



Fish Passage Center

Weekly Report #09 - 03

March 27, 2009

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 87% and 135% of average at individual sub-basins over March. Precipitation above The Dalles has been 117% of average over March. Over the entire water year, precipitation has generally been near 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 2009 March 1-23		Water Year 2009 October 1, 2008 to March 23 2009	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	1.59	119	13.01	94
Snake River Above Ice Harbor	1.38	113	10.08	102
Columbia Above The Dalles	1.67	117	13.33	97
Kootenai	1.72	130	12.68	90
Clark Fork	1.08	122	9.94	115
Flathead	1.35	112	11.25	96
Pend Oreille/ Spokane	2.44	119	17.64	91
Central Washington	0.80	129	5.02	88
Snake River Plain	0.73	87	5.48	94
Salmon/Boise/ Payette	1.95	135	10.71	87
Clearwater	2.37	114	19.66	110
SW Washington Cascades/Cowlitz	5.08	97	44.39	86
Willamette Valley	5.06	107	35.25	81

Snowpack within the Columbia Basin has generally been below average with the exception of lower Columbia Basins.

Average snowpack in the Columbia River for basins above the Snake River confluence is 87% of average, for Snake River Basins the average snowpack is 88% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 123% 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 increased between the March Final and March Mid-Month forecasts. The current forecast at The Dalles between January and July is 87700 Kaf (82% 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)	80	86200	82	87700
Grand Coulee (Jan-July)	87	54900	88	55600
Libby Res. Inflow, MT (Apr-Aug)	84 84*	5250 5296*	87	5440
Hungry Horse Res. Inflow, MT (Jan-July)	90	2010	92	2050
Lower Granite Res. Inflow (Apr- July)	75	16200	79	17100
Brownlee Res. Inflow (Apr-July)	53	3350	58	3670
Dworshak Res. Inflow (Apr-July)	82 92*	2170 2461*	87	2290

* Denotes COE Forecast

Grand Coulee Reservoir is at 1283.7 feet (3-26-09) and has drafted 0.3 feet in the last week. The Salmon Managers and the Action agencies have agreed to a DWR/GCL shift. The end of March shifted FC elevation is 1281.6 feet at Grand Coulee. Outflows at Grand Coulee have ranged between 41.4 and 86.6 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2403.9 feet (3-26-09) and drafted 0.3 feet last week. The end of March VarQ FC elevation at Libby is 2442.6 feet, therefore Libby is currently 38.7 feet below the end of March VarQ FC elevation at Libby. Outflows at Libby have been 4.0 Kcfs.

Hungry Horse is currently at an elevation of 3509.2 ft (3-26-09) and has drafted 0.2 feet last week. Outflows at Hungry Horse have been 1.9-2.8 Kcfs last week; Hungry Horse has been operating to Columbia Falls Minimum outflows. Hungry Horse's end of March VarQ FC elevation is 3539.5 feet, therefore Hungry Horse is currently 30.3 feet below the end of March VarQ FC elevation at Hungry Horse.

Dworshak is currently at an elevation of 1537.6 feet (3-26-09) and refilled 4.7 feet last week; outflows at Dworshak have been 1.6 Kcfs for much of the last week with the exception of the last two days (3-25-09 and 3-26-09) when outflows have been increased from Dworshak to approximately 4.5 Kcfs for 12-hours of each day for needs at the Dworshak Fish Hatchery. The end of March Shifted FC elevation is 1542.7 feet at Dworshak.

The Brownlee Reservoir was at an elevation of 2056.9 feet on March 26th, 2009, refilling 3.7 feet last week. The end of March FC elevation is 2074.6 feet at Brownlee Dam, therefore Brownlee is currently 17.7 feet below its end of March FC elevation. Outflows at Brownlee Dam have been 8.5 to 16.7 Kcfs over the last week.

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.

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, Willamette Falls Dam, and Lower Granite Dam using the historical counting schedule. Adult counts at Bonneville Dam have been updated through March 26th. Daily adult spring Chinook counts at Bonneville Dam ranged from 3 to 12 adult salmon per day. Between March 15th and March 26th, 84 spring Chinook have been counted at Bonneville Dam. In 2008, 70 adult spring Chinook were counted at Bonneville Dam for the same time period. The 2009 adult spring Chinook count at Bonneville Dam is 1.2 times greater than the 2008 count. The Bonneville spring Chinook adult count is only about 7.3% of the 10 year average of 1148. At Willamette Falls Dam 13 adult spring Chinook have been counted so far this year.

The Bonneville Dam 2009 steelhead count of 318 is about 1.07 times greater than the 2008 count of 296. The 2009 steelhead count is about 71% of the 10-year average of 448. At upriver sites, adult steelhead continue to move through the hydro system to reach their tributaries and spawning sites. The majority of these fish over-wintered in pools and will complete their trip to their spawning grounds in March through early May. Daily adult steelhead counts at Lower Granite Dam ranged from 175 to 409 adults per day last week. This year's Lower Granite steelhead count of 2025 is 81.4% of the 2008 count of 2487 and 62.2% of the 10 year average of 3253. The 2009 wild steelhead count as of March 21st was 430. At Willamette Falls Dam, the 2009 count for steelhead was 1819, as of March 25th. This year's steelhead count is only about 58.4% of the 2008 count of 3111 at Willamette Falls Dam for the same date range.

Smolt Monitoring:

Smolt monitoring activities continued this week at Bonneville Dam and Lower Granite Dam processed their first sample of fish March 26. Smolt Monitoring traps all continue sampling this weekly as well.

At the Imnaha River Trap, operated by the Nez Perce Tribe, a large number of yearling Chinook passed the project beginning March 15, when over

3,000 yearling Chinook were captured. These fish were from a release in the Imnaha River Hatchery on March 12. Numbers peaked on March 16 and have declined to less than 300 fish per day over the last week. At the same time the number of wild yearling Chinook being captured has increased over the past week, reaching 332 fish on March 23.

The Salmon River Trap, operated by Idaho Department of Fish and Game, has also been capturing large numbers of hatchery yearling Chinook over the past two weeks as recent hatchery releases pass down stream. Increasing numbers of wild yearling Chinook have also been collected in the past week. On March 25 139 wild Chinook were collected at the trap representing the highest passage numbers to date.

At the Grande Ronde Trap, operated by the Oregon Department of Fish and Wildlife, small but increasing numbers of yearling Chinook were captured this past week. Almost all fish collected at the trap this week were hatchery origin fish, likely released from a volitional release out of the Lostine Acclimation facility that began on March 18.

The Lewiston Trap on the Snake River has been capturing small numbers of yearling and sub-yearling Chinook as well as steelhead.

The first day of sampling at Lower Granite Dam there were predominantly yearling Chinook in the sample. Most of the Chinook were holdover fall Chinook. A small number of sockeye were also captured at the site, with these likely being kokanee from Dworshak Reservoir.

At Bonneville Dam the passage of Klickitat River hatchery yearling Chinook have diminished to only a few fish per day in the past week. The SMP crew have captured mostly Chinook fry over the past week of sampling.

Hatchery Release:

Snake River Zone: The Snake River Zone encompasses the Snake River and its tributaries from its confluence with the Columbia River to Hells Canyon Dam. Approximately 1.63 million yearling spring Chinook were released into the Clearwater River this week. Of these, about 63% were released from Dworshak NFH and 37% were released from Kooskia NFH. Rapid River Hatchery continued releasing yearling spring Chinook juveniles to the Little Salmon River this week. These releases are currently scheduled to end in early April. In all, these releases are expected to total about 2.7 million juveniles. Beginning on March 23rd, McCall Hatchery was scheduled to release

just over 1.1 million yearling summer Chinook to the Salmon River. This release was scheduled to end on March 26th. Finally, approximately 625,000 summer steelhead juveniles were scheduled for release into the Snake River Zone this week. Of these, 84% were scheduled for release into the Snake River just below Hells Canyon Dam, while the remaining 16% were scheduled for release into the Little Salmon River.

There are several releases of yearling spring Chinook juveniles scheduled to begin over the next two weeks throughout the Snake River Zone. In all, these releases will total about 371,500 spring Chinook juveniles. Of these, approximately 50% are scheduled for release into the Wallowa River, 27% are scheduled for release into the Clearwater River, and 23% are scheduled for release into the Tucannon River. In addition, approximately 871,110 yearling summer Chinook are scheduled for release into the Pahsimeroi River, beginning March 30th. Beginning the first week of April, about 450,000 yearling fall Chinook are scheduled for release from Lyons Ferry Hatchery into the Snake River. Finally, nearly 2.92 million summer steelhead juveniles are scheduled for release into the Snake River Zone over the next two weeks. Of these, 37% are scheduled for release into the Salmon River and its tributaries, 29% are scheduled for release into the Clearwater River and its tributaries, 28% are scheduled for release into the Pahsimeroi River, and 6% are scheduled for release into the Grand Rhonde River.

Mid-Columbia Zone: The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. There were no releases of juvenile salmonids to the Mid-Columbia Zone that were scheduled to begin this week. However, beginning April 1st, approximately 250,000 yearling spring Chinook juveniles from Carson NFH will be released into the Walla Walla River. The Yakama Tribal Program to re-establish Coho runs in the Yakima, Methow, and Wenatchee basins is scheduled to begin releasing coho juveniles in early April. In all, approximately 2.4 million coho are scheduled for release in 2009 as part of this program. The Wenatchee River releases are scheduled to begin on April 1st, with a release of nearly 39,000 coho to Nason Creek, a tributary of the Wenatchee River. The Yakima River releases are scheduled to begin on April 6th, with several releases from various acclimation ponds throughout the Yakima River Basin. In all, these volitional releases to the Yakima River Basin will total about 1.02 million juvenile coho. These volitional releases to the Yakima

River Basin are expected to run through mid-May. The Methow River releases are not scheduled to begin until about April 15th. There are no other releases of juvenile salmonids scheduled to begin over the next two weeks for this zone.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. No releases were scheduled to begin in the Lower Columbia Zone this week. However, approximately 37,500 yearling spring Chinook are scheduled to be released into Hood River on April 9th. In addition, approximately 3 million coho juveniles are scheduled for release into this zone over the next two weeks. Of these, 83% are scheduled for release into the Klickitat River, while the remaining 17% are scheduled for release into the Umatilla River. Finally, about 174,400 summer steelhead juveniles are scheduled for release into the Deschutes River over the next two weeks.

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
03/13/2009	57.0	0.0	61.3	0.0	64.6	0.0	64.6	0.0	66.0	0.0	63.4	0.0	62.0	0.0
03/14/2009	45.7	0.0	43.8	0.0	49.0	0.0	49.5	0.0	49.4	0.0	67.3	0.0	61.9	0.0
03/15/2009	51.0	0.0	56.2	0.0	55.0	0.0	55.9	0.0	55.7	0.0	59.8	0.0	62.1	0.0
03/16/2009	91.3	0.0	93.5	0.0	92.8	0.0	88.7	0.0	88.6	0.0	74.3	0.0	63.6	0.0
03/17/2009	82.3	0.0	79.1	0.0	82.6	0.0	82.7	0.0	84.3	0.0	89.2	0.0	87.2	0.0
03/18/2009	78.3	0.0	77.8	0.0	82.5	0.0	83.4	0.0	85.5	0.0	95.3	0.0	94.2	0.0
03/19/2009	67.0	0.0	67.3	0.0	71.3	0.0	72.2	0.0	74.3	0.0	84.9	0.0	82.6	0.0
03/20/2009	53.8	0.0	62.0	0.0	58.2	0.0	53.7	0.0	55.0	0.0	65.5	0.0	63.2	0.0
03/21/2009	46.0	0.0	39.5	0.0	49.3	0.0	53.2	0.0	54.6	0.0	64.7	0.0	62.3	0.0
03/22/2009	41.4	0.0	44.1	0.0	40.0	0.0	35.8	0.0	37.9	0.0	58.4	0.0	62.0	0.0
03/23/2009	77.2	0.0	76.0	0.0	76.3	0.0	74.8	0.0	73.4	0.0	69.4	0.0	64.0	0.0
03/24/2009	63.1	0.0	58.5	0.0	62.9	0.0	67.3	0.0	70.4	0.0	58.6	0.0	63.4	0.0
03/25/2009	84.9	0.0	91.1	0.0	92.0	0.0	88.0	0.0	88.4	0.0	84.5	0.0	73.8	0.0
03/26/2009	86.6	0.0	86.4	0.0	91.0	0.0	89.4	0.0	91.2	0.0	95.3	0.0	96.5	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
03/13/2009	1.6	0.0	12.0	15.2	31.5	0.0	36.3	0.0	36.9	0.0	37.8	0.0
03/14/2009	1.6	0.0	11.5	12.7	28.3	0.0	32.6	0.0	34.5	0.0	35.4	0.0
03/15/2009	1.6	0.0	11.5	9.9	26.5	0.0	26.7	0.0	30.0	0.0	30.1	0.0
03/16/2009	1.6	0.0	13.1	16.3	30.5	0.0	27.8	0.8	31.7	0.0	33.8	0.0
03/17/2009	1.6	0.0	15.6	10.9	37.6	0.0	36.2	2.1	41.7	0.0	42.3	0.0
03/18/2009	1.6	0.0	14.8	11.6	34.6	0.0	32.9	2.6	37.4	0.0	37.7	0.0
03/19/2009	1.6	0.0	15.8	14.4	32.2	0.0	30.8	2.0	33.6	0.0	33.5	0.0
03/20/2009	1.6	0.0	15.3	15.8	33.1	0.0	32.0	0.0	35.3	0.0	33.5	0.0
03/21/2009	1.6	0.0	16.1	14.7	41.3	0.0	38.6	2.4	41.2	0.0	41.5	0.0
03/22/2009	1.6	0.0	15.7	10.9	45.4	0.0	44.0	1.4	47.2	0.0	46.5	0.0
03/23/2009	1.6	0.0	17.9	15.9	49.5	0.0	39.0	1.4	45.1	0.0	49.3	0.0
03/24/2009	1.6	0.0	15.3	10.9	48.4	0.0	47.3	1.4	55.1	0.0	58.2	0.0
03/25/2009	3.1	0.0	14.9	10.8	49.8	0.0	49.9	1.4	54.6	0.0	54.8	0.0
03/26/2009	3.0	0.0	---	---	50.0	0.0	47.4	1.2	52.8	0.0	52.3	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
03/13/2009	104.6	0.0	109.3	0.0	114.9	0.0	125.3	1.3	17.6	100.4
03/14/2009	103.1	0.0	105.4	0.0	108.3	0.0	120.3	1.3	15.3	97.2
03/15/2009	98.7	0.0	97.4	0.0	100.2	0.0	115.8	1.3	8.8	99.7
03/16/2009	108.7	0.0	114.3	0.0	113.7	0.0	118.3	1.3	10.0	100.9
03/17/2009	122.0	0.0	124.4	0.0	128.6	0.0	141.8	1.3	24.9	109.6
03/18/2009	124.2	0.0	133.3	0.0	136.5	0.0	150.4	1.3	48.2	94.9
03/19/2009	119.4	0.0	118.6	0.0	118.2	0.0	132.5	1.3	29.7	95.5
03/20/2009	103.0	0.0	109.1	0.0	110.0	0.0	124.1	1.3	19.3	97.5
03/21/2009	107.8	0.0	107.3	0.0	112.1	0.0	122.3	1.3	16.3	98.5
03/22/2009	110.1	0.0	112.4	0.0	111.8	0.0	122.8	1.3	16.4	98.7
03/23/2009	122.4	0.0	135.8	0.0	137.9	0.0	149.3	1.3	37.3	104.3
03/24/2009	129.6	0.0	149.2	0.0	150.7	0.0	167.7	1.3	55.7	104.3
03/25/2009	126.7	0.0	128.0	0.0	129.8	0.0	139.5	1.3	29.8	102.0
03/26/2009	148.6	0.0	161.3	0.0	163.2	0.0	173.2	1.3	57.4	108.1

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 3/13/2009 to 03/26/09

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2009	333,914	03-15-09	04-15-09	Lochsa River	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2009	404,155	03-15-09	04-15-09	Lochsa River	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2009	404,989	03-15-09	04-15-09	Red River	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2009	703,326	03-15-09	04-15-09	Crooked River	S Fk Clearwater River
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2009	1,106,000	03-23-09	03-26-09	S Fk Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2009	525,000	03-23-09	04-01-09	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2009	200,000	03-20-09	03-20-09	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2009	500,000	03-16-09	03-19-09	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2009	2,500,000	03-16-09	04-02-09	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game Total					6,677,384				
Nez Perce Tribe	Clearwater Hatchery	CH1	SP	2009	399,953	03-15-09	04-15-09	Selway River	Clearwater River M F
Nez Perce Tribe	Kooskia NFH	CH1	SP	2009	162,000	03-23-09	03-23-09	Kooskia Hatchery	Clearwater River M F
Nez Perce Tribe	Kooskia NFH	CH1	SP	2009	443,000	03-23-09	03-23-09	Kooskia Hatchery	Clearwater River M F
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2009	124,500	03-18-09	03-31-09	Lostine Accim Pond	Wallowa River
									South Fork Salmon River
Nez Perce Tribe	McCall Hatchery	CH1	SU	2009	91,150	03-16-09	03-20-09	Johnson Cr Idaho	River
Nez Perce Tribe Total					1,220,603				
U.S. Fish and Wildlife Service	Dworshak NFH	CH1	SP	2009	1,025,000	03-25-09	03-26-09	Dworshak Hatchery	Clearwater River M F
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2009	100,000	03-25-09	03-27-09	Little Salmon River	Salmon River (ID)
								Warm Springs	
U.S. Fish and Wildlife Service	Warm Springs NFH	CH1	SP	2009	570,000	03-20-09	04-20-09	Hatchery	Deschutes River
U.S. Fish and Wildlife Service Total					1,695,000				
Umatilla Tribe	Oxbow-Oregon	CO	UN	2009	500,000	03-15-09	03-15-09	Umatilla River	Umatilla River
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2009	460,000	03-02-09	04-15-09	Imeques Acclim Pond	Umatilla River
Umatilla Tribe Total					960,000				
								Jack Creek Acclim	
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2009	251,067	03-16-09	05-15-09	Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2009	254,889	03-16-09	05-15-09	Easton Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2009	266,044	03-16-09	05-15-09	Clark Flat Acclim Pond	Yakima River
Yakama Tribe Total					772,000				
Grand Total					11,324,987				

Hatchery Releases Next Two Weeks

Hatchery Release Summary									
From:					3/27/2009	to	4/9/2009		
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2009	333,914	03-15-09	04-15-09	Lochsa River	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2009	404,155	03-15-09	04-15-09	Lochsa River	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2009	404,989	03-15-09	04-15-09	Red River	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2009	703,326	03-15-09	04-15-09	Crooked River	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2009	100,686	04-01-09	04-30-09	Red River	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2009	165,457	04-01-09	04-30-09	Crooked River	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2009	264,219	04-01-09	04-30-09	S Fk Clearwater River	Clearwater River M F
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2009	126,000	04-06-09	04-09-09	Salmon River (ID)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2009	218,000	04-06-09	04-09-09	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2009	170,000	04-01-09	05-01-09	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2009	275,000	04-01-09	04-08-09	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2009	525,000	03-23-09	04-01-09	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2009	830,000	04-09-09	04-28-09	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2009	871,110	03-30-09	04-15-09	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2009	2,500,000	03-16-09	04-02-09	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game Total					7,891,856				
Nez Perce Tribe	Clearwater Hatchery	CH1	SP	2009	399,953	03-15-09	04-15-09	Selway River	Clearwater River M F
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2009	25,360	04-01-09	04-30-09	Meadow Creek - CLES	S Fk Clearwater River
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2009	25,360	04-01-09	04-30-09	Mill Cr Bridge	S Fk Clearwater River
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2009	50,271	04-01-09	04-30-09	Lolo Creek	Clearwater River M F
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2009	73,324	04-01-09	04-30-09	Crooked River	S Fk Clearwater River
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2009	131,939	04-01-09	04-30-09	Red River	S Fk Clearwater River
Nez Perce Tribe	Hagerman NFH	ST	SU	2009	40,000	04-06-09	04-06-09	Little Salmon River	Salmon River (ID)
Nez Perce Tribe	Hagerman NFH	ST	SU	2009	160,000	03-30-09	04-03-09	Little Salmon River	Salmon River (ID)
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2009	61,800	03-31-09	03-31-09	Lostine Accim Pond	Wallowa River
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2009	62,100	03-31-09	03-31-09	Lostine Accim Pond	Wallowa River
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2009	124,500	03-18-09	03-31-09	Lostine Accim Pond	Wallowa River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH1	SP	2009	133,000	04-01-09	04-15-09	Nez Perce Tribal Hatchery	Clearwater River M F
Nez Perce Tribe Total					1,287,607				
Oregon Dept. of Fish and Wildlife	Oak Springs Hatchery	ST	SU	2009	12,400	04-01-09	04-01-09	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	ST	SU	2009	162,000	04-08-09	04-08-09	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife Total					174,400				
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2009	100,000	03-25-09	03-27-09	Little Salmon River	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2009	100,000	04-08-09	04-10-09	East Fk Salmon River	Salmon River (ID)
U.S. Fish and Wildlife Service	Warm Springs NFH	CH1	SP	2009	570,000	03-20-09	04-20-09	Warm Springs Hatchery	Deschutes River
U.S. Fish and Wildlife Service Total					770,000				
Umatilla Tribe	Carson NFH	CH1	SP	2009	250,000	04-01-09	04-08-09	Walla Walla River	Walla Walla River
Umatilla Tribe	Cascade Hatchery	CO	UN	2009	500,000	04-05-09	04-11-09	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2009	460,000	03-02-09	04-15-09	Imeques Acclim Pond	Umatilla River
Umatilla Tribe Total					1,210,000				
Warm Springs Tribe	Round Butte Hatchery	CH1	SP	2009	37,500	04-09-09	04-09-09	W Fk Hood River	Hood River
Warm Springs Tribe Total					37,500				
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH1	FA	2009	447,500	04-01-09	04-15-09	Lyons Ferry Hatchery	Snake River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2009	168,000	04-01-09	04-30-09	Cottonwood Acclim Pond	Grande Ronde River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2009	55,000	04-01-09	04-21-09	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2009	59,000	04-01-09	04-21-09	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Washougal Hatchery	CO	NO	2009	2,500,000	04-01-09	04-15-09	Klickitat River	Klickitat River
Washington Dept. of Fish and Wildlife Total					3,229,500				
Yakama Tribe	Cascade Hatchery	CO	UN	2009	38,869	04-01-09	04-15-09	Nason Creek Jack Creek Acclim Pond	Wenatchee River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2009	251,067	03-16-09	05-15-09	Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2009	254,889	03-16-09	05-15-09	Easton Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2009	266,044	03-16-09	05-15-09	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2009	50,000	04-06-09	05-15-09	Boone Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2009	72,000	04-06-09	05-15-09	Easton Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2009	97,000	04-06-09	05-15-09	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2009	150,000	04-06-09	05-15-09	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2009	170,000	04-06-09	05-15-09	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2009	37,659	04-06-09	05-15-09	Easton Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2009	68,473	04-06-09	05-15-09	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2009	73,217	04-06-09	05-15-09	Holmes Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2009	74,124	04-06-09	05-15-09	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2009	109,549	04-06-09	05-15-09	Prosser Acclim Pond	Yakima River
Yakama Tribe	Washougal Hatchery	CO	UN	2009	120,000	04-06-09	05-15-09	Prosser Acclim Pond	Yakima River
Yakama Tribe Total					1,832,891				
Grand Total					16,433,754				

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

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

	<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>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
3/13	---	---	---	0	102	103	103	23	100	100	100	8	103	104	105	23	100	100	101	24
3/14	---	---	---	0	103	103	104	23	---	---	---	0	105	106	107	23	101	101	102	24
3/15	---	---	---	0	103	103	104	23	---	---	---	0	106	107	108	23	102	102	102	24
3/16	---	---	---	0	102	102	104	22	---	---	---	0	104	105	108	22	101	101	101	24
3/17	---	---	---	0	101	101	102	22	---	---	---	0	103	104	106	22	101	101	101	24
3/18	---	---	---	0	101	103	104	23	101	101	101	18	103	103	104	23	101	101	102	24
3/19	---	---	---	0	102	103	104	23	102	102	102	22	104	105	106	23	102	102	102	24
3/20	---	---	---	0	103	103	104	22	103	103	103	21	105	106	107	22	101	101	101	4
3/21	---	---	---	0	103	104	105	20	103	103	104	24	106	107	109	20	---	---	---	0
3/22	---	---	---	0	103	104	105	24	103	103	103	24	106	107	108	24	---	---	---	0
3/23	---	---	---	0	102	103	104	21	102	102	102	24	103	104	105	21	102	102	102	24
3/24	---	---	---	0	102	103	104	21	102	102	103	24	101	103	104	21	102	102	103	24
3/25	---	---	---	0	103	104	104	24	103	103	103	24	98	99	100	24	103	103	104	24
3/26	97	97	101	11	102	103	104	22	102	102	102	24	99	100	101	22	102	103	103	24

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

<u>Date</u>	<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>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
3/13	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/14	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/18	102	103	104	15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/19	108	109	111	24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/20	112	112	113	4	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/21	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
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
3/26	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0

Total Dissolved Gas Saturation at Mid Columbia River Sites

<u>Date</u>	<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>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
3/13	---	---	---	0	---	---	---	0	100	100	101	24	101	102	102	24	101	102	103	24
3/14	---	---	---	0	---	---	---	0	101	102	103	24	103	103	103	24	103	103	104	24
3/15	---	---	---	0	---	---	---	0	103	103	104	24	103	104	104	24	103	104	104	24
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/18	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/19	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/20	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/21	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
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
3/26	---	---	---	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			Clwrtr-Peck			Anatone							
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#				
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
3/13	102	103	103	24	---	---	---	0	99	99	99	7	---	---	---	0	---	---	---	0
3/14	103	104	104	24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/15	103	104	105	24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/18	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/19	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/20	---	---	---	0	---	---	---	0	102	103	103	24	---	---	---	0	---	---	---	0
3/21	---	---	---	0	---	---	---	0	102	103	103	24	---	---	---	0	---	---	---	0
3/22	---	---	---	0	---	---	---	0	101	102	102	24	---	---	---	0	---	---	---	0
3/23	---	---	---	0	---	---	---	0	100	101	101	24	---	---	---	0	---	---	---	0
3/24	---	---	---	0	103	103	104	14	100	101	101	24	---	---	---	0	---	---	---	0
3/25	---	---	---	0	103	103	104	24	99	100	100	19	---	---	---	0	102	102	106	7
3/26	---	---	---	0	102	103	104	24	100	101	113	15	101	101	104	13	101	102	103	24

Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clwrtr-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	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
3/13	---	---	---	0	---	---	---	0	99	99	100	7	---	---	---	0	99	99	99	7
3/14	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/18	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/19	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/20	---	---	---	0	---	---	---	0	104	104	104	24	102	102	104	7	101	102	105	20
3/21	---	---	---	0	---	---	---	0	103	103	103	24	103	103	105	24	105	108	113	24
3/22	---	---	---	0	---	---	---	0	102	103	103	24	103	103	103	24	104	105	107	24
3/23	---	---	---	0	---	---	---	0	101	102	102	24	102	102	102	24	104	105	108	24
3/24	---	---	---	0	---	---	---	0	102	102	102	24	103	103	104	24	103	104	105	24
3/25	---	---	---	0	102	102	102	12	102	103	107	24	104	104	104	24	104	105	106	24
3/26	102	102	103	11	100	100	101	24	100	100	100	24	102	102	103	24	102	103	103	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	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
3/13	---	---	---	0	99	99	99	8	---	---	---	0	100	100	100	7	---	---	---	0
3/14	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	---	---	---	0	---	---	---	0	---	---	---	0	100	100	101	7	---	---	---	0
3/18	---	---	---	0	---	---	---	0	---	---	---	0	101	101	101	24	---	---	---	0
3/19	---	---	---	0	---	---	---	0	102	102	102	9	101	102	102	24	---	---	---	0
3/20	101	102	102	24	101	102	102	24	102	103	103	24	102	103	103	24	---	---	---	0
3/21	103	103	104	24	103	103	104	24	103	103	104	24	103	103	104	24	---	---	---	0
3/22	103	104	104	24	104	104	104	24	103	104	104	24	103	103	104	24	---	---	---	0
3/23	102	102	103	24	102	102	103	24	102	102	102	24	101	102	102	24	---	---	---	0
3/24	102	103	103	24	102	103	104	24	102	102	103	24	102	102	102	24	---	---	---	0
3/25	103	104	104	24	103	104	104	24	103	103	103	24	103	103	104	24	---	---	---	0
3/26	103	103	104	24	103	103	104	24	102	102	103	24	102	102	102	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>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	AVG	High	hr				
3/13	---	---	---	0	100	100	100	7	---	---	---	0	100	100	100	7	---	---	---	0
3/14	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/18	---	---	---	0	---	---	---	0	102	102	105	13	101	102	102	22	103	103	103	7
3/19	---	---	---	0	---	---	---	0	103	103	104	24	103	103	103	24	104	104	105	24
3/20	---	---	---	0	104	104	104	24	104	104	104	24	103	104	104	24	105	105	106	24
3/21	---	---	---	0	104	105	105	24	104	105	105	24	104	104	104	24	105	105	106	24
3/22	---	---	---	0	104	105	105	24	104	104	105	24	103	104	104	24	104	105	105	24
3/23	104	104	107	13	103	103	103	24	102	103	103	24	102	102	102	24	102	102	103	24
3/24	104	104	104	24	103	104	104	24	103	103	103	24	103	103	103	24	103	103	104	24
3/25	104	104	104	24	103	103	103	24	104	104	104	24	103	103	104	24	104	104	104	24
3/26	102	102	103	24	102	102	102	24	103	103	104	24	102	103	103	24	103	103	104	24

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			<u>Bonneville</u>			<u>Warrendale</u>			<u>CamasWashougal</u>			<u>Cascade Island</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	AVG	High	hr				
3/13	102	102	102	7	---	---	---	0	103	103	103	7	---	---	---	0	---	---	---	0
3/14	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/18	102	103	103	22	---	---	---	0	104	104	105	22	---	---	---	0	---	---	---	0
3/19	104	105	105	24	104	104	105	12	105	106	106	24	---	---	---	0	113	113	117	11
3/20	105	106	106	24	105	105	106	24	106	107	107	24	---	---	---	0	114	116	118	24
3/21	105	106	106	24	106	106	107	24	107	108	108	24	---	---	---	0	115	117	119	24
3/22	105	105	105	24	105	106	106	24	106	107	107	24	---	---	---	0	113	116	119	24
3/23	103	103	103	24	103	103	104	24	105	105	105	24	---	---	---	0	113	114	117	24
3/24	103	104	104	24	103	103	103	24	104	104	105	24	105	105	105	13	115	116	118	24
3/25	104	104	105	24	103	103	104	24	104	105	105	24	104	104	105	24	112	114	115	24
3/26	103	103	104	24	103	103	104	24	104	104	104	24	104	105	105	24	109	109	109	24

Two-Week Summary of Passage Indices

COMBINED COHO											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
03/13/2009	*	0	0	0	0	---	---	---	---	---	6
03/14/2009		0	---	0	0	---	---	---	---	---	9
03/15/2009	*	0	0	0	0	---	---	---	---	---	5
03/16/2009	*	0	0	0	0	---	---	---	---	---	0
03/17/2009	*	0	0	0	0	---	---	---	---	---	22
03/18/2009		0	0	0	0	---	---	---	---	---	0
03/19/2009		0	0	0	0	---	---	---	---	---	0
03/20/2009	*	0	0	0	0	---	---	---	---	---	0
03/21/2009		0	0	0	0	---	---	---	---	---	14
03/22/2009		0	0	0	0	---	---	---	---	---	5
03/23/2009		0	0	0	0	---	---	---	---	---	24
03/24/2009		0	0	0	0	---	---	---	---	---	12
03/25/2009		0	0	0	0	---	---	---	---	---	12
03/26/2009		0	0	0	0	0	---	---	---	---	0
03/27/2009		---	---	---	---	---	---	---	---	---	---
<hr/>											
Total:		0	0	0	0	0	0	0	0	0	109
# Days:		14	13	14	14	1	0	0	0	0	14
Average:		0	0	0	0	0	0	0	0	0	8
YTD		0	0	0	0	0	0	0	0	0	182

COMBINED STEELHEAD											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
03/13/2009	*	0	1	0	0	---	---	---	---	---	0
03/14/2009		0	---	0	0	---	---	---	---	---	0
03/15/2009	*	0	0	0	0	---	---	---	---	---	5
03/16/2009	*	0	0	0	0	---	---	---	---	---	4
03/17/2009	*	0	0	0	2	---	---	---	---	---	0
03/18/2009		0	0	0	0	---	---	---	---	---	0
03/19/2009		0	0	0	0	---	---	---	---	---	0
03/20/2009	*	0	2	1	0	---	---	---	---	---	0
03/21/2009		0	2	1	0	---	---	---	---	---	0
03/22/2009		0	3	4	0	---	---	---	---	---	0
03/23/2009		0	9	6	0	---	---	---	---	---	5
03/24/2009		0	7	3	1	---	---	---	---	---	0
03/25/2009		0	7	1	0	---	---	---	---	---	0
03/26/2009		0	5	3	4	20	---	---	---	---	5
03/27/2009		---	---	---	---	---	---	---	---	---	---
<hr/>											
Total:		0	36	19	7	20	0	0	0	0	19
# Days:		14	13	14	14	1	0	0	0	0	14
Average:		0	3	1	1	20	0	0	0	0	1
YTD		0	52	19	7	20	0	0	0	0	38

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)
03/13/2009 *	0	0	0	0	---	---	---	---	---	---	0
03/14/2009	0	---	0	0	---	---	---	---	---	---	0
03/15/2009 *	0	0	0	0	---	---	---	---	---	---	0
03/16/2009 *	0	0	0	0	---	---	---	---	---	---	0
03/17/2009 *	0	0	0	0	---	---	---	---	---	---	0
03/18/2009	0	0	0	0	---	---	---	---	---	---	0
03/19/2009	0	0	0	0	---	---	---	---	---	---	0
03/20/2009 *	0	0	0	0	---	---	---	---	---	---	0
03/21/2009	0	0	0	0	---	---	---	---	---	---	0
03/22/2009	0	0	0	0	---	---	---	---	---	---	0
03/23/2009	0	0	0	0	---	---	---	---	---	---	0
03/24/2009	0	0	0	0	---	---	---	---	---	---	0
03/25/2009	0	0	0	0	---	---	---	---	---	---	0
03/26/2009	0	0	0	0	50	---	---	---	---	---	0
03/27/2009	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	50	0	0	0	0	0	0
# Days:	14	13	14	14	1	0	0	0	0	0	14
Average:	0	0	0	0	50	0	0	0	0	0	0
YTD	0	0	0	0	50	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.

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

3/27/09

		03/13/09 TO 03/27/09			
		Species			
Site	Data	CH1	ST	SO	Grand Total
LGR	Sum of NumberCollected	170	20	50	240
	Sum of NumberBarged	0	0	0	0
	Sum of NumberBypassed	170	20	50	240
	Sum of Numbertrucked	0	0	0	0
	Sum of SampleMorts	0	0	0	0
	Sum of FacilityMorts	0	0	0	0
	Sum of ResearchMorts	0	0	0	0
	Sum of TotalProjectMorts	0	0	0	0
Total Sum of NumberCollected		170	20	50	240
Total Sum of NumberBarged		0	0	0	0
Total Sum of NumberBypassed		170	20	50	240
Total Sum of Numbertrucked		0	0	0	0
Total Sum of SampleMorts		0	0	0	0
Total Sum of FacilityMorts		0	0	0	0
Total Sum of ResearchMorts		0	0	0	0
Total Sum of TotalProjectMorts		0	0	0	0

YTD Transportation Summary

Source: Fish Passage Center

Updated:

3/27/09

TO: 03/27/09

Site	Data	Species			Grand Total
		CH1	SO	ST	
LGR	Sum of NumberCollected	170	50	20	240
	Sum of NumberBarged	0	0	0	0
	Sum of NumberBypassed	170	50	20	240
	Sum of NumberTrucked	0	0	0	0
	Sum of SampleMorts	0	0	0	0
	Sum of FacilityMorts	0	0	0	0
	Sum of ResearchMorts	0	0	0	0
	Sum of TotalProjectMorts	0	0	0	0
Total Sum of NumberCollected		170	50	20	240
Total Sum of NumberBarged		0	0	0	0
Total Sum of NumberBypassed		170	50	20	240
Total Sum of NumberTrucked		0	0	0	0
Total Sum of SampleMorts		0	0	0	0
Total Sum of FacilityMorts		0	0	0	0
Total Sum of ResearchMorts		0	0	0	0
Total Sum of TotalProjectMorts		0	0	0	0

Cumulative Adult Passage at Mainstem Dams Through: 03/26

DAM	EndDate	Spring Chinook						Summer Chinook						Fall Chinook					
		2009		2008		10-Yr Avg.		2009		2008		10-Yr Avg.		2009		2008		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	03/26	84	0	70	0	1148	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	03/21	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	03/25	13	0	0	0	-	-	0	0	0	0	-	-	0	0	0	0	0	-

DAM	Coho						Sockeye			Steelhead			
	2009		2008		10-Yr Avg.		2009	2008	10-Yr Avg.	2009	2008	10-Yr Avg.	Wild 2009
	Adult	Jack	Adult	Jack	Adult	Jack							
BON	0	0	0	0	0	0	0	0	0	318	296	448	105
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	2025	2487	3253	430
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	-	-	0	0	-	1819	3111	-	-

BON and LGR have switched to video counts so the data is delayed.

*PRD is not posting 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: 03/27/09

BON counts from January 1, 2009 to March 14, 2009 (our traditional counts begin March 15):

Year	Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
2009	19	-1	321	109
2008	42	0	568	273