



Fish Passage Center

Weekly Report #13 - 01

March 22, 2013

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 35% and 155% of average at individual sub-basins over the first portion of March. Precipitation above The Dalles has been 97% of average over March. Over the 2013 water year, precipitation has ranged between 81% and 119% of average.

Table 1. Summary of March precipitation and cumulative October through March 18, 2013 precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2013 March 1-18, 2013		Water Year 2013 October 1, 2012 to March 18, 2013	
	Observed (inches)	% Average	Observed (inches)	% Average
	Columbia Above Coulee	1.38	133	15.44
Snake River Above Ice Harbor	0.51	53	9.11	95
Columbia Above The Dalles	1.08	97	13.78	102
Kootenai	1.61	155	16.52	119
Clark Fork	0.57	82	9.13	108
Flathead	0.80	85	13.31	116
Pend Oreille/ Spokane	1.60	99	19.33	102
Central Washington	0.33	68	5.45	98
Snake River Plain	0.23	35	4.55	81
Salmon/Boise/ Payette	0.48	42	10.68	89
Clearwater	1.55	95	17.33	99
SW Washington Cascades/Cowlitz	2.54	62	48.73	96
Willamette Valley	1.55	42	43.08	101

Snowpack within the Columbia Basin has generally been slightly below average. Average snowpack in the Columbia River for basins above the Snake River confluence is 98% of average, for Snake River Basins the average snowpack is 85% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 93% of average.

Table 2 displays the March 7th (official forecast) and March 20th ESP runoff volume forecasts for multiple reservoirs. The March 7th "Official" forecast at The Dalles between January and July is 89675 Kaf (88% of average).

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

Location	March 7, 2013 ESP		March 20, 2013 ESP	
	% Average (1971 -2000)	Runoff Volume (Kaf)	% Average (1971 -2000)	Runoff Volume (Kaf)
The Dalles (Jan-July)	88	89675	90	91250
Grand Coulee (Jan-July)	91	54403	95	56836
Libby Res. Inflow, MT (Apr-Aug)	97	5727 *6315	97	5680
Hungry Horse Res. Inflow, MT (Jan-July)	92	1937	94	1980
Lower Granite Res. Inflow (Apr- July)	84	16612	84	16726
Brownlee Res. Inflow (Apr-July)	70	3834	67	3685
Dworshak Res. Inflow (Apr-July)	93	2239 *2128	92	2220

* Denotes COE Forecast

Grand Coulee Reservoir is at 1279.4 feet (3-21-13) and refilled 3.2 feet over the last week. The end of March FC Elevation at Grand Coulee is 1283.3 feet. Outflows at Grand Coulee have ranged between 46.7 and 84.9 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2394.0 feet (3-21-13) and has refilled 0.4 feet last week. The end of March FC Elevation at Libby is 2405.8 feet. Outflows at Libby Dam have been 4.0 Kcfs last week.

Hungry Horse is currently at an elevation of 3536.4 feet (3-21-13) and has refilled 0.9 feet last week. The end of March FC Elevation at Hungry Horse is 3537.2 feet. Outflows at Hungry Horse have ranged between 1.0 and 1.1 Kcfs last week.

Dworshak is currently at an elevation of 1555.6 feet (3-21-13) and has refilled 4.6 feet last week. The end of March System Flood Control Elevation is 1559.9 feet. Outflows from Dworshak have been 1.6 Kcfs over the past week.

The Brownlee Reservoir was at an elevation of 2056.8 feet on March 21st, 2013 refilling 1.9 feet over the last week. The end of March FC Elevation at Brownlee is 2064.7 feet. Over the last week, inflows at Brownlee have ranged between 13.0 and 13.5 Kcfs.

Smolt Monitoring:

Smolt monitoring activities began at Bonneville Dam on March 12th, with the first sample completed on March 13th. SMP traps in the Snake River basin began sampling the first week of March (Lewiston, Grande Ronde and Salmon River traps).

Bonneville Dam is the only SMP dam that has been sampling. So far this season, yearling Chinook and subyearling Chinook fry have made up the majority of the fish in the Bonneville bypass samples. Over the past week the daily average passage index for subyearling Chinook was nearly 360 per day. The majority of these subyearling Chinook are fry. The daily average passage index for yearling Chinook at BON was about 345 per day. The majority of these yearling Chinook were adipose clipped and likely from the Klickitat Hatchery release that was scheduled to begin in mid-March. Yearling Chinook passage index numbers were high for the first three days of sampling but have decreased substantially since. Small numbers of coho (mostly fry) and steelhead juveniles have been sampled at BON since sampling began. Very few pacific lamprey ammocoetes have been sampled at BON so far this year. However, the daily average collection for

pacific lamprey macropthalmia was just over 60 per day this week.

The Grande Ronde Trap is operated by the Oregon Department of Fish and Wildlife and is located at river kilometer two in the Grande Ronde River. Sampling at the Grande Ronde Trap began on March 5th with the first sample worked up on March 6th. To date, the Grande Ronde Trap has sampled mostly yearling Chinook, with an average daily collection of about 145 yearling Chinook per day over the past week. The Grande Ronde Trap sampled its first hatchery yearling Chinook in the March 16th sample. In addition to yearling Chinook, the Grande Ronde Trap has sampled a few subyearling Chinook fry and steelhead juveniles so far this season.

The Salmon River Trap is located at river kilometer 103 and operated by Idaho Department of Fish and Game. Sampling at the Salmon River Trap began on March 3rd with the first sample being worked up on March 4th. To date, the Salmon River Trap has collected mostly yearling Chinook. The first hatchery yearling Chinook was collected in the March 13th sample. The Salmon River Trap continues to collect a fair number of hatchery yearling Chinook, although collections are decreasing with each day. It is likely that these were hatchery spring Chinook from Rapid River Hatchery. Over the past week, the daily average collection of yearling Chinook at the Salmon River Trap has been about 880 per day. In addition to yearling Chinook, the Salmon River Trap has sampled a few subyearling Chinook fry and steelhead juveniles so far this season.

The Snake River Trap is located at river kilometer 225 and operated by Idaho Department of Fish and Game. Sampling at the Snake River Trap began on March 3rd with the first sample being worked up on March 4th. To date, the Snake River Trap has collected very few fish. In fact, the Snake River Trap didn't collect a single fish until the March 8th sample. To date, only a few subyearling Chinook fry, yearling Chinook, coho, and steelhead have been collected at the Snake River Trap.

The Imnaha River Trap is located at river kilometer seven and is operated by the Nez Perce Tribe. Sampling at the Imnaha River Trap is year-round. Although not funded by the SMP, the Nez Perce Tribe provides collection data from the trap to the FPC. To date, the Imnaha River Trap has collected mostly yearling Chinook. The yearling Chinook collection total so far is 744, with a daily average collection

of just over 100 fish per day. So far, all yearling Chinook collected at the Imnaha River Trap have been unclipped. In addition to yearling Chinook, the Imnaha River Trap has collected a few subyearling Chinook fry and steelhead.

In the next few weeks more SMP sites will begin reporting data. Lower Granite Dam will begin sampling on or around March 26th and other SMP sites at FCRPS and PUD dams will begin sampling by the first week of April.

Adult Fish 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 collect the adult count data from projects throughout the day, continuously updating our Adult Dam Count report linked on our homepage (<http://www.fpc.org/>). During the winter season from 1/1/2013 through 3/20/2013 at Bonneville Dam, 99 adult Chinook and 1,053 adult steelhead were counted. In 2012 for the same time frame, 28 adult Chinook and 2,104 adult steelhead were counted. The 2013 Bonneville Dam winter season count of adult steelhead was 50% of the 2012 count, while the 2013 adult Chinook count was 3.5 times greater than the 2012 winter count.

The following paragraph describes the adult salmon and steelhead counts at Willamette Falls Dam (1/1 through 12/31), and Lower Granite Dam (3/1 through 12/30). At Willamette Falls Dam 2 adult spring Chinook has been counted so far this year. This year's Lower Granite steelhead count of 2,937 is about 1.4 times greater than the 2012 count of 2,042, while being 95.6% of the 10 year average count of 3,073. At Willamette Falls Dam, the 2013 count for steelhead was 3,038 as of March 20th.

This year's steelhead count is about 75.5% of the 2012 count of 4,023 and about 75.5% of the 10 year average count of 4,021.

Based on estimates made by the Technical Advisory Committee (TAC) for US v. Oregon this winter, the Spring Chinook run for 2013 is expected

to be 225,200. The TAC reported that 295,300 Spring Chinook had returned to the river in 2012 (TAC, 2013). US v. Oregon Technical Advisory Committee (TAC). Columbia River Mouth Fish Returns 2012 Actual and 2013 Forecasts: Spring Chinook, Summer Chinook, Sockeye and Steelhead, February 7, 2013. Oregon and Washington Departments of Fish and Wildlife, Vancouver, WA. Available at: http://www.dfw.state.or.us/fish/OSCRP/CRM/returns_and_expectations/docs/2012_returns_forecasts.pdf

Between March 1-21, a total of 3 steelhead and 2 other salmonid species were observed over the separator at the Bonneville Juvenile Monitoring Facility (JMF). 2013 Kelt passage at the Bonneville JMF can be found at: <http://www.fpc.org/adultsalmon/bonkeltcounts.htm>.

Hatchery Release:

Snake River Zone: The Snake River Zone encompasses the Snake River and its tributaries from its confluence with the Columbia River to Hells Canyon Dam. Approximately 4.26 million yearling spring Chinook juveniles were scheduled for release into this zone prior to March 22nd. Of these, about 63% were scheduled for release from Rapid River Hatchery into the Little Salmon River. Rapid River Hatchery releases are volitional releases which began on March 11th and are not expected to end until late April. Rapid River Hatchery was also scheduled to release about 416,000 (10%) yearling spring Chinook into the Snake River, just below Hells Canyon Dam. This release was scheduled to take place on or around March 11th. Approximately 720,000 (17%) of the yearling spring Chinook released into this zone so far were scheduled to be released into the Clearwater River and its tributaries. The remaining spring Chinook releases that have been initiated so far this year were volitional releases from acclimation facilities on the Grande Ronde River (7%) and a volitional release from an acclimation facility on the Lostine River (3%).

In addition to the spring Chinook releases, approximately 550,000 coho juveniles were scheduled for release into the Clearwater River, beginning in early March. These coho juveniles are 100% unclipped but approximately 11% are tagged with coded-wire-tags. Finally, 540,000 summer steelhead juveniles were scheduled for release into the Snake River, just below Hells Canyon Dam. This release was scheduled to occur on or around March 18th.

There are several releases of yearling spring Chinook juveniles scheduled to take place over the

next two weeks. In all, these releases will total nearly 4.2 million spring Chinook juveniles. Of these, approximately 90% are scheduled for release into the Clearwater River and its tributaries by various hatcheries throughout the basin. The remaining 10% are scheduled for release into the Tucannon River.

Over 3.4 million yearling summer Chinook are scheduled for release into this zone over the next two weeks. Of these, approximately 59% are scheduled for release into the Pahsimeroi River from Sawtooth and Pahsimeroi hatcheries. McCall Hatchery is scheduled to release about 35% of the anticipated summer Chinook into the Salmon River. The remaining 6% are scheduled to be released into the Crooked River, a tributary of the Clearwater River. This is the third year that yearling summer Chinook are to be released into the Clearwater River basin. As with previous years, these Clearwater summer Chinook are 100% unclipped and tagged with coded-wire-tags. There is one release of coho juveniles scheduled for this zone over the next two weeks. This release is scheduled for the Clearwater River and is expected to total about 323,000 juveniles. Finally, just over 1.0 million summer steelhead are scheduled for release to this zone over the next two weeks. Of these, about 79% are scheduled for release into the Pahsimeroi River and 21% are scheduled for release into the south fork of the Clearwater River.

Mid-Columbia Zone: The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. Volitional releases of about 770,000 spring Chinook juveniles from Cle Elem Hatchery acclimation sites on the Yakima River were scheduled to begin on or around March 15th. These volitional releases are expected to run through mid-May. There are only two releases of juvenile salmonids scheduled for this zone over the next two weeks. The first is a release of about 250,000 yearling spring Chinook to the Walla Walla River. The second is a release of about 322,000 coho juveniles from the Prosser Acclimation Pond on the Yakima River. These coho juveniles are part of the Yakama Tribal Program to reintroduce coho to the Yakima, Methow, and Wenatchee rivers. The majority of the releases for this program in are not expected to begin until later in April and into May.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam.

Approximately 480,000 yearling fall Chinook were scheduled for release into the Umatilla River earlier this month. In addition, Klickitat Hatchery was scheduled to release about 629,000 yearling spring Chinook juveniles into the Klickitat River on or around March 15th. There are three releases of juvenile salmonids to this zone over the next two weeks. The first of these releases is a release of approximately 1.0 million coho to the Umatilla River, which is scheduled to begin next week. In addition, Klickitat Hatchery is scheduled to release about 2.55 million coho into the Klickitat River, on or around April 1st. Finally, Warm Springs National Fish Hatchery is scheduled to release about 772,000 yearling spring Chinook into the Deschutes River, beginning April 2nd.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 3/8/2013 to 03/21/13

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2013	540,000	03-18-13	03-26-13	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2013	200,000	03-15-13	03-15-13	Pinehurst Bridge	Little Salmon River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2013	416,000	03-11-13	03-14-13	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2013	2,500,000	03-11-13	04-26-13	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game Total					3,656,000				
Nez Perce Tribe	Kooskia NFH	CH1	SP	2013	341,000	03-15-13	03-15-13	Kooskia Hatchery	Clearwater River M F
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2013	135,000	03-21-13	04-01-13	Lostine Accim Pond	Wallowa River
Nez Perce Tribe Total					476,000				
Umatilla Tribe	Bonneville Hatchery	CH1	FA	2013	480,000	03-04-13	03-11-13	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2013	134,591	03-21-13	04-15-13	Catherine Cr Acclim Pond	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2013	155,321	03-20-13	04-01-13	Grande Ronde Acclim Pond	Grande Ronde River
Umatilla Tribe Total					769,912				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2013	249,305	03-15-13	05-15-13	Easton Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2013	255,745	03-15-13	05-15-13	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2013	266,311	03-15-13	05-15-13	Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Klickitat Hatchery	CH1	SP	2013	628,500	03-15-13	03-15-13	Klickitat Hatchery	Klickitat River
Yakama Tribe Total					1,399,861				
Grand Total					6,301,773				

Hatchery Releases Next Two Weeks

Hatchery Release Summary									
From:		3/22/2013	to	4/4/2013					
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2013	378,318	03-22-13	03-22-13	Kooskia Hatchery	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2013	408,714	03-27-13	03-28-13	Powell Acclim Pond	Lochsa River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2013	1,086,132	03-28-13	04-05-13	Red River Acclim Pond	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SU	2013	208,573	03-26-13	03-26-13	Crooked River Redhouse (SFk)	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2013	208,845	03-28-13	04-10-13	ClearH20 R)	S Fk Clearwater River
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2013	253,000	03-25-13	03-29-13	Knox Bridge	Salmon River (ID)
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2013	820,000	03-25-13	03-29-13	Knox Bridge	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2013	540,000	03-18-13	03-26-13	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2013	792,000	03-26-13	04-09-13	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2013	168,595	04-01-13	04-18-13	Pahsimeroi Hatchery	Pahsimeroi River
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2013	847,203	04-01-13	04-18-13	Pahsimeroi Hatchery	Pahsimeroi River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2013	2,500,000	03-11-13	04-26-13	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game	Sawtooth Hatchery	CH1	SU	2013	1,014,000	04-01-13	04-15-13	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game Total					9,225,380				
Nez Perce Tribe	Clearwater Hatchery	CH1	SP	2013	426,900	04-01-13	04-07-13	Selway River	Clearwater River M F
Nez Perce Tribe	Kooskia NFH	CH1	SP	2013	279,000	03-29-13	03-29-13	Kooskia Hatchery	Clearwater River M F
Nez Perce Tribe	Kooskia NFH	CO	UN	2013	323,000	04-01-13	04-07-13	Clear Creek	Clearwater River M F
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2013	135,000	03-21-13	04-01-13	Lostine Accim Pond	Wallowa River South Fork Salmon River
Nez Perce Tribe	McCall Hatchery	CH1	SU	2013	130,000	04-01-13	04-05-13	Johnson Cr Idaho Nez Perce Tribal	River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH1	SP	2013	205,000	04-01-13	04-13-13	Hatchery	Clearwater River M F
Nez Perce Tribe Total					1,498,900				
U.S. Fish and Wildlife Service	Dworshak NFH	CH1	SP	2013	1,380,000	04-01-13	04-08-13	Dworshak Hatchery Warm Springs	Clearwater River M F
U.S. Fish and Wildlife Service	Warm Springs NFH	CH1	SP	2013	772,000	04-02-13	04-11-13	Hatchery	Deschutes River
U.S. Fish and Wildlife Service Total					2,152,000				
Umatilla Tribe	Carson NFH	CH1	SP	2013	250,000	04-01-13	04-03-13	Walla Walla River	Walla Walla River
Umatilla Tribe	Cascade Hatchery	CO	UN	2013	1,000,000	03-25-13	04-22-13	Pendelton Acclim Pond Catherine Cr Acclim	Umatilla River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2013	134,591	03-21-13	04-15-13	Pond Grande Ronde Acclim	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2013	155,321	03-20-13	04-01-13	Pond	Grande Ronde River
Umatilla Tribe Total					1,539,912				
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2013	260,000	04-01-13	04-27-13	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Washougal Hatchery	CO	NO	2013	2,550,000	04-01-13	04-07-13	Klickitat River	Klickitat River
Washington Dept. of Fish and Wildlife Total					2,810,000				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2013	249,305	03-15-13	05-15-13	Easton Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2013	255,745	03-15-13	05-15-13	Clark Flat Acclim Pond Jack Creek Acclim	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2013	266,311	03-15-13	05-15-13	Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2013	322,100	04-01-13	07-01-13	Prosser Acclim Pond	Yakima River
Yakama Tribe Total					1,093,461				
Grand Total					18,319,653				

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
03/08/2013	83.3	0.0	75.1	0.0	77.5	0.0	76.2	0.0	78.0	0.0	81.7	0.0	77.8	0.0
03/09/2013	89.8	0.0	88.9	0.0	87.9	0.0	87.0	0.0	86.6	0.0	92.3	0.1	87.4	0.0
03/10/2013	52.9	0.0	55.3	0.0	61.5	0.0	59.5	0.0	65.8	0.0	89.9	0.3	96.1	0.0
03/11/2013	85.5	0.0	85.2	0.0	87.0	2.2	85.2	2.3	86.7	2.2	76.3	2.3	73.9	2.3
03/12/2013	71.2	0.0	72.7	0.0	79.8	1.0	82.9	0.9	88.3	1.0	81.8	0.8	70.8	0.8
03/13/2013	80.8	0.0	80.4	0.0	90.9	0.0	91.1	0.0	92.3	0.0	82.4	0.0	71.7	0.0
03/14/2013	78.5	0.0	78.9	0.0	70.9	0.0	67.8	0.0	71.9	0.0	82.9	0.0	88.5	0.0
03/15/2013	71.1	0.0	72.3	0.0	73.8	0.0	72.2	0.0	79.5	0.0	79.2	0.0	70.7	0.0
03/16/2013	52.2	0.0	55.7	0.0	60.8	0.0	62.0	0.0	67.0	0.0	75.8	0.0	71.7	0.0
03/17/2013	46.7	0.0	46.3	0.0	51.2	1.2	49.1	1.1	55.0	1.1	68.8	1.1	71.7	1.2
03/18/2013	64.5	0.0	67.0	0.0	---	---	71.8	0.0	71.2	0.0	77.3	0.0	72.0	0.0
03/19/2013	84.9	0.0	70.9	0.0	75.6	0.0	76.3	0.0	82.2	0.0	83.1	0.0	74.5	0.0
03/20/2013	55.4	0.0	61.9	0.0	62.2	0.0	60.8	0.0	64.4	0.0	70.0	0.0	72.5	0.0
03/21/2013	66.3	0.0	62.4	0.0	67.0	0.0	68.7	0.0	74.3	0.0	76.3	0.0	71.5	0.0

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

Date	Dworshak		Hells Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
03/08/2013	1.6	0.0	---	---	27.2	0.0	24.1	0.0	25.5	0.0	25.4	0.0
03/09/2013	1.6	0.0	---	---	32.7	0.0	31.0	0.0	34.2	0.0	33.2	0.0
03/10/2013	1.6	0.0	---	---	27.8	0.0	27.0	0.0	30.7	0.0	34.4	0.0
03/11/2013	1.6	0.0	---	---	28.2	3.8	28.1	0.0	30.5	0.0	29.7	0.0
03/12/2013	1.6	0.0	---	---	27.0	0.0	26.1	0.0	27.2	0.0	28.1	0.0
03/13/2013	1.6	0.0	---	---	29.6	0.0	30.0	0.0	33.6	0.0	34.8	0.0
03/14/2013	1.6	0.0	---	---	35.4	0.0	33.7	0.0	36.2	0.0	35.3	0.0
03/15/2013	1.6	0.0	---	---	32.9	0.0	33.3	0.0	35.9	0.0	39.2	0.0
03/16/2013	1.6	0.0	---	---	35.9	0.0	34.7	0.0	37.7	0.0	37.0	0.0
03/17/2013	1.6	0.0	---	---	40.0	0.0	36.1	0.0	40.9	0.0	37.5	0.0
03/18/2013	1.6	0.0	---	---	40.1	0.0	39.6	0.0	44.9	0.0	47.4	0.0
03/19/2013	1.6	0.0	---	---	39.2	0.0	40.2	0.0	42.4	0.0	38.2	0.0
03/20/2013	1.6	0.0	---	---	32.5	0.0	33.9	0.0	36.3	0.0	42.0	0.0
03/21/2013	1.6	0.0	---	---	37.8	0.0	30.4	0.0	34.3	0.0	32.8	0.0

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

Date	McNary		John Day		The Dalles		Bonneville			
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
03/08/2013	109.0	0.0	107.7	0.0	107.3	0.0	131.1	2.8	87.7	28.6
03/09/2013	119.6	0.0	107.5	0.0	109.1	0.0	131.1	10.7	107.3	1.9
03/10/2013	132.5	0.0	125.0	0.0	131.1	0.0	130.0	11.0	93.6	13.8
03/11/2013	107.9	0.0	125.6	0.0	118.6	0.0	129.9	1.3	82.1	34.5
03/12/2013	108.8	0.0	124.1	0.0	120.2	0.0	128.9	1.2	80.7	34.9
03/13/2013	101.1	0.0	113.0	0.0	113.4	0.0	127.7	1.2	73.3	43.3
03/14/2013	117.9	0.0	108.3	0.0	108.6	0.0	125.8	1.3	44.2	73.3
03/15/2013	118.8	0.0	115.3	0.0	114.8	0.0	126.5	1.2	33.7	84.4
03/16/2013	109.4	0.0	106.7	0.0	105.7	0.0	127.2	1.2	33.8	84.8
03/17/2013	108.6	0.0	106.4	0.0	107.2	0.0	128.1	1.2	34.1	85.4
03/18/2013	124.1	0.0	138.4	0.0	135.1	0.0	131.2	1.2	35.3	87.3
03/19/2013	124.8	0.0	132.2	0.0	127.1	0.0	137.8	1.2	46.9	82.2
03/20/2013	115.5	0.0	102.8	0.0	102.4	0.0	129.7	1.2	37.7	83.4
03/21/2013	114.8	0.0	126.5	0.0	123.9	0.0	128.8	1.2	33.8	86.4

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 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
3/8	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/9	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/10	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/11	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/12	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/13	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/14	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/18	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/19	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/20	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/21	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	Chief J. Dnst			Wells			Wells Dwnstrm			Rocky Reach			Rocky R. Tlwr							
	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				
3/8	---	---	---	0	---	---	---	0	---	---	---	0	103.0	103.1	103.4	24	102.3	102.5	102.6	24
3/9	---	---	---	0	---	---	---	0	---	---	---	0	102.2	102.4	102.5	24	101.5	101.6	101.9	24
3/10	---	---	---	0	---	---	---	0	---	---	---	0	102.6	102.8	102.8	23	102.1	102.9	107.2	23
3/11	---	---	---	0	---	---	---	0	---	---	---	0	103.0	103.4	103.7	24	104.4	105.8	108.3	24
3/12	---	---	---	0	---	---	---	0	---	---	---	0	104.3	104.5	104.7	24	104.6	105.1	106.8	24
3/13	---	---	---	0	---	---	---	0	---	---	---	0	104.5	104.7	105.0	23	104.1	104.3	104.4	23
3/14	---	---	---	0	---	---	---	0	---	---	---	0	104.1	104.2	104.5	23	103.6	103.7	104.1	23
3/15	---	---	---	0	---	---	---	0	---	---	---	0	103.7	103.9	104.0	22	103.2	103.3	103.5	22
3/16	---	---	---	0	---	---	---	0	---	---	---	0	104.2	104.6	104.8	24	103.7	104.1	104.5	24
3/17	---	---	---	0	---	---	---	0	---	---	---	0	104.0	104.2	104.5	22	103.7	104.1	106.2	22
3/18	---	---	---	0	---	---	---	0	---	---	---	0	103.5	103.6	103.8	20	102.5	103.1	103.2	19
3/19	---	---	---	0	---	---	---	0	---	---	---	0	103.3	103.6	104.1	23	102.5	103.3	103.7	23
3/20	---	---	---	0	---	---	---	0	---	---	---	0	104.7	104.9	105.1	23	104.4	104.7	104.9	23
3/21	---	---	---	0	---	---	---	0	---	---	---	0	103.2	103.4	103.8	21	103.0	103.2	103.5	21

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	Rock Island			Rock I. Tlwr			Wanapum			Wanapum Tlwr			Priest Rapids							
	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				
3/8	102.2	102.4	102.7	24	102.4	102.6	102.8	24	101.3	101.5	101.8	24	102.1	102.4	102.9	24	101.6	101.9	102.2	24
3/9	101.4	101.6	102.1	24	101.8	102.0	102.5	24	101.0	101.1	101.2	24	102.4	103.0	104.2	24	101.4	101.5	101.7	24
3/10	101.7	102.2	102.3	23	100.7	101.3	101.7	23	101.3	101.6	101.7	23	102.2	102.8	104.1	23	101.5	101.8	102.0	23
3/11	102.6	103.6	104.5	24	100.7	101.3	103.9	24	101.8	102.0	102.3	24	102.8	103.3	105.6	24	102.1	102.4	102.8	24
3/12	103.6	104.0	104.6	24	103.3	104.1	104.6	24	102.7	102.8	102.9	24	103.2	103.5	103.9	24	103.3	103.5	103.6	24
3/13	103.6	103.9	104.1	24	103.7	104.0	104.3	24	103.2	102.8	103.0	24	103.2	103.3	103.5	24	103.5	103.7	104.0	24
3/14	103.6	103.9	104.0	24	104.0	104.2	104.4	24	103.8	104.2	104.5	24	104.2	104.5	104.8	24	104.0	104.2	104.4	24
3/15	103.1	103.2	103.3	23	103.3	103.4	103.6	23	103.9	104.0	104.1	24	104.4	104.8	105.3	24	103.7	104.0	104.2	24
3/16	103.5	103.7	103.9	24	103.8	104.1	104.3	24	104.5	104.9	105.1	24	104.9	105.3	105.7	24	104.6	104.9	105.1	24
3/17	102.8	103.0	103.2	24	103.6	104.1	108.2	24	103.8	104.1	104.6	24	104.6	105.2	108.0	24	103.6	104.0	104.7	24
3/18	102.7	103.0	103.9	20	103.0	103.4	104.4	18	103.2	103.4	103.6	24	103.5	104.0	104.7	24	103.2	103.3	103.4	24
3/19	102.4	102.9	103.4	24	101.7	103.1	103.6	24	102.9	103.5	104.1	24	102.9	103.4	103.6	24	103.2	103.8	104.3	24
3/20	103.9	104.2	104.4	24	104.2	104.6	104.8	24	104.5	104.8	105.0	24	104.5	105.3	105.7	24	104.7	105.0	105.1	24
3/21	102.3	102.4	102.7	22	102.5	102.7	103.0	21	---	---	---	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	Priest R. Dnst			#	Pasco			#	Dworshak			#	Clrwtr-Peck			#	Anatone			#
	24 h	12 h	High		24 h	12 h	High		24 h	12 h	High		24 h	12 h	High		24 h	12 h	High	
	Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr	
3/8	101.4	101.8	102.1	24	---	---	---	0	100.0	100.9	102.3	24	---	---	---	0	---	---	---	0
3/9	101.2	101.5	101.8	24	---	---	---	0	99.3	100.0	101.1	24	---	---	---	0	---	---	---	0
3/10	101.7	102.2	102.4	23	---	---	---	0	99.1	99.9	101.1	23	---	---	---	0	---	---	---	0
3/11	102.8	103.2	104.0	24	---	---	---	0	99.4	100.2	101.3	24	---	---	---	0	---	---	---	0
3/12	103.5	103.8	104.0	24	---	---	---	0	99.7	100.5	101.3	24	---	---	---	0	---	---	---	0
3/13	102.9	103.1	103.3	24	---	---	---	0	100.1	100.8	102.1	24	---	---	---	0	---	---	---	0
3/14	103.4	103.6	103.8	24	---	---	---	0	103.3	105.1	105.9	24	102.7	102.9	103.7	13	---	---	---	0
3/15	103.2	103.6	103.7	24	---	---	---	0	103.6	104.5	105.7	24	101.9	103.1	104.3	24	---	---	---	0
3/16	104.2	104.6	104.9	24	---	---	---	0	103.8	104.6	105.7	24	101.3	102.1	103.2	24	---	---	---	0
3/17	103.4	103.7	104.2	24	---	---	---	0	103.3	103.9	104.8	24	99.9	100.3	100.9	24	---	---	---	0
3/18	102.8	103.0	103.2	24	---	---	---	0	102.9	103.8	104.6	24	99.8	100.8	101.9	24	---	---	---	0
3/19	102.7	103.3	103.8	24	---	---	---	0	103.0	104.3	105.9	24	99.2	100.1	101.1	24	---	---	---	0
3/20	104.0	104.3	104.5	24	---	---	---	0	104.3	105.1	106.9	24	98.6	99.4	101.4	24	---	---	---	0
3/21	---	---	---	0	---	---	---	0	103.4	104.1	104.5	23	98.1	98.7	99.4	23	---	---	---	0

Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clrwtr-Lewiston			#	Lower Granite			#	L. Granite Tlwr			#	Little Goose			#	L. Goose Tlwr			#
	24 h	12 h	High		24 h	12 h	High		24 h	12 h	High		24 h	12 h	High		24 h	12 h	High	
	Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr	
3/8	---	---	---	0	---	---	---	0	103.7	104.0	104.2	24	---	---	---	0	102.2	102.5	102.9	24
3/9	---	---	---	0	---	---	---	0	101.7	102.0	102.5	24	---	---	---	0	101.6	101.9	102.3	24
3/10	---	---	---	0	---	---	---	0	101.2	101.4	101.5	23	---	---	---	0	101.7	102.2	102.4	23
3/11	---	---	---	0	---	---	---	0	106.0	110.4	125.9	24	---	---	---	0	102.6	103.0	103.3	24
3/12	---	---	---	0	---	---	---	0	102.0	102.2	102.4	24	---	---	---	0	105.1	107.1	111.7	24
3/13	---	---	---	0	102.9	102.9	103.1	11	102.0	102.3	102.6	24	---	---	---	0	105.9	107.5	111.6	24
3/14	103.1	103.1	105.7	12	103.5	103.7	104.0	24	108.0	113.5	231.5	24	---	---	---	0	105.2	105.8	106.9	24
3/15	101.5	103.0	105.0	24	103.2	103.4	103.5	24	102.4	102.6	102.7	24	---	---	---	0	104.5	104.7	104.9	24
3/16	96.6	97.5	98.5	24	104.3	104.7	104.8	24	103.6	104.1	106.4	24	---	---	---	0	104.7	105.1	106.1	24
3/17	92.6	94.0	94.5	24	103.9	104.2	104.5	24	103.2	103.3	103.4	24	---	---	---	0	103.6	103.7	103.9	24
3/18	88.0	88.6	89.4	24	103.2	103.4	103.4	24	102.6	102.8	103.2	24	103.4	103.4	104.0	11	103.3	103.6	103.9	24
3/19	88.0	88.9	89.3	24	102.8	103.4	103.8	24	102.3	102.8	103.1	24	102.8	103.2	103.6	24	103.1	103.6	103.9	24
3/20	85.1	85.5	86.0	24	103.9	104.3	104.5	24	103.2	103.7	104.2	24	103.7	104.1	104.5	24	103.8	104.3	104.7	24
3/21	83.3	83.6	83.8	23	101.5	101.8	102.6	23	100.9	101.2	101.8	23	101.9	102.0	102.4	23	102.3	102.9	104.3	23

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

Date	Lower Mon.			#	L. Mon. Tlwr			#	Ice Harbor			#	Ice Harbor Tlwr			#	McNary-Oregon			#
	24 h	12 h	High		24 h	12 h	High		24 h	12 h	High		24 h	12 h	High		24 h	12 h	High	
	Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr	
3/8	---	---	---	0	102.6	102.9	103.1	24	---	---	---	0	101.7	102.2	102.6	24	---	---	---	0
3/9	---	---	---	0	102.0	102.3	102.6	24	---	---	---	0	101.4	101.7	102.1	24	---	---	---	0
3/10	---	---	---	0	102.0	102.4	102.6	23	---	---	---	0	101.7	102.3	102.9	23	---	---	---	0
3/11	103.0	103.0	103.2	14	102.6	103.3	105.0	24	---	---	---	0	102.3	102.7	102.9	24	---	---	---	0
3/12	103.5	103.9	104.0	24	103.1	103.6	108.4	24	---	---	---	0	103.3	103.7	104.1	24	---	---	---	0
3/13	103.7	103.8	104.0	24	102.6	102.8	103.0	24	---	---	---	0	103.7	104.0	104.3	24	---	---	---	0
3/14	104.2	104.3	104.6	24	103.5	104.1	106.7	24	---	---	---	0	104.4	104.8	105.1	24	---	---	---	0
3/15	104.0	104.3	104.8	24	103.3	103.5	103.7	19	---	---	---	0	104.3	104.7	105.0	24	---	---	---	0
3/16	105.3	105.9	106.0	24	104.6	105.3	107.1	24	---	---	---	0	104.9	105.3	105.5	24	---	---	---	0
3/17	105.2	105.4	105.7	24	104.2	104.4	105.2	23	---	---	---	0	103.5	103.9	104.2	24	---	---	---	0
3/18	104.4	104.7	104.8	24	103.4	103.7	104.4	24	---	---	---	0	103.2	103.5	103.8	24	---	---	---	0
3/19	103.9	104.3	105.1	24	103.0	103.5	103.9	24	---	---	---	0	103.1	103.7	103.9	24	---	---	---	0
3/20	104.8	105.2	105.4	24	103.7	104.3	105.3	24	---	---	---	0	104.1	104.6	105.0	24	---	---	---	0
3/21	102.6	102.8	103.1	23	101.9	102.2	103.9	23	103.1	103.3	103.5	14	102.7	103.5	105.5	23	---	---	---	0

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>McNary-Wash</u>			<u>McNary Tlwr</u>			<u>John Day</u>			<u>John Day Tlwr</u>			<u>The Dalles</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>#</u>	
	Avg	Avg	hr	Avg	Avg	hr	hr	Avg	Avg	hr	hr	Avg	Avg	hr	hr	Avg	AVG	hr	hr	
3/8	---	---	---	0	101.8	102.0	102.3	24	---	---	---	0	102.4	102.7	103.0	24	---	---	---	0
3/9	---	---	---	0	101.3	101.5	102.0	24	---	---	---	0	101.5	101.7	101.8	24	---	---	---	0
3/10	---	---	---	0	100.8	101.0	101.2	23	---	---	---	0	101.1	101.3	101.6	23	---	---	---	0
3/11	---	---	---	0	101.0	101.2	101.8	24	---	---	---	0	101.4	101.7	102.0	24	---	---	---	0
3/12	---	---	---	0	102.3	102.6	103.1	24	---	---	---	0	102.6	103.0	103.5	24	---	---	---	0
3/13	---	---	---	0	102.7	103.0	103.5	24	---	---	---	0	102.7	103.0	103.5	24	---	---	---	0
3/14	---	---	---	0	103.4	103.7	104.3	24	---	---	---	0	103.0	103.3	103.7	24	---	---	---	0
3/15	---	---	---	0	103.8	104.2	104.6	24	---	---	---	0	103.0	103.3	103.9	24	---	---	---	0
3/16	---	---	---	0	104.5	104.9	105.2	24	---	---	---	0	104.0	104.5	105.0	24	---	---	---	0
3/17	---	---	---	0	104.2	104.7	105.3	24	---	---	---	0	102.6	102.7	102.9	24	---	---	---	0
3/18	---	---	---	0	102.7	103.1	103.3	24	---	---	---	0	102.6	102.8	103.3	24	---	---	---	0
3/19	---	---	---	0	102.2	102.7	103.2	24	---	---	---	0	103.0	103.5	103.7	24	---	---	---	0
3/20	---	---	---	0	103.4	103.5	103.6	24	103.9	103.9	104.5	9	104.8	105.7	112.5	24	---	---	---	0
3/21	---	---	---	0	101.5	102.0	102.8	23	102.8	102.9	103.3	23	102.9	103.3	103.8	23	102.0	102.0	102.4	13

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			<u>Bonneville</u>			<u>Warrendale</u>			<u>CamasWashougal</u>			<u>Cascade Island</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>#</u>	
	Avg	Avg	hr	Avg	Avg	hr	hr	Avg	Avg	hr	hr	Avg	Avg	hr	hr	Avg	AVG	hr	hr	
3/8	103.0	103.4	103.6	24	---	---	---	0	105.1	105.3	105.6	24	---	---	---	0	---	---	---	0
3/9	102.4	102.7	102.9	24	---	---	---	0	104.9	105.2	105.8	24	---	---	---	0	---	---	---	0
3/10	102.1	102.5	102.7	23	---	---	---	0	105.2	105.4	105.6	23	---	---	---	0	---	---	---	0
3/11	102.3	102.6	103.0	24	---	---	---	0	105.5	106.0	106.2	24	---	---	---	0	---	---	---	0
3/12	103.3	103.7	103.9	24	---	---	---	0	106.1	106.3	106.7	24	108.0	108.0	108.4	11	---	---	---	0
3/13	103.5	103.9	104.2	24	---	---	---	0	106.5	107.0	108.0	24	107.8	108.8	109.6	24	---	---	---	0
3/14	103.8	104.1	104.5	24	---	---	---	0	105.8	106.0	106.3	24	107.2	107.8	108.9	24	106.2	106.2	120.6	12
3/15	103.6	103.9	104.1	24	---	---	---	0	105.6	105.9	106.1	24	105.8	106.6	107.2	24	107.5	107.8	108.0	24
3/16	104.1	104.6	104.9	24	---	---	---	0	105.3	105.6	105.9	24	105.5	105.9	106.1	24	107.3	107.7	108.1	24
3/17	103.0	103.2	103.7	24	---	---	---	0	103.7	104.0	104.5	24	103.1	103.5	104.2	24	106.4	106.8	107.5	24
3/18	102.5	102.7	102.9	24	---	---	---	0	103.3	103.8	104.2	24	103.4	104.2	104.8	24	106.1	106.4	106.6	24
3/19	103.0	103.7	104.1	24	---	---	---	0	104.2	104.7	105.0	24	102.7	103.1	103.9	24	106.6	106.9	107.2	24
3/20	104.2	104.6	106.0	22	---	---	---	0	104.5	105.1	105.5	24	102.6	102.9	103.2	24	106.4	107.3	107.9	24
3/21	102.6	102.9	103.3	23	101.7	101.7	101.8	10	102.8	103.0	103.1	23	101.8	102.3	102.7	23	105.8	106.0	106.2	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. Two classes of fish counts are shown in these tables:
Two classes of fish counts are shown in these tables:
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.
† Caution should be used with interpreting lamprey juvenile collection counts at LGR because of the possibility that lamprey may escape the sample tank before being sampled

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.

Cumulative Adult Passage at Mainstem Dams Through: 03/22

DAM	ENDDATE	Spring Chinook						Summer Chinook						Fall Chinook					
		2013		2012		10-Yr Avg.		2013		2012		10-Yr Avg.		2013		2012		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	03/20	99	1	28	2	793	0	0	0	0	0	0	0	0	0	0	0	0	0
TDA	02/28	6	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	02/28	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IHR	03/18	1	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	03/19	0	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		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	03/20	13	0	2	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0

DAM	ENDDATE	Coho						Sockeye			Steelhead						Lamprey		
		2013		2012		10-Yr Avg.		2013	2012	10-Yr Avg.	2013	2012	10-Yr Avg.	Wild 2013	Wild 2012	10-Yr Avg.	2013	2012	10-Yr Avg.
		Adult	Jack	Adult	Jack	Adult	Jack	2013	2012	10-Yr Avg.	2013	2012	10-Yr Avg.	Wild 2013	Wild 2012	10-Yr Avg.	2013	2012	10-Yr Avg.
BON	03/20	0	0	0	0	0	0	0	0	0	1053	2104	1859	292	704	389	-1	0	0
TDA	02/28	0	0	0	0	0	0	0	0	0	79	0	160	38	0	47	0	0	0
JDA		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MCN	02/28	1	0	0	0	0	0	0	0	0	224	0	0	86	0	0	0	0	0
IHR	03/18	0	0	0	0	0	0	0	0	0	848	0	1558	219	0	342	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	03/19	0	0	0	0	0	0	0	0	0	2937	2042	3073	1030	733	610	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	03/20	2	0	0	0	0	0	0	0	0	3038	4023	4021	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.