



Fish Passage Center

Weekly Report #10 - 02

March 26, 2010

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 47% and 67% of average at individual sub-basins over the first three weeks of March. Precipitation above The Dalles has been 61% of average over the first three weeks of March. Over the 2010 water year, precipitation has ranged between 67 and 84% of average.

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

Location	Water Year 2010 March 1-22		Water Year 2010 October 1, 2009 to March 22, 2010	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	0.77	61	10.11	74
Snake River Above Ice Harbor	0.70	59	7.44	76
Columbia Above The Dalles	0.83	61	10.60	77
Kootenai	0.81	64	10.81	77
Clark Fork	0.49	57	5.77	67
Flathead	0.59	51	8.84	75
Pend Oreille/ Spokane	0.98	50	13.81	71
Central Washington	0.30	51	4.74	84
Snake River Plain	0.53	66	4.51	78
Salmon/Boise/ Payette	0.72	53	9.53	78
Clearwater	0.93	47	12.47	70
SW Washington Cascades/Cowlitz	3.39	67	40.56	79
Willamette Valley	2.97	66	33.54	77

Snowpack within the Columbia Basin has been well below average. Average snowpack in

the Columbia River for basins above the Snake River confluence is 66% of average, for Snake River Basins the average snowpack is 63% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 55% of average.

Table 2 displays the March Final and March Mid-Month runoff volume forecasts for multiple reservoirs. In all cases, Water Supply Forecasts have decreased between the March Final and March Mid-Month forecasts. The current forecast at The Dalles between January and July is 69400 Kaf (65% of average).

Table 2. March Final and March Mid-Month Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.

Location	March Final		March Mid-Month	
	% Average (1971 -2000)	Probable Runoff Volume (Kaf)	% Average (1971 -2000)	Probable Runoff Volume (Kaf)
The Dalles (Jan-July)	67	71800	65	69400
Grand Coulee (Jan-July)	75	47300	73	46200
Libby Res. Inflow, MT (Apr-Aug)	71 80*	4410 5084*	69	4330
Hungry Horse Res. Inflow, MT (Jan-July)	71	1570	67	1500
Lower Granite Res. Inflow (Apr- July)	56	12100	54	11700
Brownlee Res. Inflow (Apr-July)	39	2470	38	2370
Dworshak Res. Inflow (Apr-July)	53 59*	1410 1571*	50	1310

* Denotes COE Forecast

Grand Coulee Reservoir is at 1276.9 feet (3-25-10) and refilled 0.7 feet over the last week. Outflows at Grand Coulee have ranged between 38.9 and 72.2 Kcfs over the last week. The end of March FC elevation at Grand Coulee is 1283.3 feet.

The Libby Reservoir is currently at elevation 2403.8 feet (3-25-10) and has drafted 0.5 feet last week. Outflows at Libby are currently 4.0 Kcfs. The end of March FC Elevation at Libby is 2444 feet.

Hungry Horse is currently at an elevation of 3520.3 feet (3-25-10) and has drafted 0.7 foot last week. Outflows at Hungry Horse have been approximately 1.9-2.4 Kcfs last week. The end of March FC Elevation at Hungry Horse is 3553.9 feet.

Dworshak is currently at an elevation of 1522.0 feet (3-25-10) and has refilled approximately 1.2 feet last week. Over the last week outflows at Dworshak were 1.2-1.3 Kcfs. The end of March System FC Elevation at Dworshak is 1587.5 feet

The Brownlee Reservoir was at an elevation of 2064.8 feet on March 25, 2010 drafting 0.3 feet over last week. The end of March FC Elevation at Brownlee is 2077 feet.

Over the last week, outflows at Brownlee have ranged between 10.3-17.7 Kcfs.

The lower Snake River reservoirs are expected to draft to Minimum Operating Pool (MOP) by April 3rd, 2010.

Spill:

Steelhead kelt criteria of two fish on two consecutive days and a total of 20 fish were met on March 13th, 2010. At 7:42 am on March 14th, the Bonneville Dam Corner Collector was opened. Over the last 10 days, the Bonneville Corner Collector has been opened, closed due to excessive TDG, reopened, and could not be opened during scheduled open periods due to excessive wind. The most recent activity has been opening the Bonneville Corner Collector at 7:30 AM on March 25th, 2010. The current plan is for the Corner Collector to remain open and monitor TDG.

It is anticipated that spill will begin at all lower Snake River dams on April 3rd, 2010.

Smolt Monitoring:

Smolt monitoring activities began at Bonneville Dam on March 1, with the first sample worked up on March 2. SMP traps in the Snake River basin began sampling in February (Imnaha Trap) or the first few weeks of March (Lewiston, Grande Ronde and

Salmon River traps); with all SMP traps now sampling. Sampling begins March 25 at Lower Granite Dam with the first sample available Friday March 26.

Bonneville Dam is the only other SMP dam that has begun sampling. Chinook and coho fry continue to be collected in the largest numbers at the Bonneville bypass early in the season. Small numbers of holdover fall Chinook were also captured. The first hatchery yearling Chinook released from Klickitat Hatchery were captured in the March 12 sample. Over the past week Chinook fry continue to be captured in relatively large numbers with sample counts averaging over 140 per day. Hatchery yearling Chinook passage index, (fish likely released from Klickitat Hatchery) averaged about 300 fish per day down from last week.

The Grande Ronde Trap, operated by the Oregon Department of Fish and Wildlife, located at river mile two in the Grande Ronde River, began sampling March 7. Small numbers of juvenile salmonids have been captured at the Grande Ronde Trap in the first few weeks of sampling. Flows in the Grande Ronde River have been very low ranging around 1800 cfs over the past week compare do median historic flows of 3500 to 4500 cfs.

At the Salmon River Trap, located at River km 103, and operated by Idaho Department of Fish and Game, sampling began on March 7. The trap has captured almost all yearling Chinook to this point. A large number of hatchery yearling Chinook have been collected in the past two weeks; those fish were released from Rapid River Hatchery, beginning March 17. Flows in the Salmon River at White Bird, ranged between 4000 and 4500 cfs from March 18 to March 25; those flows were below the median for this time of year which ranged between 5000 and 5500 cfs for the same time period.

The Imnaha River Trap, operated by the Nez Perce Tribe, provides data to the SMP, on their fish collection. The trap has been operating since mid-February. The Imnaha Trap has been collecting relatively large numbers of yearling Chinook the past few days. The trap typically shows an early pulse of out-migrant yearling Chinook in March, so this year's increase is in line with other years. Flows in the Imnaha River ranged between 250 and 300 cfs over the past week, as measured at the gage at river mile 19.3. Those flows were 65% of normal for this time of year.

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/AdultTable_Species_Graph.html and <http://www.fpc.org/adultsalmon/AdultCumulativeTable.asp>.

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 (www.fpc.org).

The following paragraphs describe the counts at Bonneville Dam (3/15 through 11/15), Willamette Falls Dam (1/1 through 12/31), and Lower Granite Dam (3/1 through 12/15) using the historical counting schedule. Adult counts at Bonneville Dam have been updated through March 23rd. From March 15th through March 23rd, daily adult spring Chinook counts at Bonneville Dam ranged from 9 to 25 adult salmon per day. As of March 23rd, using the historical counting schedule, 121 spring Chinook have been counted at Bonneville Dam. In 2009, 53 adult spring Chinook were counted at Bonneville Dam for the same time period. The 2010 adult spring Chinook count at Bonneville Dam is 2.3 times greater than the 2009 count. The Bonneville spring Chinook adult count is only about 14.7% of the 10 year average of 822. At Willamette Falls Dam 72 adult spring Chinook have been counted so far this year. The Willamette Falls count is 9 times greater than the 2009 count of 8 adult spring Chinook for the same time period.

The Bonneville Dam 2010 steelhead count of 850 is about 3.8 times greater than the 2009 count of 223. The 2010 steelhead count is about 2.6 times greater than the 10-year average. This year's Lower Granite steelhead count of 3327 is about 1.4 times

greater than the 2009 count of 2315 and 96.6% of the 10 year average of 3445. At Willamette Falls Dam, the 2010 count for steelhead was 1969, as of March 21st. The 2010 count is 1.16 times greater than the 2009 count of 1699.

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. Several releases of yearling spring Chinook to the Clearwater River were scheduled to begin this week. In all, these releases total approximately 1.85 million yearling spring Chinook juveniles. In addition to these releases to the Clearwater River, a volitional release of nearly 126,000 yearling spring Chinook juveniles to the Grande Ronde River ended this week. This volitional release began on March 15th. Approximately 1.04 million yearling summer Chinook from McCall Hatchery were scheduled for release this week into the South Fork Salmon River. Finally, 525,000 summer steelhead from Niagara Springs Hatchery were scheduled for release this week into the Snake River (below Hells Canyon Dam).

There are several releases of yearling spring Chinook juveniles scheduled to take place over the next two weeks. In all, these releases will total about 2.67 million spring Chinook juveniles. Of these, approximately 2.35 million are scheduled for release into the Clearwater River and its tributaries by various hatcheries throughout the basin. Of the juveniles being released into the Clearwater River over the next two weeks, an estimated 14% are unmarked. Approximately 147,000 yearling spring Chinook juveniles are scheduled for release into the Grande Ronde River, from the Catherine Creek acclimation facility. About 76% of these Catherine Creek juveniles are marked with green Elastomer tags. Finally, about 173,000 yearling spring Chinook juveniles are scheduled for release into the Tucannon River. These Tucannon River spring Chinook releases are unclipped, but have coded-wire and Elastomer tags (blue or purple).

Approximately 1.22 million yearling summer Chinook are scheduled for release into this zone over the next two week. Of these, 96% will be released from the Pahsimeroi Hatchery into the Pahsimeroi River while the remaining 4% will be released into Johnson Creek, on the South Fork Salmon River. A release of about 350,000 coho juveniles from Kooskia NFH is currently scheduled to begin on or around

April 1st. Finally, about 1.1 million summer steelhead are scheduled for release into this zone over the next two weeks. All of these steelhead juveniles are to be released into the Salmon River or Little Salmon River and were reared at Niagara Springs and Magic Valley hatcheries.

Mid-Columbia Zone: The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. There were no new releases of juvenile salmonids scheduled to begin this week. Volitional releases of spring Chinook juveniles from Cle Elem Hatchery acclimation sites continued this week and are expected to run through mid-May.

Approximately 250,000 yearling spring Chinook from Carson NFH are scheduled for release into the Walla Walla River on March 30th. Beginning on or around April 1st, about 200,000 yearling summer Chinook from Chelan Hatchery will be released into the Mid-Columbia River, at Chelan Falls. Finally, nearly 58,000 coho are scheduled for release into the Wenatchee River on or around April 1st. This coho release is part of the Yakama Tribal Program to re-establish Coho runs in the Yakima, Methow, and Wenatchee basins. In all, nearly 2.5 million coho juveniles are scheduled for release in 2010 as part of this program. The majority of these releases are scheduled to run from mid-April to mid-May.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Warm Springs NFH was scheduled to release nearly 707,000 yearling spring Chinook to the Deschutes River on March 20th. Also, approximately 250,000 coho juveniles were scheduled for release into the Umatilla River this week. These coho juveniles were to be released from the Pendleton Acclimation Pond, beginning March 25th.

Beginning in early April, nearly 2.4 million coho juveniles will be released into the Klickitat River. These coho juveniles are being reared at Washougal and Klickitat hatcheries. Of these, about 47% are unclipped and unmarked. In addition to these Klickitat River releases, approximately 750,000 coho juveniles are scheduled for release into the Umatilla River, beginning April 1st. These Umatilla River coho releases are all adipose clipped fish. Finally, approximately 174,400 summer steelhead are scheduled for release into the Deschutes River over the next two weeks. Of these, about 12,400 will be released into Lake Billy Chinook as part of an ongoing PGE passage study on the Deschutes River.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From:		3/12/2010		to		03/25/10			
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2010	229,600	03-23-10	04-14-10	Clear Creek	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2010	413,300	03-23-10	04-14-10	Powell Acclim Pond	Lochsa River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2010	1,209,150	03-23-10	04-14-10	Red River	S Fk Clearwater River
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2010	1,038,000	03-23-10	03-26-10	S Fk Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2010	525,000	03-22-10	04-01-10	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2010	230,048	03-19-10	03-19-10	Pinehurst Bridge	Little Salmon River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2010	500,500	03-15-10	03-18-10	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2010	2,500,000	03-05-10	04-23-10	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game Total					6,645,598				
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2010	123,000	03-17-10	03-30-10	Lostine Acclim Pond	Wallowa River
Nez Perce Tribe	McCall Hatchery	CH1	SU	2010	49,930	03-16-10	03-18-10	Johnson Cr Idaho	South Fork Salmon River
Nez Perce Tribe Total					172,930				
U.S. Fish and Wildlife Service	Warm Springs NFH	CH1	SP	2010	706,512	03-20-10	03-20-10	Warm Springs Hatchery	Deschutes River
U.S. Fish and Wildlife Service Total					706,512				
Umatilla Tribe	Bonneville Hatchery	CH1	FA	2010	251,974	03-11-10	03-17-10	Thornhollow Acclim Pond	Umatilla River
Umatilla Tribe	Cascade Hatchery	CO	UN	2010	250,000	03-25-10	03-31-10	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2010	125,868	03-15-10	03-22-10	Grande Ronde Acclim Pond	Grande Ronde River
Umatilla Tribe Total					627,842				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	280,960	03-15-10	05-14-10	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	282,011	03-15-10	05-14-10	Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	288,342	03-15-10	05-14-10	Easton Pond	Yakima River
Yakama Tribe Total					851,313				
Grand Total					9,004,195				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From:		3/26/2010		to		4/8/2010			
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2010	229,600	03-23-10	04-14-10	Clear Creek	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2010	413,300	03-23-10	04-14-10	Powell Acclim Pond	Lochsa River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2010	1,209,150	03-23-10	04-14-10	Red River	S Fk Clearwater River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2010	60,000	04-05-10	04-09-10	Shoup Br (Salmon R)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2010	124,000	04-05-10	04-09-10	Salmon River (ID)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2010	152,000	04-05-10	04-09-10	Salmon River (ID)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2010	187,550	04-05-10	04-16-10	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2010	315,000	04-05-10	04-16-10	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2010	1,038,000	03-23-10	03-26-10	S Fk Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2010	275,000	04-01-10	04-08-10	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2010	525,000	03-22-10	04-01-10	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2010	1,174,000	03-31-10	03-31-10	Pahsimeroi Hatchery	Pahsimeroi River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2010	2,500,000	03-05-10	04-23-10	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game Total					8,202,600				
Nez Perce Tribe	Clearwater Hatchery	CH1	SP	2010	402,300	04-01-10	04-10-10	Meadow Creek - SELW	Selway River
Nez Perce Tribe	Kooskia NFH	CH1	SP	2010	633,000	04-01-10	04-04-10	Kooskia Hatchery	Clearwater River M F
Nez Perce Tribe	Kooskia NFH	CO	UN	2010	350,000	04-01-10	04-08-10	Kooskia Hatchery	Clearwater River M F
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2010	123,000	03-17-10	03-30-10	Lostine Accim Pond	Wallowa River
Nez Perce Tribe	McCall Hatchery	CH1	SU	2010	49,930	04-05-10	04-05-10	Johnson Cr Idaho	South Fork Salmon River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH1	SP	2010	200,000	04-01-10	04-15-10	Nez Perce Tribal Hatchery	Clearwater River M F
Nez Perce Tribe Total					1,758,230				
Oregon Dept. of Fish and Wildlife	Oak Springs Hatchery	ST	SU	2010	12,400	04-01-10	04-01-10	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	ST	SU	2010	162,000	04-08-10	04-08-10	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife Total					174,400				
U.S. Fish and Wildlife Service	Dworshak NFH	CH1	SP	2010	1,115,000	04-08-10	04-09-10	Dworshak Hatchery	Clearwater River M F
U.S. Fish and Wildlife Service Total					1,115,000				
Umatilla Tribe	Carson NFH	CH1	SP	2010	249,500	03-30-10	03-31-10	Walla Walla River	Walla Walla River
Umatilla Tribe	Cascade Hatchery	CO	UN	2010	250,000	03-25-10	03-31-10	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe	Cascade Hatchery	CO	UN	2010	750,000	04-01-10	04-01-10	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2010	35,000	03-29-10	04-13-10	Catherine Cr Acclim Pond	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2010	112,000	03-29-10	04-13-10	Catherine Cr Acclim Pond	Grande Ronde River
Umatilla Tribe Total					1,396,500				
Washington Dept. of Fish and Wildlife	Chelan Hatchery	CH1	SU	2010	200,000	04-01-10	04-30-10	Chelan Falls	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2010	86,000	04-01-10	04-15-10	Tucannon Hatchery	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2010	87,000	04-01-10	04-15-10	Tucannon Hatchery	Tucannon River
Washington Dept. of Fish and Wildlife	Washougal Hatchery	CO	NO	2010	1,892,000	04-01-10	04-07-10	Klickitat River	Klickitat River
Washington Dept. of Fish and Wildlife Total					2,265,000				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	280,960	03-15-10	05-14-10	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	282,011	03-15-10	05-14-10	Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	288,342	03-15-10	05-14-10	Easton Pond	Yakima River
Yakama Tribe	Klickitat Hatchery	CO	UN	2010	500,000	04-05-10	04-05-10	Klickitat Hatchery	Klickitat River
Yakama Tribe	Willard Hatchery	CO	UN	2010	57,846	04-01-10	04-07-10	Nason Creek	Wenatchee River
Yakama Tribe Total					1,409,159				
Grand Total					18,079,119				

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
03/12/2010	75.6	0.0	70.2	0.0	72.6	0.0	71.9	0.0	74.2	0.0	78.0	0.0	75.2	0.0
03/13/2010	49.9	0.0	53.5	0.0	60.4	0.0	61.8	0.0	63.7	0.0	71.7	0.0	70.3	0.0
03/14/2010	56.8	0.0	55.4	0.0	58.3	0.0	58.0	0.0	60.1	0.0	71.2	0.0	69.4	0.0
03/15/2010	64.0	0.0	68.7	0.0	63.4	0.0	61.7	0.0	62.1	0.0	73.6	0.0	74.5	0.0
03/16/2010	65.2	0.0	64.4	0.0	71.6	0.0	72.7	1.0	72.6	0.0	71.6	0.0	72.1	0.0
03/17/2010	60.2	0.0	63.3	0.0	55.1	0.0	52.7	0.3	54.2	0.0	73.8	0.0	66.6	0.0
03/18/2010	70.7	0.0	70.4	0.0	79.5	0.0	82.0	1.1	83.3	0.0	74.5	0.0	67.4	0.0
03/19/2010	61.6	0.0	65.5	0.0	67.4	0.0	66.9	0.0	69.6	0.0	73.0	0.0	71.7	0.0
03/20/2010	45.4	0.0	44.8	0.0	50.4	0.0	51.4	0.0	53.4	0.0	67.2	0.0	66.2	0.0
03/21/2010	38.9	0.0	41.7	0.0	36.8	0.0	36.7	0.0	38.8	0.0	59.2	0.0	63.0	0.0
03/22/2010	58.1	0.0	57.5	0.0	55.6	0.1	55.6	0.0	55.7	0.0	62.9	0.0	63.9	0.0
03/23/2010	72.2	0.0	70.9	0.0	80.9	0.0	83.7	0.0	83.6	0.0	69.3	0.0	63.6	0.0
03/24/2010	65.6	0.0	65.9	0.0	71.8	0.0	73.2	0.0	78.4	0.0	68.3	0.0	63.6	0.0
03/25/2010	58.5	0.0	58.7	0.0	57.3	0.0	54.1	0.0	55.1	0.0	65.3	0.0	63.5	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
03/12/2010	1.2	0.0	14.8	13.2	24.5	0.0	24.4	0.0	24.9	0.0	24.4	0.0
03/13/2010	1.2	0.0	15.1	13.9	22.5	0.0	20.3	0.0	21.9	0.0	22.3	0.0
03/14/2010	1.2	0.0	15.3	11.4	21.7	0.0	20.0	0.0	22.1	0.0	22.7	0.0
03/15/2010	1.2	0.0	15.3	15.7	24.6	0.0	25.3	0.0	26.3	0.0	26.0	0.0
03/16/2010	1.3	0.0	13.7	11.2	24.4	0.5	23.2	0.0	23.0	0.0	21.3	0.0
03/17/2010	1.2	0.0	14.7	11.1	17.6	0.0	16.3	0.0	19.0	0.0	20.6	0.0
03/18/2010	1.2	0.0	16.1	13.8	22.4	0.0	20.6	0.0	20.1	0.0	20.4	0.0
03/19/2010	1.3	0.0	15.9	16.6	25.5	0.0	27.6	0.0	29.9	0.0	31.2	0.0
03/20/2010	1.2	0.0	15.2	17.5	25.3	0.0	23.1	0.0	23.3	0.0	21.2	0.0
03/21/2010	1.2	0.0	14.7	13.5	27.8	0.0	24.5	0.0	25.5	0.0	24.0	0.0
03/22/2010	1.2	0.0	14.4	17.4	28.6	0.0	29.8	0.0	30.5	0.0	31.7	0.0
03/23/2010	1.2	0.0	14.1	13.1	34.6	0.0	34.2	0.0	38.6	0.0	36.4	0.0
03/24/2010	1.3	0.0	14.4	13.3	26.7	0.0	33.4	0.0	34.0	0.0	37.5	0.0
03/25/2010	1.3	0.0	---	---	26.8	0.0	25.9	0.0	26.1	0.0	25.9	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
03/12/2010	99.6	0.0	95.2	0.0	97.4	0.0	116.3	1.4	7.6	100.3
03/13/2010	90.4	0.0	92.4	0.0	93.2	0.0	115.3	1.3	1.9	105.1
03/14/2010	109.7	0.0	109.7	0.0	112.1	0.0	120.0	1.4	2.0	106.1
03/15/2010	105.2	0.0	111.5	0.0	111.2	0.0	120.4	0.0	8.0	100.4
03/16/2010	92.3	0.0	97.7	0.0	100.1	0.0	117.3	0.0	8.6	100.2
03/17/2010	95.4	0.0	92.9	0.0	92.4	0.0	112.7	0.0	3.1	100.4
03/18/2010	85.0	0.0	99.8	0.0	101.9	0.0	116.2	0.0	0.0	105.3
03/19/2010	95.7	0.0	103.2	0.0	104.4	0.0	115.2	0.0	1.5	102.8
03/20/2010	94.2	0.0	101.4	0.0	104.3	0.0	115.6	0.0	0.0	104.7
03/21/2010	84.5	0.0	87.6	0.0	87.4	0.0	110.9	0.0	0.0	99.7
03/22/2010	111.1	0.0	90.5	0.0	91.7	0.0	90.5	0.0	0.0	79.2
03/23/2010	86.0	0.0	98.2	0.0	99.8	0.0	102.1	0.0	2.5	90.6
03/24/2010	92.1	0.0	95.6	0.0	96.3	0.0	103.7	0.6	10.7	85.6
03/25/2010	98.0	0.0	100.2	0.0	102.7	0.0	107.0	0.1	3.5	93.2

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	<u>Hungry H. Dnst</u>			#	<u>Boundary</u>			#	<u>Grand Coulee</u>			#	<u>Grand C. Tlwr</u>			#	<u>Chief Joseph</u>			#
	<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High	
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
3/12	---	---	---	0	103.2	104.0	104.6	20	103.2	103.4	103.8	24	102.6	103.2	104.1	20	---	---	---	0
3/13	---	---	---	0	101.9	102.5	103.4	21	101.8	102.2	102.9	24	99.7	100.2	101.5	21	---	---	---	0
3/14	---	---	---	0	102.1	103.1	103.8	20	100.9	101.1	101.4	22	98.7	99.0	99.2	20	---	---	---	0
3/15	96.4	96.4	99.4	11	102.5	103.6	104.2	24	101.2	101.4	101.6	23	99.1	99.4	99.6	24	---	---	---	0
3/16	96.0	96.3	96.6	23	103.0	103.7	104.3	21	101.9	102.1	102.3	24	100.3	101.0	101.5	21	---	---	---	0
3/17	96.1	96.3	96.7	23	102.3	102.7	103.0	20	101.7	101.9	102.2	24	100.4	101.0	101.9	20	---	---	---	0
3/18	96.0	96.3	96.7	24	102.3	103.3	104.1	22	101.5	101.6	101.9	24	100.6	101.0	101.3	22	---	---	---	0
3/19	95.9	96.2	96.5	23	102.2	103.2	104.1	21	101.8	102.3	102.6	24	100.2	100.5	100.8	21	---	---	---	0
3/20	96.4	96.8	97.2	24	102.8	103.9	104.1	23	102.9	103.5	103.9	24	100.7	101.5	102.0	23	---	---	---	0
3/21	97.0	97.3	97.6	23	103.6	104.4	104.8	22	103.7	103.8	104.0	24	102.3	103.0	104.0	22	---	---	---	0
3/22	96.8	97.1	97.2	24	103.7	104.3	105.0	22	103.3	103.6	103.7	24	102.1	102.5	103.1	22	---	---	---	0
3/23	96.1	96.4	97.1	23	103.1	104.0	104.8	20	102.9	103.1	103.3	24	101.2	101.7	102.0	20	---	---	---	0
3/24	95.8	96.2	96.6	23	103.9	104.8	105.5	21	104.2	105.2	105.9	24	101.1	101.4	101.9	21	---	---	---	0
3/25	96.9	97.5	98.2	24	105.0	106.1	106.7	24	105.6	105.9	106.1	24	105.3	106.3	106.9	24	---	---	---	0

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			#	<u>Wells</u>			#	<u>Wells Dwnstrm</u>			#	<u>Rocky Reach</u>			#	<u>Rocky R. Tlwr</u>			#
	<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High	
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
3/12	---	---	---	0	---	---	---	0	95.0	95.2	95.5	24	---	---	---	0	---	---	---	0
3/13	---	---	---	0	---	---	---	0	93.8	94.3	94.7	24	---	---	---	0	---	---	---	0
3/14	---	---	---	0	---	---	---	0	93.1	93.4	93.8	22	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	93.2	93.4	93.7	24	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	93.7	94.1	94.6	24	---	---	---	0	---	---	---	0
3/17	---	---	---	0	---	---	---	0	93.1	93.3	93.5	24	---	---	---	0	---	---	---	0
3/18	---	---	---	0	---	---	---	0	93.0	93.4	93.8	24	---	---	---	0	---	---	---	0
3/19	---	---	---	0	---	---	---	0	93.3	93.5	94.0	18	---	---	---	0	---	---	---	0
3/20	---	---	---	0	---	---	---	0	93.8	94.3	94.5	24	---	---	---	0	---	---	---	0
3/21	---	---	---	0	---	---	---	0	94.4	94.7	94.9	24	---	---	---	0	---	---	---	0
3/22	---	---	---	0	---	---	---	0	94.1	94.4	95.1	24	---	---	---	0	---	---	---	0
3/23	---	---	---	0	---	---	---	0	93.5	93.8	94.0	24	---	---	---	0	---	---	---	0
3/24	---	---	---	0	---	---	---	0	94.3	94.8	94.9	24	---	---	---	0	---	---	---	0
3/25	---	---	---	0	---	---	---	0	95.3	95.6	96.3	24	---	---	---	0	---	---	---	0

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			#	<u>Rock I. Tlwr</u>			#	<u>Wanapum</u>			#	<u>Wanapum Tlwr</u>			#	<u>Priest Rapids</u>			#
	<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High	
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
3/12	---	---	---	0	---	---	---	0	104.5	104.7	104.8	24	104.3	104.5	104.7	24	104.8	105.0	105.2	24
3/13	---	---	---	0	---	---	---	0	102.9	103.2	103.9	24	102.8	103.1	103.7	24	103.5	104.0	104.5	24
3/14	---	---	---	0	---	---	---	0	102.7	103.4	104.0	24	102.4	102.8	103.0	24	103.1	103.7	104.5	24
3/15	---	---	---	0	---	---	---	0	104.0	104.8	105.8	24	102.9	103.2	103.3	24	103.8	104.3	104.7	24
3/16	---	---	---	0	---	---	---	0	104.7	105.5	107.1	24	103.7	104.1	104.4	24	105.0	105.5	106.9	24
3/17	---	---	---	0	---	---	---	0	103.2	103.4	103.8	24	103.2	103.5	104.0	24	104.0	104.3	104.6	24
3/18	---	---	---	0	---	---	---	0	103.6	104.5	105.5	24	103.0	103.4	103.8	24	104.1	105.1	106.1	24
3/19	---	---	---	0	---	---	---	0	104.4	105.4	106.5	24	103.6	104.1	104.4	24	104.8	105.5	106.4	24
3/20	---	---	---	0	---	---	---	0	105.6	106.6	107.2	24	104.8	105.4	105.5	24	105.4	105.9	106.2	24
3/21	---	---	---	0	---	---	---	0	106.6	106.8	107.2	24	105.6	105.8	106.2	24	105.8	106.1	106.4	24
3/22	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/23	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/25	---	---	---	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

Date	Priest R. Dnst				Pasco				Dworshak				Clrwtr-Peck				Anatone			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	High		Avg	Avg	High	High		Avg	Avg	High	High		Avg	Avg	High	High	
3/12	103.9	104.2	104.6	24	---	---	---	0	103.2	105.8	107.7	24	---	---	---	0	---	---	---	0
3/13	102.6	103.0	103.3	24	---	---	---	0	95.9	97.2	100.5	24	---	---	---	0	---	---	---	0
3/14	101.9	102.3	102.5	24	---	---	---	0	101.5	107.3	109.1	22	---	---	---	0	---	---	---	0
3/15	102.6	103.1	103.4	24	---	---	---	0	105.3	107.3	108.9	24	---	---	---	0	---	---	---	0
3/16	103.7	104.1	104.6	24	---	---	---	0	106.3	108.0	110.3	24	---	---	---	0	---	---	---	0
3/17	103.1	103.4	103.8	24	---	---	---	0	106.2	107.0	109.1	24	---	---	---	0	104.5	104.5	106.7	6
3/18	102.7	103.1	103.4	24	---	---	---	0	105.6	107.5	109.8	24	104.0	104.0	104.7	12	102.6	103.8	105.4	24
3/19	103.2	103.7	104.1	24	---	---	---	0	106.0	107.5	109.8	24	103.1	104.1	105.5	24	102.4	103.7	105.3	24
3/20	104.2	104.9	105.2	24	---	---	---	0	106.7	107.6	109.5	24	102.8	104.3	106.0	24	102.7	103.9	105.3	24
3/21	104.8	105.0	105.1	24	---	---	---	0	106.9	107.7	108.9	24	102.3	103.1	104.1	24	102.1	102.6	103.0	24
3/22	---	---	---	0	104.5	104.6	105.6	13	107.1	107.8	109.3	24	102.5	104.0	105.8	24	101.7	102.5	103.4	24
3/23	---	---	---	0	104.2	105.3	105.8	24	106.4	107.9	110.2	24	102.0	103.7	105.4	23	102.3	103.5	105.0	24
3/24	---	---	---	0	105.6	106.6	107.2	24	106.4	107.7	110.2	24	102.7	104.2	106.1	21	102.7	104.0	105.3	24
3/25	---	---	---	0	105.4	106.0	106.8	24	107.0	108.1	109.4	24	101.6	102.2	102.9	24	101.9	102.3	102.7	24

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		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	High		Avg	Avg	High	High		Avg	Avg	High	High		Avg	Avg	High	High	
3/12	---	---	---	0	---	---	---	0	101.4	101.7	101.9	24	102.9	103.0	103.4	24	102.5	102.8	103.2	24
3/13	---	---	---	0	---	---	---	0	100.0	100.4	100.9	24	101.5	101.8	102.5	24	101.1	101.5	102.0	24
3/14	---	---	---	0	---	---	---	0	99.3	99.5	99.8	22	100.7	100.9	101.0	22	100.6	100.9	101.3	22
3/15	---	---	---	0	---	---	---	0	99.4	99.5	99.8	24	101.0	101.2	102.1	24	100.9	101.4	101.6	24
3/16	---	---	---	0	---	---	---	0	99.6	100.1	100.9	24	102.8	103.0	103.3	24	101.4	101.8	102.3	24
3/17	---	---	---	0	100.2	100.2	100.8	11	99.2	99.9	100.6	24	101.0	101.2	101.4	24	100.2	100.5	100.9	24
3/18	104.5	104.5	107.0	9	100.0	100.2	100.3	24	99.8	100.1	100.9	24	101.3	101.6	102.4	24	100.2	100.6	101.0	24
3/19	102.4	104.7	106.8	23	100.4	100.4	100.5	11	99.8	99.8	100.1	11	101.4	101.6	102.0	17	100.3	100.6	101.1	17
3/20	102.5	104.7	106.5	23	102.6	103.1	103.5	24	101.8	102.3	102.8	24	102.8	103.3	104.0	24	101.3	101.9	102.1	24
3/21	100.9	101.6	102.1	24	103.8	104.2	104.3	24	102.7	103.0	103.4	24	103.2	103.5	103.7	24	101.7	101.9	102.1	24
3/22	101.3	102.9	103.9	24	103.2	103.5	104.2	24	102.6	102.8	103.1	24	102.0	102.2	102.5	24	101.0	101.3	101.9	24
3/23	101.8	103.9	105.2	23	103.3	103.5	103.6	24	102.6	103.0	103.3	24	101.0	101.1	101.3	24	100.7	101.2	101.8	24
3/24	101.7	103.4	104.4	23	104.2	104.6	105.0	24	103.6	104.0	104.3	24	102.3	102.6	103.6	24	101.8	102.3	102.5	24
3/25	99.6	100.3	102.3	24	104.3	104.7	105.0	24	103.7	103.9	104.2	24	103.7	104.4	104.8	24	102.3	102.7	102.9	24

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		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	High		Avg	Avg	High	High		Avg	Avg	High	High		Avg	Avg	High	High	
3/12	103.7	104.0	104.1	24	102.8	103.1	103.5	24	103.9	104.2	104.4	24	104.2	104.7	104.9	24	---	---	---	0
3/13	101.9	102.3	103.0	24	101.0	101.4	101.9	24	101.8	102.3	103.0	24	102.5	102.9	103.4	24	---	---	---	0
3/14	100.8	100.9	101.1	22	100.2	100.6	101.2	22	101.0	101.1	101.3	22	101.7	102.0	102.4	22	---	---	---	0
3/15	100.8	101.1	101.4	24	100.4	100.8	101.0	24	101.3	101.7	102.1	24	102.0	102.4	102.8	24	---	---	---	0
3/16	101.1	101.4	101.8	24	101.0	101.5	102.0	24	102.4	102.7	103.1	24	102.8	103.4	104.0	24	---	---	---	0
3/17	100.3	100.7	101.4	24	100.1	100.5	100.8	24	101.1	101.3	101.5	24	102.0	102.5	103.2	24	---	---	---	0
3/18	100.7	100.9	101.1	24	100.5	100.9	101.6	24	101.3	101.6	101.7	24	102.4	103.2	104.1	24	---	---	---	0
3/19	101.1	101.4	101.7	17	100.7	100.9	101.6	17	102.0	102.4	102.7	24	102.7	103.2	103.6	24	---	---	---	0
3/20	102.6	103.1	103.6	24	102.4	103.1	103.5	24	102.8	103.2	103.6	24	103.7	104.3	104.8	24	---	---	---	0
3/21	103.2	103.4	103.9	24	102.9	103.3	104.2	24	103.0	103.1	103.4	24	104.1	104.2	104.4	24	---	---	---	0
3/22	102.7	102.9	103.1	24	102.0	102.3	102.5	24	102.6	102.6	102.8	24	103.6	103.7	103.9	24	---	---	---	0
3/23	102.3	102.5	102.8	24	101.7	102.1	102.4	24	102.4	102.7	103.1	24	103.2	103.4	103.4	24	---	---	---	0
3/24	103.1	103.7	104.3	24	103.0	103.8	104.1	24	103.5	104.1	104.5	24	104.2	104.7	105.1	24	---	---	---	0
3/25	103.8	104.1	104.4	24	103.3	103.7	104.0	24	104.5	104.7	105.0	24	105.0	105.2	105.4	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

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>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
3/12	104.0	104.4	104.6	24	103.7	104.1	104.3	24	---	---	---	0	104.1	104.4	104.5	24	103.7	104.1	104.5	13
3/13	101.8	102.2	103.0	24	101.8	102.2	102.6	24	---	---	---	0	102.4	102.9	103.4	24	102.3	102.6	103.0	24
3/14	101.5	101.8	102.5	22	101.3	101.7	101.9	22	---	---	---	0	101.9	102.2	102.3	23	102.1	102.6	103.0	22
3/15	102.0	102.2	102.8	24	101.7	102.2	102.5	24	101.2	101.2	101.6	11	102.8	103.7	106.8	24	102.7	103.3	103.7	24
3/16	101.8	102.0	102.1	24	101.9	102.3	102.8	24	100.7	101.5	102.4	24	103.2	103.7	104.2	24	103.1	103.4	103.8	24
3/17	101.8	102.4	103.0	24	101.5	102.0	102.3	24	99.1	99.7	100.4	24	102.1	102.3	102.6	24	102.4	102.9	103.3	24
3/18	102.5	102.8	103.2	24	102.4	102.9	103.3	24	98.3	99.2	101.6	24	102.3	102.9	103.5	24	102.8	103.2	103.5	24
3/19	104.7	105.6	106.4	24	103.7	104.6	104.8	24	100.0	100.5	102.4	17	103.4	103.6	103.8	17	103.0	103.2	103.9	17
3/20	105.8	106.3	106.9	24	104.9	105.3	105.7	24	100.8	101.5	103.3	24	103.9	104.4	104.9	24	104.0	104.7	105.0	24
3/21	105.8	106.0	106.3	24	104.8	105.1	105.5	24	101.2	101.7	102.9	24	104.2	104.5	105.3	24	104.5	104.7	105.0	24
3/22	104.5	104.7	105.1	24	104.2	104.5	104.8	24	100.6	101.0	101.3	24	103.0	103.2	103.5	24	103.7	104.0	104.3	24
3/23	104.1	104.3	104.5	24	104.1	104.6	105.3	24	100.0	100.8	102.0	24	103.0	103.6	103.8	24	103.4	103.8	104.1	24
3/24	106.3	107.3	108.0	24	105.5	106.5	107.0	24	102.7	104.2	105.3	24	104.4	105.4	106.0	24	104.8	105.7	106.1	24
3/25	105.6	106.4	107.2	24	105.0	105.5	106.1	24	102.6	103.1	104.1	24	104.5	104.8	104.9	24	105.4	105.7	106.0	24

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			#	<u>Bonneville</u>			#	<u>Warrendale</u>			#	<u>Camas\Washougal</u>			#	<u>Cascade Island</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
3/12	104.4	104.7	104.9	24	---	---	---	0	106.2	106.8	107.2	24	103.8	104.4	104.9	24	109.7	110.4	111.3	24
3/13	102.9	103.3	103.7	24	---	---	---	0	104.3	104.7	104.9	24	103.5	104.0	104.2	24	109.1	109.6	109.9	24
3/14	102.6	103.1	103.5	22	---	---	---	0	105.6	107.1	108.2	22	102.9	103.5	103.8	22	109.3	109.6	109.9	22
3/15	103.2	103.8	104.2	24	---	---	---	0	107.6	108.1	108.5	24	104.3	105.0	105.6	24	112.4	113.2	113.4	24
3/16	103.8	104.4	104.7	24	---	---	---	0	105.9	107.0	108.2	24	104.0	104.4	104.7	24	113.5	113.8	114.1	24
3/17	103.5	103.8	104.0	24	104.0	104.0	105.1	11	105.3	107.5	108.5	24	104.9	105.6	106.3	24	114.9	117.1	121.0	24
3/18	104.0	104.5	104.8	24	104.1	104.5	104.7	24	108.0	108.6	109.2	24	106.2	107.6	108.7	24	117.0	117.6	117.9	24
3/19	104.2	104.3	105.1	17	104.2	104.5	104.6	24	107.4	107.8	108.2	24	105.7	106.2	106.9	24	117.7	117.9	118.1	24
3/20	104.8	105.3	105.8	24	104.3	104.7	104.9	24	107.9	108.8	109.6	24	104.4	105.4	106.0	24	118.0	118.4	118.8	24
3/21	105.2	105.4	105.5	24	105.2	105.4	105.7	24	108.9	109.4	110.1	24	107.1	107.9	108.5	24	118.4	118.6	118.9	24
3/22	104.8	105.0	105.2	24	105.0	105.2	105.6	24	109.4	110.3	111.1	24	107.4	108.5	109.4	24	118.6	119.0	120.3	24
3/23	104.3	104.7	105.1	24	105.2	105.6	105.8	24	109.8	111.2	112.8	24	109.1	110.1	111.1	24	119.3	120.5	121.1	24
3/24	105.3	106.1	106.5	24	105.7	105.9	106.1	24	106.0	107.2	107.5	24	106.5	107.3	109.0	24	117.0	119.7	120.7	24
3/25	105.7	106.0	106.1	24	106.0	106.1	106.2	24	108.4	109.9	111.1	24	106.0	106.4	106.6	24	115.6	116.3	117.3	24

Two-Week Summary of Passage Indices

Date	COMBINED SOCKEYE										
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
03/12/2010	0	0	0	0	---	---	---	---	---	---	0
03/13/2010	0	0	0	0	---	---	---	---	---	---	0
03/14/2010	0	0	0	0	---	---	---	---	---	---	4
03/15/2010 *	0	0	0	0	---	---	---	---	---	---	0
03/16/2010	0	0	0	0	---	---	---	---	---	---	0
03/17/2010 *	0	0	0	0	---	---	---	---	---	---	0
03/18/2010	0	0	0	0	---	---	---	---	---	---	0
03/19/2010	0	0	0	0	---	---	---	---	---	---	0
03/20/2010	0	0	0	0	---	---	---	---	---	---	0
03/21/2010 *	0	0	0	0	---	---	---	---	---	---	0
03/22/2010	0	0	0	0	---	---	---	---	---	---	0
03/23/2010	0	0	0	0	---	---	---	---	---	---	0
03/24/2010	0	0	0	0	---	---	---	---	---	---	0
03/25/2010 *	0	---	0	0	---	---	---	---	---	---	0
03/26/2010	---	0	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	0	0	0	0	0	0	4
# Days:	14	14	14	14	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	4

* 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, and sockeye. Two classes of fish counts are shown in these tables: collection counts, which account for sample rates but are not adjusted for flow; and passage indices, 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.

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: 03/25

DAM	EndDate	Spring Chinook						Summer Chinook						Fall Chinook					
		2010		2009		10-Yr Avg.		2010		2009		10-Yr Avg.		2010		2009		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	03/23	121	7	53	0	822	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	03/22	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	03/21	72	0	8	0	-	-	-	-	-	-	-	-	0	0	0	0	-	-

DAM	Coho						Sockeye			Steelhead			
	2010		2009		10-Yr Avg.		2010	2009	10-Yr Avg.	2010	2009	10-Yr Avg.	Wild 2010
	Adult	Jack	Adult	Jack	Adult	Jack							
BON	0	0	0	0	0	0	0	0	0	850	223	329	247
TDA	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
MCN	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
LMN	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
LGR	0	0	0	0	0	0	0	0	0	3327	2315	3445	979
PRD	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
RRH	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
WFA	0	0	0	0	-	-	-	-	-	1969	1699	-	-

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.

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BON counts from January 1, 2009 to March 14, 2010 (historical counts begin March 15):

Year	Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
2010	39	0	2,318	657
2009	19	-1	321	109