Fish Passage Center

Weekly Report #12 - 01

March 16, 2012

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 30% and 205% of average at individual sub-basins over the first one-half of March. Precipitation above The Dalles has been 111% of average over March. Over the 2011 water year, precipitation has ranged between 60% and 104% of average.

Table 1. Summary of March precipitation and cumulative October through March 12, 2012 precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2012 March 1-12, 2012		Water Year 2012 October 1, 2011 to March 12, 2012	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	1.09	157	12.90	98
Snake River Above Ice Harbor	0.34	54	8.18	88
Columbia Above The Dalles	0.82	111	12.51	95
Kootenai	1.42	205	12.72	94
Clark Fork	0.32	69	8.61	104
Flathead	0.59	93	10.85	97
Pend Oreille/ Spokane	1.02	95	16.31	88
Central Washington	0.18	57	3.24	60
Snake River Plain	0.13	30	5.05	93
Salmon/Boise/ Payette	0.44	59	9.78	84
Clearwater	0.92	85	16.43	97
SW Washington Cascades/Cowlitz	3.29	120	43.83	89
Willamette Valley	2.62	106	36.87	89

Snowpack within the Columbia Basin has generally been below average but has seen increases with recent storms that have resulted in slightly better snowpack in most basins. Average snowpack in the Columbia River for basins above the Snake River confluence is 104% of average, for Snake River Basins the average snowpack is 80% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 89% of average.

Table 2 displays the March 3rd and March Mid-Month runoff volume forecasts for multiple reservoirs.

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

Location	March 3, 2012 ESP		March 15, 2012 ESP	
	% Average (1971 -2000)	Runoff Volume (Kaf)	% Average (1971 -2000)	Runoff Volume (Kaf)
The Dalles (Jan-July)	90	96778	95	102445
Grand Coulee (Jan-July)	95	59490	98	61507
Libby Res. Inflow, MT (Apr-Aug)	99	6155 5635*	110	6904 5635*
Hungry Horse Res. Inflow, MT (Jan-July)	87	1925	87	1940
Lower Granite Res. Inflow (Apr- July)	84	18173	92	19771
Brownlee Res. Inflow (Apr-July)	79	5017	87	5481
Dworshak Res. Inflow (Apr-July)	90	2379 2585*	101	2658 2585*

* Denotes COE Forecast

Grand Coulee Reservoir is at 1269 feet (3-15-11) and drafted 4.2 feet over the last week. The end of March FC Elevation at Grand Coulee is 1270.1 feet. Outflows at Grand Coulee have ranged between 83.7 and 120.5 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2406.9 feet (3-15-11) and has drafted 0.4 feet last week. The end of March FC Elevation at Libby is 2435.7 feet. Outflows at Libby Dam have been 4 Kcfs last week.

Hungry Horse is currently at an elevation of 3529.3 feet (3-15-11) and has drafted 0.7 feet last week. The end of March FC Elevation at Hungry Horse is 3537.4 feet. Outflows at Hungry Horse have ranged between 1.9 and 2.4 Kcfs last week.

Dworshak is currently at an elevation of 1524.5 feet (3-15-11) and has drafted 1.4 feet last week. The end of March System Flood Control Elevation is 1522.8 feet. Outflows from Dworshak have increased from 1.6 to 8.1Kcfs over the past week.

The Brownlee Reservoir was at an elevation of 2043.08 feet on March 14th, 2011 drafting 5.3 feet last week. The end of March FC Elevation at Brownlee is 2042.9 feet. Over the last week, outflows at Brownlee have ranged between 21.09 and 23.68 Kcfs.

Smolt Monitoring:

Smolt monitoring activities began at Bonneville Dam on March 1, with the first sample available on March 2. SMP traps in the Snake River basin began sampling the first week of March (Lewiston, Grande Ronde and Salmon River traps). As in 2011, SMP will continue collecting species and life-stage data for larval and juvenile lamprey that are sampled at the various dam and trap sites. There are three possible species/life-stages of larval and juvenile lamprey that SMP crews will be using to categorize their samples: 1) pacific lamprey ammocoetes, 2) brook lamprey ammocoetes, and 3) pacific lamprey macropthalmia. A fourth category (unknown ammocoete) will also be used for those ammocoetes that are undistinguishable to species. Juvenile numbers presented in weekly reports will be for all species/life-stages combined, unless otherwise stated. On-line queries are available on the FPC website that allow users to query sample and collection counts for each of the species/life-stages for 2012 (http://www.fpc.org/smolt/currentsmpsubmitdata.html).

Bonneville Dam is the only SMP dam that has sampled so far this season. So far this season, Chinook and coho fry have made up the majority of the fish in the Bonneville bypass samples. Over the past week Chinook fry sample counts have averaged nearly 100 per day. Small numbers of yearling Chinook, holdover fall Chinook, and steelhead juveniles have been sampled at BON since sampling began in early March. The first hatchery yearling Chinook were captured in the March 15 sample. Since the beginning of 2012 sampling, the combined yearling Chinook passage index has averaged about 5 fish per day. The collection counts of juvenile lamprey have averaged nearly 185 per day since the beginning of 2012 sampling. The majority of the lamprey juveniles sampled at BON so far this year were pacific lamprey macropthalmia.

The Grande Ronde Trap is operated by the Oregon Department of Fish and Wildlife and is located at river mile two in the Grande Ronde River. Sampling at the Grande Ronde Trap began on March 7 with the first sample available on March 8. To date, the Grande Ronde Trap has sampled mostly yearling Chinook, with an average daily collection of about 15 yearling Chinook per day. The Grande Ronde Trap sampled its first hatchery yearling Chinook in the March 14th sample.

The Salmon River Trap is located at River km 103 and operated by Idaho Department of Fish and Game. Sampling at the Salmon River Trap began on March 4 with the first sample available on March 5. To date, the Salmon River Trap has collected only yearling Chinook. The first hatchery yearling Chinook was collected in the March 13th sample, which was followed by a large number of hatchery yearling Chinook in the March 14th and March 15th samples. It is likely that these were hatchery spring Chinook from Rapid River Hatchery.

The Snake River Trap is located at River km 225 and operated by Idaho Department of Fish and Game. Sampling at the Snake River Trap began on March 4 with the first sample available on March 5. To date, the Snake River Trap has collected very few fish, all of which were collected in the samples from March 14th and March 15th.

To date, the FPC has not received collection data from the Imnaha River Trap, which is operated by the Nez Perce Tribe. Although the Imhana River Trap is not formally a part of the SMP, the Nez Perce Tribe does provide data to the FPC on their fish collections.

In the next few weeks more SMP sites will begin reporting data. Lower Granite Dam will begin sampling

on or around March 26 and other SMP dam sampling sites will begin sampling by the first week of April. Finally, it's worth noting that bypass systems at Bonneville Dam has been watered up since mid-February. Since this time, 10 holdover hatchery fall Chinook have been detected in the bypass.

Adult Fish Passage

Historically counts began at Bonneville Dam on March 15th. Using the historical counting schedule allows comparison of current year counts with historical data. We use the historical counting schedule to generate our online Annual Adult Comparison table and our Adult Salmon Passage Graph. Both the comparison table and the graph include the 10 year average counts. The graph and table are available on the fpc.org at http://www.fpc.org/adultsalmon/adultqueries/Adult_Table_Species_Graph.html and http://www.fpc.org/adultsalmon/AdultCumulativeTable.asp. Bonneville Dam counts have been updated through 3/13/2012. The comparison table begins with counts on the March 15th.

The Lower Granite Dam historical counting schedule starts on March 1st. Lower Granite Dam uses video counts from March 1st through March 31st. Bonneville Dam uses video counts from January 1st through March 31st. Video counts are used during the winter months for counting adults. Video counts can cause a delay in posting the data to the web, because the COE staff at the projects have to review the tapes. Willamette Falls Dam also uses video counts and reports adult counts year round. We collect the adult count data from these projects throughout the day, continuously updating our Adult Dam Count report linked on our homepage (http://www.fpc.org/). During the winter season from 1/1/2012 through 3/13/2012 at Bonneville Dam, 12 adult Chinook and 1,471 adult steelhead were counted. In 2011 for the same time frame, 47 adult Chinook and 1,370 adult steelhead were counted. The 2012 Bonneville Dam winter season count of adult Chinook was 25.5% of the 2011 count, while the 2012 adult steelhead count was 1.07 times greater than the 2011 winter count.

The following paragraphs describe the counts at Willamette Falls Dam (1/1 through 12/31), and Lower Granite Dam (3/1 through 12/15) using the historical counting schedule. At Willamette Falls Dam 2 adult spring Chinook has been counted so far this year.

This year's Lower Granite steelhead count of 946 is about 1.13 times greater than the 2011 count of 838 and 66.1% of the 10 year average count of 2,170. At Willamette Falls Dam, the 2012 count for steelhead was 3,919 as of March 14th. This year's steelhead count is about 1.07 times greater than the 2011 count of 3,672 and about 98.8% of the 10 year average count of 3,965.

Based on estimates made by the Technical Advisory Committee (TAC) for US v. Oregon this winter, the upriver Spring Chinook run for 2012 is expected to be 314,200. The TAC reported that 221,200 upriver Spring Chinook had returned to the river in 2011 (TAC, 2012).

US v. Oregon Technical Advisory Committee (TAC). Columbia River Mouth Fish Returns 2011 Actual and 2012 Forecasts: Spring Chinook, Summer Chinook, Sockeye and Steelhead, January 24, 2012. Oregon and Washington Departments of Fish and Wildlife, Vancouver, WA. Available at http://wdfw.wa.gov/fishing/forecasts/columbia_river/2012_adults_returns_forecasts.pdf

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. A release of approximately 2.5 million yearling spring Chinook from Rapid River Hatchery was scheduled to begin on March 12th. This is a volitional release that is expected to run through late April. In addition, about 106,000 yearling summer Chinook were scheduled for release into Johnson Creek (South Fork Salmon River) this week. These fish are 100% unclipped but all are tagged with coded-wire-tags and/or orange Elastomer tags. Finally, 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.

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 4.0 million spring Chinook juveniles. Of these, approximately 70% are scheduled for release into the Clearwater River and its tributaries by various hatcheries throughout the basin. The remaining 30% are scheduled for release into the Snake River at Hells Canyon Dam (10%), the Grande Ronde River (8%), the Wallowa River (7%), and the Little Salmon River (5%).

Approximately 1.24 million yearling summer Chinook are scheduled for release into this zone over the next two weeks. Of these, approximately 1.03 million will be released from McCall Hatchery into the Salmon River. The remaining 206,000 are scheduled to be released into the Crooked River, a tributary of the

Clearwater River. This is the second year that yearling summer Chinook are to be released into the Clearwater River basin. As with last year, these Clearwater summer Chinook are 100% unclipped and tagged with coded-wire-tags. Finally, nearly 2.1 million summer steelhead are scheduled for release to this zone over the next two weeks. Of these, about 40% are scheduled for release into the Pahsimeroi River, 35% are scheduled for release into the Clearwater River and its tributaries, and 25% are scheduled for release into the Snake River (below Hells Canyon Dam).

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 800,000 spring Chinook juveniles from Cle Elem Hatchery acclimation sites were scheduled to begin this week. These releases are expected to run through mid-May. In addition, approximately 191,000 coho juveniles were released into the Yakima River earlier this month. 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 April and May. Finally, about 50,000 summer steelhead were scheduled for release from the Twisp Acclimation Pond, on the Methow River, on March 15th. These steelhead juveniles are 100% unclipped but are tagged with coded-wire-tags. The only release that is scheduled to begin over the next two weeks in zone is a release of about 250,000 yearling spring Chinook to the Walla Walla River.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Approximately 490,000 yearling fall Chinook were scheduled for release into the Umatilla River earlier this month. In addition, Klickitat Hatchery was scheduled to release about 622,000 yearling spring Chinook juveniles into the Klickitat River on or around March 15th. There are no releases of juvenile salmonids to this zone over the next two weeks.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 3/2/2012 to 03/15/12

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2012	2,500,000	03-12-12	04-27-12	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game Total					**2,500,000**				
Nez Perce Tribe	Eagle Creek NFH	CO	UN	2012	275,000	03-01-12	03-15-12	Clear Creek	Clearwater River M F
Nez Perce Tribe	Eagle Creek NFH	CO	UN	2012	275,000	03-01-12	03-15-12	Lapwai Creek	Clearwater River M F
Nez Perce Tribe	McCall Hatchery	CH1	SU	2012	106,000	03-14-12	04-05-12	Johnson Cr Idaho	South Fork Salmon River
Nez Perce Tribe Total					**656,000**				
Umatilla Tribe	Bonneville Hatchery	CH1	FA	2012	240,000	03-05-12	03-05-12	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe	Bonneville Hatchery	CH1	FA	2012	250,000	03-05-12	03-05-12	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe Total					**490,000**				
Washington Dept. of Fish and Wildlife	Methow Hatchery	ST	SU	2012	50,000	03-15-12	03-31-12	Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife Total					**50,000**				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2012	264,721	03-15-12	05-15-12	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2012	265,151	03-15-12	05-15-12	Easton Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2012	267,107	03-15-12	05-15-12	Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Klickitat Hatchery	CH1	SP	2012	622,000	03-15-12	03-15-12	Klickitat Hatchery	Klickitat River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	90,836	03-08-12	03-08-12	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	100,000	03-02-12	07-01-12	Prosser Acclim Pond	Yakima River
Yakama Tribe Total					**1,609,815**				
Grand Total					**5,305,815**				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 3/16/2012 to 3/29/2012

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2012	234,000	03-22-12	03-23-12	Clear Creek	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2012	408,000	03-28-12	03-29-12	Powell Acclim Pond	Lochsa River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2012	1,123,000	03-28-12	04-06-12	Red River	S Fk Clearwater River
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2012	241,000	03-22-12	03-25-12	Knox Bridge	Salmon River (ID)
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2012	788,000	03-22-12	03-25-12	Knox Bridge	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2012	525,000	03-19-12	03-27-12	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2012	830,000	03-27-12	04-13-12	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2012	200,000	03-23-12	03-23-12	Pinehurst Bridge	Little Salmon River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2012	418,000	03-19-12	03-22-12	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2012	2,500,000	03-12-12	04-27-12	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game Total					**7,267,000**				
Nez Perce Tribe	Clearwater Hatchery	CH1	SP	2012	415,000	03-21-12	03-22-12	Selway River	Clearwater River M F
Nez Perce Tribe	Clearwater Hatchery	CH1	SU	2012	206,000	03-26-12	03-27-12	Crooked River	S Fk Clearwater River
Nez Perce Tribe	Dworshak NFH	ST	SU	2012	40,000	03-21-12	03-25-12	Lolo Creek	Clearwater River M F
Nez Perce Tribe	Kooskia NFH	CH1	SP	2012	620,000	03-24-12	04-04-12	Clear Creek	Clearwater River M F
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2012	265,000	03-22-12	04-01-12	Lostine Accim Pond	Wallowa River
Nez Perce Tribe	McCall Hatchery	CH1	SU	2012	106,000	03-14-12	04-05-12	Johnson Cr Idaho	South Fork Salmon River
Nez Perce Tribe Total					**1,652,000**				
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2012	300,000	03-21-12	03-25-12	Clear Creek	Clearwater River M F
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2012	400,000	03-21-12	03-25-12	Redhouse (SFk ClearH20 R)	S Fk Clearwater River
U.S. Fish and Wildlife Service Total					**700,000**				
Umatilla Tribe	Carson NFH	CH1	SP	2012	250,000	03-19-12	03-23-12	Walla Walla River	Walla Walla River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2012	145,000	03-21-12	04-02-12	Grande Ronde Acclim Pond	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2012	160,000	03-22-12	04-16-12	Catherine Cr Acclim Pond	Grande Ronde River
Umatilla Tribe Total					**555,000**				
Washington Dept. of Fish and Wildlife	Methow Hatchery	ST	SU	2012	50,000	03-15-12	03-31-12	Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife Total					**50,000**				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2012	264,721	03-15-12	05-15-12	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2012	265,151	03-15-12	05-15-12	Easton Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2012	267,107	03-15-12	05-15-12	Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	100,000	03-02-12	07-01-12	Prosser Acclim Pond	Yakima River
Yakama Tribe Total					**896,979**				
Grand Total					**11,120,979**				

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

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

	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
03/02/2012	99.0	0.0	93.2	0.0	94.3	0.0	92.8	0.0	95.3	0.0	100.2	0.0	98.1	0.0
03/03/2012	61.6	0.0	69.4	0.0	73.3	0.0	71.3	0.0	72.8	0.0	86.3	0.0	84.6	0.0
03/04/2012	52.1	0.0	47.9	0.0	56.1	0.0	57.8	0.0	61.4	0.0	85.1	0.0	84.1	0.0
03/05/2012	99.2	0.0	97.7	0.0	92.7	0.0	90.5	0.0	89.3	0.0	79.0	0.0	76.3	0.0
03/06/2012	112.2	0.0	108.4	0.0	108.0	0.0	103.4	0.0	103.8	0.0	109.3	0.0	105.7	0.0
03/07/2012	118.4	0.0	118.1	0.0	116.5	0.0	117.3	0.0	120.0	0.0	131.4	0.0	124.7	0.0
03/08/2012	116.7	0.0	121.8	0.0	124.1	0.0	122.4	0.0	125.0	0.0	132.5	0.0	129.6	0.0
03/09/2012	102.6	0.0	103.2	0.0	107.3	0.0	110.3	0.0	113.0	0.0	125.9	0.0	126.3	0.0
03/10/2012	83.7	0.0	80.5	0.0	81.9	0.0	79.9	0.0	83.7	0.0	96.7	0.0	91.0	0.0
03/11/2012	100.1	0.0	97.2	0.0	97.2	0.0	95.6	0.0	97.0	0.0	98.3	0.0	96.4	0.0
03/12/2012	114.8	0.0	115.0	0.0	115.0	0.0	117.9	0.0	121.8	0.1	126.1	0.0	122.0	0.0
03/13/2012	95.7	0.0	94.8	0.0	96.5	0.0	98.6	0.0	101.5	0.0	113.3	0.0	116.4	0.0
03/14/2012	114.3	0.0	118.1	0.0	118.6	0.0	118.8	0.0	121.8	0.0	125.4	0.6	115.9	0.0
03/15/2012	120.5	0.0	119.1	0.0	117.6	0.0	115.5	0.0	117.6	0.0	121.3	0.6	118.7	0.0

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

	Dworshak		Brownlee	Hells Canyon	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
Date	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
03/02/2012	5.6	0.0	17.2	20.3	35.2	0.0	33.0	0.0	34.9	0.0	35.6	0.0
03/03/2012	5.6	0.0	16.5	19.9	37.8	0.0	35.9	0.0	37.1	0.0	38.4	0.0
03/04/2012	5.6	0.0	16.4	19.9	39.3	0.0	35.3	0.0	38.5	0.0	38.0	0.0
03/05/2012	5.6	0.0	17.1	19.8	38.9	0.0	42.8	0.0	43.8	0.0	39.9	0.0
03/06/2012	5.6	0.0	16.4	20.0	36.1	0.0	33.5	0.0	36.7	0.0	40.7	0.0
03/07/2012	5.7	0.0	15.3	20.0	38.4	0.0	36.8	0.0	39.0	0.0	40.9	0.0
03/08/2012	5.7	0.0	15.5	22.3	36.7	0.0	34.4	0.0	37.1	0.0	32.2	0.0
03/09/2012	3.1	0.0	16.4	22.6	38.1	0.0	36.0	0.0	38.1	0.0	38.6	0.0
03/10/2012	1.6	0.0	16.2	22.7	41.8	0.0	40.6	0.0	43.1	0.0	45.0	0.0
03/11/2012	1.6	0.0	16.4	23.1	33.8	0.0	33.6	0.0	36.8	0.0	35.5	0.0
03/12/2012	7.9	0.0	18.3	23.9	49.7	0.0	48.0	0.0	50.6	0.0	48.7	0.0
03/13/2012	8.1	0.0	18.6	24.8	46.5	0.0	50.7	0.0	57.3	0.0	58.1	0.0
03/14/2012	8.1	0.0	---	24.8	51.5	0.0	54.1	0.0	58.6	0.0	58.9	0.0
03/15/2012	8.1	0.0	---	---	52.4	0.0	51.7	0.0	57.3	0.0	56.3	0.0

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

	McNary		John Day		The Dalles		Bonneville			
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
03/02/2012	133.5	0.0	143.6	0.0	147.2	0.0	158.9	2.3	73.4	75.8
03/03/2012	131.0	0.0	135.0	0.0	132.7	0.0	153.0	2.3	82.7	60.6
03/04/2012	127.8	0.0	139.2	0.0	141.9	0.0	152.1	2.3	82.8	59.6
03/05/2012	109.7	0.0	134.2	0.0	131.4	0.0	152.0	2.0	78.4	64.2
03/06/2012	146.8	0.0	141.4	0.0	141.8	0.0	160.6	1.4	80.6	71.2
03/07/2012	162.7	0.0	158.8	0.0	159.9	0.0	178.3	2.3	79.7	89.3
03/08/2012	160.4	0.0	159.3	0.0	163.2	0.0	172.7	2.0	76.6	87.2
03/09/2012	153.7	0.0	143.4	0.0	151.8	0.0	176.0	1.1	81.7	86.2
03/10/2012	147.3	0.0	132.3	0.0	144.4	0.0	148.5	1.2	56.7	83.6
03/11/2012	133.7	0.0	162.2	0.0	133.3	0.0	154.5	1.3	62.8	83.4
03/12/2012	162.8	0.0	180.3	0.0	165.4	0.0	181.9	0.7	79.0	95.2
03/13/2012	168.0	0.0	183.2	0.0	181.7	0.0	193.4	0.8	82.9	102.7
03/14/2012	179.0	24.5	172.8	0.0	184.6	0.0	202.0	1.3	90.1	103.7
03/15/2012	189.2	61.6	---	---	172.6	0.0	198.8	1.4	85.4	105.0

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

	Hungry H. Dnst				Boundary				Grand Coulee				Grand C. Tlwr				Chief Joseph			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
3/2	---	---	---	0	99.8	100.1	100.8	21	99.6	99.7	100.1	24	98.1	98.3	98.5	21	---	---	---	0
3/3	---	---	---	0	100.3	100.7	101.4	24	99.8	100.0	100.1	24	98.6	99.0	99.6	24	---	---	---	0
3/4	---	---	---	0	101.0	101.8	102.8	22	100.3	100.8	101.1	24	99.5	100.6	100.8	22	---	---	---	0
3/5	---	---	---	0	102.3	103.0	104.3	24	101.9	102.2	102.5	24	100.6	101.0	101.6	24	---	---	---	0
3/6	---	---	---	0	100.8	101.0	101.4	19	100.8	101.2	101.5	24	99.2	99.5	99.9	19	---	---	---	0
3/7	---	---	---	0	99.5	99.7	100.4	19	99.8	100.0	100.1	23	98.0	98.2	98.4	19	---	---	---	0
3/8	---	---	---	0	99.7	100.4	101.0	23	99.7	100.0	100.1	24	97.8	98.0	98.3	23	---	---	---	0
3/9	---	---	---	0	102.3	103.6	103.9	23	100.7	101.1	101.4	24	99.4	100.0	100.3	23	---	---	---	0
3/10	---	---	---	0	104.4	105.0	105.6	23	101.9	102.3	102.5	24	100.9	101.5	101.6	23	---	---	---	0
3/11	---	---	---	0	106.3	106.6	107.0	22	102.6	102.8	103.1	22	101.5	101.9	102.5	22	---	---	---	0
3/12	---	---	---	0	105.9	106.5	107.0	21	102.6	103.1	103.7	24	101.0	101.3	101.8	21	---	---	---	0
3/13	---	---	---	0	106.0	106.3	106.5	23	102.9	103.5	103.8	24	101.6	102.2	103.1	23	---	---	---	0
3/14	97.7	97.7	97.8	2	105.0	105.4	105.8	21	101.7	101.8	102.1	24	99.9	100.2	101.2	21	---	---	---	0
3/15	98.1	98.4	98.7	24	105.4	105.6	105.9	22	102.6	102.8	102.9	24	101.1	101.5	102.1	22	---	---	---	0

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

	Chief J. Dnst				Wells				Wells Dwnstrm				Rocky Reach				Rocky R. Tlwr			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
3/2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/3	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/4	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/5	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/6	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/7	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/8	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/9	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/10	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/11	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/12	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/13	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/14	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0

Total Dissolved Gas Saturation at Mid Columbia River Sites

	Rock Island				Rock I. Tlwr				Wanapum				Wanapum Tlwr				Priest Rapids			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
3/2	---	---	---	0	---	---	---	0	99.8	99.9	100.0	24	99.6	99.7	99.8	24	99.0	99.1	99.2	24
3/3	---	---	---	0	---	---	---	0	100.1	100.2	100.4	24	99.9	100.1	100.1	24	99.4	99.5	99.6	24
3/4	---	---	---	0	---	---	---	0	100.9	101.4	101.6	24	100.8	101.3	101.5	24	100.5	101.1	101.4	24
3/5	---	---	---	0	---	---	---	0	102.4	102.7	103.1	24	102.4	102.8	103.2	24	101.9	102.1	102.2	24
3/6	---	---	---	0	---	---	---	0	101.4	101.7	102.3	24	101.2	101.5	102.1	24	100.6	101.0	101.4	24
3/7	---	---	---	0	---	---	---	0	100.3	100.4	100.6	24	100.1	100.3	100.6	24	99.4	99.6	99.7	24
3/8	---	---	---	0	---	---	---	0	100.3	100.6	100.8	24	100.1	100.5	100.7	24	100.3	101.0	101.5	24
3/9	---	---	---	0	---	---	---	0	101.2	101.8	102.0	24	101.0	101.5	101.8	24	101.8	102.3	102.7	24
3/10	---	---	---	0	---	---	---	0	102.2	102.5	102.8	24	102.1	102.5	102.7	24	102.7	103.0	103.6	24
3/11	---	---	---	0	---	---	---	0	102.8	103.1	103.3	23	102.5	102.8	102.9	23	103.1	103.4	103.6	23
3/12	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/13	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/14	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	---	---	---	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

	Priest R. Dnst				Pasco				Dworshak				Clrwtr-Peck				Anatone			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
3/2	99.4	99.5	99.6	24	---	---	---	0	95.3	95.4	95.7	24	98.5	98.9	99.5	24	---	---	---	0
3/3	99.9	100.2	100.3	24	---	---	---	0	95.4	95.5	95.6	24	98.8	99.1	99.4	24	---	---	---	0
3/4	100.9	101.6	101.9	24	---	---	---	0	96.4	96.7	97.0	24	99.7	100.6	101.2	24	---	---	---	0
3/5	102.4	102.8	103.1	24	---	---	---	0	97.2	97.5	97.8	24	100.8	101.0	101.2	24	---	---	---	0
3/6	101.2	101.5	101.9	24	---	---	---	0	96.0	96.5	96.9	24	98.5	98.9	99.8	24	101.4	101.4	106.5	10
3/7	100.0	100.2	100.3	24	101.7	101.7	103.1	12	95.1	95.4	96.0	24	97.7	97.7	98.3	11	101.0	101.7	102.6	24
3/8	100.4	100.9	101.0	24	101.1	102.0	102.5	24	95.4	95.6	96.0	24	99.0	99.0	100.0	12	101.9	102.8	103.7	24
3/9	101.5	102.1	102.4	24	102.4	103.3	103.8	24	101.3	103.3	105.0	24	100.0	101.4	102.4	24	103.1	104.0	105.0	24
3/10	102.5	102.9	103.2	24	103.2	103.7	103.9	24	102.3	102.8	103.4	24	102.2	103.3	104.1	20	103.3	104.0	104.9	24
3/11	102.8	103.1	103.3	23	102.9	103.2	103.4	22	100.7	102.1	103.1	22	102.1	102.5	103.0	22	102.3	102.6	102.9	22
3/12	---	---	---	0	101.9	102.7	103.0	24	98.2	98.5	98.7	24	100.2	100.4	100.5	22	102.3	103.1	103.4	24
3/13	---	---	---	0	101.6	102.2	102.9	24	97.3	97.6	98.1	24	99.6	100.2	100.6	24	102.3	102.7	102.9	24
3/14	---	---	---	0	100.6	101.3	101.5	24	97.2	97.3	97.5	24	98.7	99.3	99.7	24	103.0	103.9	104.6	24
3/15	---	---	---	0	101.9	102.5	102.8	24	97.4	97.5	97.6	24	99.6	99.6	99.8	17	103.5	103.8	104.5	24

Total Dissolved Gas Saturation Data at Snake River Sites

	Clrwtr-Lewiston				Lower Granite				L. Granite Tlwr				Little Goose				L. Goose Tlwr			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
3/2	---	---	---	0	99.7	99.9	100.1	24	99.5	99.6	99.9	24	99.6	99.8	100.1	24	99.3	99.4	99.8	24
3/3	---	---	---	0	100.3	100.4	100.5	24	99.9	100.0	100.1	24	99.6	99.7	99.8	24	99.3	99.4	99.5	24
3/4	---	---	---	0	100.9	101.4	101.7	24	100.6	101.1	101.6	24	100.4	101.0	101.3	24	99.8	100.3	100.5	24
3/5	---	---	---	0	102.1	102.3	102.5	24	101.8	102.1	102.6	24	101.7	102.0	102.1	24	101.1	101.3	101.6	24
3/6	99.1	99.1	100.9	7	100.9	101.3	101.6	24	100.7	101.0	101.7	24	100.6	100.9	101.3	24	100.0	100.4	100.9	24
3/7	99.5	100.8	102.2	21	100.2	100.3	100.4	24	99.7	99.8	100.0	24	99.5	99.7	99.9	24	98.9	99.1	99.2	24
3/8	100.3	102.1	103.6	24	100.9	101.3	101.6	24	100.5	100.9	101.1	24	99.5	99.8	100.0	24	99.1	99.5	99.7	24
3/9	101.1	102.9	104.6	24	102.2	102.7	102.9	24	101.9	102.4	102.7	24	100.7	101.5	101.9	24	100.2	100.7	101.0	24
3/10	102.0	103.8	105.5	23	102.8	102.9	102.9	24	102.1	102.3	102.4	24	101.7	102.3	102.5	24	101.2	101.6	101.8	24
3/11	100.4	100.8	101.6	20	102.7	103.0	103.2	22	102.1	102.4	102.5	22	102.3	102.6	102.7	22	101.7	102.0	102.1	22
3/12	99.8	100.6	101.0	24	102.9	103.6	104.2	24	102.5	103.2	103.9	24	102.3	102.8	103.3	24	101.7	102.3	102.7	24
3/13	99.3	99.8	100.4	22	104.0	104.5	104.9	24	103.6	104.0	105.1	24	102.5	103.0	103.6	24	101.9	102.5	103.1	24
3/14	99.8	101.0	101.9	24	103.3	103.4	103.4	24	102.8	102.9	103.2	24	101.6	101.7	101.8	24	101.1	101.4	101.6	24
3/15	99.9	100.3	100.8	22	102.8	103.2	103.4	24	102.1	102.4	102.6	24	101.9	102.0	102.1	24	101.5	101.6	101.8	24

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

	Lower Mon.				L. Mon. Tlwr				Ice Harbor				Ice Harbor Tlwr				McNary-Oregon			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
3/2	99.9	100.2	100.5	24	99.4	99.8	100.8	24	99.6	99.6	99.7	13	99.1	99.3	99.5	24	---	---	---	0
3/3	100.7	100.9	101.0	24	100.2	100.4	100.9	24	99.8	99.8	100.0	24	99.3	99.5	100.1	24	---	---	---	0
3/4	101.5	102.1	102.3	24	100.7	101.1	101.4	24	100.4	100.9	101.3	24	99.9	100.4	100.6	24	---	---	---	0
3/5	102.6	102.8	103.0	24	101.6	101.9	102.2	24	101.8	102.1	102.3	24	101.2	101.5	102.3	24	---	---	---	0
3/6	101.0	101.4	102.0	24	100.2	100.5	100.8	24	101.0	101.2	101.5	24	100.5	100.9	101.4	24	---	---	---	0
3/7	99.7	99.9	100.2	24	98.8	99.0	99.4	24	100.2	100.4	100.6	24	99.7	99.9	100.2	24	---	---	---	0
3/8	99.5	99.7	100.0	24	98.7	99.0	99.2	24	100.4	100.6	100.8	24	100.0	100.5	101.0	24	---	---	---	0
3/9	100.1	100.6	100.8	24	99.5	100.0	101.0	24	101.2	101.7	101.9	24	100.8	101.4	101.9	24	---	---	---	0
3/10	101.3	101.7	102.0	24	100.7	101.2	102.1	24	102.3	102.6	102.9	24	101.6	102.0	102.2	24	---	---	---	0
3/11	102.1	102.3	102.4	22	101.3	101.5	101.6	22	102.7	103.0	103.3	22	102.1	102.4	102.9	22	---	---	---	0
3/12	102.2	102.8	103.3	24	101.9	102.9	104.3	24	102.5	102.9	103.3	24	101.9	102.3	102.6	24	---	---	---	0
3/13	102.2	102.9	103.5	24	101.4	102.1	102.9	24	101.9	102.6	103.5	24	101.3	101.9	102.8	24	---	---	---	0
3/14	101.0	101.1	101.2	24	100.2	100.3	101.1	24	100.9	101.2	101.4	24	100.2	100.5	100.7	24	---	---	---	0
3/15	101.5	101.7	101.8	24	100.9	101.3	102.2	24	101.8	101.9	102.0	24	101.2	101.3	101.4	24	---	---	---	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

	McNary-Wash				McNary Tlwr				John Day				John Day Tlwr				The Dalles			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr
3/2	100.0	100.0	100.2	11	100.0	100.2	101.1	24	---	---	---	0	100.8	101.2	102.3	24	---	---	---	0
3/3	100.2	100.3	100.5	24	100.3	100.4	100.6	24	---	---	---	0	100.5	100.6	100.7	24	---	---	---	0
3/4	101.1	101.8	102.2	24	101.8	102.1	102.6	24	---	---	---	0	101.5	102.1	102.2	24	---	---	---	0
3/5	102.7	103.0	103.2	24	102.5	103.0	103.4	24	---	---	---	0	102.8	103.1	103.5	24	---	---	---	0
3/6	101.6	101.9	102.3	24	101.2	101.6	101.9	24	---	---	---	0	101.5	101.8	102.1	24	---	---	---	0
3/7	100.7	100.8	101.0	24	100.6	100.8	101.0	24	---	---	---	0	100.6	100.8	100.9	24	---	---	---	0
3/8	100.9	101.3	101.6	24	100.9	101.1	101.2	24	---	---	---	0	101.1	101.6	101.7	24	---	---	---	0
3/9	101.8	102.3	102.7	24	102.2	102.4	102.6	24	---	---	---	0	101.7	101.8	102.6	14	---	---	---	0
3/10	103.2	103.7	104.3	24	103.8	104.1	104.3	24	---	---	---	0	103.1	103.3	103.7	19	---	---	---	0
3/11	104.1	104.4	104.9	22	103.6	103.8	104.1	22	---	---	---	0	103.7	103.9	104.1	22	---	---	---	0
3/12	104.2	104.7	105.0	24	104.5	104.8	105.1	24	---	---	---	0	104.3	105.0	105.4	24	---	---	---	0
3/13	103.2	104.0	105.1	24	102.2	102.8	103.4	24	---	---	---	0	103.9	104.5	105.4	24	102.5	102.5	102.8	9
3/14	101.7	101.8	102.1	24	108.9	109.4	110.1	24	103.6	103.7	104.0	14	103.3	103.6	103.9	24	102.8	103.1	103.2	24
3/15	101.9	102.0	102.2	24	113.1	113.5	113.6	24	104.1	104.3	104.8	24	103.7	104.0	105.6	24	103.7	103.8	104.0	24

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

	The Dalles Dnst				Bonneville				Warrendale				Camas\Washougal				Cascade Island			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
3/2	100.7	100.9	100.9	24	---	---	---	0	102.1	102.3	102.5	24	---	---	---	0	---	---	---	0
3/3	101.1	101.4	101.6	24	---	---	---	0	102.4	102.7	102.8	24	---	---	---	0	---	---	---	0
3/4	101.9	102.4	102.6	24	---	---	---	0	103.9	104.5	104.7	24	---	---	---	0	---	---	---	0
3/5	102.9	103.3	104.0	24	---	---	---	0	104.7	104.8	105.2	24	---	---	---	0	---	---	---	0
3/6	101.6	101.9	102.2	24	---	---	---	0	103.0	103.4	103.9	24	---	---	---	0	100.6	100.6	101.9	3
3/7	100.8	101.0	101.2	24	---	---	---	0	102.1	102.4	102.6	24	---	---	---	0	108.1	108.2	110.9	13
3/8	101.3	101.7	102.0	24	---	---	---	0	102.9	103.2	103.4	24	103.0	103.1	103.8	13	108.0	108.5	108.7	24
3/9	102.2	102.7	103.0	24	---	---	---	0	103.4	104.1	104.3	24	103.3	104.6	105.2	24	108.6	109.0	110.2	24
3/10	103.2	103.6	103.9	24	---	---	---	0	104.6	105.0	105.2	24	104.3	104.8	105.0	24	108.7	109.1	109.9	24
3/11	103.6	103.8	104.0	22	---	---	---	0	104.7	104.9	105.3	22	104.1	104.3	104.6	22	108.9	109.4	110.1	22
3/12	103.8	104.2	104.4	24	---	---	---	0	104.7	104.8	104.8	24	103.4	103.6	103.7	24	107.8	108.2	109.0	24
3/13	103.0	103.5	104.0	24	---	---	---	0	103.8	104.2	104.4	24	102.7	102.9	103.3	24	107.5	108.6	109.9	24
3/14	102.7	103.0	103.3	24	102.4	102.4	102.6	9	103.0	103.1	103.2	24	101.9	102.1	102.5	24	106.2	106.4	106.6	24
3/15	103.6	103.9	104.0	24	103.0	103.2	103.6	24	103.5	103.6	103.8	24	102.5	103.1	103.6	24	106.3	106.7	107.0	24

Two-Week Summary of Passage Indices

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)
03/02/2012	*	---	---	---	---	---	---	---	---	---	---	0
03/03/2012		---	---	---	---	---	---	---	---	---	---	17
03/04/2012		---	---	---	---	---	---	---	---	---	---	10
03/05/2012	*	3	---	---	0	---	---	---	---	---	---	9
03/06/2012		0	---	---	0	---	---	---	---	---	---	0
03/07/2012		2	---	---	0	---	---	---	---	---	---	0
03/08/2012	*	1	---	7	0	---	---	---	---	---	---	0
03/09/2012		2	---	6	0	---	---	---	---	---	---	0
03/10/2012	*	0	---	4	0	---	---	---	---	---	---	0
03/11/2012		9	---	5	0	---	---	---	---	---	---	0
03/12/2012	*	5	---	10	0	---	---	---	---	---	---	7
03/13/2012		11	---	32	0	---	---	---	---	---	---	0
03/14/2012	*	378	---	41	1	---	---	---	---	---	---	15
03/15/2012		489	---	19	1	---	---	---	---	---	---	15
03/16/2012		---	---	---	---	---	---	---	---	---	---	---
Total:		**900**	**0**	**124**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**73**
# Days:		**11**	**0**	**8**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**14**
Average:		**82**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
YTD		**900**	**0**	**124**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**73**

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)
03/02/2012	*	---	---	---	---	---	---	---	---	---	---	162
03/03/2012		---	---	---	---	---	---	---	---	---	---	145
03/04/2012		---	---	---	---	---	---	---	---	---	---	156
03/05/2012	*	0	---	---	0	---	---	---	---	---	---	274
03/06/2012		0	---	---	0	---	---	---	---	---	---	430
03/07/2012		0	---	---	0	---	---	---	---	---	---	786
03/08/2012	*	0	---	0	0	---	---	---	---	---	---	568
03/09/2012		0	---	0	0	---	---	---	---	---	---	473
03/10/2012	*	0	---	0	0	---	---	---	---	---	---	338
03/11/2012		0	---	0	0	---	---	---	---	---	---	268
03/12/2012	*	0	---	0	0	---	---	---	---	---	---	558
03/13/2012		0	---	0	0	---	---	---	---	---	---	1,148
03/14/2012	*	0	---	0	0	---	---	---	---	---	---	1,145
03/15/2012		0	---	2	1	---	---	---	---	---	---	1,114
03/16/2012		---	---	---	---	---	---	---	---	---	---	---
Total:		**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**7,565**
# Days:		**11**	**0**	**8**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**14**
Average:		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**540**
YTD		**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**7,565**

Two-Week Summary of Passage Indices

				COMBINED COHO								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
03/02/2012	*	---	---	---	---	---	---	---	---	---	---	0
03/03/2012		---	---	---	---	---	---	---	---	---	---	0
03/04/2012		---	---	---	---	---	---	---	---	---	---	0
03/05/2012	*	0	---	---	0	---	---	---	---	---	---	9
03/06/2012		0	---	---	0	---	---	---	---	---	---	0
03/07/2012		0	---	---	0	---	---	---	---	---	---	0
03/08/2012	*	0	---	0	0	---	---	---	---	---	---	0
03/09/2012		0	---	0	0	---	---	---	---	---	---	8
03/10/2012	*	0	---	0	0	---	---	---	---	---	---	0
03/11/2012		0	---	0	0	---	---	---	---	---	---	0
03/12/2012	*	0	---	0	0	---	---	---	---	---	---	0
03/13/2012		0	---	0	0	---	---	---	---	---	---	22
03/14/2012	*	0	---	0	0	---	---	---	---	---	---	15
03/15/2012		0	---	0	0	---	---	---	---	---	---	37
03/16/2012		---	---	---	---	---	---	---	---	---	---	---
Total:		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**91**
# Days:		**11**	**0**	**8**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**14**
Average:		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**
YTD		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**91**

				COMBINED STEELHEAD								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
03/02/2012	*	---	---	---	---	---	---	---	---	---	---	8
03/03/2012		---	---	---	---	---	---	---	---	---	---	0
03/04/2012		---	---	---	---	---	---	---	---	---	---	0
03/05/2012	*	0	---	---	0	---	---	---	---	---	---	0
03/06/2012		0	---	---	0	---	---	---	---	---	---	0
03/07/2012		0	---	---	0	---	---	---	---	---	---	0
03/08/2012	*	0	---	0	0	---	---	---	---	---	---	0
03/09/2012		0	---	0	0	---	---	---	---	---	---	8
03/10/2012	*	0	---	0	0	---	---	---	---	---	---	0
03/11/2012		0	---	0	0	---	---	---	---	---	---	0
03/12/2012	*	0	---	0	0	---	---	---	---	---	---	0
03/13/2012		0	---	0	0	---	---	---	---	---	---	7
03/14/2012	*	0	---	0	2	---	---	---	---	---	---	0
03/15/2012		0	---	1	0	---	---	---	---	---	---	0
03/16/2012		---	---	---	---	---	---	---	---	---	---	---
Total:		**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**23**
# Days:		**11**	**0**	**8**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**14**
Average:		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
YTD		**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**23**

Two-Week Summary of Passage Indices

				COMBINED SOCKEYE								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
03/02/2012	*	---	---	---	---	---	---	---	---	---	---	0
03/03/2012		---	---	---	---	---	---	---	---	---	---	0
03/04/2012		---	---	---	---	---	---	---	---	---	---	0
03/05/2012	*	0	---	---	0	---	---	---	---	---	---	0
03/06/2012		0	---	---	0	---	---	---	---	---	---	0
03/07/2012		0	---	---	0	---	---	---	---	---	---	0
03/08/2012	*	0	---	0	0	---	---	---	---	---	---	0
03/09/2012		0	---	0	0	---	---	---	---	---	---	0
03/10/2012	*	0	---	0	0	---	---	---	---	---	---	0
03/11/2012		0	---	0	0	---	---	---	---	---	---	0
03/12/2012	*	0	---	0	0	---	---	---	---	---	---	0
03/13/2012		0	---	0	0	---	---	---	---	---	---	0
03/14/2012	*	0	---	0	0	---	---	---	---	---	---	0
03/15/2012		0	---	0	0	---	---	---	---	---	---	0
03/16/2012		---	---	---	---	---	---	---	---	---	---	---
Total:		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
# Days:		**11**	**0**	**8**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**14**
Average:		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
YTD		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

				COMBINED LAMPREY JUVENILES								
		WTB	IMN	GRN	LEW	LGR†	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)
03/02/2012	*	---	---	---	---	---	---	---	---	---	---	52
03/03/2012		---	---	---	---	---	---	---	---	---	---	100
03/04/2012		---	---	---	---	---	---	---	---	---	---	64
03/05/2012	*	0	---	---	0	---	---	---	---	---	---	124
03/06/2012		0	---	---	0	---	---	---	---	---	---	80
03/07/2012		0	---	---	0	---	---	---	---	---	---	160
03/08/2012	*	0	---	0	0	---	---	---	---	---	---	360
03/09/2012		0	---	0	0	---	---	---	---	---	---	300
03/10/2012	*	0	---	0	0	---	---	---	---	---	---	468
03/11/2012		0	---	0	0	---	---	---	---	---	---	340
03/12/2012	*	0	---	0	0	---	---	---	---	---	---	232
03/13/2012		0	---	0	0	---	---	---	---	---	---	172
03/14/2012	*	0	---	0	0	---	---	---	---	---	---	84
03/15/2012		0	---	0	0	---	---	---	---	---	---	44
03/16/2012		---	---	---	---	---	---	---	---	---	---	---
Total:		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,580**
# Days:		**11**	**0**	**8**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**14**
Average:		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**184**
YTD		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,580**

* 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 macropthalmia, 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

Two-Week Summary of Passage Indices

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/Washington Dept. of Fish and Wildlife.
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.

Cumulative Adult Passage at Mainstem Dams Through: 03/15

		Spring Chinook						Summer Chinook						Fall Chinook					
		2012		2011		10-Yr Avg.		2012		2011		10-Yr Avg.		2012		2011		10-Yr Avg.	
DAM	EndDate	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	-	0	0	0	0	0	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	-	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	03/12	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
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	03/14	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0

	Coho						Sockeye			Steelhead					
	2012		2011		10-Yr Avg.										
DAM	Adult	Jack	Adult	Jack	Adult	Jack	2012	2011	10-Yr Avg.	2012	2011	10-Yr Avg.	Wild 2012	Wild 2011	10-Yr Avg.
BON	0	0	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
JDA	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
IHR	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
LGS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LGR	0	0	0	0	0	0	0	0	0	946	838	1,450	348	248	267
PRD	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
RRH	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
WFA	0	0	0	0	0	0	0	0	0	3,919	3,672	3,965	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.

Page last updated on: 03/16/12

BON counts from January 1, 2012 to March 13, 2012 (historical counts begin March 15):

Year	Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
2012	12	1	1,471	497
2011	47	0	1,370	580