



Fish Passage Center

Weekly Report #09 - 08

May 1, 2009

1827 NE 44th Ave., Suite 240
 Portland, OR 97213
 phone: 503/230-4099
 fax: 503/230-7559

Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 57% and 103% of average at individual sub-basins over April. Precipitation above The Dalles has been 91% of average over April. Over the entire water year, precipitation has generally been near average.

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

Location	Water Year 2009 April 1-27		Water Year 2009 October 1, 2008 to April 27, 2009	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	1.16	78	14.80	94
Snake River Above Ice Harbor	1.25	95	12.07	104
Columbia Above The Dalles	1.35	91	15.49	98
Kootenai	1.29	82	14.40	89
Clark Fork	0.65	58	11.31	112
Flathead	1.07	75	12.92	95
Pend Oreille/ Spokane	1.50	74	20.62	93
Central Washington	0.33	57	5.60	86
Snake River Plain	0.96	103	6.65	94
Salmon/Boise/ Payette	0.95	66	12.46	88
Clearwater	1.42	59	23.14	110
SW Washington Cascades/ Cowlitz	3.90	81	50.82	87
Willamette Valley	3.20	74	40.52	82

Average snowpack in the Columbia River for basins above the Snake River confluence is 91% of average, for Snake River Basins the average snowpack is 89% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 156% of average.

Table 2 displays the April Final and May Early runoff volume forecasts for multiple reservoirs. Water Supply Forecasts have generally decreased slightly between the April Final and May Early forecasts, with the exception of Brownlee which has increased slightly. The current forecast at The Dalles between January and July is 91100 Kaf (85% of average).

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

Location	April Final		May Early	
	% Average (1971- 2000)	Probable Runoff Volume (Kaf)	% Average (1971- 2000)	Probable Runoff Volume (Kaf)
The Dalles (Jan-July)	86	92000	85	91100
Grand Coulee (Jan-July)	89	56200	88	55600
Libby Res. Inflow, MT (Apr-Aug)	88 90*	5500 5672*	88	5470
Hungry Horse Res. Inflow, MT (Jan-July)	94	2100	93	2070
Lower Granite Res. Inflow (Apr- July)	95	20400	94	20300
Brownlee Res. Inflow (Apr-July)	79	4970	80	5040
Dworshak Res. Inflow (Apr-July)	102 99*	2710 2662	100	2640

* Denotes COE Forecast

The Biological Opinion flow period began on April 3rd in the lower Snake River (Lower Granite) and began on April 10th in the mid (Priest Rapids) and lower (McNary) Columbia River. According to the April Final Water Supply Forecast, the flow objectives this spring are 100 Kcfs at Lower Granite, 228 Kcfs at McNary, and 135 Kcfs at Priest Rapids. Flows at Lower Granite Dam from April 3-30 have averaged 89.2 Kcfs and 104.0 Kcfs over the last week, flows at Priest Rapids from April 10-30 averaged 134.7 Kcfs and 151.0 Kcfs over the last week, and flows at McNary have averaged 248.1 Kcfs between April 10-30 and 274.6 Kcfs over the last week.

Grand Coulee Reservoir is at 1257.7 feet (4-30-09) and has drafted 5.9 feet in the last week. The end of April FC elevation at Grand Coulee was 1257.7 feet. Outflows at Grand Coulee have ranged between 124.3 and 143.5 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2405.4 feet (4-30-09) and refilled 0.9 feet last week. The end of April FC elevation at Libby was 2434.2 feet, therefore Libby was 28.8 feet below its end of April FC elevation. Outflows at Libby have been 4.0 Kcfs.

Hungry Horse is currently at an elevation of 3519.9 ft (4-30-09) and has refilled 3.0 feet last week. Outflows at Hungry Horse have been 1.0- 1.2 Kcfs last week; Hungry Horse has been operating to Columbia Falls Minimum outflows. The end of April FC Elevation at Hungry Horse was 3528.0 feet, therefore Hungry Horse was 8.1 feet below its end of April flood control elevation.

Dworshak is currently at an elevation of 1525.5 feet (4-30-09) and has drafted 1.3 feet last week. Outflows at Dworshak have ranged between 10-15 Kcfs last week. The COE stated at the April 29th TMT Meeting that a slightly decreasing water supply at Dworshak has led them to recommend decreasing outflows at Dworshak to ensure refill by the end of June/Early July. In response to the COEs recommendation, outflows at Dworshak were reduced from 15 Kcfs to 12 Kcfs on April 29th and then lowered further to 10 Kcfs on April 30th. The tentative plan is to further reduce outflows at Dworshak to 5 Kcfs on Tuesday, May 5th. The reductions in Dworshak outflows are occurring when flows at Lower Granite Dam have fallen below the 100 Kcfs flow objective.

The Brownlee Reservoir was at an elevation of 2051.1 feet on April 30th, 2009, refilling 0.3 feet last week. The end of April FC elevation was 2053.2 feet at

Brownlee. Outflows at Brownlee Dam have been 23.5 to 33.3 Kcfs over the last week.

Spill:

Flows continued to be high at Dworshak Dam as the project drafted to its end of April flood control elevation while maintaining a high probability of refill. Spill has ranged between 0.0 and 4.3 Kcfs over the past week. The 2009 planned spring spill program at the lower Snake River Projects began on April 3 at 0001 hours and will continue through June 20, 2009. The following table shows the planned operations for 2009.

Project	Day/Night Spill
Lower Granite	20Kcfs/20Kcfs
Little Goose	30%/30%
Lower Monumental	Gas Cap/Gas Cap
Ice Harbor	30%/30% vs 45Kcfs/Gas Cap Study

Flow in the Snake River was high at the latter part of last week, but decreased substantially over the past few days. Spill in excess of generation capacity occurred at some of the Snake Projects at the end of last week and then decreased as flows diminished. Spill at Lower Granite Dam has averaged an instantaneous 20 Kcfs since April 25, but had a daily average of over 36 Kcfs on April 24th. Spill at Little Goose Dam exceeded the 30% on the 24th due to excess generation spill, and then was managed to less than 30% on the 25th and 26th when the COE lowered the spill cap due to the TDG levels at the Lower Monumental Dam forebay. Since the 27th of April the project has achieved the 30% over the 24 hour period. Spill to the gas cap at Lower Monumental Dam was reduced over the past week from 29 to 24 Kcfs in response to the forebay measurements of TDG at Ice Harbor Dam. The project is now spilling 35 Kcfs in a uniform spill pattern as the 2009 spill study gets underway. Spill at Ice Harbor Dam met the 45 Kcfs daytime spill and gas cap nighttime spill except on April 24th, when spill was higher. The implementation of study-like conditions began on April 30th, and spill will now alternate between 30% spill for 24 hours and 45 Kcfs Daytime spill and gas cap nighttime spill, in two day blocks.

The 2009 spill program began at the lower Columbia River projects at 0001 hours on April 10th. The following table shows the planned operations for 2009.

Project	Day/Night Spill
McNary	40%/40%
John Day	30%/30% on pre-test days; 30%/30% vs. 40%/40% on test days
The Dalles	40%/40%
Bonneville	100 Kcfs/100 Kcfs

McNary Dam spill met or exceeded the Court Order over the past week. At John Day Dam the 30% spill was met over the past week. The Dalles Dam spill was reduced on the 24th of April due to a prior forebay TDG exceedence at Bonneville Dam. Since April 25th the project has been spilling an instantaneous 40% of flow. At Bonneville dam there was some excess generation spill on the 25th of April, followed by a reduction in the spill cap due to tailrace TDG levels at Bonneville Dam and forebay TDG levels at Camas/Washougal, followed by a return to the Court Ordered spill level by midday on April 28th.

Total dissolved gas measurements at the Snake River federal hydroprojects were generally under the waiver limits over this past week with the exception of a few days at the Lower Monumental Dam forebay and the Ice Harbor Dam forebay and tailrace.

In the Lower Columbia TDG at the Bonneville Dam forebay exceeded the 115% by 0.4% on April 30th and exceeded the 120% tailrace level on three days. The TDG at the Camas/Washougal monitor exceeded 115% on April 30th.

Gas bubble trauma (GBT) monitoring occurred at Lower Granite, Little Goose and Lower Monumental dams in the Snake River, Rock Island in the Mid Columbia River and at McNary and Bonneville dams in the lower Columbia. A few fish with minor signs of GBT were detected in the samples at Rock Island and Bonneville dams this past week

Adult Fish Passage:

Adult counts at Bonneville Dam have been updated through April 30th. Daily adult spring Chinook counts at Bonneville Dam ranged from 1483 to 2904 adult salmon per day. Between March 15th and April 30th, 21996 spring Chinook have been counted at Bonneville Dam. In 2008, 40321 adult spring Chinook were counted at Bonneville Dam for the same time period. The 2009 adult spring Chinook count at Bonneville Dam is 54.5% of the 2008 count. The Bonneville spring Chinook adult count is only about

23.2% of the 10 year average of 94879. The 2009 Bonneville Dam spring Chinook jack count of 1671 is about 4.7 times greater than the 2008 count of 357 and 1.17 times greater than the 10 year average of 1422. At Willamette Falls Dam 2533 adult spring Chinook have been counted so far this year. The 2009 adult spring Chinook count at Willamette Falls Dam is 3.8 times greater than the 2008 count of 662. At The Dalles Dam the 2009 adult spring Chinook count is 6862 and at McNary Dam 1728 adult spring Chinook have been counted.

The Bonneville Dam 2009 steelhead count of 2113 is about 1.12 times greater than the 2008 count of 1878. The 2009 steelhead count is about 97.2% of the 10-year average of 2173. 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 24 to 45 adults per day last week. This year's Lower Granite steelhead count of 10190 is 1.42 times greater than the 2008 count of 7175 and 1.35 times greater than the 10 year average of 7524. The 2009 wild steelhead count as of April 30th was 2960. At Rock Island Dam, as of April 29th, 57 adult steelhead have been counted and at Rocky Reach Dam, 280 adult steelhead have been counted so far this season. At Willamette Falls Dam, the 2009 count for steelhead was 3496, as of April 29th. This year's steelhead count is only about 61.7% of the 2008 count of 5660 at Willamette Falls Dam for the same date range.

Stansell et al. reported that as of April 24th, that as many as 26 California sea lions and 26 Steller sea lions have been counted at Bonneville Dam on a single day. The highest daily abundance of sea lions at Bonneville Dam occurred on April 21st when 47 sea lions were observed at the dam. There has been an increase in the number of California sea lions over the past few weeks. However, California sea lion numbers are lower when compared to recent years. Sea lion trapping began on March 10th. To date, 7 animals have been euthanized, 4 have been relocated and 6 have been tagged and released. All of the 7 euthanized sea lions were infected with Gammaherpes virus and found to be unsuited for zoos or aquariums. The traps will continue to be used to mark sea lions not previously seen at the dam and to remove animals that meet the removal

criteria granted to the states by NOAA Fisheries under Section 120 of the Marine Mammal Protection Act.

Stansell, Robert; Tackley, Sean; and Gibbons, Karrie. 2009. Status Report – Pinniped Predation and Deterrent Activities at Bonneville Dam, 2009. Fisheries Field Unit, US Army Corps of Engineers, Bonneville Lock and Dam, Cascade Locks, Oregon. Available online at <http://www.nwd-wc.usace.army.mil/tmt/documents/fish/2009/update20090424.pdf>.

Smolt Monitoring:

Yearling Chinook collection at the SMP traps appears to have peaked last week in conjunction with high early season flows in the Snake River basin. High flows caused some of the traps to stop sampling either due to debris issues or in the case of the Lewiston Trap too many fish in the trap to safely handle. Steelhead are beginning to predominate at the SMP traps as yearling Chinook numbers diminish. This is typically the time period when that transition occurs at the traps and at the dams. At the Lower Snake River dams, the opposite is occurring however as steelhead numbers have begun to decline and yearling Chinook collection has increased. This is unusual in that typically yearling Chinook predominate in the Snake River until around May 1. However an early release of 1 million steelhead from Dworshak NF Hatchery has resulted in a large number of steelhead being collected at the Snake River sites. At Bonneville Dam yearling Chinook predominated the collection as releases from Carson NFH, Willard NFH, Klickitat NFH, and releases in the Hood River continued to pass the project.

The Salmon River Trap collection of yearling Chinook declined rapidly over the past week as flows decreased from an unusually high early peak of 33 Kcfs on April 24, which was more than double the historic median for this time period. Debris shut down the trap on April 21 when a large tree was wedged in the trap. But sampling resumed the next day. Steelhead collection has begun to increase (although numbers dropped this week with the dramatic reduction in flows) and should continue to remain relatively high for the next few weeks. At the Imnaha River Trap a similar pattern is occurring with diminishing numbers of yearling Chinook being collected and at the same time relatively larger collection of steelhead is beginning. The steelhead numbers at the Imnaha Trap also decreased over the past week as flows dropped in that river as well. Over the past week flows in the Imnaha River have dropped from over 2 Kcfs to 700 cfs; the latter value is well below historic median flow

for this time period. The Grande Ronde Trap also had peak flows last week and rapidly decreasing flows over the past week. The trap was collecting roughly equal numbers of yearling Chinook and steelhead over the past week. The Lewiston Trap on the Snake River captured very large numbers of yearling Chinook and steelhead the previous week during the high flow event. On April 23 the trap collected 5,228 yearling Chinook and 666 steelhead. Flows in the Snake River as measured at the USGS gage near Anatone peaked at 90 Kcfs around midnight on April 23, well above historic median of 43 Kcfs. Flows have diminished to 50 Kcfs by May 1 which is right at historic median flows for the Snake River at Anatone.

Over the past week yearling Chinook indices have begun to increase to a level equal to or above that of steelhead at Lower Granite Dam. Typically, steelhead indices don't increase above those of Chinook until early May, but due an early release of steelhead from Dworshak hatchery steelhead have predominated until now. Steelhead indices reached as season high of 236,000 on April 23 and have steadily declined to 57,000 on April 30. The passage index for yearling Chinook has also declined but to a lesser extent than steelhead with the passage index at 70,000 on April 30.

At Rock Island dam the daily passage indices have remained relatively low over the past week. The collection of yearling Chinook increased to relatively high numbers with yearling Chinook collection reaching a season high of 616 on April 30. Steelhead collection increased to 79 fish on April 29, which is a high for the season to date.

McNary Dam began sampling on April 9. The predominant salmonids in the sample at McNary Dam the past week were yearling Chinook, and steelhead. The passage index for yearling Chinook rose to 37,000 on April 27, while steelhead index for that date was at 67,000. Lamprey numbers in the sample have remained low but steady over the past two weeks with the numbers 18 and 8 over the past four sampling dates. At Bonneville Dam decreasing numbers of subyearling Chinook passed the project this week. That number should increase rapidly over the next few days as the latest Spring Creek release of subyearling Chinook goes out May 1. Yearling Chinook passage remained steady over the past week as nearby releases from Carson NFH, Willard NFH, Klickitat NFH, and releases in the Hood River passed the project. Smaller numbers of steelhead and coho and sockeye have also been captured at the site.

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. This week, approximately 230,000 coho juveniles were scheduled for release into Clear Creek, a tributary of the Clearwater River. Releases of sockeye smolts to the Snake River zone were expected to begin this week. In all, about 172,000 sockeye smolts were scheduled for release this week, with 57% being released into the Salmon River and 43% into Redfish Lake. Finally, several releases of summer steelhead that began weeks ago were scheduled to end this week. In all, these releases totaled approximately 2.93 million steelhead juveniles. Of these, about 32% were released to the Salmon River, 29% to the Clearwater River, and 28% to the Pahasimeroi River. The remaining 11% were split between the Grande Ronde (6%), Tucannon (3%), and Snake (2%) rivers. In addition to these older releases, about 762,000 summer steelhead were scheduled for release into this zone this week. The majority (81%) of these summer steelhead were scheduled for release into the Salmon River. The remaining 19% were scheduled for release into the Imnaha River.

Two releases of subyearling fall Chinook to the Snake River (below Hells Canyon Dam) are scheduled for next week. In all, these releases are expected to total nearly 963,000 juveniles. In addition, about 202,000 subyearling fall Chinook from Lyons Ferry Hatchery are scheduled for release into Couse Creek, a tributary of the Snake River, above Lower Granite Dam. This release is scheduled to begin on or around May 11th. Many of the releases of summer steelhead that began this week are volitional and are scheduled to end over the next two weeks. In addition, a couple of releases of summer steelhead are scheduled to begin over the next two weeks. In all, these releases will total about 268,000 summer steelhead juveniles. Of these, about 58% are scheduled for release into the Grande Ronde River and 48% are scheduled for release into the Wallowa 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. Approximately 1.2 million subyearling fall Chinook were scheduled for release into the Yakima River this week. Several releases of yearling spring Chinook that began weeks ago were scheduled to end this week. These earlier releases total about 311,000 yearling

spring Chinook, all of which were being released into the Methow River. In addition to these earlier releases to the Methow River, just over 2.0 million yearling spring Chinook were scheduled for release into the Wenatchee River this week. Several releases of yearling summer Chinook that began several weeks ago were scheduled to end this week. In all, these releases total about 996,000 yearling summer Chinook. Of these, about 10% were scheduled for release into the Okanogan River, 46% to the Wenatchee River, and 44% to the Methow River. In addition to these earlier releases of summer Chinook juveniles, 61,000 yearling summer Chinook were scheduled for release into the Mid-Columbia River, beginning on or around May 1st.

The Yakama Tribal Program to re-establish Coho runs in the Yakima, Methow, and Wenatchee basins continued its releases this week. In all, just over 503,000 coho juveniles were scheduled for release into this zone this week. Of these, about 80% were scheduled for release into the Wenatchee River while 20% were scheduled for release into the Methow River. Finally, several releases of summer steelhead that began weeks ago were scheduled to end this week. In all, these releases total about 245,000 summer steelhead juveniles. Of these, about 52.7% were scheduled for release into the Touchet River, 40.8% to the Walla Walla River, and 6.5% to the Okanogan River. In addition, 212,000 summer steelhead were scheduled for release into the Methow River this week. About 15% of the summer steelhead released to the Methow River this week were tagged with yellow Elastomer tags.

One release of yearling summer Chinook to the Okanogan River that began two weeks ago is scheduled to end next week. In all, this release totaled about 520,000 summer Chinook juveniles. As mentioned above, most of the releases for the Yakama Tribal Program to re-establish Coho runs in the Yakima, Methow, and Wenatchee river basins have already begun and will continue over the next few weeks. In addition to the releases that have already occurred, one release of about 352,000 coho juveniles to the Wenatchee River is expected to begin next week. No other releases are scheduled to begin in this zone over the next two weeks.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Approximately 4.6 million subyearling fall Chinook Tules were released from Spring Creek NFH on May 1st. This

release was originally scheduled for May 3rd but began early due to scheduled maintenance at Bonneville Dam next week. A release of about 24,000 summer steelhead juveniles to the White Salmon River that began on April 15th was scheduled to end this week. In addition to this earlier release, about 90,000 summer steelhead juveniles were scheduled for release into the Klickitat River this week. Finally, a release of about 20,000 winter steelhead juveniles to the White Salmon River that began last week was scheduled to end this week. In addition, about 37,500 winter steelhead juveniles were scheduled for release into Hood River this week.

Approximately 1 million coho juveniles are scheduled for release into the Klickitat River, beginning on or around May 10th. All of these coho juveniles are clipped. Beginning on or around May 2nd, about 20,000 summer steelhead juveniles will be released into Hood River. Finally, about 12,500 winter steelhead juveniles are scheduled for release into this zone over the next two weeks. All of these winter steelhead juveniles will be released into Hood River. There are no other scheduled releases to this zone 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
04/17/2009	118.4	0.0	120.9	0.0	132.4	9.3	128.2	0.0	131.6	12.5	137.2	0.8	141.1	0.0
04/18/2009	124.5	0.0	114.3	0.0	133.4	9.5	136.1	2.2	138.8	11.4	140.6	1.5	138.0	0.0
04/19/2009	116.2	0.0	120.1	0.0	115.7	8.5	109.3	0.0	114.5	12.0	141.8	1.4	135.7	0.0
04/20/2009	125.7	0.0	132.3	0.0	131.2	9.3	123.1	0.2	123.8	13.7	121.2	0.0	125.9	0.0
04/21/2009	129.2	0.0	124.1	0.0	132.5	8.8	131.0	0.0	136.3	13.8	123.0	0.0	126.9	0.0
04/22/2009	128.7	0.0	126.2	0.0	127.4	8.7	122.2	0.1	129.6	13.8	139.0	1.5	130.6	0.0
04/23/2009	131.5	0.0	132.6	3.0	137.9	9.9	133.8	0.3	139.2	13.8	142.3	5.2	140.1	0.0
04/24/2009	130.4	0.0	133.9	1.1	150.1	12.6	151.1	13.6	157.2	14.0	167.5	32.3	167.1	12.4
04/25/2009	124.3	0.0	121.7	0.0	133.8	9.5	127.6	0.0	133.0	14.3	147.5	19.7	144.4	0.0
04/26/2009	132.8	0.0	140.6	0.0	145.2	9.3	139.6	0.0	145.7	14.3	144.4	19.7	144.5	0.0
04/27/2009	143.5	0.0	150.1	0.0	151.9	10.0	144.2	2.3	150.1	14.3	152.6	30.4	146.7	12.8
04/28/2009	132.9	0.0	117.9	21.2	143.1	9.6	146.0	0.3	152.4	15.1	161.3	34.0	160.6	22.6
04/29/2009	130.7	0.0	140.5	22.3	150.0	10.0	142.4	0.0	145.9	14.4	149.9	21.1	151.8	20.2
04/30/2009	126.3	0.0	126.7	38.6	138.1	10.0	133.0	0.0	138.4	14.3	148.4	20.3	141.6	20.9

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

Date	Dworshak		Hells Brownlee Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
04/17/2009	14.8	4.2	24.0	26.0	82.5	20.5	79.9	23.9	84.2	29.0	87.1	60.1
04/18/2009	14.9	4.2	24.5	27.2	81.1	20.4	79.9	23.9	83.5	29.0	85.5	58.7
04/19/2009	14.8	4.1	28.0	29.5	83.6	20.5	79.9	23.8	81.7	29.0	82.1	59.1
04/20/2009	14.8	4.1	31.8	29.9	90.5	20.4	86.2	25.8	88.6	25.9	89.7	62.2
04/21/2009	14.8	4.1	31.6	29.9	103.8	20.5	100.8	30.1	104.1	24.0	108.3	67.8
04/22/2009	14.9	4.2	32.5	36.2	122.7	22.3	114.4	31.5	119.6	24.0	121.3	67.5
04/23/2009	14.9	4.2	33.9	34.6	140.7	33.0	134.4	45.8	138.8	24.2	142.7	78.4
04/24/2009	13.9	3.2	32.8	34.9	139.8	36.3	134.8	44.9	142.0	28.2	145.9	75.4
04/25/2009	10.6	0.0	31.6	34.8	120.8	21.1	113.9	31.3	119.4	29.0	122.8	62.3
04/26/2009	10.6	0.0	29.1	31.9	108.8	20.4	103.2	30.5	108.6	29.1	109.9	60.2
04/27/2009	11.7	1.1	26.8	29.8	98.2	19.7	96.1	28.9	99.6	28.7	102.8	63.1
04/28/2009	15.0	4.3	26.0	24.2	91.1	20.5	86.3	25.9	88.3	26.3	89.4	60.1
04/29/2009	13.8	3.2	26.7	24.3	87.6	20.5	84.5	27.4	85.7	26.1	88.7	59.2
04/30/2009	11.3	0.9	---	---	81.5	20.5	78.6	24.0	80.7	32.6	81.5	34.8

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
04/17/2009	242.2	97.0	240.0	72.2	233.8	93.3	253.4	99.7	48.0	94.3
04/18/2009	235.9	94.3	234.3	70.2	227.7	91.3	244.3	99.8	35.3	97.9
04/19/2009	233.4	93.6	218.5	65.6	207.7	83.5	229.5	99.5	22.0	96.5
04/20/2009	229.3	92.0	239.7	71.6	235.9	94.0	245.1	96.3	40.3	97.1
04/21/2009	247.9	99.4	243.9	73.0	231.0	92.5	251.7	94.5	52.4	93.4
04/22/2009	252.8	101.2	248.3	74.4	240.1	91.2	269.6	91.4	67.1	99.6
04/23/2009	285.0	124.0	299.5	89.6	288.9	98.2	282.6	90.1	69.0	112.1
04/24/2009	317.0	143.4	329.3	98.7	317.7	115.3	324.1	108.4	75.2	129.1
04/25/2009	292.0	120.9	289.3	87.1	280.4	112.5	316.6	108.2	75.3	121.7
04/26/2009	279.1	111.6	300.1	90.0	293.1	117.2	298.1	94.6	75.3	116.8
04/27/2009	269.5	108.0	276.4	83.0	270.2	107.9	293.1	99.8	74.1	107.8
04/28/2009	271.2	108.6	270.8	82.1	264.3	105.8	275.2	96.7	70.5	96.6
04/29/2009	251.8	100.9	249.0	74.9	240.3	96.2	281.2	99.6	70.1	100.2
04/30/2009	241.7	97.2	259.3	77.9	252.2	100.4	255.7	100.8	49.6	93.9

Gas Bubble Trauma Monitoring Results from Representative Sites on the Snake River and Columbia River

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank			
								Rank 1	Rank 2	Rank 3	Rank 4
Lower Granite Dam											
	04/27/09	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Little Goose Dam											
	04/27/09	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	04/29/09	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	04/26/09	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/30/09	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	04/21/09	Chinook + Steelhead	92	0	0	0.00%	0.00%	0	0	0	0
	04/25/09	Chinook + Steelhead	108	1	1	0.92%	0.00%	1	0	0	0
	04/28/09	Chinook + Steelhead	95	2	2	2.10%	0.00%	2	0	0	0
Rock Island Dam											
	04/23/09	Chinook + Steelhead	50	2	2	4.00%	0.00%	2	0	0	0
	04/24/09	Chinook + Steelhead	100	3	3	3.00%	0.00%	3	0	0	0
	04/28/09	Chinook + Steelhead	50	1	1	2.00%	0.00%	1	0	0	0
	04/30/09	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0

Hatchery Releases Last Two Weeks

Hatchery Release Summary									
From:					4/17/2009	to	04/30/09		
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Colville Tribe	Cassimer Bar Hatchery	ST	SU	2009	2,000	04-15-09	04-30-09	Okanogan River	Okanogan River
Colville Tribe	Cassimer Bar Hatchery	ST	SU	2009	14,000	04-15-09	04-30-09	Omak Creek	Okanogan River
Colville Tribe	Eastbank Hatchery	CH1	SU	2009	100,000	04-15-09	04-30-09	Bonaparte Acclimation Pond	Okanogan River
Colville Tribe Total					116,000				
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	31,000	04-27-09	04-29-09	Yankee Fk (Salmon R)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2009	31,000	04-30-09	04-30-09	Slate Creek Squaw Creek	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2009	57,000	04-20-09	04-24-09	(Clearwater)	Clearwater River M F
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2009	60,000	04-30-09	04-30-09	Slate Creek	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2009	62,000	04-27-09	04-29-09	Salmon River (ID)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2009	62,000	04-27-09	04-29-09	Yankee Fk (Salmon R)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2009	68,000	04-27-09	04-30-09	East Fk Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2009	217,458	04-17-09	04-21-09	East Fk Salmon River Squaw Creek	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2009	280,000	04-20-09	04-24-09	(Clearwater)	Clearwater River M F
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	830,000	04-09-09	04-28-09	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game Total					2,398,820				
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	Dworshak NFH	CO	UN	2009	230,000	04-30-09	04-30-09	Clear Creek	Clearwater River M F
Nez Perce Tribe Total					536,254				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2009	146,000	04-28-09	04-28-09	Little Sheep Creek	Imnaha River
Oregon Dept. of Fish and Wildlife	Umatilla Hatchery	ST	SU	2009	50,000	04-20-09	04-24-09	Meacham Creek	Umatilla River
Oregon Dept. of Fish and Wildlife Total					196,000				
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2009	766,000	04-13-09	05-01-09	Salmon River (ID)	Salmon River (ID)
U.S. Fish and Wildlife Service	Leavenworth NFH	CH1	SP	2009	1,625,000	04-30-09	04-30-09	Icicle Creek Warm Springs	Wenatchee River
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	Winthrop NFH	ST	SU	2009	102,000	04-30-09	04-30-09	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service Total					3,063,000				
Umatilla Tribe	Umatilla Hatchery	ST	SU	2009	50,000	04-20-09	04-24-09	Minthorn Acclimation Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	ST	SU	2009	50,000	04-20-09	04-24-09	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe Total					100,000				
Warm Springs Tribe	Oak Springs Hatchery	ST	WI	2009	12,500	04-30-09	04-30-09	Parkdale Acclim Pond E Fk Irrig Dist Sand	Hood River
Warm Springs Tribe	Oak Springs Hatchery	ST	WI	2009	25,000	04-30-09	04-30-09	Trap	Hood River
Warm Springs Tribe	Round Butte Hatchery	CH1	SP	2009	37,500	04-24-09	04-24-09	W Fk Hood River	Hood River
Warm Springs Tribe Total					75,000				

Hatchery Releases Last Two Weeks - Continued

Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2009	462,000	04-15-09	04-30-09	Dryden Acclim Pond	Wenatchee River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2009	520,000	04-15-09	05-07-09	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2009	44,000	04-15-09	04-30-09	Baileysburg Bridge	Touchet River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2009	60,000	04-15-09	04-30-09	Lyons Ferry Hatchery	Snake River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2009	85,000	04-15-09	04-30-09	Dayton Acclim Pond	Touchet River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2009	100,000	04-15-09	04-30-09	Tucannon River	Tucannon River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2009	100,000	04-15-09	04-30-09	Walla Walla River Cottonwood Acclim Pond	Walla Walla River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2009	168,000	04-01-09	04-30-09	Pond	Grande Ronde River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2009	58,000	04-15-09	04-30-09	Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2009	122,000	04-15-09	04-30-09	Methow River	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2009	131,000	04-15-09	04-30-09	Chewuch Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SU	2009	434,000	04-15-09	04-30-09	Carlton Acclim Pond Ringold Springs	Methow River
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	ST	SU	2009	140,047	04-14-09	04-23-09	Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2009	24,000	04-15-09	05-01-09	White Salmon River	White Salmon River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	WI	2009	20,000	04-15-09	05-01-09	White Salmon River	White Salmon 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	Turtle Rock Hatchery	CH1	SU	2009	116,000	04-15-09	05-15-09	Chelan Falls	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2009	11,000	04-15-09	05-15-09	Chiwawa River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2009	30,500	04-15-09	05-15-09	Chiwawa River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2009	50,000	04-15-09	05-15-09	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2009	50,500	04-15-09	05-15-09	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2009	68,000	04-15-09	05-15-09	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2009	117,000	04-15-09	05-15-09	Nason Creek	Wenatchee River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2009	318,000	04-13-09	05-15-09	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2009	110,000	04-20-09	05-31-09	Methow River	Methow River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2009	110,000	04-20-09	05-31-09	Twisp River	Methow River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2009	130,000	04-20-09	05-31-09	Okanogan River	Okanogan River
Washington Dept. of Fish and Wildlife Total					3,693,047				
									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	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
									Lost Creek Acclim
Yakama Tribe	Eagle Creek NFH	CO	UN	2009	97,000	04-06-09	05-15-09	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	Entiat Hatchery	CO	UN	2009	183,231	04-20-09	04-20-09	Icicle Creek	Wenatchee River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2009	500,000	04-24-09	04-24-09	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2009	1,200,000	04-30-09	04-30-09	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2009	37,659	04-06-09	05-15-09	Easton Pond	Yakima River
									Lost Creek Acclim
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2009	68,473	04-06-09	05-15-09	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	Willard Hatchery	CO	UN	2009	44,671	04-21-09	04-23-09	Wells Hatchery	Mid-Columbia River
Yakama Tribe	Winthrop NFH	CO	UN	2009	286,213	04-15-09	04-30-09	Winthrop Hatchery	Methow River
Yakama Tribe Total					4,008,137				
Grand Total					14,186,258				

Hatchery Releases Next Two Weeks

Hatchery Release Summary									
From:		5/1/2009	to	5/14/2009					
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
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	Oxbow-Idaho	CH0	FA	2009	192,471	05-06-09	05-06-09	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Oxbow-Oregon	SO	UN	2009	74,000	05-01-09	05-01-09	Redfish Lake	Salmon River (ID)
Idaho Dept. of Fish and Game	Sawtooth Hatchery	SO	UN	2009	98,000	05-01-09	05-01-09	Salmon River (ID)	Salmon River (ID)
Idaho Dept. of Fish and Game Total					534,471				
National Marine Fisheries Service	Lyons Ferry Hatchery	CH0	FA	2009	202,369	05-11-09	05-29-09	Couse Creek	Snake River
National Marine Fisheries Service Total					202,369				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2009	112,000	05-07-09	05-07-09	Wallowa Acclim Pond	Wallowa River
								Big Canyon Acclim.Pd	
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2009	156,000	05-11-09	05-11-09	(Grande Ronde)	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Umatilla Hatchery	CH0	FA	2009	770,350	05-07-09	05-10-09	Hells Canyon Dam	Snake River
Oregon Dept. of Fish and Wildlife Total					1,038,350				
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2009	150,000	05-01-09	05-11-09	Yankee Fk (Salmon R)	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2009	152,000	05-01-09	05-11-09	Yankee Fk (Salmon R)	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2009	766,000	04-13-09	05-01-09	Salmon River (ID)	Salmon River (ID)
U.S. Fish and Wildlife Service	Spring Creek NFH	CH0	FA	2009	4,600,000	05-01-09	05-01-09	Spring Creek Hatchery	L Col R (D/s McN Dam)
U.S. Fish and Wildlife Service Total					5,668,000				
Warm Springs Tribe	Oak Springs Hatchery	ST	SU	2009	20,000	05-02-09	05-02-09	Blackberry Acclim Pond	Hood River
Warm Springs Tribe	Oak Springs Hatchery	ST	WI	2009	12,500	05-14-09	05-14-09	Parkdale Acclim Pond	Hood River
Warm Springs Tribe Total					32,500				
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	CH1	SP	2009	296,000	05-01-09	05-15-09	Chiwawa River	Wenatchee River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SP	2009	140,000	05-01-09	05-31-09	Lake Wenatchee	Wenatchee River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2009	520,000	04-15-09	05-07-09	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2009	24,000	04-15-09	05-01-09	White Salmon River	White Salmon River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2009	90,000	05-01-09	05-15-09	Klickitat River	Klickitat River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	WI	2009	20,000	04-15-09	05-01-09	White Salmon River	White Salmon River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	CH1	SU	2009	61,000	05-01-09	05-15-09	Turtle Rock Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	CH1	SU	2009	116,000	04-15-09	05-15-09	Chelan Falls	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2009	11,000	04-15-09	05-15-09	Chiwawa River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2009	30,500	04-15-09	05-15-09	Chiwawa River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2009	50,000	04-15-09	05-15-09	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2009	50,500	04-15-09	05-15-09	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2009	68,000	04-15-09	05-15-09	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2009	117,000	04-15-09	05-15-09	Nason Creek	Wenatchee River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2009	318,000	04-13-09	05-15-09	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2009	110,000	04-20-09	05-31-09	Methow River	Methow River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2009	110,000	04-20-09	05-31-09	Twisp River	Methow River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2009	110,000	05-01-09	05-31-09	Chewuch River	Methow River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2009	130,000	04-20-09	05-31-09	Okanogan River	Okanogan River
Washington Dept. of Fish and Wildlife Total					2,372,000				

Hatchery Releases Next Two Weeks - Continued

Yakama Tribe	Cascade Hatchery	CO	UN	2009	64,590	05-01-09	05-15-09	Wenatchee River	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2009	77,658	05-01-09	05-15-09	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2009	77,734	05-01-09	05-15-09	Coulter Creek Butcher Creek Acclim.	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2009	116,624	05-01-09	05-15-09	Pond Jack Creek Acclim	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 Lost Creek Acclim	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2009	97,000	04-06-09	05-15-09	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	Klickitat Hatchery	CO	NO	2009	1,000,000	05-10-09	05-15-09	Klickitat Hatchery	Klickitat River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2009	37,659	04-06-09	05-15-09	Easton Pond Lost Creek Acclim	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2009	68,473	04-06-09	05-15-09	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	Willard Hatchery	CO	UN	2009	19,352	05-01-09	05-15-09	Wenatchee River Butcher Creek Acclim.	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2009	21,388	05-01-09	05-15-09	Pond	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2009	26,782	05-01-09	05-15-09	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2009	48,664	05-01-09	05-15-09	Winthrop Hatchery	Methow River
Yakama Tribe	Willard Hatchery	CO	UN	2009	352,140	05-04-09	05-04-09	Icicle Creek	Wenatchee River
Yakama Tribe	Winthrop NFH	CO	UN	2009	50,445	05-01-09	05-15-09	Twisp Acclim Pond	Methow River
Yakama Tribe Total					3,649,399				
Grand Total					13,497,089				

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>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>	#		
	<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>
4/17	100	101	102	24	105	105	106	21	105	106	106	24	106	106	107	21	104	104	105	24
4/18	100	100	101	24	105	106	107	24	105	107	107	24	105	106	106	24	104	104	105	24
4/19	100	100	102	24	106	106	107	22	106	106	107	24	106	106	107	22	104	105	105	24
4/20	100	101	101	24	107	108	112	24	107	108	109	24	106	107	107	24	105	105	105	24
4/21	100	101	102	24	114	120	120	23	109	110	111	24	107	108	108	23	106	106	106	24
4/22	101	101	102	24	115	121	121	24	108	108	108	24	108	109	109	24	107	107	107	24
4/23	100	100	101	24	108	110	111	24	107	108	108	24	106	108	109	24	106	106	107	24
4/24	100	101	101	24	107	107	108	20	108	108	108	24	105	106	107	20	105	105	105	24
4/25	100	101	101	24	107	107	108	22	108	108	108	24	106	107	108	22	105	106	106	24
4/26	100	100	101	24	106	107	107	24	108	108	110	24	105	106	106	24	105	106	106	24
4/27	100	100	100	21	108	109	110	23	109	110	111	24	106	107	108	23	106	106	107	24
4/28	100	100	101	24	108	109	109	24	109	109	109	24	106	107	108	24	106	106	106	24
4/29	100	100	100	24	106	107	109	24	108	109	109	24	105	106	107	24	105	105	106	24
4/30	101	103	109	24	108	110	110	23	108	108	108	24	106	106	107	23	106	106	106	24

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>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>	#		
	<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>
4/17	103	104	105	24	106	106	107	24	104	104	105	24	107	107	107	24	105	105	106	24
4/18	103	104	105	24	105	106	107	24	104	104	105	24	106	106	107	24	105	105	106	24
4/19	104	105	106	24	106	107	108	24	104	105	106	24	106	106	107	24	104	105	105	24
4/20	104	104	105	24	107	108	109	23	105	106	106	23	107	107	108	24	105	106	106	24
4/21	105	106	106	24	107	108	109	24	107	109	109	24	108	109	109	24	106	107	107	24
4/22	106	107	107	24	106	107	107	24	108	109	109	24	109	109	110	24	107	107	107	24
4/23	106	106	108	24	105	106	106	24	108	108	109	24	108	108	109	24	106	106	107	24
4/24	105	106	109	24	105	105	106	24	108	109	109	24	107	108	108	24	107	109	111	23
4/25	105	106	106	24	106	106	107	24	107	108	109	24	108	108	108	24	106	106	107	24
4/26	105	105	106	24	105	105	106	24	107	108	108	24	107	108	108	24	105	105	106	24
4/27	106	106	106	24	106	106	107	24	108	109	109	24	108	108	109	24	105	106	106	24
4/28	108	110	114	24	105	106	107	24	107	108	108	24	107	108	108	24	105	106	106	24
4/29	109	112	117	24	105	106	108	24	107	108	109	24	106	107	107	24	104	105	105	24
4/30	109	113	117	24	107	109	111	24	109	111	112	24	107	107	108	24	105	105	105	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>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>	#		
	<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>
4/17	107	107	108	24	109	110	111	24	104	104	105	24	105	105	106	24	105	105	105	11
4/18	107	108	108	24	109	110	111	24	104	104	105	24	105	106	107	24	---	---	---	0
4/19	106	107	107	24	109	110	110	24	104	104	104	2	107	107	107	2	---	---	---	0
4/20	107	108	108	24	109	110	112	24	108	111	112	22	109	110	110	22	111	111	113	12
4/21	108	109	109	24	110	111	111	24	110	111	112	24	110	110	111	24	110	111	113	24
4/22	109	109	109	24	111	112	113	24	110	110	110	24	110	111	114	24	110	111	111	24
4/23	108	108	109	24	110	111	112	24	108	108	109	24	108	109	110	24	108	108	109	24
4/24	109	111	115	24	111	113	116	23	108	109	109	24	112	114	124	24	108	109	113	24
4/25	107	107	108	24	110	110	112	24	108	108	109	24	110	110	111	24	112	114	119	24
4/26	107	108	108	24	110	110	110	24	108	111	113	24	110	111	112	24	108	109	110	24
4/27	108	108	108	24	110	110	111	24	109	110	111	24	112	112	114	24	110	111	112	24
4/28	107	108	109	24	110	110	111	24	108	109	109	24	---	---	---	0	110	111	112	24
4/29	106	106	107	24	109	109	111	23	---	---	---	0	---	---	---	0	---	---	---	0
4/30	106	107	107	24	109	110	110	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>#</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>					
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High					
4/17	105	105	106	24	104	105	105	24	105	105	106	24	102	103	103	24	102	102	103	24
4/18	105	105	106	24	105	106	106	24	105	106	106	24	103	104	104	24	102	103	104	24
4/19	106	106	106	2	105	106	107	24	105	105	106	24	103	103	104	24	102	103	103	24
4/20	108	109	109	22	107	108	108	24	105	106	106	24	103	104	104	24	102	103	104	24
4/21	109	110	110	24	108	109	110	24	106	106	107	24	103	104	104	24	103	104	104	24
4/22	110	110	110	24	109	109	110	24	107	108	109	24	103	104	105	24	103	104	105	24
4/23	107	107	109	24	106	107	108	24	107	107	108	24	103	103	104	24	107	110	144	24
4/24	108	111	113	24	105	106	107	24	104	107	107	24	102	103	104	24	124	144	144	24
4/25	111	114	118	24	106	107	107	24	96	97	97	24	101	101	102	24	103	104	104	24
4/26	107	107	108	24	107	107	108	24	96	96	97	24	100	101	101	24	103	104	104	24
4/27	111	112	113	24	105	105	105	24	100	102	108	24	101	102	103	24	103	103	104	24
4/28	113	113	113	24	105	105	106	24	107	107	108	24	103	103	103	24	102	102	103	24
4/29	---	---	---	0	105	105	106	24	104	106	107	24	102	103	103	24	102	102	103	24
4/30	---	---	---	0	106	107	108	24	98	99	99	24	102	102	102	24	102	102	103	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>#</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>					
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High					
4/17	102	102	103	24	101	101	102	24	108	108	109	24	114	122	126	24	112	112	112	24
4/18	102	104	105	24	101	102	102	24	108	109	109	24	106	107	107	24	112	112	112	24
4/19	102	103	105	24	102	102	103	24	109	109	109	24	108	108	108	24	112	112	113	24
4/20	103	104	105	24	103	103	104	24	109	109	110	24	109	109	110	24	113	114	114	24
4/21	103	104	105	24	104	105	105	24	110	110	111	24	110	111	112	24	114	114	114	24
4/22	102	103	104	24	105	105	105	24	111	112	114	24	111	112	112	24	114	114	115	24
4/23	102	102	103	24	103	104	104	24	115	115	117	24	109	110	111	24	117	117	117	24
4/24	102	103	103	24	102	102	103	24	116	116	119	24	107	107	108	24	116	117	117	24
4/25	100	101	102	24	103	103	104	24	109	110	114	24	109	109	110	24	114	114	115	24
4/26	100	101	101	24	103	103	104	24	109	109	109	24	109	109	109	24	114	114	114	24
4/27	100	101	102	24	103	103	104	24	109	109	109	24	107	107	108	24	113	113	113	24
4/28	101	102	102	24	103	104	104	24	109	109	109	24	106	107	107	24	112	112	112	24
4/29	102	103	104	24	102	102	102	24	109	109	109	24	106	106	106	24	112	113	120	24
4/30	101	102	103	24	101	101	101	24	109	109	109	24	106	106	107	24	112	113	116	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>#</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>					
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High					
4/17	112	112	112	24	120	120	120	24	114	114	114	24	116	116	117	24	---	---	---	0
4/18	111	111	112	24	119	120	120	24	114	114	114	24	116	116	117	24	---	---	---	0
4/19	112	112	112	24	120	120	120	24	115	115	115	24	116	116	117	24	---	---	---	0
4/20	113	113	113	24	117	119	120	24	116	116	116	24	117	117	118	24	---	---	---	0
4/21	114	114	115	24	115	116	117	24	117	117	117	24	119	120	121	24	---	---	---	0
4/22	115	116	116	24	116	117	118	24	116	117	117	24	119	121	121	24	---	---	---	0
4/23	113	114	114	24	117	117	118	24	115	115	115	24	120	121	121	24	---	---	---	0
4/24	115	116	116	24	120	120	121	24	113	114	114	24	120	120	121	24	---	---	---	0
4/25	116	117	117	24	120	120	120	24	115	115	115	24	119	119	120	24	---	---	---	0
4/26	113	114	115	24	119	119	119	24	115	115	116	24	119	119	121	24	---	---	---	0
4/27	114	114	115	24	119	119	120	24	116	116	116	24	120	122	123	24	---	---	---	0
4/28	113	113	114	24	117	119	119	24	114	115	116	24	116	117	119	24	---	---	---	0
4/29	111	111	111	24	116	118	119	24	113	113	113	24	116	116	117	24	---	---	---	0
4/30	111	111	111	24	116	117	119	24	113	113	113	24	115	116	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				
4/17	107	107	108	24	115	116	117	24	105	106	106	24	114	115	115	24	109	109	110	24
4/18	107	108	109	24	115	115	117	24	105	106	107	24	114	114	115	24	109	109	110	24
4/19	108	109	109	24	115	115	116	24	107	108	109	24	114	114	114	24	110	110	111	24
4/20	110	110	111	24	115	116	117	24	109	110	111	24	115	115	115	24	111	112	113	24
4/21	111	111	112	24	116	116	117	24	112	112	112	24	115	115	116	24	113	113	114	24
4/22	113	113	113	24	116	117	117	24	112	113	113	24	115	116	116	24	112	113	114	24
4/23	111	111	112	24	118	119	119	24	111	111	112	24	116	116	117	24	110	111	111	24
4/24	110	111	111	24	118	119	119	24	110	110	111	24	117	117	118	24	111	112	113	24
4/25	110	110	111	24	118	118	119	24	109	110	110	24	115	116	116	24	110	111	113	24
4/26	108	109	111	24	117	118	118	24	107	108	108	24	116	116	117	24	109	110	111	24
4/27	111	112	112	24	117	118	118	24	109	110	110	24	115	116	116	24	111	111	111	24
4/28	110	110	112	24	116	117	117	24	109	110	110	24	115	116	116	24	111	111	111	24
4/29	108	108	109	24	115	116	116	24	108	109	109	24	115	115	115	24	110	111	111	24
4/30	109	110	111	24	115	116	117	24	110	110	111	24	115	115	115	24	111	112	113	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	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr				
4/17	115	115	116	24	112	112	112	24	---	---	---	0	113	113	114	24	119	119	120	24
4/18	115	115	116	24	112	113	113	24	---	---	---	0	113	114	114	24	118	119	119	24
4/19	115	115	115	24	114	115	115	24	---	---	---	0	114	115	116	24	118	118	119	24
4/20	116	117	118	24	115	115	116	24	---	---	---	0	115	117	118	24	118	119	119	24
4/21	116	117	117	24	115	115	116	24	---	---	---	0	116	116	117	24	118	119	119	24
4/22	116	117	117	24	114	115	116	24	---	---	---	0	114	115	115	24	118	119	119	24
4/23	114	115	115	24	111	111	112	24	---	---	---	0	112	112	113	24	118	119	120	24
4/24	115	116	117	24	112	113	113	24	---	---	---	0	112	113	113	24	120	121	121	24
4/25	115	116	116	24	112	112	113	24	---	---	---	0	113	113	113	24	120	121	122	24
4/26	115	116	116	24	111	112	112	24	---	---	---	0	112	113	114	24	119	120	120	24
4/27	116	117	117	24	113	114	114	24	---	---	---	0	113	113	114	24	120	120	124	24
4/28	116	117	117	24	113	114	114	24	---	---	---	0	113	114	115	24	119	120	120	24
4/29	116	116	116	24	114	114	115	24	---	---	---	0	113	114	115	24	120	120	120	24
4/30	116	117	117	24	115	115	116	24	---	---	---	0	115	116	118	24	119	120	120	24

Two-Week Summary of Passage Indices

COMBINED YEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
04/17/2009	1,398	1,272	530	48	16,012	8,983	316	10	7,235	3,093	22,003
04/18/2009 *	859	571	303	41	25,259	9,507	259	70	---	2,532	24,864
04/19/2009 *	426	281	260	79	26,473	12,393	320	39	10,116	3,454	19,194
04/20/2009 *	914	263	376	125	36,834	20,934	316	42	---	3,984	20,258
04/21/2009 *	---	0	296	205	37,558	18,592	245	44	12,252	5,385	19,549
04/22/2009 *	1,707	0	266	4,339	42,202	27,028	99	40	---	5,760	23,062
04/23/2009 *	518	0	---	5,228	63,401	53,715	152	79	23,139	6,782	26,706
04/24/2009 *	---	0	---	2,115	93,372	50,481	86	234	---	14,200	29,827
04/25/2009 *	---	205	---	3,055	110,564	51,653	149	77	28,530	17,902	32,965
04/26/2009 *	---	221	279	992	111,523	67,894	94	72	---	17,243	18,490
04/27/2009 *	214	123	246	1,343	103,786	77,612	134	44	37,300	15,275	24,306
04/28/2009 *	306	97	257	464	75,687	97,443	204	54	---	19,461	26,733
04/29/2009 *	147	94	190	64	92,873	70,572	289	122	34,196	22,682	17,640
04/30/2009 *	99	92	255	51	71,022	89,455	---	811	---	24,793	19,489
05/01/2009 *	---	---	---	---	---	---	---	---	---	---	---
Total:	6,588	3,219	3,258	18,149	906,566	656,262	2,663	1,738	152,768	162,546	325,086
# Days:	10	14	11	14	14	14	13	14	7	14	14
Average:	659	230	296	1,296	64,755	46,876	205	124	21,824	11,610	23,220
YTD	37,169	43,329	11,632	19,763	1,039,863	704,375	7,962	1,754	160,417	174,423	389,237

COMBINED SUBYEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
04/17/2009	0	1	0	0	0	0	0	3	85	0	36,352
04/18/2009 *	0	0	0	2	0	0	0	1	---	0	16,877
04/19/2009 *	0	0	0	0	0	0	0	3	34	0	15,596
04/20/2009 *	0	0	0	4	0	0	0	2	---	0	17,380
04/21/2009 *	---	0	0	18	4,630	0	0	10	17	0	15,233
04/22/2009 *	0	0	0	5	1,480	0	0	5	---	0	11,692
04/23/2009 *	0	0	---	4	0	0	0	14	34	41	10,837
04/24/2009 *	---	0	---	1	2,128	0	0	7	---	83	10,432
04/25/2009 *	---	0	---	5	4,990	0	0	17	46	0	8,724
04/26/2009 *	---	0	0	2	1,701	1,113	0	15	---	0	3,373
04/27/2009 *	0	0	0	5	745	1,141	0	4	0	0	2,620
04/28/2009 *	0	0	0	15	251	1,720	0	1	---	72	3,011
04/29/2009 *	0	0	0	1	0	574	0	11	84	0	1,986
04/30/2009 *	0	0	0	4	0	1,185	---	4	---	0	1,423
05/01/2009 *	---	---	---	---	---	---	---	---	---	---	---
Total:	0	1	0	66	15,925	5,733	0	97	300	196	155,536
# Days:	10	14	11	14	14	14	13	14	7	14	14
Average:	0	0	0	5	1,138	410	0	7	43	14	11,110
YTD	0	6	13	249	18,194	5,790	0	231	405	206	1,277,235

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)
04/17/2009	0	0	0	0	133	0	0	0	203	57	3,963
04/18/2009 *	0	0	0	0	0	0	0	1	---	10	2,190
04/19/2009 *	0	0	0	1	0	0	0	0	169	14	1,760
04/20/2009 *	0	0	0	2	0	36	0	1	---	14	1,957
04/21/2009 *	---	0	0	2	0	0	0	0	254	21	1,904
04/22/2009 *	0	0	0	12	0	0	0	1	---	130	590
04/23/2009 *	0	0	---	10	0	0	0	1	581	82	2,967
04/24/2009 *	---	0	---	6	0	0	0	3	---	215	4,156
04/25/2009 *	---	0	---	5	0	0	0	17	878	173	5,787
04/26/2009 *	---	0	0	6	486	556	0	28	---	107	5,259
04/27/2009 *	0	0	0	4	497	0	0	16	762	382	3,111
04/28/2009 *	0	0	0	2	251	573	0	15	---	358	4,103
04/29/2009 *	0	0	0	1	260	0	0	29	507	359	2,470
04/30/2009 *	0	0	0	0	524	1,185	---	18	---	645	1,156
05/01/2009 *	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	51	2,151	2,350	0	130	3,354	2,567	41,373
# Days:	10	14	11	14	14	14	13	14	7	14	14
Average:	0	0	0	4	154	168	0	9	479	183	2,955
YTD	0	0	0	62	2,351	2,350	1	146	3,689	2,644	57,149

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)
04/17/2009	18	94	583	36	24,418	7,099	167	3	1,368	746	273
04/18/2009 *	16	65	569	46	64,818	6,576	268	4	---	692	64
04/19/2009 *	18	74	367	53	67,253	8,286	347	8	1,966	551	297
04/20/2009 *	44	135	329	63	98,137	26,149	281	6	---	924	460
04/21/2009 *	---	10	320	94	116,790	58,137	275	3	3,327	1,150	635
04/22/2009 *	54	0	282	914	158,900	70,931	289	1	---	1,316	644
04/23/2009 *	80	0	---	666	236,022	155,630	262	14	11,971	1,797	258
04/24/2009 *	---	0	---	230	333,054	248,726	155	37	---	5,363	1,631
04/25/2009 *	---	639	---	485	234,522	223,305	148	43	35,605	11,282	2,682
04/26/2009 *	---	504	217	202	270,426	295,500	313	49	---	14,560	2,932
04/27/2009 *	82	392	340	165	171,570	332,545	378	44	66,939	25,255	4,338
04/28/2009 *	113	239	456	113	99,561	136,418	474	66	---	32,483	3,468
04/29/2009 *	56	171	439	82	95,735	92,368	607	107	45,783	21,605	6,517
04/30/2009 *	71	237	356	118	57,394	117,289	---	84	---	24,721	9,611
05/01/2009 *	---	---	---	---	---	---	---	---	---	---	---
Total:	552	2,560	4,258	3,267	2,028,600	1,778,959	3,964	469	166,959	142,445	33,810
# Days:	10	14	11	14	14	14	13	14	7	14	14
Average:	55	183	387	233	144,900	127,069	305	34	23,851	10,175	2,415
YTD	825	9,353	5,201	3,728	2,100,401	1,804,606	4,673	480	170,797	147,306	36,406

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)	
04/17/2009	0	0	0	0	0	290	3	0	203	29	0	
04/18/2009	*	0	0	0	0	357	9	1	---	36	0	
04/19/2009	*	0	0	0	0	401	16	0	288	64	0	
04/20/2009	*	0	0	0	0	286	7	1	---	64	0	
04/21/2009	*	---	0	0	0	514	3	0	237	36	0	
04/22/2009	*	0	0	0	0	493	3	0	---	50	27	
04/23/2009	*	0	0	---	0	495	283	1	4	188	92	129
04/24/2009	*	---	0	---	0	798	3	1	27	---	129	0
04/25/2009	*	---	0	---	0	1,576	587	1	45	231	115	0
04/26/2009	*	---	0	0	0	972	556	1	12	---	107	0
04/27/2009	*	0	0	0	0	497	0	0	24	506	239	0
04/28/2009	*	0	0	0	0	251	573	1	24	---	215	0
04/29/2009	*	0	0	0	0	0	574	0	10	677	215	28
04/30/2009	*	0	0	0	0	262	592	---	32	---	143	0
05/01/2009	*	---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	6,259	4,351	46	180	2,330	1,534	184
# Days:		10	14	11	14	14	14	13	14	7	14	14
Average:		0	0	0	0	447	311	4	13	333	110	13
YTD		0	0	0	0	10,008	6,352	173	180	2,706	1,589	198

* 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:

5/1/09 10:14 AM

		04/17/09 TO 05/01/09						
Site	Data	Species					Grand Total	
		CH0	CH1	CO	ST	SO		
LGR	Sum of NumberCollected	12,400	708,975	1,700	1,588,423	4,900	2,316,398	
	Sum of NumberBarged	695	55,892	238	93,504	247	150,576	
	Sum of NumberBypassed	11,703	652,970	1,459	1,494,892	4,633	2,165,657	
	Sum of Numbertrucked	0	0	0	0	0	0	
	Sum of SampleMorts	2	19	0	7	4	32	
	Sum of FacilityMorts	0	94	3	20	16	133	
	Sum of ResearchMorts	0	0	0	0	0	0	
	Sum of TotalProjectMorts	2	113	3	27	20	165	
LGS	Sum of NumberCollected	4,000	455,443	1,625	1,234,523	3,028	1,698,619	
	Sum of NumberBarged	0	0	0	0	0	0	
	Sum of NumberBypassed	4,000	420,207	1,625	1,082,308	2,625	1,510,765	
	Sum of Numbertrucked	0	0	0	0	0	0	
	Sum of SampleMorts	0	7	0	2	0	9	
	Sum of FacilityMorts	0	28	0	13	3	44	
	Sum of ResearchMorts	0	1	0	0	0	1	
	Sum of TotalProjectMorts	0	36	0	15	3	54	
LMN	Sum of NumberCollected		1,876		2,855	32	4,763	
	Sum of NumberBarged		0		0	0	0	
	Sum of NumberBypassed		1,874		2,854	30	4,758	
	Sum of Numbertrucked		0		0	0	0	
	Sum of SampleMorts		2		1	2	5	
	Sum of FacilityMorts		0		0	0	0	
	Sum of ResearchMorts		0		0	0	0	
	Sum of TotalProjectMorts		2		1	2	5	
MCN	Sum of NumberCollected	175	88,843	1,937	97,006	1,366	189,327	
	Sum of NumberBarged	0	0	0	0	0	0	
	Sum of NumberBypassed	173	88,797	1,935	96,981	1,364	189,250	
	Sum of Numbertrucked	0	0	0	0	0	0	
	Sum of SampleMorts	1	19	0	3	1	24	
	Sum of FacilityMorts	0	19	2	21	1	43	
	Sum of ResearchMorts	1	13	0	2	0	16	
	Sum of TotalProjectMorts	2	51	2	26	2	83	
Total Sum of NumberCollected		16,575	1,255,137	5,262	2,922,807	9,326	4,209,107	
Total Sum of NumberBarged		695	55,892	238	93,504	247	150,576	
Total Sum of NumberBypassed		15,876	1,163,848	5,019	2,677,035	8,652	3,870,430	
Total Sum of Numbertrucked		0	0	0	0	0	0	
Total Sum of SampleMorts		3	47	0	13	7	70	
Total Sum of FacilityMorts		0	141	5	54	20	220	
Total Sum of ResearchMorts		1	14	0	2	0	17	
Total Sum of TotalProjectMorts		4	202	5	69	27	307	

YTD Transportation Summary

Source: Fish Passage Center

Updated:

5/1/09 10:14 AM

TO: 05/01/09

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	14,090	809,732	1,850	7,810	1,643,433	2,476,915
	Sum of NumberBarged	1,342	83,970	330	1,010	117,055	203,707
	Sum of NumberBypassed	12,737	725,603	1,517	6,754	1,526,351	2,272,962
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	11	53	0	17	7	88
	Sum of FacilityMorts	0	106	3	29	20	158
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	11	159	3	46	27	246
LGS	Sum of NumberCollected	4,040	489,076	1,625	4,434	1,252,478	1,751,653
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	4,040	453,819	1,625	4,026	1,100,246	1,563,756
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	25	0	3	5	33
	Sum of FacilityMorts	0	31	0	5	27	63
	Sum of ResearchMorts	0	1	0	0	0	1
	Sum of TotalProjectMorts	0	57	0	8	32	97
LMN	Sum of NumberCollected		5,438	1	109	3,312	8,860
	Sum of NumberBarged		0	0	0	0	0
	Sum of NumberBypassed		5,398	1	105	3,300	8,804
	Sum of NumberTrucked		0	0	0	0	0
	Sum of SampleMorts		7	0	2	1	10
	Sum of FacilityMorts		0	0	0	0	0
	Sum of ResearchMorts		0	0	0	0	0
	Sum of TotalProjectMorts		7	0	2	1	10
MCN	Sum of NumberCollected	245	93,449	2,147	1,596	99,332	196,769
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	243	93,399	2,145	1,594	99,304	196,685
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	1	23	0	1	3	28
	Sum of FacilityMorts	0	19	2	1	24	46
	Sum of ResearchMorts	1	13	0	0	2	16
	Sum of TotalProjectMorts	2	55	2	2	29	90
Total Sum of NumberCollected		18,375	1,397,695	5,623	13,949	2,998,555	4,434,197
Total Sum of NumberBarged		1,342	83,970	330	1,010	117,055	203,707
Total Sum of NumberBypassed		17,020	1,278,219	5,288	12,479	2,729,201	4,042,207
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		12	108	0	23	16	159
Total Sum of FacilityMorts		0	156	5	35	71	267
Total Sum of ResearchMorts		1	14	0	0	2	17
Total Sum of TotalProjectMorts		13	278	5	58	89	443

Cumulative Adult Passage at Mainstem Dams Through: 04/30

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	04/30	21996	1671	40321	357	94879	1422	0	0	0	0	0	0	0	0	0	0	0	0
TDA	04/29	6862	356	19093	145	55011	569	0	0	0	0	0	0	0	0	0	0	0	0
JDA	04/30	4942	340	13933	117	43564	452	0	0	0	0	0	0	0	0	0	0	0	0
MCN	04/30	1728	93	7069	64	33104	318	0	0	0	0	0	0	0	0	0	0	0	0
IHR	04/30	1146	27	4421	26	20999	170	0	0	0	0	0	0	0	0	0	0	0	0
LMN	04/30	476	7	2462	6	18560	93	0	0	0	0	0	0	0	0	0	0	0	0
LGS	04/29	149	0	1114	3	15273	90	0	0	0	0	0	0	0	0	0	0	0	0
LGR	04/29	77	1	664	20	13126	44	0	0	0	0	0	0	0	0	0	0	0	0
PRD	04/28	15	3	536	5	3665	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS	04/29	12	0	123	0	1538	4	0	0	0	0	0	0	0	0	0	0	0	0
RRH	04/29	3	0	7	0	300	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	04/29	2533	9	662	3	-	-	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	2113	1878	2173	698
TDA	0	0	0	0	0	0	0	0	0	980	1060	915	426
JDA	0	0	0	0	0	0	0	0	0	2502	2363	2412	1458
MCN	0	0	0	0	0	0	0	0	0	2144	2066	1577	963
IHR	0	0	0	0	0	0	1	0	0	2906	2942	1940	979
LMN	0	0	0	0	0	0	0	0	0	4294	3520	2044	1954
LGS	0	0	0	0	0	0	0	0	0	4807	2106	2059	1817
LGR	0	0	0	0	0	0	0	0	0	10190	7175	7524	2960
PRD	0	0	0	0	0	0	0	0	0	20	30	4	0
RIS	0	0	0	0	0	0	0	0	0	57	149	35	28
RRH	0	0	0	0	0	0	0	0	0	280	273	116	130
WEL	0	0	0	0	0	0	0	0	0	0	0	0	0
WFA	0	0	0	0	-	-	0	0	-	3496	5660	-	-

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