



Fish Passage Center

Weekly Report #10 - 05

April 16, 2010

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 61% and 201% of average at individual sub-basins over April. Precipitation above The Dalles has been 124% of average over April. Over the 2010 water year, precipitation has ranged between 69% and 88% of 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 2010 April 1-12		Water Year 2010 October 1, 2009 to April 12, 2010	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	0.69	105	11.54	77
Snake River Above Ice Harbor	0.69	119	8.82	81
Columbia Above The Dalles	0.81	124	12.15	81
Kootenai	0.84	120	12.50	82
Clark Fork	0.35	70	6.54	69
Flathead	0.38	61	9.85	77
Pend Oreille/ Spokane	0.97	107	15.99	76
Central Washington	0.52	201	5.40	88
Snake River Plain	0.50	120	5.29	81
Salmon/Boise/ Payette	0.78	121	11.31	84
Clearwater	1.13	106	15.11	77
SW Washington Cascades/Cowlitz	2.91	136	46.94	84
Willamette Valley	3.30	171	40.38	86

Snowpack within the Columbia Basin has been below average but has recently seen some increases with

recent storms. Average snowpack in the Columbia River for basins above the Snake River confluence is 79% of average, for Snake River Basins the average snowpack is 77% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 75% of average.

Table 2 displays the March Final and April Final runoff volume forecasts for multiple reservoirs. The current forecast at The Dalles between January and July is 69700 Kaf (65% of average).

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

Location	March Final		April Final	
	% Average (1971 -2000)	Probable Runoff Volume (Kaf)	% Average (1971 -2000)	Probable Runoff Volume (Kaf)
The Dalles (Jan-July)	67	71800	65	69700
Grand Coulee (Jan-July)	75	47300	73	46000
Libby Res. Inflow, MT (Apr-Aug)	71 80*	4410 5084*	68 81*	4270 5103*
Hungry Horse Res. Inflow, MT (Jan-July)	71	1570	69	1540
Lower Granite Res. Inflow (Apr- July)	56	12100	56	12000
Brownlee Res. Inflow (Apr-July)	39	2470	41	2590
Dworshak Res. Inflow (Apr-July)	53 59*	1410 1571*	50 52*	1330 1398*

* Denotes COE Forecast

The Biological Opinion flow period began on April 3rd in the lower Snake River (Lower Granite). According to the April Final Water Supply Forecast, the flow objective this spring is 85 Kcfs at Lower Granite. Flows at Lower Granite Dam from April 3-15 have averaged 28.5 Kcfs.

The Biological Opinion flow period began on April 10th in the mid and lower Columbia River (Priest Rapids and McNary Dams). According to the April Final Water Supply Forecast, the flow objective this spring is 220 Kcfs at McNary and 135 Kcfs at Priest Rapids. Flows from April 10-15 have averaged 96.5 Kcfs at McNary Dam and 61.5 Kcfs at Priest Rapids Dam.

Grand Coulee Reservoir is at 1273.4 feet (4-15-10) and drafted 2.2 feet over the last week. Outflows at Grand Coulee have ranged between 33.5 and 63.8 Kcfs over the last week. The end of April FC elevation at Grand Coulee is 1283.3 feet.

The Libby Reservoir is currently at elevation 2402.6 feet (4-15-10) and has drafted 0.4 feet last week. Outflows at Libby are currently 4.0 Kcfs. The end of April FC Elevation at Libby is 2447.5 feet.

Hungry Horse is currently at an elevation of 3521.3 feet (4-15-10) and has held steady last week. Outflows at Hungry Horse have been approximately 1.3-1.5 Kcfs last week. The end of April FC Elevation at Hungry Horse is 3555.1 feet.

Dworshak is currently at an elevation of 1531.5 feet (4-15-10) and has refilled approximately 2.3 feet last week. Over the last week outflows at Dworshak were 1.2 Kcfs. The end of April System FC Elevation at Dworshak is 1597.4 feet.

The Brownlee Reservoir was at an elevation of 2062.9 feet on April 5, 2010 refilling 0.2 feet last week. The end of April FC Elevation at Brownlee is 2077 feet. Over the last week, outflows at Brownlee have ranged between 10.0-17.6 Kcfs.

Spill:

The 2010 planned spring spill program at the lower Snake River Projects began on April 3 at 0001 hours. The following table shows the planned operations for spring 2010.

Project	Day/Night Spill
Lower Granite	20Kcfs/20Kcfs
Little Goose	30%/30%
Lower Monumental	Gas Cap/Gas Cap
Ice Harbor	April 3-April 28: 45 kcfs/Gas Cap April 28-June 20: 30%/30% vs. 45 kcfs/Gas Cap

Low flows in the Snake River have constrained the full implementation of the planned spill at some projects. Spill at Lower Granite Dam is occurring as spill in excess to the operation of one turbine unit, up to the 20 Kcfs instantaneous level. Over the past week spill has ranged from a daily average of 13.5 to 19.3 Kcfs. Spill at Little Goose Dam achieved the 30% of instantaneous flow and has ranged from a daily average of 7.1 to 9.6 Kcfs. Spill to the gas cap at Lower Monumental Dam is occurring as all flow in excess of that needed to operate one turbine unit. Spill at Ice Harbor Dam is presently occurring as all flow in excess of that required to operate one turbine unit.

The 2010 spill program at the lower Columbia River projects began at 0001 hours on April 10th. The following table shows the planned operations for spring 2010.

Project	Day/Night Spill
McNary	40%/40%
John Day	Pre-test: 30%/30% Testing: 30%/30% vs. 40%/40%
The Dalles	40%/40%
Bonneville	100 Kcfs/100 Kcfs

The planned spill levels have been met at McNary, John Day and The Dalles dams, since spill is provided as a percentage of total flow. However, spill at Bonneville Dam has not met the planned spill levels due to low flows. Beginning on April 10, 2010, spill was provided as all flow in excess of that needed to meet minimum powerhouse discharge plus miscellaneous flows. On April 15 the Action Agencies proposed the following operation at Bonneville Dam in response to elevated TDG at the Camas/Washougal gage: “operate Bonneville Dam with a spill cap of 75 kcfs and continue to manage to the Camas-Washougal and Cascade Island gages. The 75 kcfs spill cap will be reconsidered if Camas-Washougal or Cascade Island readings exceed 120% TDG. In that case, the spill cap would be reduced accordingly. Once TDG levels measured at Camas-Washougal return to within state standards, the gas cap will be adjusted according to normal business practices to remain within state water quality standards. This proposed operation is in response to the unusual conditions present at the project. The Corps believes these conditions may persist until mid-next week (~April 23).”

At present, too few fish are being collected at the GBT monitoring sites to adequately conduct the sampling. As fish numbers increase the GBT monitoring will occur.

All total dissolved gas levels have been below the waiver amounts over the past week at the required monitoring sites.

Smolt Monitoring:

Fish collections at the dams have remained relatively low over the last two weeks of sampling. Bonneville Dam and Rock Island Dam are the only dams where smolt collections have been near normal numbers. At the SMP traps large numbers of smolts have been collected over the last few weeks of sampling as tributary hatchery populations emigrate toward the hydro-system.

At the Salmon River Trap, located at River km 103, and operated by Idaho Department of Fish and Game, sampling began on March 7. Over the past two weeks the trap has captured mainly hatchery yearling Chinook. About 90 percent of the Chinook collected over the past week were clipped—indicating hatchery origin. Few steelhead have been collected to date. Flows in the Salmon River at White Bird were between 4500 and 5000 cfs for the dates April 9 to April 16. Historically median flows ranged between 9000 and 11000 cfs for the same time period.

The Grande Ronde Trap, operated by the Oregon Department of Fish and Wildlife, located at river mile two in the Grande Ronde River, began sampling March 7. Over the past two weeks the collections have remained steady. Hatchery origin yearling Chinook continue to predominate in the catch over the past week, with more than 90% either adipose clipped or coded wire tagged. Flows in the Grande Ronde River have been very low ranging from 2000 up to 2500 cfs over the past week. Historic median flows for the week ranged between 5500 and 6000 cfs.

The Imnaha River Trap, operated by the Nez Perce Tribe, provides data to the SMP, on their fish collection. The trap has been operating since mid-February. The Imnaha Trap has been collecting relatively large numbers of yearling Chinook the past two weeks. The trap averaged a collection of over 5,000 yearling Chinook per day over the past week. A small portion of the collection were wild origin, since the hatchery release above the trap was 100% adipose clipped fish. Flows in the Imnaha River rose to over 500 cfs on April 16. The median historic flows for this date, on the Imnaha River would have reached 900 cfs, as

measured at the gage at river mile 19.3.

Collections at Lower Granite Dam have remained very low this past week. Passage indices have remained below 500 smolts per day (all species combined) since the start of sampling. At Bonneville Dam the largest collections over the past week have been fry. Chinook fry predominate, with estimated collections between 250 to 500 fish per day. In addition to Chinook fry, the site is also collecting coho fry and chum salmon fry. Over the past week 24 chum fry were collected. At Rock Island Dam, unclipped sockeye and Chinook fry have predominated in the sample the past week. Small but increasing numbers of yearling Chinook were captured over the past week. Sockeye collections peaked at over 100 fish on April 12.

Adult Fish Passage:

The 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 historical counting schedule began on March 1st at Lower Granite Dam. Counting began on April 1st for The Dalles Dam, John Day Dam, McNary 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 15th. Daily adult spring Chinook counts at Bonneville Dam ranged from 1136 to 7719 adult salmon per day. Between March 15th and April 15th, 23045 spring Chinook have been counted at Bonneville Dam. In 2009, 1309 adult spring Chinook were counted at Bonneville Dam for the same time period. The 2010 adult spring Chinook count at Bonneville Dam is about 17.6 times greater than the 2009 count. The Bonneville spring Chinook adult count is only about 67.8% of the 10 year average of 33995. At Willamette Falls Dam 601 adult spring Chinook have been counted so far this year. At The Dalles Dam the 2010 adult spring Chinook is 8769 and at McNary Dam 1828 adult spring Chinook have been counted.

The Bonneville Dam 2010 steelhead count of 2858 is about 2 times greater than the 2009 count of 1417. The 2010 steelhead count is about 1.8 times greater than the 10-year average of 1603. 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 68 to 170 adults per day last week. This year's Lower Granite steelhead count of 8175 is about 98.5% of the 2009 count of 8303 and 1.1 times greater than the 10 year average of 7368. The 2010 Lower Granite wild steelhead count as of April 15th was 2865. At Willamette Falls Dam, the 2010 count for steelhead was 5495, as of April 13th. This year's steelhead count is about 2.2 times greater than the 2009 count of 2478 at Willamette Falls Dam for the same date range.

At Bonneville Dam, daily counts of adult salmon and steelhead found on the separator and by passed are being tracked this year for the period of March 1st to April 17th. From March 15th to April 15th, daily adult steelhead by passed counts ranged from 1 to 8. A total of 118 adult steelhead have been by passed so far this year.

Hatchery Release:

Snake River Zone: The Snake River Zone encompasses the Snake River and its tributaries from its confluence with the Columbia River to Hells Canyon Dam. Approximately 769,000 yearling fall Chinook were scheduled for release this week. Of these, 479,000 were to be released from Lyons Ferry Hatchery into the Snake River, below Little Goose Dam. The remaining 290,000 were scheduled for release above Lower Granite Dam. Of these 290,000 yearling fall Chinook, 140,000 were to be released into the Snake River (from the Pittsburg Landing Acclimation Facility) and 150,000 were to be released into the Clearwater River (from the Big Canyon Creek Acclimation Facility). Many releases of yearling fall Chinook that began weeks ago were scheduled to end this week. In all, these releases total over 2.5 million yearling spring Chinook. In addition, there was one release of yearling spring Chinook scheduled to begin this week. This was a release of 124,000 spring Chinook juveniles from the Lostine Acclimation Ponds, on the Wallowa River. This release was scheduled to begin on April 10th.

Finally, several releases totaling over 3.2 million summer steelhead were scheduled to begin this week. Of these, over 3 million were scheduled for release above Lower Granite Dam. About 1.2 million of these summer steelhead were scheduled for release into the Salmon River and its tributaries. In addition, about 830,000 were scheduled for release into the Pahsimeroi River. Just over 850,000 of the summer steelhead scheduled for release this week were to be released into the Clearwater River and its tributaries.

The remaining 156,000 summer steelhead scheduled to be released above Lower Granite Dam were released into the Grande Ronde River. Nearly 190,000 summer steelhead were scheduled for release into the Snake River, below Little Goose Dam. These steelhead juveniles were being released into the Tucannon River (nearly 130,000) or directly from Lyons Ferry Hatchery (60,000).

Approximately 404,000 yearling spring Chinook are scheduled for release into Yankee Fork of the Salmon River on April 19th. In addition, the volitional release of about 2.5 million spring Chinook from Rapid River Hatchery is scheduled to end on April 23rd. This release began on March 5th. There are several releases of summer steelhead scheduled to begin over the next two weeks. In all, these releases are expected to total over 4.2 million summer steelhead juveniles. Of these, over 4 million are scheduled for release above Lower Granite Dam into the Clearwater (46%), Salmon (41%), Wallowa (8%), and Imnaha (5%) rivers. The remaining 170,000 summer steelhead scheduled for release over the next two weeks are to be released below Little Goose Dam, into the Tucannon (65%) and Snake (35%) rivers.

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 760,000 subyearling fall Chinook were scheduled for release into the Yakima River this week. Of these, about 37% are unmarked. Over 1.1 million yearling spring Chinook were scheduled to be released into the Methow (505,000) and Wenatchee (610,000) rivers this week. In addition, about 875,000 yearling summer Chinook were scheduled for release into this zone this week. Of these, 540,000 were to be released to the Okanogan River, while 335,000 were to be released to the Mid-Columbia River.

Several volitional releases of coho to the Yakima and Mid-Columbia rivers were scheduled to begin this week. These releases are part of the Yakama Tribal Program to re-establish Coho runs in the Yakima, Methow, and Wenatchee basins. In all, nearly 2.5 million coho juveniles are scheduled for release in 2010 as part of this program. The Yakima River releases that began this week total nearly 900,000 coho juveniles and are expected to run through mid-May. The Mid-Columbia River release occurred from Wells Hatchery and totals nearly 132,000 coho juveniles. This release is expected to run through April 25th. Finally, nearly 206,000 summer steelhead were scheduled for release

into this zone this week. Of these, 50,000 were to be released into the Wenatchee River, 156,000 were to be released into the Touchet River, and 100,000 were to be released into the Walla Walla River.

Approximately 120,000 subyearling fall Chinook are scheduled for release into the Yakima River on April 23rd. In addition, 202,000 subyearling summer Chinook are scheduled for release into the Naches River, a tributary of the Yakima River, on April 29th. Nearly 1.8 million yearling spring Chinook are scheduled for release into this zone over the next two weeks. Of these, 1.25 million are to be released into the Wenatchee River while the remaining 541,000 are to be released into the Methow River. All of the spring Chinook that are released to the Methow River are unclipped but are marked with coded-wire-tags. Over 1.6 million yearling summer Chinook are scheduled for release over the next two weeks. These summer Chinook yearling are to be released into the Wenatchee (950,000), Methow (400,000), and Mid-Columbia (257,000) rivers.

Several Yakama Tribal releases of coho to the Wenatchee and Methow rivers are scheduled to begin over the next two weeks. In all, over 577,000 coho juveniles are scheduled to be released into the Wenatchee River over the next two weeks, while over 350,000 are scheduled for release into the Methow River. Finally, about 385,000 summer steelhead are scheduled for release into this zone over the next two weeks. Of these, 280,000 will be released into the Methow River and 105,000 will be released into the Okanogan River.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. The release of subyearling fall Chinook tules from Spring Creek NFH was delayed until April 12th. In all, just over 6.2 million subyearling fall Chinook tules were released from Spring Creek NFH. In addition, 1.7 million subyearling fall Chinook tules were scheduled for release from Little White Salmon NFH this week. This release was supposed to begin on or around April 15th. Nearly 1.9 million yearling spring Chinook were scheduled for release to this zone this week. Of these, nearly 1.3 million were released from Cason NFH into the Wind River and 575,000 were to be released from Little White Salmon NFH into the Little White Salmon River. Approximately 19,500 of the yearling spring Chinook that were scheduled for release this week were to be released into Lake Billy Chinook on the

Deschutes River. These spring Chinook juveniles are part of a PGE passage study. This PGE passage study also released about 14,500 summer steelhead into the Crooked River.

Beginning on or around April 26th, approximately 150,000 yearling spring Chinook juveniles will be released into Hood River. These releases are to occur from several acclimation facilities on Hood River. A volitional release of about 770,000 coho juveniles to the Umatilla River is scheduled to end on April 29th. This release is from the Pendleton Acclimation Ponds and began on March 29th. Nearly 184,000 summer steelhead are scheduled for release into the Umatilla River over the next two weeks. In addition, 24,000 summer steelhead and 20,000 winter steelhead are scheduled for release into the White Salmon River on April 25th.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 4/2/2010 to 04/15/10

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Colville Tribe	Ringold Springs Hatchery	CH1	SU	2010	190,000	04-10-10	04-30-10	Bonaparte Pond	Okanogan River
Colville Tribe Total					190,000				
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2010	229,600	03-23-10	04-14-10	Clear Creek	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2010	413,300	03-23-10	04-14-10	Powell Acclim Pond	Lochsa River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2010	1,209,150	03-23-10	04-14-10	Red River	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2010	144,900	04-15-10	04-26-10	Clear Creek	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2010	176,400	04-15-10	04-26-10	S Fk Clearwater River Redhouse (SFk ClearH20 R)	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2010	186,600	04-15-10	04-26-10	ClearH20 R	S Fk Clearwater River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2010	61,562	04-06-10	04-06-10	Shoup Br (Salmon R)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2010	124,373	04-05-10	04-07-10	Salmon River (ID)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2010	153,793	04-07-10	04-09-10	Salmon River (ID)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2010	182,902	04-09-10	04-13-10	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2010	279,671	04-13-10	04-15-10	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2010	275,000	04-01-10	04-08-10	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2010	830,000	04-12-10	05-03-10	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2010	2,500,000	03-05-10	04-23-10	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game	Sawtooth Hatchery	CH1	SP	2010	1,459,800	04-09-10	04-09-10	Salmon River (ID)	Salmon River (ID)
Idaho Dept. of Fish and Game Total					8,227,051				
Nez Perce Tribe	Clearwater Hatchery	CH1	SP	2010	402,300	04-01-10	04-10-10	Meadow Creek - SELW	Selway River
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2010	85,600	04-10-10	04-20-10	Crooked River	S Fk Clearwater River
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2010	103,700	04-13-10	04-17-10	Newsome Creek	S Fk Clearwater River
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2010	153,500	04-10-10	04-20-10	Red River	S Fk Clearwater River
Nez Perce Tribe	Kooskia NFH	CH1	SP	2010	633,000	04-01-10	04-04-10	Kooskia Hatchery	Clearwater River M F
Nez Perce Tribe	Kooskia NFH	CO	UN	2010	350,000	03-30-10	04-08-10	Clear Creek	Clearwater River M F
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2010	124,000	04-10-10	04-11-10	Lostine Accim Pond	Wallowa River
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2010	140,000	04-14-10	04-15-10	Pittsburg Landing Acclim Pond	Snake River
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2010	150,000	04-15-10	04-15-10	Big Canyon (Clearwater River)	Clearwater River M F
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2010	154,637	04-09-10	04-09-10	Cpt John Acclim Pond	Snake River
Nez Perce Tribe	McCall Hatchery	CH1	SU	2010	49,930	04-05-10	04-05-10	Johnson Cr Idaho Nez Perce Tribal Hatchery	South Fork Salmon River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH1	SP	2010	200,000	04-01-10	04-15-10	Hatchery	Clearwater River M F
Nez Perce Tribe	Nez Perce Tribal Hatchery	CO	UN	2011	30,000	04-01-10	04-30-10	Orofino Creek	Clearwater River M F
Nez Perce Tribe Total					2,576,667				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2010	50,000	04-09-10	04-09-10	Big Sheep Creek	Imnaha River
Oregon Dept. of Fish and Wildlife	Lookingglass Hatchery	CH1	SP	2010	266,000	04-01-10	04-14-10	Lookingglass Creek	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Lookingglass Hatchery	CH1	SP	2010	396,000	04-01-10	04-14-10	Imnaha Acclim Pond	Imnaha River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	ST	SU	2010	14,500	04-15-10	04-15-10	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	ST	SU	2010	162,000	04-08-10	04-08-10	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	CH1	SP	2010	19,500	04-15-10	04-15-10	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife Total					908,000				
U.S. Fish and Wildlife Service	Carson NFH	CH1	SP	2010	1,278,702	04-13-10	04-13-10	Carson Hatchery	Wind River
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2010	69,869	04-12-10	04-12-10	Salmon River (ID)	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2010	833,919	04-13-10	04-28-10	Salmon River (ID) Little White Salmon Hatchery	Salmon River (ID) Little White Salmon River
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH0	FA	2010	1,700,000	04-15-10	04-15-10	Little White Salmon Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH1	SP	2010	575,000	04-15-10	04-15-10	Little White Salmon Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service	Spring Creek NFH	CH0	FA	2010	6,200,388	04-12-10	04-12-10	Spring Creek Hatchery	L Col R (D/s McN Dam)
U.S. Fish and Wildlife Service	Winthrop NFH	CH1	SP	2010	505,000	04-15-10	04-15-10	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service Total					11,162,878				

Hatchery Releases Last Two Weeks (Continued)

Umatilla Tribe	Cascade Hatchery	CO	UN	2010	770,000	03-29-10	04-20-10	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2010	34,111	03-29-10	04-12-10	Catherine Cr Acclim Pond	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2010	41,819	03-30-10	04-13-10	Grande Ronde Acclim Pond	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2010	64,663	03-30-10	04-13-10	Grande Ronde Acclim Pond	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2010	110,242	03-29-10	04-12-10	Catherine Cr Acclim Pond	Grande Ronde River
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2010	448,937	03-02-10	04-08-10	Imeques Acclim Pond	Umatilla River
Umatilla Tribe Total					1,469,772				
Washington Dept. of Fish and Wildlife	Chelan Hatchery	CH1	SU	2010	200,000	04-01-10	04-30-10	Chelan Falls	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	CH1	SP	2010	610,000	04-15-10	05-15-10	Chiwawa River	Wenatchee River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2010	350,000	04-10-10	05-05-10	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH1	FA	2010	479,000	04-12-10	04-14-10	Lyons Ferry Hatchery	Snake River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2010	5,600	04-12-10	04-12-10	Baileysburg Bridge	Touchet River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2010	50,000	04-12-10	04-26-10	Baileysburg Bridge	Touchet River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2010	60,000	04-15-10	04-20-10	Lyons Ferry Hatchery	Snake River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2010	85,000	04-06-10	04-14-10	Dayton Acclim Pond	Touchet River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2010	100,000	04-15-10	04-20-10	Tucannon River	Tucannon River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2010	100,000	04-15-10	04-20-10	Walla Walla River	Walla Walla River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2010	160,000	04-05-10	04-16-10	Cottonwood Acclim Pond	Grande Ronde River
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	ST	SU	2010	145,000	04-09-10	04-15-10	Ringold Springs Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2010	86,000	04-01-10	04-12-10	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2010	87,000	04-01-10	04-12-10	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	ST	SU	2010	18,209	04-05-10	04-05-10	Tucannon Hatchery	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	ST	SU	2010	29,912	04-12-10	04-13-10	Tucannon Hatchery	Tucannon River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2010	50,000	04-10-10	05-15-10	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Washougal Hatchery	CO	NO	2010	1,892,000	04-01-10	04-07-10	Klickitat River	Klickitat River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2010	335,000	04-15-10	06-01-10	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					4,842,721				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	280,960	03-15-10	05-14-10	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	282,011	03-15-10	05-14-10	Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	288,342	03-15-10	05-14-10	Easton Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	15,846	04-12-10	05-15-10	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	37,806	04-12-10	05-15-10	Boone Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	45,060	04-12-10	05-15-10	Prosser Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	134,850	04-12-10	05-15-10	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	135,086	04-12-10	05-15-10	Naches River	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	205,926	04-12-10	05-15-10	Easton Pond	Yakima River
Yakama Tribe	Klickitat Hatchery	CO	UN	2010	500,000	04-05-10	04-05-10	Klickitat Hatchery	Klickitat River
Yakama Tribe	Prosser Acclim. Pond	CH1	FA	2010	17,000	04-09-10	04-09-10	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2010	17,000	04-09-10	04-09-10	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2010	30,000	04-09-10	04-09-10	Marion Drain	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	38,159	04-12-10	05-15-10	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	74,342	04-12-10	05-15-10	Holmes Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	74,438	04-12-10	05-15-10	Naches River	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	137,659	04-12-10	05-15-10	Prosser Acclim Pond	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2010	57,846	04-01-10	04-07-10	Nason Creek	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2010	131,777	04-15-10	04-25-10	Wells Hatchery	Mid-Columbia River
Yakama Tribe Total					2,504,108				
Grand Total					31,881,197				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 4/16/2010 to 4/29/2010

Agency	Hatchery	Species	Rac	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Colville Tribe	Ringold Springs Hatchery	CH1	SU	2010	190,000	04-10-10	04-30-10	Bonaparte Acclimation Pond	Okanogan River
Colville Tribe Total					190,000				
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2010	144,900	04-15-10	04-26-10	Clear Creek	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2010	176,400	04-15-10	04-26-10	S Fk Clearwater Redhouse (SFk ClearH20 R)	Clearwater River M F
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2010	186,600	04-15-10	04-26-10	ClearH20 R)	S Fk Clearwater River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2010	119,000	04-26-10	04-30-10	McNabb/Salmon Squaw Cr Acclim Pond	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2010	250,000	04-21-10	04-23-10	Pond	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2010	325,000	04-19-10	04-21-10	East Fk Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2010	830,000	04-12-10	05-03-10	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2010	2,500,000	03-05-10	04-23-10	Rapid River Hatchery Yankee Fk (Salmon R)	Little Salmon River Salmon River (ID)
Idaho Dept. of Fish and Game	Sawtooth Hatchery	CH1	SP	2010	404,000	04-19-10	04-23-10	R)	Salmon River (ID)
Idaho Dept. of Fish and Game Total					4,935,900				
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2010	85,600	04-10-10	04-20-10	Crooked River	S Fk Clearwater River
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2010	103,700	04-13-10	04-17-10	Newsome Creek	S Fk Clearwater River
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2010	153,500	04-10-10	04-20-10	Red River	S Fk Clearwater River
Nez Perce Tribe	Dworshak NFH	ST	SU	2010	60,000	04-19-10	04-19-10	Lolo Creek	Clearwater River M F
Nez Perce Tribe	Dworshak NFH	ST	SU	2010	150,000	04-19-10	04-19-10	S Fk Clearwater	Clearwater River M F
Nez Perce Tribe	Nez Perce Tribal Hatchery	CO	UN	2011	30,000	04-01-10	04-30-10	Orofino Creek	Clearwater River M F
Nez Perce Tribe Total					582,800				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2010	156,000	04-16-10	04-16-10	Big Canyon Acclim.Pd (Grande Ronde)	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2010	182,000	04-27-10	04-27-10	L Sheep Acclim Pond	Imnaha River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2010	332,000	04-29-10	04-29-10	Wallowa Acclim Pond	Wallowa River
Oregon Dept. of Fish and Wildlife	Umatilla Hatchery	ST	SU	2010	50,000	04-27-10	04-27-10	Meacham Creek	Umatilla River
Oregon Dept. of Fish and Wildlife Total					720,000				
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2010	1,030,000	04-19-10	04-19-10	Dworshak Hatchery	Clearwater River M F
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2010	125,068	04-29-10	05-04-10	East Fk Salmon River	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2010	833,919	04-13-10	04-28-10	Salmon River (ID)	Salmon River (ID)
U.S. Fish and Wildlife Service	Leavenworth NFH	CH1	SP	2010	1,250,000	04-22-10	04-22-10	Leavenworth	Wenatchee River
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2010	29,000	04-20-10	04-30-10	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2010	71,000	04-20-10	04-30-10	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service Total					3,338,987				

Hatchery Releases Next Two Weeks (Continued)

Umatilla Tribe	Cascade Hatchery	CO	UN	2010	770,000	03-29-10	04-20-10	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	ST	SU	2010	54,750	04-20-10	04-27-10	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	ST	SU	2010	54,780	04-20-10	04-27-10	Minthorn Acclimation Pond	Umatilla River
Umatilla Tribe Total					879,530				
Warm Springs Tribe	Carson NFH	CH1	SP	2010	45,000	04-26-10	04-26-10	Blackberry Acclim Pond	Hood River
Warm Springs Tribe	Parkdale Acclim. Pond	CH1	SP	2010	30,000	04-26-10	04-26-10	Parkdale Acclim Pond	Hood River
Warm Springs Tribe	Round Butte Hatchery	CH1	SP	2010	37,500	04-26-10	04-26-10	Blackberry Acclim Pond	Hood River
Warm Springs Tribe	Round Butte Hatchery	CH1	SP	2010	37,500	04-26-10	04-26-10	Parkdale Acclim Pond	Hood River
Warm Springs Tribe Total					150,000				
Washington Dept. of Fish and Wildlife	Chelan Hatchery	CH1	SU	2010	200,000	04-01-10	04-30-10	Chelan Falls	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	CH1	SP	2010	610,000	04-15-10	05-15-10	Chiwawa River	Wenatchee River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2010	350,000	04-10-10	05-05-10	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2010	950,000	04-25-10	05-05-10	Dryden Acclim Pond	Wenatchee River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2010	50,000	04-12-10	04-26-10	Baileysburg Bridge	Touchet River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2010	60,000	04-15-10	04-20-10	Lyons Ferry Hatchery	Snake River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2010	100,000	04-15-10	04-20-10	Tucannon River	Tucannon River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2010	100,000	04-15-10	04-20-10	Walla Walla River	Walla Walla River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2010	160,000	04-05-10	04-16-10	Cottonwood Acclim Pond	Grande Ronde River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2010	79,000	04-20-10	04-30-10	Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2010	202,000	04-20-10	04-30-10	Twisp River	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2010	260,000	04-20-10	04-30-10	Chewuch Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SU	2010	400,000	04-20-10	05-01-10	Carlton Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2010	24,000	04-25-10	05-05-10	White Salmon River	White Salmon River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	WI	2010	20,000	04-25-10	05-05-10	White Salmon River	White Salmon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	ST	SU	2010	9,500	04-29-10	04-29-10	Tucannon Hatchery	Tucannon River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	CH1	SU	2010	257,000	04-25-10	05-05-10	Turtle Rock Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2010	50,000	04-10-10	05-15-10	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2010	335,000	04-15-10	06-01-10	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2010	105,000	04-20-10	05-05-10	Okanogan River	Okanogan River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2010	180,000	04-20-10	05-05-10	Methow River	Methow River
Washington Dept. of Fish and Wildlife Total					4,501,500				
Yakama Tribe	Cascade Hatchery	CO	UN	2010	219,746	04-24-10	04-30-10	Icicle Creek	Wenatchee River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	280,960	03-15-10	05-14-10	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	282,011	03-15-10	05-14-10	Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	288,342	03-15-10	05-14-10	Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	15,846	04-12-10	05-15-10	Easton Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	37,806	04-12-10	05-15-10	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	45,060	04-12-10	05-15-10	Boone Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	134,850	04-12-10	05-15-10	Prosser Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	135,086	04-12-10	05-15-10	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	135,086	04-12-10	05-15-10	Naches River	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	205,926	04-12-10	05-15-10	Easton Pond	Yakima River
Yakama Tribe	Entiat Hatchery	CO	UN	2010	209,754	04-24-10	04-30-10	Icicle Creek	Wenatchee River
Yakama Tribe	Little White Salmon NFH	CH0	FA	2010	480,000	04-16-10	04-16-10	Prosser Acclim Pond	Yakima River
Yakama Tribe	Little White Salmon NFH	CH0	FA	2010	1,200,000	04-23-10	04-23-10	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2010	280,000	04-16-10	04-16-10	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	38,159	04-12-10	05-15-10	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	74,342	04-12-10	05-15-10	Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	74,438	04-12-10	05-15-10	Holmes Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	137,659	04-12-10	05-15-10	Naches River	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	137,659	04-12-10	05-15-10	Prosser Acclim Pond	Yakima River
Yakama Tribe	Wells Hatchery	CH0	SU	2010	202,000	04-29-10	04-29-10	Naches River	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2010	131,777	04-15-10	04-25-10	Prosser Acclim Pond	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2010	131,777	04-15-10	04-25-10	Wells Hatchery	Mid-Columbia River
Yakama Tribe	Willard Hatchery	CO	UN	2010	147,604	04-24-10	04-30-10	Wells Hatchery	Wenatchee River
Yakama Tribe	Winthrop NFH	CO	UN	2010	89,213	04-24-10	04-30-10	Icicle Creek	Wenatchee River
Yakama Tribe	Winthrop NFH	CO	UN	2010	261,180	04-24-10	04-30-10	Twisp Acclim Pond	Methow River
Yakama Tribe	Winthrop NFH	CO	UN	2010	261,180	04-24-10	04-30-10	Winthrop Hatchery	Methow River
Yakama Tribe Total					4,971,759				
Grand Total					20,270,476				

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

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
04/02/2010	64.2	0.0	56.6	0.0	67.3	0.0	67.9	0.0	70.4	0.0	65.9	0.0	61.5	0.0
04/03/2010	44.9	0.0	51.5	0.0	51.9	0.0	53.0	0.0	54.7	0.0	65.5	0.0	61.4	0.0
04/04/2010	44.2	0.0	41.8	0.0	42.9	0.0	41.8	0.0	42.3	0.0	59.8	0.0	61.5	0.0
04/05/2010	66.7	0.0	68.9	0.0	71.8	0.0	70.7	0.0	71.9	0.0	64.2	0.0	62.0	0.0
04/06/2010	56.1	0.0	57.1	0.0	63.7	0.0	63.6	0.0	66.6	0.0	68.9	0.0	62.0	0.0
04/07/2010	53.8	0.0	55.2	0.0	68.1	0.0	72.1	0.0	72.3	0.0	66.9	0.4	65.5	0.0
04/08/2010	55.9	0.0	55.0	0.0	50.7	0.0	48.2	0.0	49.4	0.0	66.3	0.0	66.9	0.0
04/09/2010	53.1	0.0	55.9	0.0	46.8	0.0	44.5	0.0	44.6	0.0	67.3	0.0	61.0	0.0
04/10/2010	44.3	0.0	44.4	0.0	48.5	0.0	52.0	0.0	52.5	0.0	57.7	0.0	61.0	0.0
04/11/2010	33.5	0.0	37.8	0.0	35.9	0.0	36.3	0.0	37.0	0.0	56.8	0.0	61.5	0.0
04/12/2010	63.8	0.0	62.8	0.0	64.3	5.8	63.1	0.0	64.6	0.0	71.1	0.0	61.7	0.0
04/13/2010	56.5	0.0	55.7	0.0	55.1	4.6	55.6	0.0	56.7	0.0	64.4	0.0	61.5	0.0
04/14/2010	65.0	0.0	65.3	0.0	76.6	5.6	73.4	0.0	73.8	0.0	61.0	0.0	61.5	0.0
04/15/2010	60.0	0.0	59.2	0.0	74.7	5.4	72.2	0.0	73.4	0.0	75.6	0.0	61.5	0.0

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

Date	Dworshak		Hells Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
04/02/2010	1.2	0.0	14.6	19.2	39.4	0.0	39.1	0.0	42.5	0.0	45.0	0.0
04/03/2010	1.3	0.0	13.8	16.1	36.2	20.0	34.5	10.4	34.7	22.5	34.9	24.9
04/04/2010	1.2	0.0	13.6	13.0	31.8	18.8	32.4	9.8	32.0	20.0	33.1	23.5
04/05/2010	1.2	0.0	14.2	17.0	27.7	15.2	25.7	7.6	25.9	13.8	27.0	17.3
04/06/2010	1.2	0.0	12.7	13.2	30.4	17.8	29.0	8.7	29.6	17.6	31.3	21.7
04/07/2010	1.2	0.0	12.3	13.2	25.2	12.7	24.1	7.2	25.1	13.0	26.3	16.7
04/08/2010	1.2	0.0	12.8	12.9	24.9	12.3	24.1	7.2	23.7	11.7	25.1	15.6
04/09/2010	1.2	0.0	12.2	16.0	26.1	13.5	26.8	7.9	25.9	13.8	26.0	16.6
04/10/2010	1.2	0.0	11.9	12.5	30.1	17.5	28.6	8.5	29.4	17.3	30.7	21.3
04/11/2010	1.2	0.0	11.1	13.4	24.3	11.7	24.1	7.2	25.0	12.9	26.5	17.1
04/12/2010	1.2	0.0	14.5	15.2	24.6	11.8	24.2	7.1	24.2	12.1	25.0	15.5
04/13/2010	1.2	0.0	13.2	12.3	29.2	16.5	27.0	8.1	27.9	15.4	30.4	20.8
04/14/2010	1.2	0.0	14.4	12.0	28.0	15.4	27.5	8.2	28.1	16.0	28.1	18.4
04/15/2010	1.2	0.0	15.3	16.7	32.1	19.3	32.2	9.6	32.0	19.9	32.2	22.7

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
04/02/2010	101.4	0.0	95.5	0.0	95.3	0.0	112.8	0.2	7.3	92.8
04/03/2010	101.2	0.0	104.7	3.6	108.9	0.0	107.6	1.5	2.6	91.0
04/04/2010	95.0	0.0	95.8	0.0	107.7	0.0	114.8	1.6	4.5	96.3
04/05/2010	99.4	0.0	111.0	1.8	109.4	0.0	120.1	1.5	11.5	94.7
04/06/2010	92.5	0.0	88.7	4.0	89.6	0.0	106.4	1.6	1.9	90.5
04/07/2010	89.4	0.0	102.3	0.0	102.0	0.0	112.8	1.6	9.5	89.4
04/08/2010	83.3	0.7	73.1	0.0	76.2	0.0	98.7	1.5	0.2	84.6
04/09/2010	79.6	0.3	87.1	0.0	89.7	0.0	95.9	1.6	0.0	82.0
04/10/2010	98.3	39.5	105.2	20.5	103.1	40.9	116.6	72.3	20.2	11.8
04/11/2010	93.0	37.4	97.9	29.5	97.8	39.2	123.2	80.2	0.0	30.7
04/12/2010	95.8	38.5	101.0	30.3	98.6	39.6	110.2	67.3	0.0	30.4
04/13/2010	101.0	40.5	98.3	29.6	94.5	37.6	109.9	67.0	0.0	30.4
04/14/2010	96.7	38.9	100.0	30.1	96.5	39.3	111.8	69.0	0.0	30.4
04/15/2010	93.9	37.6	100.7	30.2	96.1	38.5	114.7	72.0	0.0	30.3

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	Hungry H. Dnst			#	Boundary			#	Grand Coulee			#	Grand C. Tlwr			#	Chief Joseph			#
	24 h	12 h			24 h	12 h			24 h	12 h			24 h	12 h			24 h	12 h		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
4/2	99.9	100.6	101.5	24	104.0	105.6	106.0	24	106.6	106.9	107.0	24	106.7	107.4	108.0	24	105.7	105.9	105.9	24
4/3	99.6	99.9	100.3	23	103.7	104.9	105.4	22	105.7	105.9	106.4	24	106.8	107.3	108.2	22	105.0	105.2	105.6	24
4/4	99.5	100.1	100.9	24	103.6	105.0	105.6	23	105.5	105.8	106.0	24	106.6	107.7	108.4	23	105.0	105.5	105.7	24
4/5	99.0	99.4	100.0	24	103.8	105.1	105.3	21	105.7	105.9	106.0	24	106.1	106.9	108.1	21	105.2	105.3	105.5	24
4/6	97.6	97.9	98.4	24	103.4	104.5	105.2	20	104.4	104.8	105.8	24	102.9	104.2	105.3	20	104.6	104.8	105.0	24
4/7	97.3	97.7	98.8	23	103.0	104.3	105.6	20	103.5	104.0	104.7	24	102.4	102.8	104.0	20	104.1	104.4	104.9	24
4/8	97.5	97.8	98.1	22	103.0	104.0	105.3	20	104.6	105.2	105.6	24	104.6	104.9	106.6	19	105.1	105.3	105.5	24
4/9	97.3	97.6	98.1	24	102.5	103.8	104.5	23	103.5	103.7	103.8	24	102.5	102.8	103.0	23	104.6	104.8	105.1	24
4/10	97.3	97.8	98.4	24	102.4	103.5	105.1	22	103.9	104.4	105.0	24	102.9	103.7	104.2	22	104.4	104.7	104.8	24
4/11	96.8	97.0	97.4	24	102.6	104.1	106.5	23	105.0	105.3	105.7	24	105.4	106.1	107.4	23	105.1	105.6	105.8	24
4/12	97.1	97.4	98.1	24	104.3	106.3	107.5	23	105.9	106.0	106.1	24	105.7	106.2	106.7	23	105.5	105.5	105.6	24
4/13	97.0	97.1	97.5	21	103.0	104.4	105.6	20	105.7	105.8	106.0	24	104.0	104.3	104.8	20	105.1	105.2	105.4	24
4/14	96.7	96.9	97.2	21	103.6	105.6	106.8	23	105.3	105.7	105.9	24	103.2	103.4	103.7	23	104.8	105.1	105.4	24
4/15	96.6	97.0	97.5	23	102.3	103.3	104.8	22	105.2	105.3	105.6	24	103.3	103.5	103.9	22	105.2	105.8	106.1	24

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	Chief J. Dnst			#	Wells			#	Wells Dwnstrm			#	Rocky Reach			#	Rocky R. Tlwr			#
	24 h	12 h			24 h	12 h			24 h	12 h			24 h	12 h			24 h	12 h		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
4/2	105.8	106.3	106.7	24	---	---	---	0	95.2	95.5	95.6	24	106.0	106.3	106.4	24	105.7	106.0	106.0	24
4/3	105.6	106.1	106.6	24	---	---	---	0	95.0	95.2	95.4	24	104.6	104.9	105.5	24	104.5	104.8	105.2	24
4/4	105.8	106.7	107.6	24	---	---	---	0	95.1	95.5	95.5	24	104.8	105.3	105.6	24	104.7	105.3	105.5	24
4/5	105.3	105.8	106.7	24	---	---	---	0	95.2	95.5	95.8	24	105.5	105.6	105.7	24	105.2	105.4	105.5	24
4/6	104.9	105.4	106.2	24	---	---	---	0	94.1	94.4	94.9	24	104.7	104.9	105.4	24	104.4	104.7	105.1	24
4/7	104.7	105.5	106.3	24	---	---	---	0	93.7	94.1	94.7	24	104.3	104.8	105.6	24	104.2	104.5	105.3	24
4/8	106.1	106.8	107.4	24	---	---	---	0	94.3	94.9	95.2	24	104.8	105.4	106.0	24	104.8	105.3	105.7	24
4/9	105.2	105.9	106.9	24	---	---	---	0	93.7	93.9	94.2	24	104.3	104.6	105.0	24	104.2	104.5	104.8	24
4/10	104.2	105.1	105.8	24	---	---	---	0	93.9	94.3	94.5	24	104.8	105.2	105.5	24	104.6	104.9	105.3	24
4/11	106.0	106.9	107.7	24	---	---	---	0	94.7	95.0	95.2	24	105.8	106.3	106.5	24	105.4	105.7	105.8	24
4/12	105.7	106.2	107.2	24	---	---	---	0	95.0	95.1	95.4	24	106.1	106.2	106.3	24	106.0	106.1	106.3	24
4/13	105.6	106.2	107.0	24	---	---	---	0	100.1	105.4	108.4	24	106.3	106.4	106.6	24	106.0	106.1	106.4	24
4/14	105.4	106.4	107.4	24	---	---	---	0	106.4	106.9	107.7	24	106.1	106.3	106.5	24	105.8	105.9	106.1	24
4/15	104.5	105.1	105.7	24	---	---	---	0	106.1	106.8	107.2	24	106.7	107.0	107.3	24	106.3	106.6	106.9	24

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	Rock Island			#	Rock I. Tlwr			#	Wanapum			#	Wanapum Tlwr			#	Priest Rapids			#
	24 h	12 h			24 h	12 h			24 h	12 h			24 h	12 h			24 h	12 h		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
4/2	100.6	100.7	100.7	24	106.2	106.6	106.8	24	106.1	106.5	106.8	24	105.9	106.3	106.8	24	105.2	105.8	106.6	24
4/3	100.6	100.6	100.7	24	105.1	105.4	105.9	24	105.1	105.3	105.9	24	105.2	105.4	105.6	24	103.3	103.8	104.9	24
4/4	100.6	100.7	100.8	24	105.3	105.9	106.4	24	105.4	106.0	106.3	24	105.7	106.3	106.6	24	104.2	105.6	106.0	24
4/5	100.6	100.7	100.7	24	105.4	105.6	106.0	24	105.8	106.0	106.3	24	105.9	106.2	106.5	24	105.8	106.0	106.2	24
4/6	100.6	100.6	100.8	24	104.6	104.9	105.3	24	104.2	104.5	105.2	24	104.3	104.6	105.0	24	104.4	104.8	105.7	24
4/7	100.6	100.6	100.7	24	104.6	105.1	105.8	24	103.9	104.4	105.2	24	103.9	104.5	105.1	24	104.1	105.0	106.3	24
4/8	100.6	100.7	100.8	24	105.3	105.9	106.4	24	104.6	105.2	105.8	24	104.5	105.1	105.4	24	105.0	106.0	106.9	24
4/9	100.6	100.7	100.7	24	104.5	105.0	105.5	24	103.3	103.5	103.7	24	103.5	104.0	104.7	24	104.5	105.4	106.0	24
4/10	100.6	100.7	100.7	24	104.9	105.7	106.1	24	104.0	104.6	104.9	24	104.3	105.0	105.2	24	104.9	105.5	105.8	24
4/11	100.6	100.6	100.7	24	106.1	106.8	107.2	24	105.2	105.7	106.2	24	105.3	105.8	106.3	24	106.1	106.7	107.6	24
4/12	100.5	100.5	100.5	24	106.4	106.7	107.1	24	105.8	106.0	106.1	24	105.7	105.9	106.3	24	107.1	107.5	107.7	24
4/13	105.9	110.8	113.6	24	106.0	106.3	106.4	24	105.3	105.5	105.7	24	105.2	105.5	105.8	24	106.0	106.4	106.8	24
4/14	106.6	107.5	109.3	24	106.0	106.3	106.5	24	104.9	105.8	107.1	24	104.3	104.6	104.8	24	105.2	105.8	106.6	24
4/15	106.5	106.7	106.8	24	106.3	106.6	107.0	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>Clrwr-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	
4/2	105.2	105.7	106.2	24	103.5	104.0	104.4	24	105.9	106.8	108.1	24	107.0	107.2	107.3	24	101.3	101.8	102.2	24
4/3	103.7	104.0	104.5	24	101.6	102.2	102.4	24	106.2	107.2	108.0	24	106.8	106.9	107.1	24	101.4	102.2	102.9	24
4/4	104.4	105.2	105.5	24	103.1	104.4	104.9	24	106.2	107.1	108.4	24	106.4	106.8	107.5	24	101.9	102.9	103.7	24
4/5	105.1	105.3	105.5	24	103.6	104.2	104.7	24	106.3	107.1	107.8	24	105.7	105.9	106.1	24	100.9	101.3	101.7	24
4/6	103.4	103.8	104.5	24	102.3	102.9	103.3	24	105.9	106.5	107.8	24	103.6	104.8	105.6	24	100.9	101.6	102.4	24
4/7	103.5	104.3	105.1	24	103.1	104.7	105.5	24	105.2	106.0	106.8	24	102.6	104.8	106.4	23	102.1	103.7	104.8	24
4/8	103.9	104.6	105.5	24	103.5	104.3	105.5	24	106.4	106.7	107.0	24	101.5	102.1	103.1	23	101.6	102.2	102.5	24
4/9	103.0	103.6	103.8	24	102.1	103.0	103.5	24	105.9	106.4	106.9	24	100.7	103.4	104.8	24	101.3	102.7	103.9	24
4/10	103.9	104.3	104.6	24	103.5	104.7	105.2	24	106.4	107.2	107.8	24	102.0	104.4	106.0	22	102.1	103.4	104.5	24
4/11	104.8	105.3	105.7	24	104.8	105.7	106.1	24	106.9	107.9	108.6	24	102.0	103.4	104.4	23	102.0	103.0	104.1	24
4/12	105.5	105.7	105.9	24	105.2	105.6	106.0	24	106.4	106.7	107.3	24	101.3	102.3	104.4	23	101.2	101.6	102.1	24
4/13	105.1	105.3	105.4	24	104.7	105.1	105.8	24	105.5	105.9	106.4	24	100.5	100.9	101.4	18	101.3	102.3	103.5	24
4/14	104.5	104.9	105.2	24	104.6	105.4	105.8	24	105.6	106.4	107.2	24	101.2	102.5	104.0	22	101.3	102.6	103.6	24
4/15	---	---	---	0	105.1	105.9	106.3	24	106.5	107.2	107.7	24	102.2	103.5	104.9	24	101.6	102.8	104.2	24

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwr-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	High	
4/2	100.4	101.1	101.5	23	102.3	102.7	102.9	24	101.7	102.0	102.3	24	102.1	102.4	102.6	24	101.2	101.7	102.1	24
4/3	100.5	101.6	102.6	24	101.0	101.4	101.9	24	111.5	111.9	112.2	24	101.0	101.1	101.6	24	106.7	108.5	109.3	24
4/4	102.2	104.5	106.0	24	100.2	100.4	100.5	24	111.1	111.6	111.8	24	101.0	101.4	101.7	24	108.7	109.0	109.5	24
4/5	101.1	101.9	102.7	23	99.4	99.7	100.1	24	110.0	110.3	110.9	24	101.3	101.5	101.9	24	107.9	108.3	108.7	24
4/6	101.5	103.3	105.0	23	98.6	98.8	99.1	24	111.0	111.9	112.2	24	99.7	100.0	100.7	24	107.3	107.7	108.0	24
4/7	103.2	106.0	107.9	23	98.8	99.3	100.1	24	111.8	113.2	114.4	24	99.3	99.8	100.6	24	107.7	108.6	108.9	24
4/8	101.2	102.2	103.2	24	99.8	100.4	101.7	24	112.0	112.7	113.1	24	99.7	100.3	100.8	24	107.6	108.1	109.0	24
4/9	101.3	103.7	105.0	24	99.2	99.3	99.4	24	113.5	114.0	114.3	24	99.0	99.3	99.7	24	108.1	108.7	109.0	24
4/10	103.0	105.9	107.9	24	100.3	100.8	101.2	24	111.9	112.5	114.3	24	100.5	101.0	101.4	24	109.2	110.0	110.8	24
4/11	103.3	105.1	106.9	23	101.4	101.6	102.1	24	113.1	114.7	115.3	24	102.0	102.6	104.1	24	109.8	110.3	110.7	24
4/12	101.9	102.9	104.4	24	102.0	102.3	102.7	24	112.2	113.8	114.6	24	104.0	104.2	104.5	24	109.9	110.1	110.5	24
4/13	101.0	102.1	103.2	23	101.9	102.1	102.2	24	111.8	112.8	113.1	24	103.9	104.1	104.4	24	110.0	110.2	110.7	24
4/14	102.1	104.4	106.2	23	101.0	101.2	101.6	24	111.2	111.6	112.1	24	103.8	104.0	104.3	24	110.1	110.3	110.6	24
4/15	102.7	104.8	106.9	23	101.1	101.4	101.8	24	112.2	112.7	113.1	24	104.3	104.4	104.5	24	110.6	111.0	111.5	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	High	
4/2	102.6	103.0	103.2	24	102.5	103.0	103.2	24	102.9	103.2	103.4	24	103.2	103.5	103.8	24	---	---	---	0
4/3	101.5	101.7	102.2	24	114.7	116.6	117.3	24	101.7	101.9	102.3	24	112.3	113.8	114.3	24	---	---	---	0
4/4	101.9	102.3	102.8	24	115.8	117.8	119.1	24	102.3	102.9	103.2	24	112.6	114.0	114.8	24	---	---	---	0
4/5	101.8	102.1	102.7	24	112.9	114.5	115.8	24	101.9	102.3	102.7	24	111.2	112.3	113.2	24	---	---	---	0
4/6	100.1	100.5	100.9	24	113.5	114.6	117.2	24	100.6	100.9	101.4	24	111.4	112.8	113.5	24	---	---	---	0
4/7	99.7	100.2	101.1	24	111.9	112.3	112.7	24	101.2	102.4	103.9	24	110.1	110.7	111.2	24	---	---	---	0
4/8	102.0	102.2	102.5	24	111.0	111.6	112.7	24	104.4	104.6	104.8	24	109.2	109.6	110.1	24	---	---	---	0
4/9	102.5	102.9	103.8	24	112.4	113.5	118.0	24	105.4	105.9	106.2	24	110.8	112.0	113.6	24	---	---	---	0
4/10	104.3	104.8	105.2	24	115.0	116.2	118.2	24	107.2	108.0	108.7	24	112.9	113.8	114.0	24	---	---	---	0
4/11	105.1	105.4	106.1	24	112.6	113.0	113.4	24	108.8	109.5	110.2	24	112.2	113.6	114.6	24	---	---	---	0
4/12	106.0	106.3	106.5	24	112.1	112.3	112.5	24	109.2	109.4	109.9	24	110.6	111.1	111.7	24	---	---	---	0
4/13	105.5	105.6	105.8	24	113.7	115.4	118.2	24	108.5	108.7	108.8	24	111.4	112.9	113.8	24	---	---	---	0
4/14	104.9	105.1	105.4	24	113.9	115.1	117.4	24	108.9	109.6	110.3	24	112.3	114.1	114.9	24	---	---	---	0
4/15	105.9	106.4	107.2	24	112.8	113.4	113.7	24	110.4	111.0	111.7	24	112.7	114.4	114.8	24	---	---	---	0

Total Dissolved Gas Saturation (%) - Average of 12 Highest Hours, 24 h Average and 24 h High

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>McNary-Wash</u>			#	<u>McNary Tlwr</u>			#	<u>John Day</u>			#	<u>John Day Tlwr</u>			#	<u>The Dalles</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
4/2	104.0	104.4	104.8	24	103.1	103.6	103.8	24	101.7	102.2	102.8	24	102.4	102.9	103.5	24	104.3	104.6	104.8	24
4/3	102.2	102.4	102.9	24	101.4	101.7	102.2	24	100.8	101.8	103.2	24	102.5	104.2	106.2	24	103.2	103.5	103.7	24
4/4	103.0	103.8	104.2	24	101.9	102.7	102.9	24	103.9	104.3	104.6	24	101.3	101.9	102.4	24	103.9	104.6	105.0	24
4/5	102.9	103.3	103.9	24	102.3	102.5	102.7	24	103.4	103.7	103.9	24	102.3	103.8	105.2	24	103.6	104.0	105.0	24
4/6	101.5	101.7	101.9	24	100.7	101.1	101.3	24	101.4	101.7	102.4	24	103.2	105.0	107.1	24	101.9	102.3	102.7	24
4/7	101.8	102.7	103.7	24	100.7	101.9	102.6	24	101.3	101.8	102.4	24	101.3	101.9	102.3	24	102.1	102.7	104.8	22
4/8	103.6	103.9	104.1	24	102.2	102.6	103.5	24	101.3	101.8	102.5	24	101.2	101.6	102.3	24	102.8	103.7	105.2	24
4/9	102.8	102.9	103.1	24	101.6	102.3	102.8	24	100.8	101.1	101.2	24	100.7	101.1	101.4	24	101.7	102.0	102.4	22
4/10	103.6	104.0	104.4	24	113.3	114.7	115.2	24	102.1	102.8	103.2	24	107.9	111.4	112.5	24	102.6	103.1	103.6	22
4/11	104.7	105.8	107.2	24	114.4	114.8	115.2	24	103.8	104.8	105.5	24	110.8	111.0	111.4	24	104.4	105.6	106.8	22
4/12	105.8	106.5	107.4	24	114.2	114.6	114.8	24	104.1	104.8	105.4	24	110.9	111.2	111.5	24	107.5	108.7	109.9	19
4/13	104.8	105.0	105.4	24	114.1	114.3	114.5	24	102.7	102.9	103.2	24	110.6	111.3	112.5	24	108.9	109.2	109.7	22
4/14	105.1	105.7	105.9	24	113.9	114.5	115.0	24	102.7	103.6	104.8	24	109.6	109.9	110.1	24	107.7	108.1	108.3	24
4/15	106.2	106.3	106.9	24	113.5	114.2	114.7	24	103.0	103.4	104.0	24	109.2	109.5	109.7	24	108.1	109.1	109.6	24

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			#	<u>Bonneville</u>			#	<u>Warrendale</u>			#	<u>Camas\Washougal</u>			#	<u>Cascade Island</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
4/2	104.5	105.3	105.6	24	104.8	105.3	105.6	24	108.0	109.1	109.5	24	106.2	107.0	108.0	24	113.7	114.6	115.1	24
4/3	103.5	103.7	104.1	24	103.0	103.3	103.6	24	107.6	108.3	108.8	24	104.3	105.2	105.9	24	110.6	111.3	111.6	24
4/4	103.6	104.2	104.8	24	103.8	104.0	104.3	24	108.7	109.0	109.5	24	104.5	104.8	105.6	24	111.1	112.2	113.8	24
4/5	103.0	103.3	103.6	24	103.9	104.3	104.6	24	109.6	110.4	110.9	24	105.1	106.1	106.6	24	111.6	113.1	115.1	24
4/6	101.7	102.4	102.6	24	102.5	103.0	104.1	24	107.7	108.4	108.7	24	104.7	105.3	105.6	24	111.0	112.6	114.0	24
4/7	103.2	103.6	104.1	24	102.6	103.3	104.1	24	109.4	110.3	110.9	24	106.7	108.1	109.1	24	111.1	112.6	114.7	24
4/8	103.9	104.3	104.6	24	102.9	103.6	104.4	24	108.4	109.0	109.6	24	106.0	106.7	108.5	24	111.2	113.3	115.5	24
4/9	103.0	103.2	103.4	24	102.4	102.8	103.1	24	109.8	110.7	111.2	24	107.2	109.0	110.1	24	111.2	113.4	116.8	24
4/10	109.5	111.7	112.2	24	103.9	104.1	104.2	24	111.2	112.5	115.3	24	106.8	107.8	109.4	24	113.9	115.4	117.0	24
4/11	111.8	112.3	113.0	24	105.0	106.1	106.7	24	115.9	116.2	116.4	24	112.1	115.3	116.5	24	114.2	115.0	117.0	24
4/12	112.7	113.3	113.7	24	106.0	106.3	106.7	24	116.3	117.0	117.7	24	114.2	114.6	114.8	24	113.2	113.4	113.6	24
4/13	113.6	113.9	114.3	24	108.8	109.6	110.0	24	117.0	117.7	118.8	24	114.6	115.3	116.2	24	113.3	113.4	113.5	24
4/14	113.4	113.8	114.1	24	109.5	109.8	110.0	24	117.8	118.7	119.3	24	116.2	117.9	119.2	24	113.4	113.6	113.7	24
4/15	112.9	113.5	113.8	24	109.7	110.5	111.2	24	117.5	118.4	119.0	24	117.1	118.6	119.1	24	113.5	113.6	113.8	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)
04/02/2010 *	1,894	574	341	4	90	---	---	6	---	28	169
04/03/2010 *	1,275	1,850	506	8	247	---	2	6	---	16	142
04/04/2010 *	1,107	1,551	170	1	176	---	---	2	---	21	121
04/05/2010 *	1,266	1,178	74	2	132	7	0	0	---	36	136
04/06/2010 *	1,121	2,222	77	3	206	---	---	8	---	28	290
04/07/2010 *	1,331	3,131	16	1	286	---	---	9	20	42	245
04/08/2010 *	762	1,637	69	0	167	---	0	6	---	28	297
04/09/2010 *	1,139	4,857	46	1	245	---	---	3	51	28	298
04/10/2010 *	1,906	9,280	111	3	238	---	---	15	---	57	307
04/11/2010 *	720	5,038	55	0	892	---	0	18	0	85	273
04/12/2010 *	450	4,024	21	1	461	50	---	15	---	115	416
04/13/2010 *	1,003	7,035	71	1	554	---	---	15	64	103	608
04/14/2010 *	379	8,685	232	2	911	---	5	21	---	92	895
04/15/2010 *	316	---	347	7	661	---	---	19	121	121	3,077
04/16/2010 *	---	---	---	---	---	---	---	---	---	63	6,347
Total:	14,669	51,062	2,136	34	5,266	57	7	143	256	863	13,621
# Days:	14	13	14	14	14	2	5	14	5	15	15
Average:	1,048	3,928	153	2	376	29	1	10	51	58	908
YTD	30,033	55,764	3,213	46	5,326	57	12	146	256	883	20,954

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)
04/02/2010 *	0	0	0	5	0	---	---	4	---	0	2,081
04/03/2010 *	0	0	0	6	0	---	0	3	---	0	2,246
04/04/2010 *	0	0	0	1	12	---	---	6	---	0	711
04/05/2010 *	0	0	0	2	0	0	0	23	---	0	663
04/06/2010 *	0	0	1	1	11	---	---	17	---	0	846
04/07/2010 *	0	0	0	6	0	---	---	40	0	0	529
04/08/2010 *	0	3	0	4	0	---	0	29	---	0	666
04/09/2010 *	0	0	0	0	31	---	---	69	10	0	627
04/10/2010 *	0	0	0	8	23	---	---	67	---	0	331
04/11/2010 *	0	0	0	15	23	---	0	67	9	0	4,288
04/12/2010 *	0	8	0	11	19	0	---	56	---	0	1,953
04/13/2010 *	0	0	0	0	60	---	---	50	0	0	905
04/14/2010 *	0	0	0	1	166	---	0	77	---	0	129,787
04/15/2010 *	0	---	0	4	68	---	---	66	17	0	429,540
04/16/2010 *	---	---	---	---	---	---	---	---	---	11	169,247
Total:	0	11	1	64	413	0	0	574	36	11	744,420
# Days:	14	13	14	14	14	2	5	14	5	15	15
Average:	0	1	0	5	30	0	0	41	7	1	49,628
YTD	0	12	1	116	423	0	0	586	36	11	763,418

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)
04/02/2010 *	0	0	0	0	0	---	---	0	---	0	293
04/03/2010 *	0	0	0	0	0	---	0	0	---	0	512
04/04/2010 *	0	0	0	0	0	---	---	0	---	4	224
04/05/2010 *	0	0	0	0	0	0	0	0	---	0	250
04/06/2010 *	0	0	0	0	0	---	---	0	---	0	504
04/07/2010 *	0	0	0	0	0	---	---	1	0	0	368
04/08/2010 *	0	0	0	0	0	---	0	1	---	0	500
04/09/2010 *	0	0	0	0	0	---	---	1	0	0	562
04/10/2010 *	0	0	0	0	0	---	---	0	---	0	374
04/11/2010 *	0	0	0	0	0	---	0	3	0	5	521
04/12/2010 *	0	0	0	0	0	0	---	1	---	0	589
04/13/2010 *	0	0	0	0	0	---	---	0	0	0	432
04/14/2010 *	0	0	0	0	0	---	0	1	---	0	316
04/15/2010 *	0	---	0	0	0	---	---	3	0	0	499
04/16/2010 *	---	---	---	---	---	---	---	---	---	0	685
Total:	0	0	0	0	0	0	0	11	0	9	6,629
# Days:	14	13	14	14	14	2	5	14	5	15	15
Average:	0	0	0	0	0	0	0	1	0	1	442
YTD	0	0	0	1	0	0	0	11	0	9	10,416

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)
04/02/2010 *	3	337	1	2	70	---	---	2	---	4	59
04/03/2010 *	1	198	0	5	41	---	2	0	---	8	55
04/04/2010 *	1	182	0	8	47	---	---	1	---	41	45
04/05/2010 *	3	91	0	3	132	9	2	1	---	28	79
04/06/2010 *	3	63	0	7	137	---	---	0	---	45	52
04/07/2010 *	2	55	0	4	95	---	---	1	90	29	88
04/08/2010 *	3	571	0	1	118	---	0	1	---	28	109
04/09/2010 *	4	707	1	2	204	---	---	0	40	24	169
04/10/2010 *	10	250	1	5	238	---	---	3	---	26	289
04/11/2010 *	3	241	0	0	237	---	2	1	35	95	248
04/12/2010 *	10	75	2	1	259	266	---	0	---	75	57
04/13/2010 *	10	50	89	3	302	---	---	3	21	23	135
04/14/2010 *	4	42	15	7	449	---	2	4	---	29	195
04/15/2010 *	17	---	53	0	444	---	---	4	52	46	499
04/16/2010 *	---	---	---	---	---	---	---	---	---	69	0
Total:	74	2,862	162	48	2,773	275	8	21	238	570	2,079
# Days:	14	13	14	14	14	2	5	14	5	15	15
Average:	5	220	12	3	198	138	2	2	48	38	139
YTD	82	3,042	163	70	2,888	275	8	21	238	574	2,315

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)
04/02/2010 *	0	0	0	0	0	---	---	0	---	0	0
04/03/2010 *	0	0	0	0	6	---	0	1	---	0	0
04/04/2010 *	0	0	0	0	0	---	---	2	---	0	0
04/05/2010 *	0	0	0	0	0	0	0	2	---	0	13
04/06/2010 *	0	0	0	0	0	---	---	9	---	0	0
04/07/2010 *	0	0	0	0	0	---	---	31	0	8	4
04/08/2010 *	0	0	0	0	0	---	0	7	---	4	0
04/09/2010 *	0	0	0	0	0	---	---	6	0	0	0
04/10/2010 *	0	0	0	0	0	---	---	75	---	0	6
04/11/2010 *	0	0	0	0	0	---	0	95	0	5	0
04/12/2010 *	0	0	0	0	0	0	---	116	---	6	0
04/13/2010 *	0	0	0	0	0	---	---	61	0	0	0
04/14/2010 *	0	0	0	0	0	---	0	53	---	0	0
04/15/2010 *	0	---	0	0	11	---	---	46	9	6	0
04/16/2010 *	---	---	---	---	---	---	---	---	---	0	0
Total:	0	0	0	0	17	0	0	504	9	29	23
# Days:	14	13	14	14	14	2	5	14	5	15	15
Average:	0	0	0	0	1	0	0	36	2	2	2
YTD	0	0	0	0	17	0	0	504	9	33	37

* See sampling comments <http://www.fpc.org/currentDaily/smpcomments.htm>

Smolt indices, clipped & unclipped or combined, are presented in the following order: yearling chinook (chinook 1's), subyearling chinook (chinook 0's), steelhead, coho, and sockeye. Two classes of fish counts are shown in these tables: collection counts, which account for sample rates but are not adjusted for flow; and passage indices, which are collection counts divided by the proportion of water passing through the sampled powerhouse. Passage indices are not population estimates, but are used to adjust collection counts for daily fluctuations in the site's or project's operations. The classes of counts presented in the report are defined below for each site. Most samples occur over a 24-hr period that spans two calendar days. In this report, the date shown corresponds with the sample end date.

Definitions for Smolt Index Counts

- WTB (Collection) = Salmon River Trap at Whitebird : Collection Counts
- IMN (Collection) = Imnaha River Trap : Collection Counts
- GRN (Collection) = Grande Ronde River Trap : Collection Counts
- LEW (Collection) = Snake River Trap at Lewiston : Collection Counts
- LGR (Index) = Lower Granite Dam Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
- LGS (Index) = Little Goose Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
- LMN (Index) = Lower Monumental Dam Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
- RIS (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse 2 Flow / (Powerhouse 1 & 2 Flow + Spill)}
- MCN (Index) = McNary Dam Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
- JDA (Index) = John Day Dam Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
- BO2 (Index) = Bonneville Dam Second Powerhouse Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse 2 Flow / (Powerhouse 1 & 2 Flow + Spill)}

JDA and BO2 data collected for the FPC by Pacific States Marine Fisheries Commission.
 RIS data collected for the FPC by Chelan Co. PUD/Washington Dept. of Fish and Wildlife.
 LGR, LMN, and MCN data collected for the FPC by Washington Dept. of Fish and Wildlife.
 LGS and GRN data collected for the FPC by Oregon Dept. of Fish and Wildlife.
 IMN data collected for the FPC by the Nez Perce Tribe.

Cumulative Adult Passage at Mainstem Dams Through: 04/15

DAM	EndDate	Spring Chinook						Summer Chinook						Fall Chinook					
		2010		2009		10-Yr Avg.		2010		2009		10-Yr Avg.		2010		2009		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	04/15	23045	78	1309	5	33995	103	0	0	0	0	0	0	0	0	0	0	0	0
TDA	04/15	8769	19	528	2	16973	33	0	0	0	0	0	0	0	0	0	0	0	0
JDA	04/15	5330	23	142	4	10603	10	0	0	0	0	0	0	0	0	0	0	0	0
MCN	04/15	1828	12	89	0	6213	14	0	0	0	0	0	0	0	0	0	0	0	0
IHR	04/15	761	9	48	2	3137	2	0	0	0	0	0	0	0	0	0	0	0	0
LMN	04/15	171	3	31	0	1820	0	0	0	0	0	0	0	0	0	0	0	0	0
LGS	04/15	64	1	18	0	1090	5	0	0	0	0	0	0	0	0	0	0	0	0
LGR	04/15	12	0	2	0	611	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	04/13	601	0	163	0	-	-	-	-	-	-	-	-	0	0	0	0	-	-

DAM	Coho						Sockeye			Steelhead			
	2010		2009		10-Yr Avg.		2010	2009	10-Yr Avg.	2010	2009	10-Yr Avg.	Wild 2010
	Adult	Jack	Adult	Jack	Adult	Jack							
BON	0	0	0	0	0	0	0	0	0	2858	1417	1603	898
TDA	0	0	0	0	0	0	0	0	0	1176	732	736	558
JDA	0	0	0	0	0	0	0	0	0	1233	1585	1764	738
MCN	0	0	0	0	0	0	0	0	0	1070	1337	1339	528
IHR	0	0	0	0	0	0	0	0	0	1835	1959	1680	674
LMN	0	0	0	0	0	0	0	0	0	2124	2713	1786	1116
LGS	0	0	0	0	0	0	0	0	0	1537	2997	1792	660
LGR	0	0	0	0	0	0	0	0	0	8175	8303	7368	2865
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS	0	0	0	0	0	0	0	0	0	0	0	0	0
RRH	0	0	0	0	0	0	0	0	0	0	0	0	0
WEL	0	0	0	0	0	0	0	0	0	0	0	0	0
WFA	0	0	0	0	-	-	-	-	-	5495	2478	-	-

PRD does not post wild steelhead numbers.
 These numbers were collected from USACE, Grant PUD, Douglas PUD, Chelan PUD, ODFW and DART.
 Wild steelhead numbers are included in the total. Wild Steelhead are defined as unclipped fish.
 Historic counts (pre-1996) were obtained from CRITFC and compiled by the FPC.
 Historic counts 1997 to present were obtained from the Corps of Engineers.

Page last updated on: 04/16/10

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

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

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

4/16/10 9:57 AM

		Species				
		04/02/10 TO 04/16/10				
Site	Data	CH0	CH1	ST	SO	Grand Total
LGR	Sum of NumberCollected	185	2,535	1,320	10	4,050
	Sum of NumberBarged	0	0	0	0	0
	Sum of NumberBypassed	184	2,529	1,320	10	4,043
	Sum of Numbertrucked	0	0	0	0	0
	Sum of SampleMorts	1	3	0	0	4
	Sum of FacilityMorts	0	3	0	0	3
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	1	6	0	0	7
LGS	Sum of NumberCollected		40	192		232
	Sum of NumberBarged		0	0		0
	Sum of NumberBypassed		38	192		230
	Sum of Numbertrucked		0	0		0
	Sum of SampleMorts		2	0		2
	Sum of FacilityMorts		0	0		0
	Sum of ResearchMorts		0	0		0
	Sum of TotalProjectMorts		2	0		2
LMN	Sum of NumberCollected		3	4		7
	Sum of NumberBarged		0	0		0
	Sum of NumberBypassed		1	3		4
	Sum of Numbertrucked		0	0		0
	Sum of SampleMorts		0	0		0
	Sum of FacilityMorts		0	0		0
	Sum of ResearchMorts		0	0		0
	Sum of TotalProjectMorts		0	0		0
MCN	Sum of NumberCollected	25	177	192	5	399
	Sum of NumberBarged	0	0	0	0	0
	Sum of NumberBypassed	25	176	192	5	398
	Sum of Numbertrucked	0	0	0	0	0
	Sum of SampleMorts	0	0	0	0	0
	Sum of FacilityMorts	0	1	0	0	1
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	0	1	0	0	1
Total Sum of NumberCollected		210	2,755	1,708	15	4,688
Total Sum of NumberBarged		0	0	0	0	0
Total Sum of NumberBypassed		209	2,744	1,707	15	4,675
Total Sum of Numbertrucked		0	0	0	0	0
Total Sum of SampleMorts		1	5	0	0	6
Total Sum of FacilityMorts		0	4	0	0	4
Total Sum of ResearchMorts		0	0	0	0	0
Total Sum of TotalProjectMorts		1	9	0	0	10

YTD Transportation Summary

Source: Fish Passage Center

TO: 04/16/10

Updated:

4/16/10 9:57 AM

Site	Data	Species				Grand Total
		CH0	CH1	SO	ST	
LGR	Sum of NumberCollected	195	2,595	10	1,435	4,235
	Sum of NumberBarged	0	0	0	0	0
	Sum of NumberBypassed	194	2,589	10	1,434	4,227
	Sum of NumberTrucked	0	0	0	0	0
	Sum of SampleMorts	1	3	0	1	5
	Sum of FacilityMorts	0	3	0	0	3
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	1	6	0	1	8
LGS	Sum of NumberCollected		40		192	232
	Sum of NumberBarged		0		0	0
	Sum of NumberBypassed		38		192	230
	Sum of NumberTrucked		0		0	0
	Sum of SampleMorts		2		0	2
	Sum of FacilityMorts		0		0	0
	Sum of ResearchMorts		0		0	0
	Sum of TotalProjectMorts		2		0	2
LMN	Sum of NumberCollected		8		4	12
	Sum of NumberBarged		0		0	0
	Sum of NumberBypassed		6		3	9
	Sum of NumberTrucked		0		0	0
	Sum of SampleMorts		0		0	0
	Sum of FacilityMorts		0		0	0
	Sum of ResearchMorts		0		0	0
	Sum of TotalProjectMorts		0		0	0
MCN	Sum of NumberCollected	25	177	5	192	399
	Sum of NumberBarged	0	0	0	0	0
	Sum of NumberBypassed	25	176	5	192	398
	Sum of NumberTrucked	0	0	0	0	0
	Sum of SampleMorts	0	0	0	0	0
	Sum of FacilityMorts	0	1	0	0	1
	Sum of ResearchMorts	0	0	0	0	0
	Sum of TotalProjectMorts	0	1	0	0	1
Total Sum of NumberCollected		220	2,820	15	1,823	4,878
Total Sum of NumberBarged		0	0	0	0	0
Total Sum of NumberBypassed		219	2,809	15	1,821	4,864
Total Sum of NumberTrucked		0	0	0	0	0
Total Sum of SampleMorts		1	5	0	1	7
Total Sum of FacilityMorts		0	4	0	0	4
Total Sum of ResearchMorts		0	0	0	0	0
Total Sum of TotalProjectMorts		1	9	0	1	11