



# Fish Passage Center Weekly Report #08 - 05

April 4, 2008

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## Summary of Events:

**Water Supply:** Precipitation throughout the Columbia Basin has varied between 42% and 131% of average at individual sub-basins over March. Precipitation above The Dalles has been 86% of average over March. Over the entire water year, precipitation has generally been near or above 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 2008		Water Year 2008	
	March 1-24		October 1, 2007 to March 24, 2008	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	1.05	75	14.63	106
Snake River Above Ice Harbor	1.19	93	11.00	111
Columbia Above The Dalles	1.27	86	14.73	106
Kootenai	0.94	68	14.10	99
Clark Fork	0.83	89	10.00	115
Flathead	1.11	88	11.71	99
Pend Oreille/Spokane	2.06	96	21.34	109
Central Washington	0.27	42	4.35	76
Snake River Plain	0.57	65	5.47	93
Salmon/Boise/Payette	1.22	81	14.08	114
Clearwater	2.85	131	19.47	108
SW Washington Cascades/Cowlitz	4.81	88	48.48	93
Willamette Valley	5.07	102	46.54	106

Snowpack within the Columbia Basin is above average. Average snowpack in the Columbia River for basins above the Snake River confluence is 110% of average, for Snake River

Basins the average snowpack is 107% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 161% of average.

Table 2 displays the March Final and April Early Bird runoff volume forecasts for multiple reservoirs. Water Supply Forecasts generally decreased somewhat between the March Final and April EarlyBird forecasts, with the exception of Dworshak and Lower Granite Dam which increased 8% and 2%, respectively. The current forecast (April EarlyBird) at The Dalles between January and July is 102000 Kaf (95% of average).

**Table 2. March Final and April Early Bird Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.**

Location	March Final		April EarlyBird	
	% Average (1971-2000)	Probable Runoff Volume (Kaf)	% Average (1971-2000)	Probable Runoff Volume (Kaf)
The Dalles (Jan-July)	96	103000	95	102000
Grand Coulee (Jan-July)	99	62300	97	61300
Libby Res. Inflow, MT (Jan-July)	98	6190	96	6080
Hungry Horse Res. Inflow, MT (Jan-July)	94	2100	94	2080
Lower Granite Res. Inflow (Apr- July)	107	23000	109	23500
Brownlee Res. Inflow (Apr-July)	87	5500	86	5440
Dworshak Res. Inflow (Apr-July)	110	2920	118	3110

Grand Coulee Reservoir is at 1247.7 feet (4-3-08) and has drafted 3.3 feet in the last week. At the March 12, 2008 TMT Meeting the Salmon Managers and the Action agencies agreed to a DWR/GCL shift. The estimated Shifted April 10th (interpolated between the March 31st and April 15th Shifted Flood control elevations) elevation is 1244.5 feet at Grand Coulee. Outflows at Grand Coulee have ranged between 58.9 and 95.7 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2395.9 feet (4-3-08) and drafted 0.6 feet last week. The estimated April 10th elevation is 2399.8 feet at Libby. Outflows at Libby have been 4.0 Kcfs.

Hungry Horse is currently at an elevation of 3506.0 ft (4-3-08) and has drafted 1.3 feet last week. Outflows at Hungry Horse have been 2.8 Kcfs last week; Hungry Horse has been operating to Columbia Falls Minimum outflows. Hungry Horse's estimated April 10th elevation is 3528.3 feet at Hungry Horse.

Dworshak is currently at an elevation of 1506.6 feet (4-3-08) and drafted 9.3 feet last week; outflows at Dworshak have recently been increased to 16.6 Kcfs. The COE's April forecast at Dworshak increased from 105% to 112% of average which led to a rather significant decrease in FC elevations at Dworshak. The end of April FC elevation is 1463.7 feet at Dworshak.

The Brownlee Reservoir was at an elevation of 2032.3 feet on April 3rd, 2008, drafting 2.0 feet last week. The estimated April 10th elevation is 2037.3 feet at Brownlee Dam. Outflows at Brownlee Dam have been 12.5 to 18.6 Kcfs over the last week.

**Spill:** Flows were increased at Dworshak Dam in response to the latest runoff volume forecast. Spill of about 4 - 5.6 Kcfs has been occurring at this project since April 2, 2008. Some small amounts of spill occurred at Lower Monumental Dam as part of the RSW testing earlier this week. The 2008 planned spill at the lower Snake River Projects began on April 3. All lower Snake River projects are now spilling.

There is an issue with the rubber seals on the RSW at Ice Harbor Dam requiring their replacement. The following operation has been developed by the Corps for the replacement of the seals. Beginning at 0001 hours on April 3 and continuing through approximately 0600 hours on Monday morning (April 7th), the Ice Harbor project will spill 45 Kcfs during daytime hours and gas cap spill during nighttime hours, through spillbays 3-10 using the spill pattern in the Fish Passage Plan.

The contractor is scheduled to be on site on April 7th, when the RSW will be moved away from the Dam in anticipation of the removal of the damaged seal and the installation of the new seal (expected to occur through April 11th). An additional day is needed for the RSW to be put back in place and it is anticipated that the project will be fully operational by April 13th. The project will be restricted to the use of spill bays 6-10 during this period.

The spill levels will continue at 45 Kcfs during daytime hours and gas cap spill during nighttime hours. However, for safety reasons daytime spill is expected to be limited to 18.7 Kcfs when divers are in the water. Divers are expected to be working in the water during daytime hours (0501 to 1759 hours) between April 8th and April 11th.

The 2008 spill program is scheduled to begin at the lower Columbia River projects on April 10th. Some spill occurred at John Day Dam over the past week as part of balloon tag studies associated with the temporary spillway weir (TSW) testing.

**Smolt Monitoring:** As of this reporting date, sampling is now underway at all eleven SMP sites. This week's average trap collection of yearling Chinook at the Salmon River trap (WTB) is 58% lower than last week's average. Yearling Chinook collections at the Imnaha (IMN) and Grande Ronde River (GRN) traps started this week with a rapid increase in numbers which lasted only several days, and ended the week with levels lower than it started.

At Lower Granite Dam, relatively small numbers of yearling Chinook continued to be captured this week, with the last day of sampling

providing a passage index of 430 fish. No additional PIT-tagged fish have been detected at Lower Granite Dam since last week's sole fall Chinook holdover. The first two days of sampling at John Day Dam has seen yearling Chinook passage indices average 573 fish, while very few yearling Chinook are being seen at the other monitored dams. The passage indices of steelhead were increasing this week to over 200 fish the last two days of reporting.

Other than a spike in the subyearling Chinook passage index at the start of this week at Bonneville Dam, the subyearling Chinook catch has continued to decrease as the Spring Creek Hatchery's early March Chinook release has mostly passed the project.

### **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 were scheduled to end over the past week. In all, these releases totaled about 1.43 million spring Chinook juveniles. The majority of these spring Chinook (79%) were released to the south fork of the Clearwater River. One of these releases, a release to Powell Acclimation Pond on the Lochsa River experienced high fish loss due to weather. As a result, an estimated 225,000 juveniles were released, instead of the anticipated 415,900 juveniles. In addition to the releases scheduled to end this past week, several releases of yearling spring Chinook were scheduled to begin over this past week. In all, these releases totaled around 1.26 million spring Chinook juveniles.

Of these, approximately 75% were scheduled for release into the Clearwater River from Dworshak NFH and 25% were scheduled for release into the Selway River. A release of approximately 1.04 million yearling summer Chinook from Pahsimeroi Hatchery was scheduled to begin on March 31st. This release is expected to run through mid-April. Approximately 2.0 million summer steelhead were scheduled for release into this zone over the past week. An estimated

30% of these steelhead were scheduled for release into the Salmon River and Little Salmon River. Approximately 830,000 of these steelhead were scheduled for release into the Pahsimeroi River, beginning April 3rd. Finally, approximately 525,000 steelhead were released to the Snake River, below Hells Canyon Dam this week. Due to low flows on the Snake River, the release of 450,000 yearling fall Chinook from Lyons Ferry Hatchery has been postponed until April 7th. Approximately 460,000 additional yearling fall Chinook are scheduled for release into the Snake River Zone above Lower Granite Dam. These yearling fall Chinook will be released from acclimation facilities on the Clearwater (33%) and Snake rivers (67%), beginning April 15th. There are several releases of yearling spring Chinook scheduled to begin over the next two weeks in this zone. In all, these releases will total about 1.9 million spring Chinook juveniles. Of these, approximately 41% will be released to the Clearwater, 19% to the Imnaha, 14% to the Grande Ronde, 10% to the Tucannon, 9% to the Salmon, and 7% to the Wallowa River. A release of 75,000 coho to the Clearwater River is scheduled to begin on April 15th. Finally, over 5.0 million summer steelhead are scheduled for release into this zone over the next two weeks. The majority of these summer steelhead will be released to the Salmon (42%) and Clearwater (34%) rivers. The remaining steelhead will be split between the Grande Ronde (6%), Imnaha (5%), Pahsimeroi (1%), Snake (1%), Wallowa (7%), and Tucannon rivers (3%).

**Mid-Columbia Zone:** The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. The release of nearly 240,000 yearling spring Chinook to the Walla Walla River was scheduled to end this week. In addition, a volitional release of about 345,000 yearling spring Chinook from Ringold Hatchery began this week, on April 1st. Ringold Hatchery also began a release of about 180,000 summer steelhead this week. Finally, just over 32,000 coho were scheduled for release into the Wenatchee River this week. This release is part of the Yakama Tribal Program to re-establish Coho runs in the Yakima,

Methow, and Wenatchee basins. In all, approximately 2.5 million coho are scheduled for release as part of this program throughout late April and into May.

Several releases of yearling spring Chinook to this zone are scheduled to begin over the next two weeks. In all, these releases will total over 1.8 million spring Chinook juveniles. Of these, about 53% will be released into the Methow River, 33% to the Wenatchee River, and 14% to the Okanogan River. In all, about 1.32 million yearling summer Chinook are planned for release into this zone over the next two weeks. Of these, 45% will be released into the Okanogan River and 31% will be released into the Methow River. The remaining 24% will be released directly into the Mid-Columbia River from Wells Hatchery. Finally, nearly 820,000 summer steelhead are scheduled for release into this zone over the next two weeks. The majority (52%) of these steelhead are scheduled for release into the Methow River. The remaining 48% will be split among the Okanogan (17%), Touchet (19%), and Walla Walla rivers (12%).

**Lower Columbia Zone:** The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. As part of a PGE passage study, 504 summer steelhead from Oak Springs Hatchery were released into a tributary of Lake Billy Chinook on the Deschutes River on April 1st. Also, a release of approximately 2.55 million coho from Washougal Hatchery to the Klickitat River began this week. This release is scheduled to end by the end of the week. Finally, on April 3rd, approximately 250,000 coho were released from Pendleton Acclimation Facility into the Umatilla River.

The second release of subyearling Tule fall Chinook from Spring Creek NFH is scheduled to take place in mid-April. Approximately 4.42 million fall Chinook will be released during this second release. Several releases of yearling spring Chinook to this zone are scheduled to begin over the next two weeks. In all, these releases will total nearly 2.8 million spring Chinook juveniles. Of these, about 48% are scheduled for release into the Wind River from Carson Hatchery. The remaining spring Chinook releases will be to the Little White Salmon

(33%), Umatilla (17%), and Hood rivers (2%). Approximately 750,000 coho are scheduled for release from Pendleton Acclimation Pond into the Umatilla River, beginning April 15th. Also scheduled for release into the Umatilla River are 100,000 summer steelhead. All of these steelhead are scheduled for release on April 15th from various acclimation facilities on the Umatilla River. Approximately 500 summer steelhead will be released into a tributary of Lake Billy Chinook on the Deschutes River as part of the ongoing PGE passage study. An additional 162,000 steelhead are scheduled for release into the Deschutes River from Round Butte Hatchery on April 7th. About 94,000 summer steelhead from Skamania Hatchery are scheduled for release into the Klickitat River, beginning in Mid-April. Skamania Hatchery will also be releasing about 24,750 summer steelhead and 21,000 winter steelhead to the White Salmon River, beginning in Mid-April.

### **Adult Fish Passage**

The traditional or historical counting schedule at Bonneville began March 15th and continues through November 15th. This counting schedule allows for comparison of current year counts with historical data. The traditional counting schedule began on March 1st at Lower Granite Dam. Counting began on April 1st for The Dalles Dam, John Day Dam, McNary Dam, Ice Harbor Dam, Lower Monumental Dam, and Little Goose Dam. Willamette Falls Dam counts adult salmon throughout the entire year.

Adult counts at Bonneville Dam have been updated through April 2nd. Between March 15th and April 2nd, 199 adult spring Chinook had passed Bonneville Dam; this compares to 66 spring Chinook adults over the same period in 2007. From March 15th through April 2nd, spring Chinook have passed Bonneville Dam on a daily basis. The Bonneville adult steelhead count for the same date range this year was 550 fish which was about 58.3% of the 2007 count of 942 fish. The 2008 wild steelhead count at Bonneville Dam was 239 fish as of April 2nd. At Willamette Falls Dam, the 2008 count for steelhead was 1,986, as of March 31st.

This year's steelhead count is about 47.5% of the 2007 count of 4,177 at Willamette Falls Dam.

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 the pools and will complete their trip to the spawning grounds in March through early May. Daily counts at Lower Granite ranged from 78 to 164 adult steelhead last week. The total steelhead count passing at Lower Granite Dam as of April 2nd was 3,979. The 2008 count was about 52.2% of the 2007 count of 7,619 and about 82% of the 10-year average count of 4,848 at Lower Granite Dam. The 2008 wild steelhead at Lower Granite Dam as of April 2nd was 823.

**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
03/21/2008	84.1	0.0	80.5	0.0	79.4	0.0	82.5	0.0	84.6	0.0	88.9	0.0	88.6	0.0
03/22/2008	66.9	0.0	62.7	0.0	66.8	0.0	60.8	0.0	61.8	0.0	80.6	0.0	82.8	0.0
03/23/2008	54.1	0.0	61.9	0.0	57.6	0.0	55.0	0.0	54.9	0.0	51.2	0.0	61.5	0.0
03/24/2008	99.6	0.0	102.6	0.0	104.8	0.0	97.2	0.0	97.6	0.0	96.3	0.0	78.8	0.0
03/25/2008	102.4	0.0	95.8	0.0	98.4	0.0	101.4	0.0	98.7	0.0	115.5	0.0	117.4	0.0
03/26/2008	88.6	0.0	92.8	0.0	99.3	0.0	102.3	0.0	103.2	0.0	107.1	0.0	102.1	0.0
03/27/2008	78.6	0.0	88.4	0.0	96.0	0.0	87.4	0.0	86.5	0.0	109.4	0.0	113.0	0.0
03/28/2008	72.3	0.0	68.6	0.0	76.4	0.0	78.0	0.0	80.5	0.0	101.5	0.0	94.5	0.0
03/29/2008	80.6	0.0	78.1	0.0	80.5	0.0	79.4	0.0	79.6	0.0	59.8	0.0	59.3	0.0
03/30/2008	58.9	0.0	57.5	0.0	65.2	0.0	66.3	0.0	67.9	0.0	74.8	0.0	71.3	0.0
03/31/2008	77.8	0.0	77.5	0.0	78.4	0.0	77.0	0.0	77.9	0.0	104.4	0.0	108.3	0.0
04/01/2008	88.8	0.0	91.9	0.0	80.6	0.0	72.1	0.0	72.1	0.0	88.5	0.0	89.4	0.0
04/02/2008	90.6	0.0	90.3	0.0	83.6	0.0	82.0	0.0	81.2	0.0	80.9	0.0	80.0	0.0
04/03/2008	95.7	0.0	98.9	0.0	99.9	0.0	99.3	0.0	96.2	0.0	87.6	0.0	81.3	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
03/21/2008	1.3	0.0	18.1	18.7	35.6	0.0	35.4	0.0	37.5	0.1	35.2	0.0
03/22/2008	1.3	0.0	17.4	14.9	33.6	0.0	33.4	0.0	38.1	0.0	37.2	0.0
03/23/2008	1.3	0.0	16.0	12.7	32.7	0.0	30.7	0.0	30.9	0.0	29.6	0.0
03/24/2008	7.6	0.0	14.7	16.4	34.3	0.0	33.3	0.0	36.3	0.8	34.5	0.0
03/25/2008	6.3	0.0	15.7	15.5	41.6	0.0	40.0	0.0	44.3	1.7	45.8	0.0
03/26/2008	7.0	0.0	15.7	16.5	42.0	0.0	40.8	0.0	44.1	1.6	41.3	0.0
03/27/2008	8.4	0.0	16.4	18.1	35.2	0.0	33.7	0.0	34.8	1.9	33.2	0.0
03/28/2008	8.4	0.0	15.9	17.0	48.0	0.0	47.1	0.0	48.5	2.2	49.1	0.0
03/29/2008	8.4	0.0	15.4	20.1	41.3	0.0	43.1	0.0	45.6	1.6	44.9	0.0
03/30/2008	8.7	0.0	14.9	14.4	45.8	0.0	51.5	0.0	53.6	1.6	49.5	0.0
03/31/2008	10.9	0.0	13.6	18.3	37.6	0.0	43.2	0.0	44.2	0.8	44.7	0.0
04/01/2008	10.9	0.0	13.3	14.3	42.7	0.0	42.0	0.0	50.8	0.0	55.0	0.0
04/02/2008	15.1	4.1	12.8	14.4	38.9	0.0	39.3	0.0	41.1	0.0	41.4	0.0
04/03/2008	16.6	5.6	---	---	45.0	20.6	43.9	13.1	45.0	26.5	48.4	38.6

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
03/21/2008	131.0	0.0	144.1	0.0	149.0	0.0	162.4	1.4	90.2	61.9
03/22/2008	126.5	0.0	122.6	0.0	123.9	0.0	152.8	1.4	85.9	57.0
03/23/2008	102.9	0.0	107.7	0.0	111.6	0.0	121.4	1.4	37.3	71.7
03/24/2008	118.7	0.0	127.0	0.0	128.5	0.0	126.6	1.3	44.4	69.8
03/25/2008	133.6	0.0	139.6	0.0	144.3	0.0	163.7	1.2	71.8	79.7
03/26/2008	155.4	0.0	150.6	0.0	155.1	0.0	168.4	1.1	71.9	84.3
03/27/2008	155.4	0.0	158.7	0.0	155.3	0.0	163.8	1.2	69.2	82.4
03/28/2008	158.9	0.0	156.0	0.1	159.6	0.0	187.4	1.4	85.4	89.6
03/29/2008	117.0	0.0	116.6	0.0	121.1	0.0	137.0	1.4	66.5	59.9
03/30/2008	121.5	0.0	125.2	0.0	129.6	0.0	128.0	1.4	41.9	73.4
03/31/2008	142.9	0.0	141.7	4.1	144.5	0.0	148.6	1.4	56.9	78.9
04/01/2008	149.2	0.0	148.7	17.6	150.5	0.0	172.5	1.4	70.7	89.1
04/02/2008	149.6	0.0	149.7	18.2	152.9	0.0	160.1	1.4	59.5	87.9
04/03/2008	122.4	0.0	139.5	16.8	144.1	0.0	160.5	1.4	55.2	92.4

# HATCHERY RELEASE LAST TWO WEEKS

## Hatchery Release Summary

From: **3/21/2008** to **04/03/08**

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2008	141,700	03-26-08	03-31-08	Crooked R Acclim Pond	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2008	415,900	03-19-08	04-03-08	Powell Acclim Pond	Lochsa River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2008	424,700	03-24-08	04-04-08	Red River	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2008	566,800	03-26-08	03-31-08	Crooked River	S Fk Clearwater River
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2008	1,060,540	03-17-08	03-20-08	S Fk Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2008	2,500,000	03-17-08	04-25-08	Rapid River Hatchery	Little Salmon River
<b>Idaho Dept. of Fish and Game</b>									
<b>Total</b>					<b>5,109,640</b>				
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2008	74,400	03-19-08	04-01-08	Lostine Accim Pond	Wallowa River
<b>Nez Perce Tribe Total</b>					<b>74,400</b>				
Oregon Dept. of Fish and Wildlife	Lookingglass Hatchery	CH1	SP	2008	360,000	03-25-08	04-06-08	Imnaha Acclim Pond	Imnaha River
Oregon Dept. of Fish and Wildlife	Willard Hatchery	CH1	SP	2008	239,652	03-24-08	03-31-08	Walla Walla River	Walla Walla River
<b>Oregon Dept. of Fish and Wildlife Total</b>					<b>599,652</b>				
U.S. Fish and Wildlife Service	Warm Springs NFH	CH1	SP	2008	376,000	03-23-08	04-23-08	Warm Springs Hatchery	Deschutes River
<b>U.S. Fish and Wildlife Service Total</b>					<b>376,000</b>				
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2008	116,892	03-24-08	04-14-08	Catherine Creek Grande Ronde Acclim Pond	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2008	127,491	03-17-08	03-24-08	Pond	Grande Ronde River
<b>Umatilla Tribe Total</b>					<b>244,383</b>				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2008	211,004	03-15-08	05-15-08	Clark Flat Acclim Pond Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2008	217,146	03-15-08	05-15-08	Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2008	219,470	03-15-08	05-15-08	Easton Pond	Yakima River
<b>Yakama Tribe Total</b>					<b>647,620</b>				
<b>Grand Total</b>					<b>7,051,695</b>				

## HATCHERY RELEASE NEXT TWO WEEKS

### Hatchery Release Summary

From: 4/4/2008 to 4/17/2008

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2008	141,700	03-26-08	03-31-08	Crooked R Acclim Pond	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2008	415,900	03-19-08	04-03-08	Powell Acclim Pond	Lochsa River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2008	424,700	03-24-08	04-04-08	Red River	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2008	566,800	03-26-08	03-31-08	Crooked River	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2008	83,000	04-07-08	04-18-08	Red River	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2008	144,600	04-07-08	04-18-08	Crooked River Redhouse (SFK)	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2008	248,500	04-07-08	04-18-08	ClearH20 R)	S Fk Clearwater River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2008	60,000	04-07-08	04-07-08	Squaw Cr Acclim Pond	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2008	215,000	04-07-08	04-10-08	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2008	55,000	04-01-08	04-24-08	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2008	260,000	03-31-08	04-09-08	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2008	525,000	03-31-08	04-09-08	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2008	830,000	04-03-08	04-21-08	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2008	1,038,000	03-31-08	04-15-08	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2008	2,500,000	03-17-08	04-25-08	Rapid River Hatchery	Little Salmon River
<b>Idaho Dept. of Fish and Game Total</b>					<b>7,508,200</b>				
Nez Perce Tribe	Clearwater Hatchery	CH1	SP	2008	309,300	04-01-08	04-08-08	Meadow Creek - SELW Hazard Creek/Little	Selway River
Nez Perce Tribe	Hagerman NFH	ST	SU	2008	40,000	03-31-08	04-02-08	Salmon R	Little Salmon River
Nez Perce Tribe	Hagerman NFH	ST	SU	2008	158,000	03-31-08	04-02-08	Little Salmon River	Salmon River (ID)
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2008	74,400	03-19-08	04-01-08	Lostine Accim Pond	Wallowa River
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2008	131,500	04-10-08	04-17-08	Lostine Accim Pond Nez Perce Tribal	Wallowa River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH1	SP	2008	126,000	04-01-08	04-08-08	Hatchery	Clearwater River M F
<b>Nez Perce Tribe Total</b>					<b>839,200</b>				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2008	360,000	04-08-08	04-08-08	Wallowa Acclim Pond	Wallowa River
Oregon Dept. of Fish and Wildlife	Lookingglass Hatchery	CH1	SP	2008	360,000	03-25-08	04-06-08	Imnaha Acclim Pond	Imnaha River
Oregon Dept. of Fish and Wildlife	Oak Springs Hatchery	ST	SU	2008	4,000	03-31-08	03-31-08	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	ST	SU	2008	162,000	04-07-08	04-07-08	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife	Willard Hatchery	CH1	SP	2008	239,652	03-24-08	03-31-08	Walla Walla River	Walla Walla River
<b>Oregon Dept. of Fish and Wildlife Total</b>					<b>1,125,652</b>				
U.S. Fish and Wildlife Service	Dworshak NFH	CH1	SP	2008	950,000	04-02-08	04-09-08	Dworshak Hatchery	Clearwater River M F
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2008	100,000	04-02-08	04-04-08	Little Salmon River	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2008	782,000	04-07-08	04-25-08	Salmon River (ID)	Salmon River (ID)
U.S. Fish and Wildlife Service	Kooskia NFH	CH1	SP	2008	653,000	04-07-08	04-07-08	Kooskia Hatchery Warm Springs	Clearwater River M F
U.S. Fish and Wildlife Service	Warm Springs NFH	CH1	SP	2008	376,000	03-23-08	04-23-08	Hatchery	Deschutes River
<b>U.S. Fish and Wildlife Service Total</b>					<b>2,861,000</b>				
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2008	116,892	03-24-08	04-14-08	Catherine Creek Grande Ronde Acclim	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2008	132,501	04-07-08	04-14-08	Pond	Grande Ronde River
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2008	460,000	04-08-08	04-08-08	Imeques Acclim Pond	Umatilla River
<b>Umatilla Tribe Total</b>					<b>709,393</b>				
Warm Springs Tribe	Round Butte Hatchery	CH1	SP	2008	69,612	04-09-08	05-07-08	Blackberry Acclim Pond	Hood River
<b>Warm Springs Tribe Total</b>					<b>69,612</b>				



**HATCHERY RELEASE NEXT TWO WEEKS (Cont'd)**

Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH1	FA	2008	450,000	04-01-08	04-07-08	Lyons Ferry Hatchery	Snake River
								Ringold Springs	
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH1	SP	2008	345,000	04-01-08	04-15-08	Hatchery	Mid-Columbia River
								Ringold Springs	
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	ST	SU	2008	180,000	04-01-08	05-05-08	Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2008	78,000	04-01-08	04-18-08	Tucannon River	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2008	106,000	04-01-08	04-18-08	Tucannon River	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	ST	SU	2008	57,000	04-01-08	04-18-08	Tucannon River	Tucannon River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2008	7,500	04-01-08	04-30-08	Chiwawa River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2008	48,000	04-01-08	04-30-08	Chiwawa River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2008	87,000	04-01-08	04-30-08	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2008	98,000	04-01-08	04-30-08	Nason Creek	Wenatchee River
Washington Dept. of Fish and Wildlife	Washougal Hatchery	CO	NO	2008	2,550,000	03-31-08	03-31-08	Klickitat River	Klickitat River
<b>Washington Dept. of Fish and Wildlife Total</b>					<b>4,006,500</b>				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2008	211,004	03-15-08	05-15-08	Clark Flat Acclim Pond	Yakima River
								Jack Creek Acclim	
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2008	217,146	03-15-08	05-15-08	Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2008	219,470	03-15-08	05-15-08	Easton Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2008	40,964	04-07-08	05-01-08	Prosser Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2008	100,000	04-07-08	05-01-08	Easton Pond	Yakima River
								Lost Creek Acclim	
Yakama Tribe	Eagle Creek NFH	CO	UN	2008	100,000	04-07-08	05-01-08	Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2008	100,000	04-07-08	05-01-08	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2008	150,000	04-07-08	05-01-08	Holmes Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2008	40,150	04-07-08	05-01-08	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2008	40,579	04-07-08	05-01-08	Boone Pond	Yakima River
								Lost Creek Acclim	
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2008	41,095	04-07-08	05-01-08	Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2008	42,447	04-07-08	05-01-08	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2008	120,425	04-07-08	05-01-08	Holmes Pond	Yakima River
Yakama Tribe	Washougal Hatchery	CO	NO	2008	39,726	04-07-08	05-01-08	Yakama River	Yakima River
Yakama Tribe	Washougal Hatchery	CO	NO	2008	89,328	04-07-08	05-01-08	Boone Pond	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2008	32,271	04-01-08	04-10-08	Nason Creek	Wenatchee River
<b>Yakama Tribe Total</b>					<b>1,584,605</b>				
<b>Grand Total</b>					<b>18,704,162</b>				

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

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>	<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>				
3/21	97	97	97	24	102	102	103	7	101	101	102	24	102	102	103	7	---	---	---	0
3/22	96	96	97	24	103	103	104	14	101	101	101	24	102	102	103	14	---	---	---	0
3/23	97	98	98	24	103	103	104	23	102	103	103	24	104	105	106	23	---	---	---	0
3/24	97	98	98	24	103	104	104	23	102	102	103	24	103	104	105	23	---	---	---	0
3/25	97	97	98	24	103	104	104	23	103	104	104	24	103	104	105	23	---	---	---	0
3/26	97	98	98	24	103	103	104	24	104	105	105	24	103	104	106	24	---	---	---	0
3/27	97	98	98	24	104	104	105	22	104	104	104	24	103	103	105	22	---	---	---	0
3/28	98	98	98	24	105	106	107	21	105	105	105	24	104	105	105	21	---	---	---	0
3/29	98	98	98	24	104	104	105	22	104	105	105	24	104	105	105	22	---	---	---	0
3/30	97	98	98	24	103	104	106	22	104	104	104	24	103	104	105	22	---	---	---	0
3/31	97	97	97	24	104	105	105	20	104	104	104	24	103	103	104	20	---	---	---	0
4/1	97	97	98	24	103	104	105	22	104	104	105	24	103	103	104	22	---	---	---	0
4/2	97	97	98	24	104	105	106	21	104	105	106	24	103	103	104	21	---	---	---	0
4/3	97	97	98	24	103	104	105	23	104	105	105	24	103	104	104	23	---	---	---	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>	<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>				
3/21	---	---	---	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	103	104	104	19	103	104	104	19	---	---	---	0	---	---	---	0
3/27	---	---	---	0	102	103	103	24	103	103	103	24	---	---	---	0	---	---	---	0
3/28	---	---	---	0	103	103	103	24	103	103	103	24	---	---	---	0	---	---	---	0
3/29	---	---	---	0	102	102	103	24	102	103	103	24	---	---	---	0	---	---	---	0
3/30	---	---	---	0	102	102	103	24	102	102	103	24	---	---	---	0	---	---	---	0
3/31	---	---	---	0	102	102	102	24	102	102	103	24	---	---	---	0	---	---	---	0
4/1	---	---	---	0	102	103	103	24	102	103	103	24	102	102	102	7	102	102	102	9
4/2	---	---	---	0	103	103	104	24	103	104	104	24	102	103	103	24	103	103	103	24
4/3	---	---	---	0	104	104	105	24	104	104	105	24	103	104	104	24	103	104	104	24

### 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>	<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>				
3/21	---	---	---	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
3/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/28	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/29	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/30	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/31	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
4/1	103	103	103	9	103	103	103	9	---	---	---	0	---	---	---	0	---	---	---	0
4/2	103	103	103	24	103	103	103	24	---	---	---	0	---	---	---	0	---	---	---	0
4/3	103	108	113	24	103	108	113	24	---	---	---	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	<u>Priest R. Dnst</u>			<u>Pasco</u>			<u>Dworshak</u>			<u>Clrwtr-Peck</u>			<u>Anatone</u>			#					
	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#						
	Avg	Avg		High	Avg		Avg	High		Avg	Avg		High	Avg			Avg	High	Avg	Avg	High
3/21	---	---	---	0	---	---	---	0	104	106	107	24	101	102	104	24	101	102	103	24	
3/22	---	---	---	0	---	---	---	0	105	106	107	24	101	103	105	24	102	104	105	24	
3/23	---	---	---	0	---	---	---	0	106	107	108	24	101	102	103	24	102	103	104	24	
3/24	---	---	---	0	---	---	---	0	96	96	100	8	99	100	102	24	102	103	103	24	
3/25	---	---	---	0	105	105	110	8	99	99	106	13	99	100	102	24	102	103	104	24	
3/26	---	---	---	0	103	104	104	24	97	99	106	24	99	100	102	24	102	103	105	24	
3/27	---	---	---	0	102	102	103	24	95	95	96	7	98	98	99	24	102	103	104	24	
3/28	---	---	---	0	102	103	104	24	95	95	95	10	98	99	99	24	102	103	104	24	
3/29	---	---	---	0	101	102	102	24	---	---	---	0	98	98	99	24	102	103	103	24	
3/30	---	---	---	0	102	102	103	24	---	---	---	0	97	98	100	24	102	103	104	24	
3/31	---	---	---	0	102	103	103	24	---	---	---	0	96	97	97	24	102	103	104	24	
4/1	---	---	---	0	102	103	104	23	---	---	---	0	96	98	99	24	102	104	105	24	
4/2	---	---	---	0	104	105	105	24	102	105	108	110	24	102	105	106	24	102	103	104	24
4/3	---	---	---	0	104	105	106	24	109	110	111	24	106	107	108	24	102	104	105	24	

### Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwtr-Lewiston</u>			<u>Lower Granite</u>			<u>L. Granite Tlwr</u>			<u>Little Goose</u>			<u>L. Goose Tlwr</u>			#				
	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#					
	Avg	Avg		High	Avg		Avg	High		Avg	Avg		High	Avg			Avg	High	Avg	Avg
3/21	101	102	104	24	100	101	101	24	100	101	101	24	---	---	---	0	101	101	102	24
3/22	102	105	107	24	100	101	101	24	101	101	102	24	---	---	---	0	100	101	102	24
3/23	102	103	104	24	102	102	102	24	102	102	102	24	---	---	---	0	102	102	102	24
3/24	101	102	104	24	101	101	102	24	101	102	102	24	---	---	---	0	101	101	102	24
3/25	101	103	105	24	101	102	102	24	101	102	102	24	---	---	---	0	101	101	102	24
3/26	101	103	105	24	102	102	103	24	102	102	102	24	---	---	---	0	101	102	102	24
3/27	100	102	104	24	102	102	102	24	102	102	102	24	101	101	102	12	101	101	102	24
3/28	100	101	102	24	103	103	104	24	103	103	104	24	102	103	103	24	102	102	103	24
3/29	100	102	103	24	102	102	103	24	101	102	102	24	101	102	102	24	101	101	102	24
3/30	101	102	103	24	101	101	102	24	101	101	101	24	101	101	101	24	101	101	101	24
3/31	100	102	103	24	100	100	101	24	100	100	101	24	100	100	100	24	100	100	100	24
4/1	101	103	105	24	100	101	101	24	101	101	101	24	100	101	101	24	100	100	101	24
4/2	101	104	106	24	100	101	101	24	101	101	101	24	101	101	102	24	101	101	102	24
4/3	104	107	109	24	101	101	102	24	111	111	112	24	101	102	103	24	110	112	113	24

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

Date	<u>Lower Mon.</u>			<u>L. Mon. Tlwr</u>			<u>Ice Harbor</u>			<u>Ice Harbor Tlwr</u>			<u>McNary-Oregon</u>			#				
	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#					
	Avg	Avg		High	Avg		Avg	High		Avg	Avg		High	Avg			Avg	High	Avg	Avg
3/21	---	---	---	0	101	102	105	24	---	---	---	0	101	101	103	24	---	---	---	0
3/22	---	---	---	0	101	102	103	24	---	---	---	0	101	101	102	24	---	---	---	0
3/23	---	---	---	0	102	103	103	24	---	---	---	0	102	103	103	24	---	---	---	0
3/24	---	---	---	0	103	105	110	24	---	---	---	0	102	102	103	24	---	---	---	0
3/25	---	---	---	0	104	105	108	24	---	---	---	0	102	102	103	24	---	---	---	0
3/26	103	103	104	9	104	106	111	24	103	103	103	13	103	103	104	24	---	---	---	0
3/27	102	102	103	24	104	106	110	24	102	102	103	24	102	102	103	24	---	---	---	0
3/28	102	103	103	24	104	107	110	24	103	104	105	24	103	104	104	24	---	---	---	0
3/29	101	102	102	24	103	105	110	24	103	103	104	24	103	103	104	24	---	---	---	0
3/30	101	101	101	24	102	104	107	24	102	102	103	24	102	103	103	24	---	---	---	0
3/31	100	100	100	24	101	102	105	24	101	102	102	24	102	102	102	24	---	---	---	0
4/1	100	100	100	24	100	101	101	24	101	102	102	24	102	102	103	24	---	---	---	0
4/2	100	101	101	24	101	101	102	24	102	102	103	24	102	103	103	24	---	---	---	0
4/3	101	101	102	24	117	118	118	24	102	102	103	24	113	115	116	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	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr
3/21	---	---	---	0	102	102	103	24	103	103	104	24	102	102	103	24	102	102	103	24
3/22	---	---	---	0	102	103	103	24	103	104	104	24	102	103	103	24	102	103	103	24
3/23	---	---	---	0	103	103	104	24	104	104	105	24	103	104	105	24	104	104	105	24
3/24	---	---	---	0	103	103	103	24	103	103	104	24	103	103	106	24	103	103	103	24
3/25	104	104	105	12	103	104	104	24	103	104	104	24	103	103	103	24	103	104	104	24
3/26	104	105	105	24	105	105	105	24	104	104	104	24	103	103	103	24	104	104	104	24
3/27	103	103	104	24	103	103	103	24	103	103	103	24	102	102	103	24	102	102	103	24
3/28	103	104	104	24	104	104	104	24	104	105	105	24	104	104	105	24	104	104	104	24
3/29	102	102	103	24	102	103	103	24	104	104	104	24	102	102	103	24	103	103	103	23
3/30	102	102	102	24	102	103	103	24	103	103	103	24	102	103	103	24	102	103	103	24
3/31	101	101	101	24	101	101	102	24	102	103	103	24	104	105	108	24	102	102	103	24
4/1	102	102	104	23	101	101	102	23	103	104	104	24	109	111	112	24	103	103	104	24
4/2	103	103	104	24	102	102	103	24	104	104	104	24	109	111	112	24	106	107	108	24
4/3	104	104	105	24	103	103	104	24	104	104	104	24	108	110	112	24	106	107	109	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>#</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	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr
3/21	102	102	102	24	102	102	103	24	103	104	104	24	103	104	105	24	111	112	114	24
3/22	102	103	103	24	102	103	103	24	103	104	104	24	103	104	105	24	114	115	115	24
3/23	103	104	104	24	103	103	103	24	106	107	107	24	103	104	104	24	113	115	117	24
3/24	103	103	103	24	103	103	104	24	107	107	108	24	106	107	108	24	113	114	115	24
3/25	103	103	104	24	104	104	105	24	106	106	106	24	106	107	108	24	116	118	121	24
3/26	103	103	104	24	104	104	105	24	105	106	106	24	105	106	107	24	116	118	120	24
3/27	102	102	102	24	102	103	103	24	104	105	105	24	104	105	106	24	116	117	118	24
3/28	103	104	104	24	103	103	104	24	104	105	105	24	104	105	105	24	116	118	120	24
3/29	102	102	103	23	102	102	103	24	103	104	105	24	102	103	104	24	113	115	115	24
3/30	102	102	102	24	102	102	102	24	105	106	106	24	104	105	106	24	113	115	116	24
3/31	101	102	102	24	102	102	102	24	105	106	106	24	105	107	108	24	113	115	116	24
4/1	103	104	104	24	102	103	104	24	105	105	106	24	106	107	108	24	115	116	118	24
4/2	106	108	109	24	103	104	104	24	106	106	107	24	106	107	108	24	115	116	118	24
4/3	106	107	108	24	104	105	105	24	107	107	107	24	106	108	109	24	115	117	119	24



## Two-Week Summary of Passage Indices

		<b>COMBINED COHO</b>										
Date		WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
03/21/2008	*	0	0	0	0	---	---	---	---	---	---	0
03/22/2008	*	0	0	0	0	---	---	---	---	---	---	23
03/23/2008	*	0	0	0	0	---	---	---	---	---	---	19
03/24/2008	*	0	0	0	1	---	---	---	---	---	---	0
03/25/2008		0	0	0	0	---	---	---	---	---	---	0
03/26/2008		0	0	0	0	0	---	---	---	---	---	16
03/27/2008	*	0	0	0	0	0	---	---	---	---	---	0
03/28/2008		0	0	0	0	0	---	---	---	---	---	0
03/29/2008	*	0	0	0	0	10	---	---	---	---	---	6
03/30/2008		0	0	0	0	20	---	---	---	---	---	8
03/31/2008		0	0	0	0	0	---	---	---	---	---	7
04/01/2008	*	0	0	0	0	0	---	0	---	---	---	0
04/02/2008	*	0	0	0	0	0	0	0	0	---	6	0
04/03/2008	*	0	---	0	0	12	0	0	0	10	6	30
04/04/2008		---	---	---	---	---	---	---	---	---	---	---
<hr/>												
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>42</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>12</b>	<b>109</b>
<b># Days:</b>		<b>14</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>9</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>6</b>	<b>8</b>
<b>YTD</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>42</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>12</b>	<b>483</b>

		<b>COMBINED STEELHEAD</b>										
Date		WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
03/21/2008	*	0	3	0	0	---	---	---	---	---	---	10
03/22/2008	*	1	0	0	0	---	---	---	---	---	---	0
03/23/2008	*	0	1	1	0	---	---	---	---	---	---	10
03/24/2008	*	0	1	0	1	---	---	---	---	---	---	6
03/25/2008		0	2	0	1	---	---	---	---	---	---	0
03/26/2008		0	0	0	0	10	---	---	---	---	---	8
03/27/2008	*	0	2	1	0	0	---	---	---	---	---	2
03/28/2008		0	5	0	1	0	---	---	---	---	---	0
03/29/2008	*	0	2	0	9	50	---	---	---	---	---	2
03/30/2008		0	5	0	4	20	---	---	---	---	---	8
03/31/2008		0	0	0	7	50	---	---	---	---	---	0
04/01/2008	*	0	0	0	7	30	---	7	---	---	---	7
04/02/2008	*	0	1	0	4	220	0	10	0	---	23	0
04/03/2008	*	18	---	0	12	244	0	21	0	71	23	3
04/04/2008		---	---	---	---	---	---	---	---	---	---	---
<hr/>												
<b>Total:</b>		<b>19</b>	<b>22</b>	<b>2</b>	<b>46</b>	<b>624</b>	<b>0</b>	<b>38</b>	<b>0</b>	<b>71</b>	<b>46</b>	<b>56</b>
<b># Days:</b>		<b>14</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>9</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>14</b>
<b>Average:</b>		<b>1</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>69</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>71</b>	<b>23</b>	<b>4</b>
<b>YTD</b>		<b>20</b>	<b>42</b>	<b>3</b>	<b>50</b>	<b>624</b>	<b>0</b>	<b>38</b>	<b>0</b>	<b>71</b>	<b>46</b>	<b>77</b>

## 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)	
03/21/2008	*	0	0	0	0	---	---	---	---	---	---	0
03/22/2008	*	0	0	0	0	---	---	---	---	---	---	0
03/23/2008	*	0	0	0	0	---	---	---	---	---	---	0
03/24/2008	*	0	0	0	0	---	---	---	---	---	---	0
03/25/2008		0	0	0	0	---	---	---	---	---	---	0
03/26/2008		0	0	0	0	0	---	---	---	---	---	0
03/27/2008	*	0	0	0	0	10	---	---	---	---	---	0
03/28/2008		0	0	0	0	0	---	---	---	---	---	0
03/29/2008	*	0	0	0	0	10	---	---	---	---	---	0
03/30/2008		0	0	0	0	0	---	---	---	---	---	0
03/31/2008		0	0	0	0	0	---	---	---	---	---	0
04/01/2008	*	0	0	0	0	0	---	0	---	---	---	0
04/02/2008	*	0	0	0	0	0	0	0	0	---	0	0
04/03/2008	*	0	---	0	0	0	0	2	0	0	0	0
04/04/2008		---	---	---	---	---	---	---	---	---	---	---
<hr/>												
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b># Days:</b>		<b>14</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>9</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>YTD</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

\* 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:

4/4/08 1:09 PM

		03/21/08 TO 04/04/08						
		Species						
Site	Data	CH0	CH1	CO	SO	ST	Grand Total	
<b>LGR</b>	Sum of NumberCollected	20	1,340	40	20	590	2,010	
	Sum of NumberBarged	0	0	0	0	0	0	
	Sum of NumberBypassed	20	1,339	40	20	590	2,009	
	Sum of Numbertrucked	0	0	0	0	0	0	
	Sum of SampleMorts	0	1	0	0	0	1	
	Sum of FacilityMorts	0	0	0	0	0	0	
	Sum of ResearchMorts	0	0	0	0	0	0	
	Sum of TotalProjectMorts	0	1	0	0	0	1	
<b>LMN</b>	Sum of NumberCollected		238			1 30	269	
	Sum of NumberBarged		0			0 0	0	
	Sum of NumberBypassed		238			1 28	267	
	Sum of Numbertrucked		0			0 0	0	
	Sum of SampleMorts		0			0 0	0	
	Sum of FacilityMorts		0			0 2	2	
	Sum of ResearchMorts		0			0 0	0	
	Sum of TotalProjectMorts		0			0 2	2	
<b>MCN</b>	Sum of NumberCollected		80	10		71	161	
	Sum of NumberBarged		0	0		0	0	
	Sum of NumberBypassed		79	10		70	159	
	Sum of Numbertrucked		0	0		0	0	
	Sum of SampleMorts		1	0		0	1	
	Sum of FacilityMorts		0	0		1	1	
	Sum of ResearchMorts		0	0		0	0	
	Sum of TotalProjectMorts		1	0		1	2	
Total Sum of NumberCollected		20	1,658	50	21	691	2,440	
Total Sum of NumberBarged		0	0	0	0	0	0	
Total Sum of NumberBypassed		20	1,656	50	21	688	2,435	
Total Sum of Numbertrucked		0	0	0	0	0	0	
Total Sum of SampleMorts		0	2	0	0	0	2	
Total Sum of FacilityMorts		0	0	0	0	3	3	
Total Sum of ResearchMorts		0	0	0	0	0	0	
Total Sum of TotalProjectMorts		0	2	0	0	3	5	



### YTD Transportation Summary

Source: Fish Passage Center

Updated:

4/4/08 1:09 PM

TO: 04/04/08

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
<b>LGR</b>	Sum of NumberCollected	20	1,340	40	20	590	2,010
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	20	1,339	40	20	590	2,009
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	1	0	0	0	1
	Sum of FacilityMorts	0	0	0	0	0	0
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	1	0	0	0	1
<b>LMN</b>	Sum of NumberCollected		238			1 30	269
	Sum of NumberBarged		0			0 0	0
	Sum of NumberBypassed		238			1 28	267
	Sum of NumberTrucked		0			0 0	0
	Sum of SampleMorts		0			0 0	0
	Sum of FacilityMorts		0			0 2	2
	Sum of ResearchMorts		0			0 0	0
	Sum of TotalProjectMorts		0			0 2	2
<b>MCN</b>	Sum of NumberCollected		80	10		71	161
	Sum of NumberBarged		0	0		0	0
	Sum of NumberBypassed		79	10		70	159
	Sum of NumberTrucked		0	0		0	0
	Sum of SampleMorts		1	0		0	1
	Sum of FacilityMorts		0	0		1	1
	Sum of ResearchMorts		0	0		0	0
	Sum of TotalProjectMorts		1	0		1	2
Total Sum of NumberCollected		20	1,658	50	21	691	2,440
Total Sum of NumberBarged		0	0	0	0	0	0
Total Sum of NumberBypassed		20	1,656	50	21	688	2,435
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		0	2	0	0	0	2
Total Sum of FacilityMorts		0	0	0	0	3	3
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		0	2	0	0	3	5

**Cumulative Adult Passage at Mainstem Dams Through: 04/03**

DAM	EndDate	Spring Chinook						Summer Chinook						Fall Chinook					
		2008		2007		10-Yr Avg.		2008		2007		10-Yr Avg.		2008		2007		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	04/02	199	0	66	0	4794	8	0	0	0	0	0	0	0	0	0	0	0	0
TDA	04/02	20	0	4	0	820	2	0	0	0	0	0	0	0	0	0	0	0	0
JDA	04/02	4	0	1	0	306	0	0	0	0	0	0	0	0	0	0	0	0	0
MCN	04/02	4	0	0	0	132	0	0	0	0	0	0	0	0	0	0	0	0	0
IHR	04/02	3	0	1	0	28	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	04/02	0	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
LGR	04/02	0	0	1	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	03/31	3	0	16	0	-	-	0	0	0	0	-	-	0	0	0	0	-	-

DAM	Coho						Sockeye			Steelhead			
	2008		2007		10-Yr Avg.		10-Yr Avg.			10-Yr			Wild
	Adult	Jack	Adult	Jack	Adult	Jack	2008	2007	Avg.	2008	2007	Avg.	2008
BON	0	0	0	0	0	0	0	0	0	550	942	826	239
TDA	0	0	0	0	0	0	0	0	0	50	292	133	26
JDA	0	0	0	0	0	0	0	0	0	95	288	362	46
MCN	0	0	0	0	0	0	0	0	0	181	358	214	56
IHR	0	0	0	0	0	0	0	0	0	171	395	228	57
LMN	0	0	0	0	0	0	0	0	0	0	0	0	0
LGS	0	0	0	0	0	0	0	0	0	186	329	274	67
LGR	0	0	0	0	0	0	0	0	0	3979	7619	4848	823
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	2	0	-	-	0	0	0	1986	4177	-	-

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: 04/04/08

BON counts from January 1, 2008 to March 14, 2008 (our traditional counts begin March 15):

Year	Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
2008	42	0	578	278
2007	22	0	1,677	517