



Fish Passage Center

Weekly Report #20-02

March 13, 2020

This Week's Highlights

Water Supply

Precipitation throughout the Columbia Basin has varied between 21% and 90% of average at individual sub-basins over March. Precipitation above The Dalles has been 48% of average over March. Over the 2020 water year, precipitation has ranged between 61% and 87% of average.

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

Location	Water Year 2020		Water Year 2020	
	March 1-12, 2020		October 1, 2019 to March 12, 2020	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	1.05	79	18.1	86
Snake River Above Ice Harbor	0.24	26	9.2	72
Columbia Above The Dalles	0.50	48	12.3	78
Kootenai	1.15	90	15.6	76
Clark Fork	0.42	42	10.6	76
Flathead	0.64	50	16.1	87
Pend Oreille River Basin above Waneta Dam	0.55	46	14.4	82
Salmon River Basin	0.30	25	9.7	61
Upper Snake Tributaries	0.57	55	11.0	78
Clearwater	0.37	23	18.0	77
Willamette River above Portland	0.59	21	30.4	65

Snowpack within the Columbia Basin has been variable. 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 89% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 97% of average.

Table 2 displays the March 12th ESP runoff volume forecasts for multiple reservoirs along with the March COE forecasts at Libby and Dworshak. The March 12th ESP forecast at The Dalles between April and August is 86,064 Kaf (98% of average).

Table 2. March 12 ESP Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.

Location	March 12 th , 2020	
	% Average (1981-2010)	Runoff Volume (Kaf)
The Dalles (Apr-Aug)	98	86,064
Grand Coulee (Apr-Aug)	106	60,212
Libby Res. Inflow, MT (Apr-Aug)	98 108*	5,748 6,349*
Hungry Horse Res. Inflow, MT (Apr-Aug)	109	2,114
Lower Granite Res. Inflow (Apr- July)	85	16,850
Brownlee Res. Inflow (Apr-July)	71	3,907
Dworshak Res. Inflow (Apr-July)	99 97*	2,399 2,355*

* Denotes COE March Forecast

Grand Coulee Reservoir is at 1,254.6 feet (3-12-20) and has drafted 3.7 feet over the last week. Outflows at Grand Coulee have ranged between 69.8 Kcfs and 100.1 Kcfs over the last week. The end of March FC Elevation at Grand Coulee is 1,278.6 ft. (based on March Forecast).

The Libby Reservoir is currently at elevation 2,405.0 feet (3-12-20) and has drafted 0.4 feet over the past week. Daily average outflows at Libby Dam have been 4.0 Kcfs over the last week. The end of March FC at Libby is 2,404.1 ft. (based on March Forecast).

Hungry Horse is currently at an elevation of 3,526.9 feet (3-12-20) and has drafted 1.0 feet last week. Outflows at Hungry Horse have been increased from 2.6 Kcfs to 3.2 Kcfs over the last week. The end of March FC at Hungry Horse is 3,532.8 ft. (based on March Forecast).

Dworshak is currently at an elevation of 1,525.0 feet (3-12-20) and has drafted 1.5 feet over last week. Dworshak outflows have been 1.6 Kcfs over the last week. The end of March System FC at Dworshak at the end of March is 1,541.7 ft.

The Brownlee Reservoir was at an elevation of 2,034.0 feet on March 12, 2020. Outflows at Hells Canyon have ranged between 11.6 and 19.3 Kcfs over the last four days. The end of March FC (based on March forecast) is 2,053.4 ft.

Spill

Flows in the Snake River have been relatively low this week, with daily average flows ranging from approximately 32.0 to 35.8 Kcfs at Lower Granite Dam. Daily average flows in the Upper Columbia ranged from 66.2 to 107.5 Kcfs (at Rock Island Dam) while flows in the Mid-Columbia were in the 117.1 to 149.4 Kcfs range (at McNary Dam).

Voluntary spill for fish passage at FCRPS projects is expected to begin on April 3rd in the Snake River and April 10th in the Mid-Columbia.

Smolt Monitoring

Smolt Monitoring Program (SMP) activities at bypass facilities continued this week at Bonneville, McNary, and Lower Granite dams. In addition, SMP sampling continued this week at the Salmon, Snake, Grande Ronde, and Imnaha river traps. SMP sampling at the other bypass facilities (Little Goose, Lower Monumental, John Day, and Rock Island dams) is expected to begin in early April.

Subyearling Chinook fry continued to dominate the salmonid collections at Bonneville Dam (BON) this week. All of the subyearling Chinook sampled at BON so far this year have been fry. This week's daily average passage index for subyearling Chinook fry was about 500 per day. A small number of yearling Chinook, coho, and steelhead were also collected this week. Approximately 30% of the yearling Chinook that were collected this week were holdover fall Chinook

and approximately 90% of the coho that were collected this week were fry. No Pacific lamprey ammocoetes were collected this week but macrophthalmia were encountered every day this week. This week's daily average collection for Pacific lamprey macrophthalmia was about 50 per day.

Sampling at McNary Dam (MCN) is every-other-day. Subyearling Chinook fry were the dominate salmonids in this week's samples at MCN, followed by yearling Chinook and steelhead. However, estimates of daily passage indices for these three species have been low. To date, 100% of subyearling Chinook encountered at MCN have been fry and approximately 45% of yearling Chinook have been holdover fall Chinook. Pacific lamprey ammocoetes were encountered in one sample this week (March 10th) while macrophthalmia were encountered in all four of this week's samples. This week's daily average collection count for Pacific lamprey macrophthalmia was nearly 900 per day.

Yearling Chinook and steelhead dominated the salmonid collections at Lower Granite Dam (LGR) this week. However, estimates of the daily passage index for these two species were very low. In addition, one coho (March 9th) and one sockeye (March 11th) were each encountered in this week's samples. Of the yearling Chinook encountered at LGR this week, approximately 22% were holdover fall Chinook. Pacific lamprey ammocoetes were encountered every day this week and macrophthalmia encountered in four of this week's samples.

The Snake River Trap at Lewiston, ID (LEW) is located at river kilometer 225 of the Snake River and is operated by Idaho Department of Fish and Game. Sampling at LEW began on March 1st, with the first sample tallied and reported to FPC on March 2nd. To date, only one salmonids has been collected at LEW, an unclipped steelhead that was collected in the sample from March 10th.

The Grande Ronde Trap (GRN) is located at river kilometer 002 of the Grande Ronde River and is operated by the Oregon Department of Fish and Wildlife. Sampling at the Grande Ronde Trap began on March 6th, with the first sample tallied and reported to the FPC on March 7th. To date, the only salmonids encountered at GRN have been yearling Chinook, with a total of 54 collected so far. All of the yearling Chinook collected to date have been unmarked. In

addition, one Pacific lamprey ammocoete (March 10th) and one Pacific lamprey macrophthalmia (March 7th) were collected at GRN this week.

The Salmon River Trap at Whitebird (WTB) is located at river kilometer 103 of the Salmon River and is operated by Idaho Department of Fish and Game. Similar to recent years, sampling at WTB in 2020 will only occur during the weekdays. Sampling at WTB began on March 1st, with the first sample tallied and reported to FPC on March 2nd. To date, no salmonids or lamprey juveniles have been collected at this trap.

The Imnaha River Trap (IMN) is located at river kilometer 007 of the Imnaha River and is operated by the Nez Perce Tribe. Sampling at the Imnaha River Trap is year round. For 2020, the FPC currently has data from IMN for the period of February 15th through March 4th. Over this period, a total of seven yearling Chinook and eleven steelhead have been sampled at the trap. All of the yearling Chinook and steelhead collected over this period have been unmarked.

Hatchery Releases

FPC has not received preliminary data from some hatcheries as of 3/13/20, therefore, this hatchery release schedule represents the most up to date accounting that are available, but should not be considered a finalized record of scheduled 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 was one release of nearly 800,000 summer Chinook into this zone on the Lochsa River.

In the next two weeks, approximately 8.4 million spring Chinook will be released into this zone. Of these, approximately 52% will be released to the Clearwater River or one of its tributaries (Clear Creek, Red River, or Selway). The remainder will be released into the Salmon River at Sawtooth hatchery (1.27M), Rapid River hatchery (2.5M), and the Imnaha River (210,000). Another 790,000 summer Chinook are planned for release into the Lochsa River on 3/14. Finally, one release of 555,000 summer steelhead is planned below Hells Canyon Dam beginning on 3/16.

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 planned during the past week in this zone. Over the next two weeks there are approximately 313,000 juvenile coho planned for release into this zone, all of which are into the Methow River or one of its tributaries.

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). No releases were planned during the past week in this zone. Over the next two weeks there is one planned release of 30,000 spring Chinook juveniles into the Metolius River.

Lower Columbia Zone:

The Lower Columbia Zone is defined as the Columbia River and its tributaries below Bonneville Dam. Over the past week there were two releases into this zone. Both are spring Chinook being released into the Santiam (170,000) and Clackamas Rivers (70,000).

Over the next two weeks just over 3 million spring Chinook are scheduled to be released in this zone. Of these, approximately 54% will be released into the Willamette River and its tributaries, with the remainder split between Blind Slough (150,000), Gnat Creek (650,000), and Youngs Bay (60,000). There will also be one release of 25,000 summer steelhead planned for 3/16.

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 have 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 1/1/2020 through 3/11/2020), 16 adult Chinook and 1,636 adult steelhead were counted. In 2019 for the same time frame, 1 adult Chinook and 288 adult steelhead were counted. The 2020 Bonneville Dam winter season count of adult steelhead had 1,348 more fish than the 2019 count.

The Willamette Falls cumulative steelhead count from January 1st through March 11th is 3,538. The 2020 Willamette Falls winter steelhead count has 2,925 more fish than the 2019 count of 613 while being about 1.8 times greater than the 10-year average count of 2,081. This year's Lower Granite steelhead count of 643 has 550 more fish than the 2019 count of 93 and has 348 fewer fish than the 10-year average count of 991.

This winter, based on estimates made by the Technical Advisory Committee (TAC) for U.S. v. Oregon, the spring Chinook run for 2020 is expected to be 135,800. The TAC reported that 109,808 spring Chinook had returned to the river in 2019 (see U.S. v. Oregon, Technical Advisory Committee's December 12, 2019, document *Columbia River Mouth Fish Returns* which displays 2019 actual and 2020 forecasts of spring Chinook, summer Chinook, sockeye, and steelhead counts from the Oregon and Washington Departments of Fish and Wildlife). This report is available at: https://www.dfw.state.or.us/fish/OSCRP/CRM/returns_and_expectations/docs/2019_returns_20_forecasts.pdf

Hatchery Releases Last Two Weeks

Hatchery Release Summary
From: **2/29/2020** to **03/13/20**

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver	Zone
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SU	2020	791,284	03-11-20	03-14-20	Powell Acclim Pond	Lochsa River	SNAK
Idaho Dept. of Fish and Game Total					791,284					
Oregon Dept. of Fish and Wildlife	Big Creek Hatchery	CH1	SP	2020	250,000	03-02-20	03-02-20	Youngs Bay	Youngs River	LCOL
Oregon Dept. of Fish and Wildlife	Clackamas Hatchery	CH1	SP	2020	70,000	03-11-20	03-11-20	Clackamas River	Clackamas River	LCOL
Oregon Dept. of Fish and Wildlife	Clackamas Hatchery	CH1	SP	2020	500,000	03-02-20	03-02-20	Clackamas River	Clackamas River	LCOL
Oregon Dept. of Fish and Wildlife	Gnat Creek Hatchery	CH1	SP	2020	400,000	03-02-20	03-02-20	Youngs Bay	Youngs River	LCOL
Oregon Dept. of Fish and Wildlife	Sandy Hatchery	CH1	SP	2020	100,000	03-06-20	03-06-20	Bull Run Acclimation	Sandy River	LCOL
Oregon Dept. of Fish and Wildlife	South Santiam Hatchery	CH1	SP	2020	170,000	03-09-20	03-09-20	S Fk Santiam River	Santiam River	LCOL
Oregon Dept. of Fish and Wildlife	Willamette Hatchery	CH1	SP	2020	234,000	03-02-20	03-02-20	Dexter Pond	Willamette River	LCOL
Oregon Dept. of Fish and Wildlife Total					1,724,000					
Umatilla Tribe	Bonneville Hatchery	CH0	FA	2020	120,000	03-06-20	03-06-20	Pendelton Acclim Pond	Umatilla River	MCOL
Umatilla Tribe	Bonneville Hatchery	CH0	FA	2020	780,000	03-02-20	03-02-20	Pendelton Acclim Pond	Umatilla River	MCOL
Umatilla Tribe Total					900,000					
Washington Dept. of Fish and Wildlife	COOP	CO	NO	2020	46,000	03-01-20	03-01-20	Lewis River	Lewis River	LCOL
Washington Dept. of Fish and Wildlife	COOP	CT	UN	2020	55,000	03-01-20	04-01-20	Cowlitz River	Cowlitz River	LCOL
Washington Dept. of Fish and Wildlife	Cowlitz Salmon	CH1	SP	2020	445,603	03-01-20	03-01-20	Cowlitz River	Cowlitz River	LCOL
Washington Dept. of Fish and Wildlife	Cowlitz Salmon	CH1	SP	2020	813,000	03-01-20	04-01-20	Cowlitz River	Cowlitz River	LCOL
Washington Dept. of Fish and Wildlife	Fallert Creek Hatchery	CH1	SP	2020	368,800	03-01-20	03-01-20	Kalama River	Kalama River	LCOL
Washington Dept. of Fish and Wildlife	Lewis River Hatchery	CH1	SP	2020	91,632	02-01-20	03-01-20	Lewis River	Lewis River	LCOL
Washington Dept. of Fish and Wildlife	Lewis River Hatchery	CH1	SP	2020	112,500	02-01-20	03-01-20	Lewis River	Lewis River	LCOL
Washington Dept. of Fish and Wildlife	Lewis River Hatchery	CH1	SP	2020	112,500	02-01-20	03-01-20	Lewis River	Lewis River	LCOL
Washington Dept. of Fish and Wildlife Total					2,045,035					
Yakama Tribe	Willard Hatchery	CO	UN	2020	259,009	03-04-20	03-04-20	Leavenworth Hatchery	Wenatchee River	UCOL
Yakama Tribe	Willard Hatchery	CO	UN	2020	313,455	03-02-20	03-02-20	Leavenworth Hatchery	Wenatchee River	UCOL
Yakama Tribe Total					572,464					
Grand Total					6,032,783					

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

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 3/14/2020 to 3/27/2020

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver	Zone
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2020	398,774	03-21-20	03-22-20	Selway River	Clearwater River M F	SNAK
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2020	592,233	03-27-20	03-28-20	N Fk Clearwater River	Clearwater River M F	SNAK
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2020	1,104,458	03-25-20	03-29-20	Red River	S Fk Clearwater River	SNAK
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SU	2020	791,284	03-11-20	03-14-20	Powell Acclim Pond	Lochsa River	SNAK
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2020	555,000	03-16-20	03-27-20	Hells Canyon Dam	Snake River	SNAK
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2020	2,500,000	03-16-20	04-24-20	Rapid River	Little Salmon River	SNAK
Idaho Dept. of Fish and Game	Sawtooth Hatchery	CH1	SP	2020	102,253	03-26-20	03-27-20	Salmon River (ID)	Salmon River (ID)	SNAK
Idaho Dept. of Fish and Game	Sawtooth Hatchery	CH1	SP	2020	1,171,203	03-26-20	03-27-20	Sawtooth Hatchery	Salmon River (ID)	SNAK
Idaho Dept. of Fish and Game Total					7,215,205					
Nez Perce Tribe	Kooskia NFH	CH1	SP	2020	686,752	03-26-20	03-26-20	Kooskia Hatchery	Clearwater River M F	SNAK
Nez Perce Tribe Total					686,752					
Oregon Dept. of Fish and Wildlife		CH1	SP	2020	30,000	03-26-20	03-26-20	Wychus Creek	Deschutes River	MCOL
Oregon Dept. of Fish and Wildlife		CH1	SP	2020	40,000	03-26-20	03-26-20	Crooked River	S Fk Clearwater River	SNAK
Oregon Dept. of Fish and Wildlife	Big Creek Hatchery	CH1	SP	2020	300,000	03-23-20	03-23-20	Youngs Bay	Youngs River	LCOL
Oregon Dept. of Fish and Wildlife	Bonneville Hatchery	ST	SU	2020	25,000	03-16-20	03-16-20	Clackamas River	Clackamas River	LCOL
Oregon Dept. of Fish and Wildlife	Clackamas Hatchery	CH1	SP	2020	165,000	03-16-20	03-16-20	Clackamas River	Clackamas River	LCOL
Oregon Dept. of Fish and Wildlife	Clackamas Hatchery	CH1	SP	2020	240,000	03-16-20	03-16-20	Eagle Creek Hatchery	Eagle Creek	LCOL
Oregon Dept. of Fish and Wildlife	Gnat Creek Hatchery	CH1	SP	2020	150,000	03-16-20	03-16-20	Blind Slough	Col R Bel. Bon Dam	LCOL
Oregon Dept. of Fish and Wildlife	Gnat Creek Hatchery	CH1	SP	2020	650,000	03-16-20	03-16-20	Gnat Creek	Col R Bel. Bon Dam	LCOL
Oregon Dept. of Fish and Wildlife	Lookingglass Hatchery	CH1	SP	2020	210,000	03-16-20	03-16-20	Imnaha River	Imnaha River	SNAK
Oregon Dept. of Fish and Wildlife	Marion Forks Hatchery	CH1	SP	2020	100,000	03-16-20	03-16-20	Mollala River	Willamette River	LCOL
Oregon Dept. of Fish and Wildlife	Marion Forks Hatchery	CH1	SP	2020	300,000	03-23-20	03-23-20	Youngs Bay	Youngs River	LCOL
Oregon Dept. of Fish and Wildlife	Marion Forks Hatchery	CH1	SP	2020	704,000	03-16-20	03-16-20	Santiam River & N Fk	Santiam River	LCOL
Oregon Dept. of Fish and Wildlife	McKenzie Hatchery	CH1	SP	2020	202,000	03-16-20	03-16-20	McKenzie River	Willamette River	LCOL
Oregon Dept. of Fish and Wildlife	Willamette Hatchery	CH1	SP	2020	234,000	03-23-20	03-23-20	Dexter Pond	Willamette River	LCOL
Oregon Dept. of Fish and Wildlife	Winthrop NFH	CH1	SP	2020	30,000	03-26-20	03-26-20	Metolius River	Deschutes River	MCOL
Oregon Dept. of Fish and Wildlife Total					3,380,000					
U.S. Fish and Wildlife Service	Dworshak NFH	CH1	SP	2020	1,639,276	03-25-20	03-26-20	Dworshak Hatchery	Clearwater River M F	SNAK
U.S. Fish and Wildlife Service Total					1,639,276					
Yakama Tribe	Willard Hatchery	CO	UN	2020	28,335	03-16-20	03-16-20	Mid-Valley Pond	Methow River	UCOL
Yakama Tribe	Willard Hatchery	CO	UN	2020	52,948	03-16-20	03-16-20	Methow River	Methow River	UCOL
Yakama Tribe	Willard Hatchery	CO	UN	2020	86,316	03-18-20	03-18-20	Chewuch River	Methow River	UCOL
Yakama Tribe	Willard Hatchery	CO	UN	2020	146,033	03-18-20	03-18-20	Chewuch River	Methow River	UCOL
Yakama Tribe Total					313,632					
Grand Total					13,234,865					

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

Daily Average Flow and Spill (in Kcfs)

Date 3/13/2020 7:15:28 AM

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Upper 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
02/28/2020	123.1	0.0	125.3	0.0	124.5	4.8	118.6	0.0	126.9	0.0	136.0	0.0	129.9	0.0
02/29/2020	102.5	0.0	99.0	0.0	101.3	0.0	107.2	0.0	115.3	0.2	121.5	0.9	116.9	0.0
03/01/2020	93.8	0.0	99.6	0.0	103.7	0.0	101.4	0.0	107.7	0.0	124.4	0.0	123.4	0.0
03/02/2020	103.0	0.0	99.5	0.0	98.1	0.0	91.5	0.0	95.8	0.0	101.3	0.0	97.3	0.1
03/03/2020	104.9	0.0	105.3	0.0	110.9	0.0	106.7	0.0	113.9	0.0	104.4	0.0	100.6	0.0
03/04/2020	95.8	0.0	95.8	0.0	98.2	0.0	99.5	0.0	110.3	0.0	120.0	0.0	106.6	0.0
03/05/2020	98.9	0.0	102.6	0.0	106.3	0.0	99.9	0.0	105.3	0.0	110.6	0.0	109.2	0.0
03/06/2020	94.0	0.0	93.8	0.0	93.5	0.0	93.6	0.0	100.5	0.0	114.6	0.0	107.5	0.0
03/07/2020	100.1	0.0	100.9	0.0	103.6	0.0	92.0	0.4	97.4	3.6	98.1	0.0	95.7	0.0
03/08/2020	85.4	0.0	86.6	0.0	86.8	0.0	88.4	0.0	98.2	0.0	95.5	0.0	88.8	0.0
03/09/2020	88.4	0.0	91.3	0.0	103.4	1.2	102.6	0.0	107.5	0.0	100.8	0.0	96.7	0.0
03/10/2020	80.2	0.0	77.1	0.0	84.5	0.0	77.9	0.0	87.2	0.0	99.0	0.0	94.5	0.0
03/11/2020	69.8	0.0	68.5	0.0	62.3	0.0	63.6	0.0	66.2	0.0	84.5	0.0	84.5	0.0
03/12/2020	66.9	0.0	70.8	0.0	78.6	0.0	75.6	0.0	83.3	0.0	77.7	0.0	79.5	0.0

- Data not available or incorrect

These data were obtained from the Corps of Engineers...

Daily Average Flow and Spill (in Kcfs)

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Snake Basin Projects

Date	Dworshak		Brownlee		Hells Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Inflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
02/28/2020	1.6	0.0			22.3	0.0	23.0	0.0	25.9	0.0	25.8	0.0		
02/29/2020	1.6	0.0			22.7	0.0	20.8	0.0	22.2	0.0	22.4	0.0		
03/01/2020	1.6	0.0			25.5	0.0	25.9	0.0	26.2	0.0	26.9	0.0		
03/02/2020	1.6	0.0			27.3	0.0	24.0	0.0	24.6	0.0	23.8	0.0		
03/03/2020	1.6	0.0			26.5	0.0	24.5	0.0	25.3	0.0	25.0	0.0		
03/04/2020	1.6	0.0			28.6	0.0	27.0	0.0	27.7	0.0	29.1	0.0		
03/05/2020	1.6	0.0			33.0	0.0	33.5	0.0	34.5	0.0	37.7	0.0		
03/06/2020	1.6	0.0			32.0	0.0	29.7	0.0	29.5	0.0	29.4	0.0		
03/07/2020	1.6	0.0			35.0	0.0	33.7	0.0	33.1	0.0	33.1	0.0		
03/08/2020	1.6	0.0			34.2	0.0	32.9	0.0	32.0	0.0	34.3	0.0		
03/09/2020	1.6	0.0			34.4	0.0	33.6	0.0	32.7	0.0	34.1	0.0		
03/10/2020	1.6	0.0			35.8	0.0	35.5	0.0	35.2	0.0	35.5	0.0		
03/11/2020	1.6	0.0			32.0	0.0	28.5	0.0	29.1	0.0	31.0	0.0		
03/12/2020	1.6	0.0			32.2	0.0	30.4	0.0	30.4	0.0	30.3	0.0		

- Data not available or incorrect

These data were obtained from the Corps of Engineers...

Daily Average Flow and Spill (in Kcfs)

Date 3/13/2020 7:15:28 AM

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Mid - Columbia Projects

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
02/28/2020	162.5	0.0	162.3	0.0	158.6	0.0	163.3	1.2	65.4	89.3
02/29/2020	158.1	0.0	159.4	0.0	158.3	0.0	170.3	1.2	72.9	88.8
03/01/2020	150.7	3.1	154.1	0.0	150.2	0.0	162.2	1.2	65.2	88.4
03/02/2020	125.6	0.0	130.3	0.0	128.3	0.0	145.6	1.3	49.1	87.8
03/03/2020	133.4	1.6	133.2	0.0	131.9	0.0	139.5	1.3	43.5	87.3
03/04/2020	143.3	1.7	147.7	0.0	147.2	0.0	164.0	1.3	68.0	87.3
03/05/2020	148.6	1.1	154.8	0.0	150.3	0.0	164.1	1.3	67.8	87.6
03/06/2020	148.8	1.5	148.9	0.0	146.7	0.0	155.5	1.2	58.6	88.3
03/07/2020	134.9	0.0	138.7	0.0	136.7	0.0	145.7	1.3	46.9	90.1
03/08/2020	126.9	3.2	133.7	0.0	132.5	0.0	152.6	1.4	55.0	89.1
03/09/2020	149.4	0.0	154.2	0.0	154.4	0.0	155.3	1.3	59.0	88.0
03/10/2020	128.9	1.6	131.5	0.0	131.9	0.0	149.5	1.3	54.1	87.2
03/11/2020	118.6	1.6	116.4	0.0	112.1	0.0	126.1	1.3	29.0	88.8
03/12/2020	117.1	0.0	120.8	0.0	121.1	0.0	119.2	1.3	18.5	92.4

- Data not available or incorrect

These data were obtained from the Corps of Engineers...

FISH PASSAGE CENTER

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

Date 3/13/2020 7:15:12 AM

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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	
02/28									100.6	101.3	101.5	24	99.5	100.2	100.5	24	100.9	100.9	101.2	11	99.1	99.8	100.0	24	02/28
02/29									100.9	101.1	101.2	24	100.0	100.5	101.1	24	106.5	106.5	149.7	9	99.6	100.1	100.5	24	02/29
03/01									100.1	100.3	100.4	24	99.2	99.8	100.1	24	99.3	99.3	99.4	2	98.7	99.1	99.5	24	03/01
03/02									100.7	101.1	101.2	24	100.0	100.2	100.4	24	100.4	100.4	101.0	5	99.4	99.7	100.1	24	03/02
03/03									101.2	101.5	101.7	24	100.3	100.7	101.4	24	101.2	101.4	101.6	19	99.9	100.2	100.6	24	03/03
03/04									100.7	100.9	101.5	24	99.9	100.2	100.5	24	100.8	101.0	101.2	22	99.8	100.0	100.5	24	03/04
03/05									101.0	101.4	101.5	24	100.1	100.6	101.1	24	101.3	101.6	101.9	24	100.0	100.3	101.0	24	03/05
03/06									101.8	102.1	102.2	24	101.0	101.3	101.5	24	101.8	102.1	102.3	24	100.7	100.9	101.4	24	03/06
03/07									102.3	102.4	102.5	24	101.1	101.3	101.5	24	102.3	102.6	103.1	24	101.0	101.3	101.6	24	03/07
03/08									101.5	101.7	101.9	23	100.8	101.2	101.4	23	101.5	101.7	102.4	20	100.3	100.5	100.9	23	03/08
03/09									101.0	101.2	101.4	24	100.1	100.5	100.8	24	101.1	101.4	102.1	21	99.9	100.2	100.8	24	03/09
03/10									101.3	101.7	102.2	24	101.4	102.9	104.0	24	101.2	101.8	102.5	24	100.2	100.8	101.5	24	03/10
03/11									101.8	102.1	102.5	24	102.5	104.1	105.0	24	101.7	102.0	102.6	24	100.7	101.1	101.7	24	03/11
03/12									101.2	101.6	102.1	22	100.3	100.9	101.2	22	101.4	101.8	102.5	21	100.0	100.5	100.8	22	03/12

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	
02/28	99.4	100.0	100.3	24	100.8	102.8	108.8	24	100.5	101.0	101.4	24	101.6	101.9	102.2	24	100.7	101.1	101.3	24	101.0	101.3	101.5	24	02/28
02/29	99.7	100.1	100.3	24	99.8	100.2	100.5	24	100.5	100.7	100.9	24	101.6	102.1	102.8	24	100.1	100.3	100.5	24	100.4	100.6	101.2	24	02/29
03/01	98.8	99.1	99.2	24	98.8	99.3	99.6	24	100.7	100.9	101.6	24	101.8	102.6	103.6	24	100.2	101.4	101.7	24	100.3	101.4	101.7	24	03/01
03/02	99.6	100.2	100.4	24	99.8	100.3	100.7	24	100.5	100.7	100.9	24	101.4	101.7	102.3	24	100.3	100.7	101.1	24	100.6	101.0	101.5	24	03/02
03/03	100.1	100.4	100.8	24	100.2	100.6	101.1	24	100.7	101.0	101.2	24	101.8	102.1	102.4	24	100.5	100.9	101.1	24	100.7	101.1	101.2	24	03/03
03/04	99.7	99.9	100.3	24	99.7	100.0	100.4	24	100.5	100.6	101.1	24	101.7	102.0	102.3	24	100.2	100.5	101.1	24	100.4	100.7	101.3	24	03/04
03/05	100.1	100.7	101.1	22	100.2	100.7	101.1	23	100.9	101.3	101.4	24	102.3	102.6	103.0	24	100.6	101.1	101.3	24	100.8	101.2	101.5	24	03/05
03/06	101.0	101.3	101.8	24	101.0	101.5	101.9	24	101.4	101.7	101.8	24	102.7	102.9	103.3	24	101.1	101.4	101.6	24	101.3	101.4	101.8	23	03/06
03/07	101.1	101.4	101.8	24	101.2	101.5	101.9	24	101.9	102.0	102.2	24	103.4	103.8	107.8	24	101.5	101.6	101.8	24	101.6	101.8	101.9	24	03/07
03/08	100.6	100.9	101.2	22	100.6	101.0	101.5	22	101.3	101.4	101.5	23	102.4	102.9	103.1	23	100.9	101.2	101.6	23	100.9	101.1	101.2	22	03/08
03/09	99.8	100.2	100.7	24	100.3	101.0	103.3	24	100.7	100.8	101.1	24	101.8	102.0	102.6	24	100.3	100.6	100.9	24	100.5	100.8	100.9	23	03/09
03/10	100.3	101.0	101.2	24	100.3	101.0	101.2	24	100.8	101.3	101.6	24	102.2	102.6	103.4	24	100.5	100.8	101.2	24	100.8	101.0	101.2	23	03/10
03/11	100.8	101.2	101.4	24	100.9	101.3	101.6	24	101.5	101.6	101.6	24	102.6	103.1	103.4	24	101.1	101.4	101.5	24	101.3	101.5	101.6	23	03/11
03/12	100.3	100.7	101.1	21	100.3	100.9	101.5	21	101.2	101.4	101.7	21	102.2	102.6	103.1	21	100.9	101.3	101.5	21	101.0	101.4	101.7	20	03/12

FISH PASSAGE CENTER

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

Date 3/13/2020 7:15:12 AM

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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		
02/28																						02/28	
02/29																							02/29
03/01																							03/01
03/02																							03/02
03/03																							03/03
03/04																							03/04
03/05																							03/05
03/06																							03/06
03/07																							03/07
03/08																							03/08
03/09																							03/09
03/10																							03/10
03/11																							03/11
03/12																							03/12

Total Dissolved Gas Data at Snake and Clearwater Sites

Dworshak				Clrwrtr Peck				Anatone				Clrwrtr-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
02/28	105.3	106.2	106.9	24					131.1	131.9	132.8	24					102.7	103.2	103.4	24					02/28
02/29	105.2	105.6	106.2	24					130.1	130.8	132.5	24					102.7	103.0	103.7	24					02/29
03/01	104.5	105.0	105.7	24					129.5	130.0	130.8	24					101.3	101.5	102.4	24					03/01
03/02	104.6	104.9	105.1	24					131.3	131.8	132.1	24					101.6	101.8	102.0	24					03/02
03/03	105.3	105.9	106.6	24					130.9	132.1	133.3	24					102.2	102.5	102.7	24					03/03
03/04	105.0	105.3	105.9	24					133.3	133.6	134.1	24					102.2	102.4	102.9	24					03/04
03/05	105.7	106.5	107.1	24					133.5	134.0	134.6	24					102.6	102.9	103.0	24					03/05
03/06	106.4	107.0	107.5	24					134.6	135.2	136.2	24					102.9	103.0	103.1	24					03/06
03/07	106.0	106.2	106.4	24					136.3	136.8	137.1	24					102.6	102.8	103.0	24					03/07
03/08	105.5	106.1	107.0	23					134.9	135.2	135.6	23					101.7	101.9	102.2	23					03/08
03/09	105.2	105.8	106.7	24					135.2	135.6	136.1	24					101.4	101.6	101.7	24					03/09
03/10	105.1	106.0	106.7	24					136.6	137.4	138.8	24					101.3	101.7	101.9	24					03/10
03/11	105.9	106.4	107.1	24					139.3	139.9	140.5	24					101.7	101.9	102.0	24					03/11
03/12	105.3	106.0	106.9	23					140.1	140.8	141.7	23					100.4	100.5	100.8	23					03/12

FISH PASSAGE CENTER

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

Date 3/13/2020 7:15:12 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
02/28					101.0	101.5	101.8	24					101.0	101.5	102.5	24					101.0	101.6	102.0	24	02/28
02/29					100.8	101.1	101.2	24					101.2	101.6	104.1	24					100.9	101.3	101.7	24	02/29
03/01					99.9	100.1	100.3	24					100.0	100.2	100.4	24					100.3	100.5	101.0	24	03/01
03/02					100.3	100.5	100.6	24					100.9	101.3	102.2	24					100.7	101.0	101.2	24	03/02
03/03					100.7	101.0	101.2	24					101.4	101.8	102.5	24					101.3	101.7	102.6	21	03/03
03/04					100.5	100.7	101.0	24					101.0	101.2	101.5	24					101.2	101.4	101.7	24	03/04
03/05					101.0	101.4	101.6	24					101.3	101.6	101.8	24					101.7	102.2	103.2	24	03/05
03/06					101.7	102.2	102.8	24					101.9	102.2	102.6	24					102.2	102.6	102.8	24	03/06
03/07					102.0	102.1	102.2	24					102.0	102.3	102.7	24					102.5	102.6	102.8	24	03/07
03/08					101.6	101.8	102.0	22					101.2	101.3	101.5	23					101.8	102.0	102.3	23	03/08
03/09					101.1	101.3	101.7	24					100.8	101.0	101.9	24					101.2	101.4	101.6	24	03/09
03/10					101.3	101.8	102.0	24					101.0	101.5	101.9	24					101.4	101.8	102.0	24	03/10
03/11					101.9	102.2	102.4	24					101.6	101.9	102.2	24					101.8	102.1	102.6	24	03/11
03/12					101.2	101.6	101.9	23					101.1	101.6	102.2	23					101.1	101.5	102.1	23	03/12

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
02/28					103.1	103.6	104.0	24				0	102.6	103.0	103.4	24				0	102.1	102.6	103.0	24	02/28
02/29					102.8	103.0	103.1	24				0	102.2	102.4	102.5	24				0	101.9	102.1	102.1	24	02/29
03/01					103.0	104.4	105.8	24				0	101.9	102.1	102.4	24				0	101.5	101.7	101.8	24	03/01
03/02					101.5	101.7	101.8	24				0	101.8	102.0	102.1	24				0	102.2	102.6	102.7	24	03/02
03/03					102.6	103.6	105.9	24				0	102.1	102.4	102.6	24				0	102.7	103.1	103.3	24	03/03
03/04					102.3	103.1	106.1	23				0	101.8	102.0	102.2	24				0	102.7	102.8	103.0	24	03/04
03/05					103.6	104.5	107.0	24				0	102.3	102.7	103.2	24				0	103.1	103.4	103.7	24	03/05
03/06					104.0	104.9	107.5	24				0	102.9	103.1	103.7	24				0	103.4	103.7	104.0	24	03/06
03/07					104.3	104.8	106.7	24				0	103.3	103.6	103.9	24				0	103.4	103.7	103.8	24	03/07
03/08					104.5	105.9	107.3	23				0	102.8	103.0	103.2	23				0	102.8	103.1	103.3	23	03/08
03/09					102.5	102.7	102.9	24				0	102.3	102.5	102.8	24				0	102.6	102.8	103.3	24	03/09
03/10					103.2	104.1	106.0	24				0	102.5	102.7	102.8	24				0	102.7	103.3	103.5	24	03/10
03/11					103.2	103.9	106.3	24	102.9	103.0	104.5	13	102.8	103.1	103.4	24				0	103.0	103.3	103.5	24	03/11
03/12					102.5	103.0	105.4	23	102.5	102.8	103.2	23	102.2	102.5	102.5	23	102.3	102.6	102.9	15	102.9	103.4	103.8	23	03/12

FISH PASSAGE CENTER

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

Date 3/13/2020 7:15:12 AM

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Total Dissolved Gas Data at Mid-Columbia Sites

Date	Bonneville				Warrendale				Camas\Washug.				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	
02/28				0	102.3	102.8	103.0	24								0	02/28
02/29				0	102.0	102.3	102.5	24								0	02/29
03/01				0	101.6	101.7	101.8	24								0	03/01
03/02				0	101.7	102.0	102.1	24								0	03/02
03/03				0	102.6	103.0	103.3	24								0	03/03
03/04				0	103.0	103.4	103.5	24								0	03/04
03/05				0	103.8	104.2	104.6	24								0	03/05
03/06				0	104.3	104.5	104.7	24								0	03/06
03/07				0	104.1	104.4	104.7	24								0	03/07
03/08				0	103.3	103.7	104.3	23								0	03/08
03/09				0	103.0	103.3	103.8	24								0	03/09
03/10				0	103.2	103.7	104.1	24								0	03/10
03/11				0	103.7	104.1	104.7	24								0	03/11
03/12	103.5	103.5	103.7	7	103.4	103.9	104.4	22					107.8	107.8	111.4	9	03/12

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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Smolt Monitoring Program Two Week Passage Index Report

Date 3/12/2020 1:16:31 PM

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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)
02/27/2020		0									
02/28/2020		0									
02/29/2020		0									
03/01/2020		0									
03/02/2020	0	0		0	0				8		
03/03/2020	0	1		0	0						22
03/04/2020	0	0		0	2				0		8
03/05/2020	0			0	1						0
03/06/2020	0		4	0	3				16		18
03/07/2020			9	0	2						0
03/08/2020			18	0	7				4		16
03/09/2020	0		11	0	6						23
03/10/2020	0		4	0	8				12		0
03/11/2020	0		2	0	4						0
03/12/2020	0		6	0	2				4		0
Total:	0	1	54	0	35	0	0	0	44	0	87
# Days:	9	7	7	11	11	0	0	0	6	0	10
Average:	0	0	8	0	3	0	0	0	7	0	9
YTD:	0	7	54	0	35	0	0	0	44	0	87

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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Smolt Monitoring Program Two Week Passage Index Report

Date 3/12/2020 1:16:31 PM

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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)
02/27/2020		0									
02/28/2020		0									
02/29/2020		0									
03/01/2020		0									
03/02/2020	0	0		0	0				12		
03/03/2020	0	0		0	0						229
03/04/2020	0	0		0	0				4		196
03/05/2020	0			0	0						426
03/06/2020	0		0	0	0				8		836
03/07/2020			0	0	0						571
03/08/2020			0	0	0				8		408
03/09/2020	0		0	0	0						438
03/10/2020	0		0	0	0				24		473
03/11/2020	0		0	0	0						606
03/12/2020	0		0	0	0				20		430
Total:	0	0	0	0	0	0	0	0	76	0	4,613
# Days:	9	7	7	11	11	0	0	0	6	0	10
Average:	0	0	0	0	0	0	0	0	13	0	461
YTD:	0	0	0	0	0	0	0	0	76	0	4,613

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 3/12/2020 1:16:31 PM

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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)
02/27/2020		0									
02/28/2020		0									
02/29/2020		0									
03/01/2020		0									
03/02/2020	0	0		0	0				0		
03/03/2020	0	0		0	0						15
03/04/2020	0	0		0	0				0		8
03/05/2020	0			0	0						9
03/06/2020	0		0	0	0				0		0
03/07/2020			0	0	0						8
03/08/2020			0	0	0				0		8
03/09/2020	0		0	0	1						0
03/10/2020	0		0	0	0				0		0
03/11/2020	0		0	0	0						45
03/12/2020	0		0	0	0				0		7
Total:	0	0	0	0	1	0	0	0	0	0	100
# Days:	9	7	7	11	11	0	0	0	6	0	10
Average:	0	0	0	0	0	0	0	0	0	0	10
YTD:	0	0	0	0	1	0	0	0	0	0	100

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)
02/27/2020		1									
02/28/2020		0									
02/29/2020		0									
03/01/2020		1									
03/02/2020	0	0		0	0				0		
03/03/2020	0	1		0	4						0
03/04/2020	0	0		0	1				0		0
03/05/2020	0			0	1						0
03/06/2020	0		0	0	4				4		0
03/07/2020			0	0	2						8
03/08/2020			0	0	5				0		8
03/09/2020	0		0	0	5						0
03/10/2020	0		0	1	9				4		0
03/11/2020	0		0	0	6						0
03/12/2020	0		0	0	5				0		0
Total:	0	3	0	1	42	0	0	0	8	0	16
# Days:	9	7	7	11	11	0	0	0	6	0	10
Average:	0	0	0	0	4	0	0	0	1	0	2
YTD:	0	11	0	1	42	0	0	0	8	0	16

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 SOCKEYE

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (Index)	LGS (Index)	LMN (Index)	RIS (Index)	MCN (Index)	JDA (Index)	BO2 (Index)
02/27/2020		0									
02/28/2020		0									
02/29/2020		0									
03/01/2020		0									
03/02/2020	0	0		0	0				0		
03/03/2020	0	0		0	0						0
03/04/2020	0	0		0	0				0		0
03/05/2020	0			0	0						0
03/06/2020	0		0	0	0				0		0
03/07/2020			0	0	0						0
03/08/2020			0	0	0				0		0
03/09/2020	0		0	0	0						0
03/10/2020	0		0	0	0				0		0
03/11/2020	0		0	0	1						0
03/12/2020	0		0	0	0				0		0
Total:	0	0	0	0	1	0	0	0	0	0	0
# Days:	0	0	0	0	0	0	0	0	0	0	0
Average:	0	0	0	0	0	0	0	0	0	0	0
YTD:	0	0	0	0	1	0	0	0	0	0	0

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 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)
02/27/2020		0									
02/28/2020		0									
02/29/2020		0									
03/01/2020		0									
03/02/2020	0	0		0	1				216		
03/03/2020	0	0		0	2						120
03/04/2020	0	0		0	20				532		115
03/05/2020	0			0	7						135
03/06/2020	0		0	0	18				976		45
03/07/2020			1	0	5						30
03/08/2020			0	0	27				1,148		60
03/09/2020	0		0	0	15						55
03/10/2020	0		1	0	22				908		75
03/11/2020	0		0	0	26						40
03/12/2020	0		0	0	21				500		25
Total:	0	0	2	0	164	0	0	0	4,280	0	700
# Days:	9	7	7	11	17	0	0	0	8	0	11
Average:	0	0	0	0	10	0	0	0	535	0	64
YTD:			2		164				4,280		700

- 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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Smolt Monitoring Program Two Week Passage Index Report

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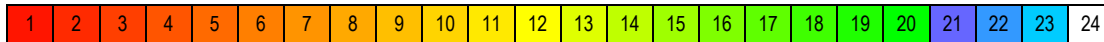
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Smolt Monitoring Program Sites and Agency Collaborations:

- 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

2/27/2020 12:00:00 AM TO 3/12/2020 12:00:00 AM

Date 3/12/2020 1:18:26 PM

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Lower Granite Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	0	35	1	1	42	79
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	0	35	1	1	41	78
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	0	0	0	0	1	1
Sum of Facility Morts	0	0	0	0	0	0
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	0	0	0	0	1	1

Little Goose Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	0	0	0	0	0	0
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	0	0	0	0	0	0
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	0	0	0	0	0	0
Sum of Facility Morts	0	0	0	0	0	0
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	0	0	0	0	0	0

FISH PASSAGE CENTER

Two Week Transportation Summary Report

2/27/2020 12:00:00 AM TO 3/12/2020 12:00:00 AM

Date 3/12/2020 1:18:26 PM

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Lower Monumental Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	0	0	0	0	0	0
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	0	0	0	0	0	0
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	0	0	0	0	0	0
Sum of Facility Morts	0	0	0	0	0	0
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	0	0	0	0	0	0

Total

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	0	35	1	1	42	121
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	0	35	1	1	41	119
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	0	0	0	0	1	2
Sum of Facility Morts	0	0	0	0	0	0
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	0	0	0	0	1	2

FISH PASSAGE CENTER

YTD Transportation Summary Report

Date 3/12/2020 1:17:56 PM

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Lower Granite Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	0	35	1	1	42	79
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	0	35	1	1	41	78
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	0	0	0	0	1	1
Sum of Facility Morts	0	0	0	0	0	0
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	0	0	0	0	1	1

Little Goose Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	0	0	0	0	0	0
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	0	0	0	0	0	0
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	0	0	0	0	0	0
Sum of Facility Morts	0	0	0	0	0	0
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	0	0	0	0	0	0

FISH PASSAGE CENTER

YTD Transportation Summary Report

Date 3/12/2020 1:17:56 PM

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Lower Monumental Dam

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	0	0	0	0	0	0
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	0	0	0	0	0	0
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	0	0	0	0	0	0
Sum of Facility Morts	0	0	0	0	0	0
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	0	0	0	0	0	0

Total

Data	Chinook Subyearlings	Chinook Yearlings	Coho	Sockeye	Steelhead	Grand Total
Sum of Number Collected	0	35	1	1	42	79
Sum of Number Barged	0	0	0	0	0	0
Sum of Number Bypassed	0	35	1	1	41	78
Sum of Number Trucked	0	0	0	0	0	0
Sum of Sample Morts	0	0	0	0	1	1
Sum of Facility Morts	0	0	0	0	0	0
Sum of Reseach Morts	0	0	0	0	0	0
Sum of Total Project Mort	0	0	0	0	1	1

Cumulative Adult Passage at Mainstem Dams Through: 03/12

dam	enddate	Spring Chinook						Summer Chinook						Fall Chinook					
		2020		2019		10-Yr Avg.		2020		2019		10-Yr Avg.		2020		2019		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	03/11	16	-1	1	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0
TDA		0	0	0	0	0	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		0	0	0	0	0	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	02/29	0	1	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	03/11	1	0	0	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	02/13	1	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	03/11	20	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0

DAM	ENDDATE	Coho						Sockeye			Steelhead						Lamprey		
		2020		2019		10-Yr Avg.		2020	2019	10-Yr Avg.	10-Yr Unclipped		Unclipped		10-Yr Avg.	2020	2019	10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	2020	2019	Avg.	2020	2019	Avg.	2020	2019	Avg.	2020	2019	Avg.
BON	03/11	129	30	4	1	0	0	0	0	0	1636	288	1177	720	148	438	0	-38	0
TDA		0	0	0	0	0	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		0	0	0	0	0	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	02/29	1	0	0	0	0	0	0	0	0	493	0	1663	107	0	608	-2	0	0
LGS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LGR	03/11	0	0	0	0	0	0	0	0	0	643	93	991	244	23	325	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	02/13	0	0	0	0	0	0	0	0	0	3	0	0	1	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	03/11	0	0	0	0	6	6	0	0	0	3538	613	2081	3491	612	140	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.