	124.0	125.7	129.5	24	---	---	---	0
3/29	117.0	117.4	117.5	24	122.3	123.3	125.7	24	119.5	120.0	120.3	24	123.7	126.0	126.4	24	---	---	---	0
3/30	117.5	117.8	118.5	23	123.0	123.6	124.8	23	118.4	119.2	119.9	23	123.1	123.7	123.9	23	---	---	---	0

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	McNary-Wash			#	McNary Tlwr			#	John Day			#	John Day Tlwr			#	The Dalles			#
	24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High		24h Avg	12h Avg	High		24h Avg	12h Avg	High		24h Avg	12h Avg	High	
3/17	106.1	107.0	107.6	24	121.3	121.9	122.4	24	110.7	111.0	111.4	20	123.2	128.4	131.0	24	110.4	111.0	112.2	24
3/18	108.6	109.4	109.8	24	121.2	121.7	122.4	24	111.5	111.9	112.1	24	128.7	131.8	133.5	24	114.9	115.5	115.8	24
3/19	105.2	106.2	107.6	24	120.4	120.7	121.0	24	111.3	112.2	112.9	24	123.8	124.5	125.3	24	112.0	113.0	113.4	24
3/20	109.0	111.4	114.0	24	123.2	124.7	125.0	24	115.6	116.9	117.5	24	124.6	126.5	131.8	24	115.0	116.2	117.9	24
3/21	112.5	113.5	114.3	24	123.1	123.4	123.8	24	118.0	118.1	118.3	24	123.3	123.9	124.3	24	118.0	118.3	118.6	24
3/22	113.1	113.9	115.0	24	123.8	124.5	127.9	24	117.6	117.8	118.0	24	123.2	124.6	125.4	24	117.0	117.4	118.6	24
3/23	113.3	114.6	116.1	24	124.2	124.4	124.9	24	119.4	120.1	120.5	24	127.3	129.2	130.0	24	119.3	120.9	122.0	24
3/24	115.4	117.2	117.9	24	123.7	124.0	124.5	24	119.8	120.0	120.2	24	123.9	124.5	125.2	24	119.3	120.1	121.5	24
3/25	117.7	118.7	119.2	24	123.0	123.3	123.7	24	120.2	120.9	121.3	24	122.9	123.0	123.2	24	118.6	119.1	119.4	24
3/26	118.7	118.9	119.2	24	122.3	122.6	122.9	24	121.3	121.4	121.4	24	122.7	123.2	123.6	24	119.6	119.8	119.9	24
3/27	116.9	117.7	118.4	24	123.4	124.2	124.4	24	120.0	120.7	121.1	24	123.2	124.0	124.8	24	118.3	118.7	119.1	24
3/28	115.3	116.0	116.3	24	123.8	124.1	124.4	24	117.8	118.0	118.5	24	124.3	125.5	126.9	24	118.7	119.6	121.2	24
3/29	117.0	117.9	119.0	24	124.8	125.2	125.5	24	117.3	117.4	117.5	24	123.9	124.7	125.2	24	119.0	119.5	120.9	24
3/30	117.9	118.3	118.9	23	123.3	123.7	124.0	23	116.3	116.5	117.0	23	122.7	123.4	125.3	23	116.2	116.7	118.4	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	The Dalles Dnst			#	Bonneville			#	Warrendale			#	Camas/Washougal			#	Cascade Island			#
	24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High		24h Avg	12h Avg	High		24h Avg	12h Avg	High		24h Avg	12h Avg	High	
3/17	118.1	119.4	120.5	24	114.5	115.0	115.9	24	117.1	117.8	119.0	24	114.7	115.0	115.2	24	121.9	122.5	123.2	24
3/18	120.3	122.1	123.4	24	116.8	117.2	117.7	24	119.1	119.4	120.2	24	116.4	116.9	117.2	24	123.4	123.5	123.7	24
3/19	117.9	118.5	119.1	24	117.5	117.8	117.9	24	120.1	120.4	120.6	24	118.7	119.7	120.1	24	123.3	123.4	123.5	24
3/20	120.3	121.6	122.1	24	117.8	118.3	118.7	24	120.9	121.5	122.4	24	117.6	118.1	119.1	24	123.6	124.1	124.8	24
3/21	121.8	122.1	122.5	24	120.8	121.8	122.2	24	123.7	124.5	125.4	24	119.6	120.7	121.5	24	125.2	125.6	126.1	24
3/22	121.0	121.8	122.5	24	121.9	122.2	122.5	24	124.8	125.3	125.8	24	122.8	123.6	123.9	24	126.3	126.8	128.3	24
3/23	122.0	123.1	123.8	24	121.3	122.2	123.2	24	124.4	125.0	125.4	24	123.7	124.2	124.5	24	126.2	126.6	129.8	24
3/24	122.0	122.7	123.8	24	123.3	123.6	123.8	24	125.2	125.6	125.7	24	123.4	123.9	124.2	24	126.0	126.3	126.6	24
3/25	121.3	121.6	122.1	24	121.8	122.3	122.6	24	123.8	124.2	124.5	24	123.0	123.1	123.3	24	125.8	125.9	126.1	24
3/26	122.0	122.4	123.0	24	123.0	123.1	123.3	24	124.8	124.9	125.0	24	123.3	123.6	123.9	24	125.7	125.8	126.0	24
3/27	121.1	121.5	121.7	24	121.5	122.2	122.8	24	123.4	123.8	124.3	24	122.2	122.4	122.6	24	125.4	125.5	125.8	24
3/28	121.5	122.0	122.6	24	121.3	122.4	123.0	24	124.1	124.7	125.1	24	123.0	123.9	124.8	24	125.9	126.3	127.2	24
3/29	122.0	122.5	123.0	24	123.2	123.4	123.6	24	124.9	125.4	125.9	24	124.4	124.8	125.1	24	125.8	126.2	127.5	24
3/30	119.7	120.3	121.5	23	119.5	120.3	121.9	23	123.1	123.6	124.0	23	122.1	122.4	122.9	23	125.4	126.0	131.4	23

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.

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.

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

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

† In 2013 it was confirmed that juvenile lamprey can escape the sample tank at LGR which would lead to unreliable estimates of collection. Therefore, only sample counts are provided in this report.

Definitions for Smolt Index Counts

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

IMN (Collection) = Imnaha River Trap : Collection Counts

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

3/31/17 11:32 AM

03/17/17 TO 03/31/17

		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
LGR	Sum of NumberCollected	558	20,310	100	142,068	519	163,555
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	555	20,306	100	142,057	519	163,537
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	3	4	0	11	0	18
	Sum of FacilityMorts	0	0	0	0	0	0
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	3	4	0	11	0	18
Total Sum of NumberCollected		558	20,310	100	142,068	519	163,555
Total Sum of NumberBarged		0	0	0	0	0	0
Total Sum of NumberBypassed		555	20,306	100	142,057	519	163,537
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		3	4	0	11	0	18
Total Sum of FacilityMorts		0	0	0	0	0	0
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		3	4	0	11	0	18

YTD Transportation Summary

Source: Fish Passage Center

Updated:

3/31/17 11:32 AM

TO: 03/31/17

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	558	20,310	100	519	142,068	163,555
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	555	20,306	100	519	142,057	163,537
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	3	4	0	0	11	18
	Sum of FacilityMorts	0	0	0	0	0	0
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	3	4	0	0	11	18
Total Sum of NumberCollected		558	20,310	100	519	142,068	163,555
Total Sum of NumberBarged		0	0	0	0	0	0
Total Sum of NumberBypassed		555	20,306	100	519	142,057	163,537
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		3	4	0	0	11	18
Total Sum of FacilityMorts		0	0	0	0	0	0
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		3	4	0	0	11	18

Cumulative Adult Passage at Mainstem Dams Through: 03/30

dam	enddate	Spring Chinook						Summer Chinook						Fall Chinook					
		2017		2016		10-Yr Avg.		2017		2016		10-Yr Avg.		2017		2016		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	03/29	14	0	166	5	276	0	0	0	0	0	0	0	0	0	0	0	0	0
TDA	03/29	11	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0
JDA		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MCN	03/28	1	-2	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
IHR		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LMN		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LGS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LGR	03/28	0	0	2	0	0	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	03/28	0	0	19	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0

DAM	ENDDATE	Coho						Sockeye			Steelhead						Lamprey		
		2017		2016		10-Yr Avg.		10-Yr			10-Yr		Unclipped	Unclipped	10-Yr	10-Yr			
		Adult	Jack	Adult	Jack	Adult	Jack	2017	2016	Avg.	2017	2016	Avg.	2017	2016	Avg.	2017	2016	Avg.
BON	03/29	0	0	0	0	0	0	0	1	0	1514	2678	2258	506	1176	818	0	-1	0
TDA	03/29	0	0	0	0	0	0	0	0	0	1028	0	1340	342	0	551	0	0	0
JDA		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MCN	03/28	0	0	0	0	1	0	0	0	0	1727	0	4478	323	0	1222	0	0	0
IHR		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LMN		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LGS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LGR	03/28	0	0	0	0	0	0	0	0	0	4569	3644	4553	1625	1823	1431	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	03/28	0	0	0	0	0	0	0	0	0	474	4287	3759	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.