



Fish Passage Center

Weekly Report #12 - 07

April 27, 2012

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 52% and 106% of average at individual sub-basins over April. Precipitation above The Dalles has been 86% of average over April. Over the 2012 water year, precipitation has ranged between 81% and 114% of average.

Table 1. Summary of April precipitation and cumulative October through April 23, 2012 precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2012 April 1-23, 2012		Water Year 2012 October 1, 2011 to April 23, 2012	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	1.10	87	17.33	112
Snake River Above Ice Harbor	0.86	77	11.49	101
Columbia Above The Dalles	1.08	86	16.65	107
Kootenai	1.11	83	17.72	111
Clark Fork	0.84	89	11.37	114
Flathead	1.16	96	14.63	109
Pend Oreille/Spokane	1.62	94	23.96	109
Central Washington	0.40	81	5.21	81
Snake River Plain	0.42	52	6.74	98
Salmon/Boise/Payette	0.93	76	14.06	100
Clearwater	1.77	87	22.56	109
SW Washington Cascades/Cowlitz	4.36	106	57.05	99
Willamette Valley	3.47	94	51.53	105

Average snowpack in the Columbia River for basins above the Snake River confluence is 105% of average, for Snake River Basins the average snowpack is 57% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 93% of average.

The NWRFC has eliminated the distribution of their Multiple Linear Regression Water Supply Forecasts as their “Official” forecast and are now producing ESP (Ensemble Streamflow Prediction) forecasts at least once per week. The “Official” April ESP forecast was produced on April 5, 2012.

Table 2 displays the April 5th (official) and April 25th ESP runoff volume forecasts for multiple reservoirs. The April 5th “Official” forecast at The Dalles between January and July is 114135 Kaf (106% of average).

Table 2. April “Official” and April 25th ESP Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.

Location	April 5, 2012 ESP		April 25, 2012 ESP	
	% Average (1971 -2000)	Runoff Volume (Kaf)	% Average (1971 -2000)	Runoff Volume (Kaf)
The Dalles (Jan-July)	106	114135	111	119351
Grand Coulee (Jan-July)	110	69099	115	72022
Libby Res. Inflow, MT (Apr-Aug)	117	7312 6872*	116	7260
Hungry Horse Res. Inflow, MT (Jan-July)	103	2285	101	2250
Lower Granite Res. Inflow (Apr- July)	106	22825	106	22939
Brownlee Res. Inflow (Apr-July)	103	6512	98	6211
Dworshak Res. Inflow (Apr-July)	109	2874 2966*	120	3166

* Denotes COE Forecast

Grand Coulee Reservoir is at 1230.2 feet (4-26-12) and drafted 1.6 feet over the last week. Outflows at Grand Coulee have ranged between 140.1 and 183.1 Kcfs over the last week. The end of April FC Elevation at Grand Coulee is 1220.2 feet.

The Libby Reservoir is currently at elevation 2384.3 feet (4-26-12) and has refilled 2.6 feet last week. The end of April FC Elevation at Libby is 2377.3 feet. Outflows at Libby Dam have been 12.1-16.9 Kcfs last week.

Hungry Horse is currently at an elevation of 3527.6 feet (4-26-12) and has refilled 4.0 feet last week. Outflows at Hungry Horse have ranged between 10.0 and 10.9 Kcfs last week. The end of April FC Elevation at Hungry Horse is 3521.7 feet.

Dworshak is currently at an elevation of 1524.6 feet (4-26-12) and has refilled 13.7 feet last week. The end of April System Flood Control Elevation is 1499.6 feet. Outflows from Dworshak have been 14.3-19.5 Kcfs over the past week.

The Brownlee Reservoir was at an elevation of 2023.9 feet on April 24th, 2012 refilling 2.2 feet last week. Over the last week, outflows at Brownlee have ranged between 27.3 and 31.8 Kcfs. The end of April FC Elevation at Brownlee is 2014.3 feet.

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 100 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 133.8 Kcfs over the last week and 111.8 Kcfs over the spring period.

Based on the April Final Water Supply Forecast, the Spring Biological Opinion Flow Objectives will be 260 Kcfs at McNary Dam (began April 10th) and 135 Kcfs at Priest Rapids Dam (began April 10th). Flows at McNary Dam have averaged 345.5 Kcfs over the last week and 314.3 Kcfs over the spring period. Flows at Priest Rapids Dam have averaged 201.6 Kcfs over the last week and 188.8 Kcfs over the spring period.

Spill:

Spill occurred at Dworshak Dam over the past week as it continued to operate above powerhouse capacity due to high inflow. Spill for fish passage began on April 3rd at the lower Snake River projects, and on April 10th at the lower Columbia River projects.

In general, flows have increased considerably over the past week. At several hydro projects in the

FCRPS, there are turbine units out of service limiting the hydraulic capacities of the projects, and potentially causing additional spill.

At Lower Granite Dam spill has exceeded the Court Ordered 20 Kcfs, and has ranged from a daily average of 20.4 Kcfs to 77.1 Kcfs. At Little Goose Dam, spill was been provided to the 30% of instantaneous flow level as specified in the Court Order until April 24th, when river flows increased to levels in excess of hydraulic capacity at the project. At Lower Monumental Dam the COE implemented a downward adjustment in spill to as low as 25.3 Kcfs to keep TDG at the tailrace and at Ice Harbor Dam forebay below the standards, but beginning April 24th spill changed to uncontrolled spill and increased to a daily average near 70 Kcfs. At Ice Harbor Dam the Court Order calls for 45 Kcfs spill during the day and gas cap spill at night, until the “test-like” spill amounts are implemented. Due to high flows spill has exceeded the 45 Kcfs/gas cap specifications.

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

Spill for fish passage at the Lower Columbia projects began on April 10th. Spill at McNary Dam was in excess of the Court Order as a result of spill in excess of hydraulic capacity due to unit outages. Spill at John Day Dam was 30% of instantaneous flow with some hours of higher spill during nighttime hours until April 23rd, when uncontrolled spill started to occur due to increasing river flows. At The Dalles Dam, spill did not meet the 40% objective due to TDG at the Bonneville forebay exceeding the 115% criteria until flows increased last Tuesday. While daily average flows are quite high leading to the uncontrolled spill, the COE is still trying to control spill during some hours leading to hourly values that are well below the 40%. At Bonneville Dam spill was consistently been below the 100 Kcfs in the Court Order due to the COE’s TDG management until April 22nd when flow increased. Daily average spill levels have ranged from 95 Kcfs to 229 Kcfs.

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

During the beginning of the week the system was in compliance with the dissolved gas waiver standards. However, by weeks' end the uncontrolled spill due to high river flows resulted in 12 hour TDG readings as high as 127% in several places.

Gas bubble trauma samples were taken this past week at Lower Granite, Little Goose, Lower Monumental, Rock Island, McNary and Bonneville dams. The most recent samples at Lower Monumental (4/25) and Bonneville (4/24) dams showed that 2% of fish exhibited minor signs of GBT (Rank 1 and Rank 2). At McNary Dam 1% of fish exhibited minor signs and no other projects reported any fish with signs of GBT this past week.

Smolt Monitoring:

Smolt monitoring is ongoing at all seven SMP dams (BON, JDA, MCN, LGR, LGS, LMN, and RIS). The four SMP traps are not sampling due to high river flows.

The passage index for yearling Chinook at BON continued to increase this week. The daily average passage index at BON for yearling Chinook this week was about 33,054 per day compared to a daily average of nearly 10,400 last week. Subyearling Chinook numbers decreased substantially again this week. This previous release of nearly 8.0 million subyearling fall Chinook tules into the Bonneville Pool had passed the project. The passage indices of coho and steelhead also increased this week. Finally, there was a decrease in the collection counts of juvenile lamprey this week. The daily average collection for pacific lamprey macrophthalmia this week ranged from 0 to 100 per day, compared to 50 to 3375 last week.

Yearling Chinook continue to be the dominant species of salmonid, with an average daily passage index of 50,497 per day over the past week. Steelhead passage at JDA increased this week, with a daily passage index of nearly 96,457 steelhead juveniles per day. The collection counts of juvenile

lamprey increased at JDA this week, with a daily average collection of 4350 pacific macrophthalmia per day. Yearling Chinook continue to be the dominant species of salmonid at MCN as well. The daily average passage index for yearling Chinook at MCN was 38,251 per day. Steelhead were the second most abundant species, with an estimated daily passage index of 3154 per day. MCN has also collected subyearling Chinook (fry), coho, sockeye, and pacific lamprey macrophthalmia since their first sample on April 11th.

Compared to last week's samples, steelhead numbers at LGR increased substantially this week. The daily average passage index for steelhead at LGR this week is over 191,800 per day. Steelhead were the dominant species passing LGR this week. Yearling Chinook passage at LGR also increased this week, with an average daily passage index of 140,420 per day. The majority of the steelhead and yearling Chinook sampled at LGR this week were of hatchery origin. LGR continued to collect relatively few subyearling Chinook (fry), coho, and sockeye/kokanee over the past week. Finally, the collection counts of juvenile lamprey at LGR have 4ranged from 0 to 800 per day for pacific macrophthalmia. No pacific lamprey ammocoetes were collected at LGR this week. Sampling at LGS and LMN is limited and for condition monitoring only. Yearling Chinook and steelhead continued to be the dominant salmonid species at these two projects this week.

Rock Island Dam continued to collect increasing juveniles this week. Yearling Chinook numbers have increased over the past couple of days. The average weekly passage index for yearling Chinook and steelhead were 548 and 98, respectively.

The Grande Ronde Trap did not sample this past week due to high flows and ESA permit concerns. Yearling Chinook continued to dominate the collection at the Salmon River Trap before the trap stopped sampling on April 23rd, but both yearling Chinook and steelhead numbers were decreasing. Collections of yearling Chinook at the Snake River Trap increased this week and yearling Chinook were still the dominant species of salmonids at this site, before the trap stopped sampling on April 24th. The Imnaha Trap saw decreasing yearling Chinook numbers, but increasing steelhead numbers.

Adult Fish Passage:

Adult counts at Bonneville Dam have been updated through April 26th. Daily adult spring Chinook

counts at Bonneville Dam ranged from 665 to 4,873 adult salmon per day. As of April 26th, using the historical counting schedule, 19,351 spring Chinook have been counted at Bonneville Dam. In 2011, 9,583 adult spring Chinook were counted at Bonneville Dam for the same time period. The 2012 adult spring Chinook count at Bonneville Dam is 2 times greater than the 2011 count and only 39.1% of the 10 year average of 49,425. At Willamette Falls Dam 347 adult spring Chinook has been counted so far this year. At The Dalles Dam, 3,897 adult spring Chinook have been counted and at McNary Dam 297 adult spring Chinook have been counted so far this season. The Dalles Dam 2012 adult spring Chinook count is 2.8 times greater than the 2011 count and only 14.6% of the 10 year average count. The 2012 McNary Dam adult spring Chinook count is about 1.05 times greater than the 2011 count.

The Bonneville Dam 2012 steelhead count of 2,480 is about 1.18 times greater than the 2011 count of 2,096 and 1.10 times greater than the 10 year average count of 2,259. The 2012 Bonneville wild adult steelhead count of 768 is about 90% of the 2011 count of 853, while being about 1.11 times greater than the 10 year average count of 694. 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 72 to 88 adults per day last week. This year's Lower Granite steelhead count of 8,111 is about 73.1% of the 2011 count of 11,097 and 85.9% of the 10 year average of 9,441. The 2012 Lower Granite wild adult steelhead count of 3,357 is about 68.9% of the 2011 count of 4,875, while being about 1.21 times greater than the 10 year average count of 2,782. At Willamette Falls Dam, the 2012 count for steelhead was 6,436, as of April 23rd. This year's steelhead count is about 91.4% of the 2011 count of 7,042 and about 75.2% of the 10 year average count.

Hatchery Release:

Snake River Zone: The Snake River Zone encompasses the Snake River and its tributaries from its confluence with the Columbia River to Hells Canyon Dam. Several volitional releases of yearling spring and summer Chinook that began in previous weeks were scheduled to end this week. No new releases of Chinook juveniles were scheduled to begin in this zone this week. The only new releases of juvenile salmonids that were scheduled to begin this

week were of summer steelhead. In all, approximately 456,500 summer steelhead juveniles were scheduled for release into this zone this week. Of these, about 61% were scheduled for release into the Salmon River and 39% were scheduled for release into the Grande Ronde River.

Beginning in early May, approximately 200,000 subyearling fall Chinook smolts will be released into the Snake River, just below Hells Canyon Dam. In addition, about 30,000 spring Chinook pre-smolts will be released into the Tucannon River in May. These pre-smolts are not expected to out-migrate until spring of 2013. The only other species of salmonid that has scheduled releases over the next two weeks is summer steelhead. In all, just over 1.16 million summer steelhead juveniles are scheduled to be released to this zone over the next two weeks. These summer steelhead are scheduled to be released throughout this zone, including: the Salmon River (56%), the Pahsimeroi River (15%), the Grande Ronde River (14%), the Wallowa River (10%), and the Imnaha River (4%).

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 183,000 yearling spring Chinook juveniles were scheduled for release into this zone this week. All of these spring Chinook juveniles were scheduled for release to the Methow River and are unclipped. However, these spring Chinook juveniles are tagged with coded-wire-tags. In addition to the spring Chinook releases this week, approximately 130,000 summer steelhead were scheduled for release this week. Of these, about 77% were scheduled for release into the Mid-Columbia River (from Wells Hatchery) and 23% were scheduled for release into the Okanogan River. Finally, volitional releases of coho juveniles to the Yakima, Wenatchee, Methow, and Mid-Columbia rivers continued this week. Many of these releases are scheduled to continue through late May or early June.

Approximately 2.54 million fall Chinook juveniles are scheduled to be released into the Yakima River in early May. Of these, about 99.1% are subyearlings and 0.9% are yearlings. Approximately 33% of these fall Chinook juveniles are unclipped and not tagged with coded-wire-tags. In addition, nearly 66,000 coho juveniles are scheduled for release into the Wenatchee River in early May. This is a volitional release that will likely run through early June. Finally, nearly 25,000 summer steelhead juveniles are scheduled

for release into the Wenatchee River, beginning on or around May 2nd. Marking information for this release is unknown at this time.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Two releases of yearling spring Chinook were scheduled to begin this week. In all, these releases were expected to total approximately 660,000 juveniles, all of which were to be released into the Umatilla River. The only other releases that were scheduled for this zone were of summer steelhead, also to the Umatilla River. In all, just over 154,500 steelhead juveniles were scheduled to be released into the Umatilla River this week.

Spring Creek NFH is scheduled to release about 4.8 million subyearling fall Chinook tules into Bonneville Dam pool on the morning of April 30th. These fall Chinook tules are expected to arrive at Bonneville Dam sometime that evening or early the next morning. In addition, beginning on or around May 1st, the Yakama Tribe will release about 1.08 million coho juveniles from the Klickitat Hatchery into the Klickitat River. Finally, 50,000 winter steelhead juveniles are scheduled for release into Hood River over the next two weeks.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 4/13/2012 **to** 04/26/12

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Colville Tribe	Wells Hatchery	ST	SU	2012	15,000	04-15-12	04-18-12	Omak Creek	Okanogan River
Colville Tribe	Wells Hatchery	ST	SU	2012	20,000	04-15-12	04-18-12	Omak Creek	Okanogan River
Colville Tribe Total					35,000				
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2012	200,000	04-13-12	04-17-12	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2012	215,000	04-18-12	04-19-12	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2012	275,000	04-20-12	04-24-12	East Fk Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2012	280,000	04-25-12	04-27-12	Squaw Creek	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2012	170,000	04-16-12	04-18-12	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2012	275,000	04-19-12	04-25-12	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2012	180,000	04-01-12	04-22-12	Pahsimeroi Hatchery	Pahsimeroi River
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2012	853,000	04-01-12	04-22-12	Pahsimeroi Hatchery	Pahsimeroi River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2012	2,500,000	03-12-12	04-27-12	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game	Sawtooth Hatchery	CH1	SP	2012	197,000	04-19-12	04-20-12	Yankee Fk (Salmon R)	Salmon River (ID)
Idaho Dept. of Fish and Game Total					5,145,000				
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2012	267,351	03-22-12	04-19-12	Lostine Accim Pond Big Canyon (Clearwater River)	Wallowa River Clearwater River M F
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2012	150,000	04-10-12	04-20-12	Cpt John Acclim Pond	Snake River
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2012	150,000	04-10-12	04-20-12	Pittsburg Landing Acclim Pond	Snake River
Nez Perce Tribe Total					717,351				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2012	165,000	03-27-12	04-29-12	Little Sheep Creek	Imnaha River
Oregon Dept. of Fish and Wildlife	Opal Springs Hatchery	ST	SU	2012	5,500	04-14-12	04-14-12	Wychus Creek	Deschutes River
Oregon Dept. of Fish and Wildlife	Opal Springs Hatchery	ST	SU	2012	8,000	04-14-12	04-14-12	Crooked River (OR)	Deschutes River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	CH1	SP	2012	240,000	04-10-12	05-10-12	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife	Umatilla Hatchery	ST	SU	2012	54,516	04-24-12	04-24-12	Meacham Creek	Umatilla River
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	CH1	SP	2012	7,500	04-14-12	04-14-12	Crooked River (OR)	Deschutes River
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	CH1	SP	2012	12,000	04-14-12	04-14-12	Metolius River	Deschutes River
Oregon Dept. of Fish and Wildlife Total					492,516				
U.S. Fish and Wildlife Service	Carson NFH	CH1	SP	2012	1,170,000	04-19-12	04-19-12	Carson Hatchery	Wind River
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2012	1,200,000	04-16-12	04-20-12	Dworshak Hatchery	Clearwater River M F
U.S. Fish and Wildlife Service	Entiat Hatchery	CH1	SU	2012	174,661	04-17-12	04-17-12	Entiat Hatchery	Entiat River
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2012	754,000	04-13-12	04-29-12	S Fk Salmon River	Salmon River (ID)
U.S. Fish and Wildlife Service	Leavenworth NFH	CH1	SP	2012	1,160,000	04-20-12	04-20-12	Leavenworth Hatchery Little White Salmon Hatchery	Wenatchee River Little White Salmon River
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH1	SP	2012	759,161	04-19-12	04-19-12	Warm Springs Hatchery	Deschutes River Little White Salmon River
U.S. Fish and Wildlife Service	Warm Springs NFH	CH1	SP	2012	481,751	04-01-12	04-30-12	Hatchery	Deschutes River
U.S. Fish and Wildlife Service	Willard Hatchery	CH1	SP	2012	250,000	04-19-12	04-19-12	Willard Hatchery	River
U.S. Fish and Wildlife Service	Winthrop NFH	CH1	SP	2012	551,700	04-15-12	04-30-12	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2012	60,200	04-20-12	04-30-12	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2012	63,300	04-20-12	04-30-12	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service Total					6,624,773				
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2012	54,492	04-16-12	04-16-12	Catherine Creek	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2012	71,956	04-16-12	04-16-12	Grande Ronde River Grande Ronde Acclim Pond	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2012	72,192	04-09-12	04-14-12	Catherine Cr Acclim Pond	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2012	106,882	03-22-12	04-14-12	Grande Ronde Acclim Pond	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2012	146,589	03-21-12	04-14-12	Grande Ronde Acclim Pond	Grande Ronde River
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2012	217,500	04-23-12	04-30-12	Thornhollow Acclim Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2012	442,500	04-23-12	04-30-12	Imeques Acclim Pond Minthorn Acclimation Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	ST	SU	2012	50,000	04-23-12	04-30-12	Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	ST	SU	2012	50,000	04-23-12	04-30-12	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe Total					1,212,111				
Warm Springs Tribe	Round Butte Hatchery	CH1	SP	2012	75,000	04-08-12	04-23-12	W Fk Hood River	Hood River
Warm Springs Tribe Total					75,000				
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2012	584,000	04-12-12	05-05-12	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2012	864,000	04-12-12	04-25-12	Dryden Acclim Pond	Wenatchee River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH1	FA	2012	490,000	04-17-12	04-20-12	Lyons Ferry Hatchery	Snake River

Hatchery Releases Last Two Weeks

Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2012	53,000	04-20-12	04-30-12	Baileysburg Bridge	Touchet River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2012	89,000	04-10-12	04-30-12	Dayton Acclim Pond	Touchet River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2012	100,000	04-15-12	04-20-12	Walla Walla River	Walla Walla River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2012	140,500	04-18-12	04-20-12	Lyons Ferry Hatchery Cottonwood Acclim Pond	Snake River Grande Ronde River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2012	183,300	04-15-12	04-25-12	Chewuch River	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2012	183,300	04-25-12	04-30-12	Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SU	2012	400,000	04-12-12	05-25-12	Carlton Acclim Pond Ringold Springs Hatchery	Methow River Mid-Columbia River
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	ST	SU	2012	186,143	04-12-12	04-19-12	Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2012	90,000	04-15-12	05-15-12	Klickitat River	Klickitat River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2012	101,000	04-01-12	04-30-12	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2012	101,000	04-01-12	04-30-12	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	ST	SU	2012	51,000	04-05-12	05-01-12	Tucannon Hatchery	Tucannon River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2012	352,463	04-15-12	04-24-12	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2012	30,000	04-25-12	05-10-12	Omak Creek	Okanogan River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2012	100,000	04-25-12	05-10-12	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2012	200,000	04-20-12	05-20-12	Methow River	Methow River
Washington Dept. of Fish and Wildlife Total					4,475,206				
Yakama Tribe	Cascade Hatchery	CO	UN	2012	197,989	04-16-12	04-16-12	Leavenworth Hatchery	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2012	268,671	04-17-12	04-17-12	Leavenworth Hatchery	Wenatchee River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2012	264,721	03-15-12	05-15-12	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2012	265,151	03-15-12	05-15-12	Easton Pond Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	64,114	04-16-12	07-01-12	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	67,858	04-16-12	07-01-12	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	78,892	04-16-12	07-01-12	Easton Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	82,621	04-16-12	07-01-12	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	93,312	04-16-12	07-01-12	Easton Pond	Yakima River
Yakama Tribe	Methow Hatchery	CH1	SP	2012	60,000	04-19-12	05-02-12	Biddle Pond	Methow River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	91,112	04-20-12	07-01-12	Easton Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	97,073	04-20-12	07-01-12	Holmes Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	100,000	03-02-12	07-01-12	Prosser Acclim Pond	Yakima River
Yakama Tribe	Willard Hatchery	CH1	SP	2012	50,000	04-15-12	04-26-12	Winthrop Hatchery	Methow River
Yakama Tribe	Willard Hatchery	CO	UN	2012	57,474	04-06-12	05-01-12	Nason Wetlands	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2012	122,063	04-17-12	04-17-12	Leavenworth Hatchery	Wenatchee River
Yakama Tribe Total					2,228,158				
Grand Total					21,005,115				

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
04/13/2012	170.2	0.0	166.4	29.9	170.8	16.0	167.6	17.6	169.3	20.0	185.8	73.8	187.1	62.8
04/14/2012	144.2	0.0	140.9	6.0	147.4	11.5	143.3	10.0	145.9	3.7	169.3	47.7	173.0	47.2
04/15/2012	151.0	1.3	153.7	24.5	163.9	15.7	166.0	16.5	169.2	11.4	175.3	57.3	171.3	71.7
04/16/2012	162.3	4.8	166.1	31.0	172.9	22.3	163.6	11.3	162.0	21.3	167.5	55.9	168.6	52.7
04/17/2012	164.9	4.7	160.8	26.8	178.7	16.6	177.9	27.0	180.9	28.4	193.0	69.0	190.4	65.2
04/18/2012	168.6	0.0	167.2	36.4	178.7	16.6	168.3	22.5	171.4	21.9	185.8	60.1	179.8	56.5
04/19/2012	177.4	5.6	177.7	38.1	187.7	29.8	180.5	28.4	184.1	30.9	185.4	74.8	179.6	73.1
04/20/2012	176.8	0.8	183.1	56.5	194.5	40.0	186.7	59.9	190.9	39.5	204.8	79.8	208.4	85.1
04/21/2012	176.8	0.0	172.9	37.5	185.0	21.4	177.9	22.6	183.0	18.4	189.9	77.0	188.3	69.3
04/22/2012	177.6	0.0	181.3	43.9	194.2	31.6	188.6	31.5	192.3	29.9	203.6	67.3	204.5	85.8
04/23/2012	183.1	7.7	182.7	64.2	199.0	32.7	191.7	48.5	194.6	25.7	208.0	71.0	207.7	93.0
04/24/2012	177.7	2.6	187.6	60.4	205.1	41.6	204.5	52.0	209.3	27.5	217.8	96.6	217.0	126.9
04/25/2012	162.9	0.0	164.0	59.1	184.8	27.6	178.8	42.4	188.1	25.2	199.0	83.9	198.1	93.3
04/26/2012	140.1	5.6	137.0	53.8	157.1	13.1	155.1	21.0	167.3	22.5	179.3	83.8	187.0	80.2

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

Date	Dworshak		Brownlee Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
04/13/2012	19.3	8.4	34.8	42.4	112.1	21.5	108.0	32.7	113.1	30.0	116.0	75.8
04/14/2012	19.3	8.4	33.4	40.6	111.2	28.6	106.6	37.1	113.4	29.1	114.7	77.5
04/15/2012	19.4	8.5	32.8	35.2	104.8	26.1	100.2	32.4	105.3	26.1	107.6	72.9
04/16/2012	19.5	8.6	31.0	34.9	100.1	21.1	95.3	28.9	100.0	26.0	101.1	66.5
04/17/2012	19.4	8.6	31.4	34.8	99.8	20.1	96.7	28.9	101.9	25.9	103.3	68.9
04/18/2012	19.4	8.5	31.7	34.9	101.3	21.2	96.4	29.5	102.1	26.6	103.5	67.5
04/19/2012	19.4	8.4	31.1	34.9	104.3	24.4	101.7	32.4	106.6	25.9	106.7	67.6
04/20/2012	19.4	8.5	30.5	32.7	104.2	24.4	98.7	34.3	103.6	28.9	105.2	67.6
04/21/2012	19.5	8.5	29.8	30.7	106.3	20.4	103.6	31.0	107.6	25.9	109.3	71.8
04/22/2012	19.4	8.5	31.4	30.6	115.3	24.3	109.5	32.7	114.9	26.0	117.6	78.3
04/23/2012	16.9	6.0	31.5	30.4	129.2	40.6	122.8	38.9	127.2	25.3	129.4	81.1
04/24/2012	14.4	3.6	31.6	31.7	143.7	58.4	136.6	63.1	142.0	68.1	144.7	99.8
04/25/2012	14.3	3.5	34.4	36.5	167.5	79.7	158.2	70.4	171.3	76.5	172.8	119.2
04/26/2012	14.4	4.2	---	---	170.5	77.1	160.2	59.7	168.1	68.7	170.2	102.9

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
04/13/2012	301.5	156.7	290.1	88.6	276.2	104.9	302.9	94.2	96.8	99.5
04/14/2012	292.6	150.0	300.2	110.4	292.6	113.4	321.3	92.7	115.7	100.4
04/15/2012	294.5	144.4	300.7	101.7	282.9	104.4	303.1	93.0	101.3	96.4
04/16/2012	278.7	131.9	280.3	83.8	268.2	104.5	290.7	94.5	87.5	96.3
04/17/2012	288.3	142.0	289.1	86.3	281.5	108.5	309.1	94.9	94.5	107.3
04/18/2012	302.6	151.4	303.1	93.4	287.2	107.4	312.4	95.0	92.0	113.0
04/19/2012	299.6	151.9	304.2	108.3	295.7	103.8	323.3	94.7	93.3	122.9
04/20/2012	311.7	164.8	321.7	110.7	301.0	106.1	317.7	95.4	93.1	116.8
04/21/2012	311.6	160.2	311.4	93.1	293.5	100.3	320.7	95.0	94.4	119.0
04/22/2012	319.7	168.4	324.1	97.6	310.7	100.7	332.6	106.0	95.0	119.1
04/23/2012	333.3	182.3	341.2	142.8	323.9	120.1	363.0	133.3	93.8	123.5
04/24/2012	354.6	205.6	345.1	151.9	339.1	147.5	366.5	137.7	92.5	123.9
04/25/2012	411.8	272.0	408.5	146.2	387.4	196.7	388.5	162.6	92.2	121.2
04/26/2012	375.6	228.8	405.0	157.9	398.3	184.8	442.1	229.1	90.9	109.7

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From:	4/27/2012	to	5/10/2012						
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2012	85,000	05-01-12	05-02-12	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2012	95,000	04-30-12	04-30-12	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2012	280,000	04-25-12	04-27-12	Squaw Creek	Salmon River (ID)
Idaho Dept. of Fish and Game	Oxbow-Idaho	CH0	FA	2012	200,000	05-05-12	05-05-12	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2012	2,500,000	03-12-12	04-27-12	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game Total					3,160,000				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2012	50,000	04-29-12	04-29-12	Big Sheep Creek	Imnaha River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2012	120,000	05-04-12	05-04-12	Wallowa Acclim Pond	Wallowa River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2012	160,000	05-08-12	05-08-12	Big Canyon Acclim.Pd (Grande Ronde)	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2012	165,000	03-27-12	04-29-12	Little Sheep Creek	Imnaha River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	CH1	SP	2012	240,000	04-10-12	05-10-12	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife Total					735,000				
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2012	195,000	05-03-12	05-05-12	East Fk Salmon River	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2012	228,000	05-06-12	05-17-12	Yankee Fk (Salmon R)	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2012	230,000	05-06-12	05-17-12	Yankee Fk (Salmon R)	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2012	754,000	04-13-12	04-29-12	S Fk Salmon River	Salmon River (ID)
U.S. Fish and Wildlife Service	Spring Creek NFH	CH0	FA	2012	4,800,000	04-30-12	04-30-12	Spring Creek Hatchery	L Col R (D/s McN Dam)
U.S. Fish and Wildlife Service	Warm Springs NFH	CH1	SP	2012	481,751	04-01-12	04-30-12	Warm Springs Hatchery	Deschutes River
U.S. Fish and Wildlife Service	Winthrop NFH	CH1	SP	2012	551,700	04-15-12	04-30-12	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2012	60,200	04-20-12	04-30-12	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2012	63,300	04-20-12	04-30-12	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service Total					7,363,951				
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2012	217,500	04-23-12	04-30-12	Thornhollow Acclim Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2012	442,500	04-23-12	04-30-12	Imeques Acclim Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	ST	SU	2012	50,000	04-23-12	04-30-12	Minthorn Acclimation Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	ST	SU	2012	50,000	04-23-12	04-30-12	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe Total					760,000				
Warm Springs Tribe	Oak Springs Hatchery	ST	WI	2012	25,000	04-29-12	04-29-12	E Fk Irrig Dist Sand Trap	Hood River
Warm Springs Tribe	Oak Springs Hatchery	ST	WI	2012	25,000	04-29-12	05-13-12	Parkdale Acclim Pond	Hood River
Warm Springs Tribe Total					50,000				
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2012	584,000	04-12-12	05-05-12	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH0	SP	2013	30,000	05-01-12	05-15-12	Tucannon River	Tucannon River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2012	53,000	04-20-12	04-30-12	Baileysburg Bridge	Touchet River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2012	89,000	04-10-12	04-30-12	Dayton Acclim Pond	Touchet River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2012	176,500	04-25-12	05-01-12	Cottonwood Acclim Pond	Grande Ronde River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2012	183,300	04-25-12	04-30-12	Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SU	2012	400,000	04-12-12	05-25-12	Carlton Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2012	90,000	04-15-12	05-15-12	Klickitat River	Klickitat River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2012	101,000	04-01-12	04-30-12	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2012	101,000	04-01-12	04-30-12	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	ST	SU	2012	51,000	04-05-12	05-01-12	Tucannon Hatchery	Tucannon River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2012	30,000	04-25-12	05-10-12	Omak Creek	Okanogan River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2012	100,000	04-25-12	05-10-12	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2012	200,000	04-20-12	05-20-12	Methow River	Methow River
Washington Dept. of Fish and Wildlife Total					2,188,800				
Yakama Tribe	Cascade Hatchery	CO	UN	2012	65,662	05-02-12	06-30-12	Butcher Creek Acclim. Pond	Wenatchee River
Yakama Tribe	Chelan Hatchery	ST	SU	2012	25,000	05-02-12	07-01-12	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2012	264,721	03-15-12	05-15-12	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2012	265,151	03-15-12	05-15-12	Easton Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2012	267,107	03-15-12	05-15-12	Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	64,114	04-16-12	07-01-12	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	67,858	04-16-12	07-01-12	Stiles Pond	Yakima River

Hatchery Releases Next Two Weeks

Yakama Tribe	Eagle Creek NFH	CO	UN	2012	78,892	04-16-12	07-01-12	Easton Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	82,621	04-16-12	07-01-12	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	93,312	04-16-12	07-01-12	Easton Pond	Yakima River
Yakama Tribe	Klickitat Hatchery	CO	NO	2012	1,080,000	05-01-12	05-01-12	Klickitat Hatchery	Klickitat River
Yakama Tribe	Little White Salmon NFH	CH0	FA	2012	1,700,000	05-04-12	05-04-12	Prosser Acclim Pond	Yakima River
Yakama Tribe	Methow Hatchery	CH1	SP	2012	60,000	04-19-12	05-02-12	Biddle Pond	Methow River
Yakama Tribe	Priest Rapids Hatchery	CH0	FA	2012	550,000	05-04-12	05-04-12	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH1	FA	2012	23,000	05-04-12	05-04-12	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2012	23,000	05-04-12	05-04-12	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2012	250,000	05-05-12	05-05-12	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	91,112	04-20-12	07-01-12	Easton Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	97,073	04-20-12	07-01-12	Holmes Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	100,000	03-02-12	07-01-12	Prosser Acclim Pond	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2012	57,474	04-06-12	05-01-12	Nason Wetlands	Wenatchee River
Yakama Tribe Total					5,306,097				
Grand Total					19,563,848				

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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>	
	<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
4/13	97.2	97.3	97.5	23	108.3	109.1	111.8	22	107.9	108.8	110.8	24	105.0	105.3	105.6	22	107.3	108.6	110.0	24
4/14	97.0	97.2	97.3	24	108.6	109.8	110.7	22	107.4	107.6	107.7	24	104.6	105.0	105.5	22	104.9	105.0	105.2	24
4/15	96.1	96.2	96.6	23	110.9	111.8	113.9	23	107.2	107.4	107.7	24	105.5	106.4	109.5	23	104.8	105.0	105.1	24
4/16	96.5	96.8	96.9	24	111.4	112.8	114.9	24	107.9	108.2	108.5	24	108.6	112.4	114.7	24	105.9	106.3	108.3	24
4/17	97.3	97.7	98.1	24	112.6	113.5	115.6	20	107.7	107.9	108.1	24	111.6	114.6	115.3	20	106.6	107.4	108.7	24
4/18	102.1	105.2	105.3	24	113.6	115.3	116.9	24	108.2	108.4	108.5	24	105.8	106.0	106.3	24	111.1	114.7	115.8	24
4/19	105.1	105.2	105.4	24	117.0	117.9	118.5	20	108.0	108.2	108.4	24	106.3	106.8	113.4	20	111.0	114.5	116.2	24
4/20	105.2	105.3	105.3	24	114.8	115.5	116.0	22	108.5	108.7	108.8	24	107.6	108.7	118.3	22	106.3	106.4	106.5	24
4/21	105.1	105.3	105.4	24	115.2	115.7	116.2	23	108.7	109.0	109.2	24	106.6	107.0	107.3	23	110.4	113.3	115.3	24
4/22	105.3	105.4	105.6	23	116.5	118.2	118.9	22	111.5	112.5	113.1	24	107.6	108.2	108.5	22	108.1	108.6	109.6	24
4/23	105.4	105.6	105.8	23	117.9	119.2	119.7	24	112.1	112.5	112.7	24	116.4	119.1	119.6	24	108.7	109.1	109.4	24
4/24	105.6	105.8	105.9	24	119.5	120.1	120.4	21	111.9	112.3	113.0	24	112.0	113.8	119.4	21	111.2	113.1	116.6	24
4/25	101.6	104.0	105.6	24	121.7	122.7	123.0	23	111.9	112.6	113.9	24	109.2	109.8	110.7	23	116.9	117.4	118.0	24
4/26	99.9	100.2	100.6	24	122.3	122.8	123.3	21	112.0	112.6	113.1	24	111.9	114.0	118.8	21	112.4	114.4	116.0	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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>	
	<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
4/13	110.9	112.4	118.5	24	107.8	108.8	109.6	24	110.2	110.9	111.7	24	111.4	111.7	112.0	24	111.6	112.0	112.4	24
4/14	105.8	107.1	109.8	24	106.9	108.2	109.3	24	109.6	110.8	111.5	24	109.9	110.1	110.3	24	110.3	111.3	112.2	24
4/15	109.7	113.3	118.1	24	104.8	105.6	106.6	24	107.7	108.0	109.6	24	109.5	109.9	110.2	24	110.9	111.9	113.1	24
4/16	110.4	112.5	112.7	24	106.3	107.5	108.7	24	110.0	110.8	112.8	24	108.5	108.8	109.0	24	108.2	108.9	111.0	24
4/17	109.9	111.1	112.3	24	106.6	107.6	108.2	24	110.8	112.0	113.7	24	108.2	109.0	110.1	24	110.4	111.1	112.5	24
4/18	113.3	114.4	114.8	24	106.7	107.0	107.8	24	109.2	109.5	110.3	24	111.0	111.5	111.9	24	111.8	112.5	113.0	24
4/19	114.8	115.8	117.7	24	111.6	112.9	113.2	24	114.7	117.4	119.5	24	109.4	109.8	110.6	24	111.2	112.0	113.3	24
4/20	117.0	118.1	118.5	24	109.7	110.3	112.4	24	115.0	116.1	117.1	24	113.6	115.9	117.1	23	113.6	114.5	115.3	23
4/21	112.9	114.5	115.2	24	109.6	109.9	110.3	24	112.4	112.9	113.7	24	115.0	115.5	115.8	24	113.4	114.3	115.0	24
4/22	114.2	115.1	115.8	24	111.6	112.5	113.3	24	115.0	115.9	116.6	24	113.7	114.1	114.4	24	113.3	113.7	114.5	24
4/23	118.0	120.0	121.0	24	110.6	111.1	111.3	24	114.3	114.8	115.7	24	115.5	116.3	116.5	24	114.1	114.8	116.2	24
4/24	119.1	122.0	124.6	24	113.2	114.0	115.6	24	117.6	119.2	121.1	24	114.8	114.9	115.1	24	115.3	115.8	116.3	24
4/25	117.8	120.8	122.4	24	115.3	116.0	117.4	24	117.6	118.7	121.5	24	116.2	117.4	118.1	24	114.3	115.5	117.7	24
4/26	114.7	115.9	117.0	24	115.4	117.5	119.0	24	117.5	119.0	121.8	24	117.1	118.0	118.2	24	113.9	114.9	116.2	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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>	
	<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
4/13	111.7	112.7	113.6	24	113.4	114.2	115.0	24	111.2	111.5	111.8	24	114.4	115.3	115.9	24	113.0	114.0	114.5	24
4/14	110.2	110.6	111.3	24	110.9	111.5	112.9	24	110.6	110.8	110.9	24	112.2	112.9	114.8	24	112.4	113.6	114.8	24
4/15	110.2	111.7	112.4	24	111.2	113.3	113.9	24	110.4	111.0	111.2	24	113.6	115.0	116.6	24	112.3	115.1	117.3	24
4/16	108.0	108.5	109.9	24	110.2	110.9	111.9	24	110.0	110.4	110.7	24	112.8	114.5	116.8	24	111.2	112.1	114.3	24
4/17	109.5	110.6	111.5	24	112.7	113.3	114.1	24	109.5	109.9	110.4	24	113.7	115.9	119.9	24	114.2	116.7	119.3	24
4/18	111.3	112.4	113.0	24	113.7	114.5	115.0	24	110.4	111.3	111.5	24	112.2	113.0	114.2	24	111.2	111.5	111.9	24
4/19	110.4	111.1	112.6	24	113.5	114.6	115.8	24	111.2	111.7	112.0	24	115.2	117.5	119.4	24	111.6	112.0	114.6	24
4/20	114.0	116.7	118.9	24	116.9	119.2	120.4	24	112.1	112.2	112.5	24	115.0	116.2	119.7	24	115.3	116.4	117.0	24
4/21	115.9	116.9	118.8	24	117.5	118.6	120.4	24	114.0	115.7	116.8	24	116.1	117.6	118.2	24	114.9	116.8	118.2	24
4/22	114.9	115.8	116.4	24	117.4	117.9	118.3	24	118.4	120.1	121.6	24	116.6	116.9	117.8	24	116.3	117.6	117.9	24
4/23	116.0	118.2	119.6	24	118.1	119.7	121.0	24	119.0	119.8	121.1	23	116.9	117.4	118.2	23	116.3	117.0	118.3	23
4/24	116.1	116.6	117.0	24	118.3	118.9	119.2	24	117.5	117.9	118.5	24	119.1	121.2	122.8	24	115.9	116.4	117.5	24
4/25	115.6	116.2	116.8	24	117.8	118.3	119.8	24	118.5	119.1	119.9	24	118.9	119.4	120.8	24	119.1	120.3	122.4	24
4/26	116.7	118.3	119.2	24	119.0	120.7	121.6	24	---	---	---	0	---	---	---	0	---	---	---	0

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

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

Date	<u>Priest R. Dnst</u>			#	<u>Pasco</u>			#	<u>Dworshak</u>			#	<u>Clrwtr-Peck</u>			#	<u>Anatone</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
4/13	116.9	117.7	118.3	24	112.6	113.3	113.7	24	114.1	114.4	114.6	24	106.7	107.3	107.7	24	105.7	106.4	106.9	24
4/14	115.8	117.0	118.6	24	112.3	113.1	113.6	24	114.0	114.2	114.5	24	113.4	113.4	141.2	5	105.7	106.4	107.0	24
4/15	116.9	117.6	118.2	24	110.8	111.3	112.1	24	113.8	114.0	114.2	24	141.1	141.1	141.1	1	104.8	105.2	105.5	24
4/16	115.3	116.1	116.8	24	111.2	111.5	111.5	24	114.0	114.2	114.5	24	107.8	107.8	108.1	11	104.4	104.7	104.8	24
4/17	117.6	118.4	119.8	24	109.9	111.0	111.9	24	114.1	114.4	114.6	24	107.7	108.4	108.9	24	104.8	105.6	106.1	24
4/18	115.4	116.0	116.6	24	112.6	113.4	114.3	24	113.6	113.8	114.0	24	107.3	107.7	107.9	24	104.5	104.9	105.6	24
4/19	116.2	117.4	119.2	24	110.6	111.3	111.6	24	113.4	113.7	113.8	24	107.1	107.6	107.9	24	104.2	104.8	105.1	24
4/20	118.6	119.6	120.1	24	111.4	112.7	113.7	24	113.5	113.5	113.6	24	107.1	107.4	107.7	24	104.3	104.7	105.1	24
4/21	118.1	119.3	120.0	24	114.2	115.2	116.0	24	113.7	113.9	114.1	24	107.2	107.8	108.1	24	103.7	104.3	104.9	24
4/22	119.9	120.3	120.8	24	114.8	116.2	116.9	24	114.2	114.6	114.8	24	107.0	107.6	108.0	24	103.8	104.6	105.4	24
4/23	119.9	120.5	121.1	23	115.8	116.5	117.0	24	111.8	113.8	114.3	24	105.8	106.4	107.2	24	104.1	104.9	105.5	24
4/24	120.4	120.7	121.0	24	115.0	115.5	115.8	24	106.3	106.7	107.1	24	103.9	104.6	105.0	24	104.4	105.0	105.3	24
4/25	120.6	121.0	121.4	24	115.7	116.7	117.1	24	106.1	106.6	107.0	24	104.5	105.4	105.9	24	105.7	106.6	107.3	24
4/26	---	---	---	0	114.5	116.2	117.1	24	107.5	108.5	109.0	24	104.3	104.5	104.9	24	105.3	105.9	106.3	24

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwtr-Lewiston</u>			#	<u>Lower Granite</u>			#	<u>L. Granite Tlwr</u>			#	<u>Little Goose</u>			#	<u>L. Goose Tlwr</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
4/13	104.6	105.5	106.3	24	105.9	106.0	106.2	24	112.1	113.1	117.5	24	109.9	110.1	110.2	24	114.4	115.0	115.3	24
4/14	104.7	105.6	106.6	24	105.2	105.4	105.6	24	113.1	115.3	117.5	24	110.1	110.8	111.3	24	115.3	116.4	118.4	24
4/15	104.6	105.4	105.9	24	104.6	104.7	104.9	24	112.2	114.0	116.4	24	108.9	109.3	110.1	24	113.9	114.8	115.3	24
4/16	104.3	104.5	104.8	24	104.9	105.1	105.2	24	110.3	110.7	114.7	24	108.4	108.8	109.4	24	113.2	113.7	115.5	24
4/17	105.0	106.0	106.8	24	104.9	105.2	105.5	24	110.1	110.3	110.4	24	108.8	109.7	110.2	24	113.5	113.9	114.2	24
4/18	104.9	105.6	106.4	24	104.9	105.1	105.5	24	110.2	110.6	115.5	24	106.5	106.9	107.2	24	113.4	113.9	117.0	24
4/19	104.5	105.3	106.0	24	105.3	105.5	105.8	24	112.2	113.6	116.7	24	106.0	106.2	106.4	24	114.0	114.8	115.4	24
4/20	104.5	104.9	105.3	24	105.3	105.5	105.6	24	111.9	113.2	117.6	24	106.1	106.2	106.3	24	114.6	115.9	118.8	24
4/21	105.1	106.1	106.8	24	105.3	105.6	105.9	24	110.7	110.8	110.9	24	108.2	108.6	108.7	24	114.1	114.3	114.5	24
4/22	105.3	106.2	107.0	24	106.0	106.3	106.7	24	112.2	113.8	116.0	24	108.7	109.1	109.3	24	114.9	115.2	115.6	24
4/23	104.9	105.6	106.2	24	106.6	106.8	107.1	24	117.4	117.8	118.2	24	108.8	109.0	109.5	24	115.8	116.3	118.5	24
4/24	103.0	103.5	104.0	24	106.0	106.2	106.5	24	121.6	123.4	123.9	24	109.5	110.5	111.3	24	121.3	123.1	124.0	24
4/25	103.5	104.3	104.9	24	105.0	105.3	105.5	24	125.9	127.2	128.4	24	112.7	114.2	116.0	24	123.7	125.9	128.3	24
4/26	104.5	106.2	135.7	23	105.6	105.9	106.1	24	126.0	126.6	127.9	24	117.2	117.8	118.0	24	122.3	123.3	124.2	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>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
4/13	113.4	113.8	114.5	24	118.8	119.4	119.7	24	114.2	114.7	114.9	24	119.1	119.8	120.3	24	---	---	---	0
4/14	114.0	114.3	114.5	24	118.9	119.5	119.7	24	114.5	114.8	115.1	24	118.9	119.4	119.7	24	---	---	---	0
4/15	112.9	113.2	113.9	24	118.4	118.7	118.9	24	114.3	114.7	115.1	24	118.4	119.1	119.4	24	---	---	---	0
4/16	115.2	115.5	116.0	24	119.3	119.7	120.3	24	114.7	114.8	115.1	24	117.6	118.9	119.2	24	---	---	---	0
4/17	112.0	112.4	113.5	24	118.3	118.7	119.7	24	113.8	114.3	114.5	24	118.2	119.2	119.9	24	---	---	---	0
4/18	112.9	113.3	113.8	24	118.8	119.2	119.6	24	114.6	114.9	115.1	24	118.2	119.7	120.0	24	---	---	---	0
4/19	112.5	112.7	113.2	24	118.4	118.7	118.9	24	114.1	114.3	114.6	24	118.0	119.7	120.4	24	---	---	---	0
4/20	112.7	113.1	113.3	24	118.5	119.2	120.3	24	114.1	114.2	114.5	24	117.9	119.7	120.2	24	---	---	---	0
4/21	114.0	114.8	115.3	24	119.0	119.4	119.6	24	114.1	114.7	115.2	24	118.7	119.8	120.2	24	---	---	---	0
4/22	115.1	115.7	116.1	24	119.6	119.8	120.3	24	116.2	117.0	117.5	24	119.1	119.9	120.4	24	---	---	---	0
4/23	115.9	116.2	116.7	24	119.9	120.5	121.0	24	117.4	117.7	118.4	24	119.7	120.6	121.3	24	---	---	---	0
4/24	115.9	116.5	117.1	24	121.9	125.4	126.0	24	116.8	117.0	117.3	24	122.2	123.6	126.0	24	---	---	---	0
4/25	121.3	124.2	126.6	24	124.4	125.7	126.4	24	118.8	120.5	121.9	24	126.3	128.0	130.2	24	---	---	---	0
4/26	123.8	127.4	129.0	24	122.9	124.1	125.8	24	121.0	122.4	123.0	24	123.7	125.3	127.6	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>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>AVG</u>	<u>High</u>	<u>hr</u>				
4/13	112.5	113.2	113.8	24	118.1	118.4	118.5	24	115.3	115.4	115.7	24	116.3	117.1	117.8	24	113.7	114.0	114.1	24
4/14	113.0	113.8	114.2	24	117.7	117.9	118.0	24	113.5	114.1	114.8	24	117.2	118.2	119.1	24	111.8	112.4	113.7	24
4/15	113.3	113.8	114.4	24	117.3	117.7	117.8	24	111.9	112.1	112.3	24	117.0	117.6	118.4	24	112.2	113.2	113.6	24
4/16	113.4	113.6	113.9	24	116.8	117.4	117.6	24	112.5	112.7	112.8	24	115.1	115.8	116.4	24	112.2	112.7	112.9	24
4/17	111.8	112.5	112.8	24	116.9	117.4	117.5	24	112.5	112.9	113.0	24	115.6	116.1	116.4	24	111.6	112.3	112.7	24
4/18	112.1	112.5	112.7	24	117.5	117.6	117.7	24	113.4	113.8	114.1	24	116.4	117.3	118.2	24	112.4	112.6	112.9	24
4/19	112.8	113.6	113.9	24	117.4	117.5	118.0	24	113.4	113.5	113.6	24	117.1	117.9	118.7	24	112.9	113.8	115.0	24
4/20	113.1	113.3	113.5	24	118.0	118.1	118.2	24	113.3	113.4	113.6	24	117.4	118.1	119.0	24	113.6	114.5	115.3	24
4/21	113.2	114.2	114.8	24	118.0	118.2	118.3	24	114.1	114.8	115.1	24	116.6	118.0	118.5	24	113.5	114.3	114.8	24
4/22	115.9	117.6	118.4	24	118.7	119.3	119.9	24	115.6	116.1	116.7	24	117.5	118.5	119.5	24	114.6	115.2	115.8	24
4/23	117.5	118.1	118.8	24	119.6	120.0	120.2	24	117.6	118.3	118.7	24	119.6	119.7	119.9	24	116.0	117.4	118.0	24
4/24	117.3	117.7	118.2	24	120.5	121.1	122.5	24	118.4	118.6	118.7	24	120.6	121.8	122.7	24	117.2	118.2	118.8	24
4/25	116.2	116.6	117.2	24	125.3	127.7	130.3	24	118.0	118.5	118.8	24	120.9	125.7	129.4	24	116.8	117.4	119.3	24
4/26	116.8	117.6	117.9	24	122.6	123.1	123.9	24	117.1	118.3	118.8	24	121.5	123.1	128.6	24	117.6	120.6	122.1	24

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			<u>Bonneville</u>			<u>Warrendale</u>			<u>Camas\Washougal</u>			<u>Cascade Island</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>AVG</u>	<u>High</u>	<u>hr</u>				
4/13	117.5	117.9	118.1	24	116.2	116.4	116.6	24	116.6	116.8	117.1	24	115.0	115.8	116.7	24	119.8	120.8	121.5	24
4/14	116.7	117.6	119.6	24	114.3	115.4	116.2	24	115.2	115.7	116.1	24	114.5	115.1	115.6	24	118.9	119.3	120.4	24
4/15	116.4	116.8	117.2	24	112.9	113.7	115.5	24	114.0	114.4	115.7	24	113.5	114.1	114.8	24	118.9	119.6	120.7	24
4/16	116.9	117.2	117.3	24	115.1	115.3	115.5	24	115.9	116.1	116.4	24	113.5	113.9	114.5	24	119.2	119.6	120.1	24
4/17	116.1	116.5	116.7	24	115.0	115.2	115.6	24	115.8	115.9	116.1	24	114.1	114.6	115.0	24	119.2	120.0	120.2	24
4/18	116.6	117.0	117.5	24	115.7	115.9	116.0	24	116.3	116.3	116.4	24	114.7	115.3	115.9	24	118.9	119.6	120.4	24
4/19	116.6	116.9	117.5	24	115.4	115.7	115.9	24	116.0	116.2	116.4	24	113.8	114.1	114.8	24	118.3	118.7	120.5	24
4/20	117.1	118.0	119.8	24	115.2	115.4	115.6	24	115.6	115.8	116.0	24	114.2	114.5	114.9	24	118.3	118.7	120.3	24
4/21	116.5	116.7	117.1	24	116.7	117.6	118.1	24	116.9	117.4	117.8	24	115.6	116.9	118.0	24	118.6	119.0	121.3	24
4/22	117.0	117.3	117.8	24	117.5	117.7	118.0	24	118.1	118.5	118.8	24	117.1	118.2	118.9	24	120.2	121.1	121.9	24
4/23	118.7	120.0	120.9	24	117.7	118.0	118.1	24	119.3	119.8	120.1	24	118.2	119.5	120.0	24	122.4	123.9	124.4	24
4/24	121.6	122.7	123.6	24	116.7	117.1	118.2	24	118.2	118.7	118.9	24	117.1	117.6	118.3	24	120.9	121.3	122.1	24
4/25	121.2	122.0	122.4	24	120.6	120.8	121.2	24	121.7	123.2	126.7	24	118.5	119.5	120.1	24	121.7	123.4	127.0	24
4/26	120.5	122.7	123.8	24	120.0	120.5	120.9	24	124.6	125.5	126.7	24	121.9	123.2	124.4	24	116.4	117.1	126.9	13

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)	
04/13/2012	*	2,508	70	528	101	27,909	---	---	4	1,386	1,970	2,356
04/14/2012	*	7,063	97	654	149	33,060	---	---	10	---	2,145	1,549
04/15/2012	*	5,303	112	585	289	51,498	13,878	55	3	6,109	2,003	611
04/16/2012	*	4,870	51	1,708	150	64,186	---	---	18	---	5,488	1,096
04/17/2012	*	1,513	90	1,810	107	90,384	---	---	10	8,347	8,659	5,794
04/18/2012	*	1,732	61	1,544	186	87,886	---	106	138	---	8,739	24,805
04/19/2012	*	1,297	---	1,356	358	83,253	---	---	883	11,248	12,532	36,696
04/20/2012	*	1,068	62	---	403	69,904	68,836	---	680	---	18,362	30,809
04/21/2012	*	807	---	---	455	96,888	---	83	700	13,083	19,361	17,314
04/22/2012	*	737	17	---	263	71,681	---	---	370	---	30,275	25,752
04/23/2012	*	589	3	---	1,125	90,639	---	---	392	32,488	32,936	37,098
04/24/2012	*	---	---	---	1,856	155,137	---	128	362	---	51,028	58,994
04/25/2012	*	---	---	---	---	256,972	138,980	232	326	46,715	54,582	29,596
04/26/2012	*	---	---	---	---	388,098	---	606	1,135	---	98,441	34,532
04/27/2012	*	---	---	---	---	---	---	---	---	---	---	---
Total:		27,487	563	8,185	5,442	1,567,495	221,694	1,210	5,031	119,376	346,521	307,002
# Days:		11	9	7	12	14	3	6	14	7	14	14
Average:		2,499	63	1,169	454	111,964	73,898	202	359	17,054	24,752	21,929
YTD		57,805	9,887	23,393	7,114	1,847,444	235,103	1,677	5,047	120,420	371,004	341,420

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)	
04/13/2012	*	0	0	0	0	128	---	---	4	205	29	73,614
04/14/2012	*	0	0	0	0	250	---	---	0	---	44	1,024,655
04/15/2012	*	0	0	0	0	0	3	1	8	124	17	205,979
04/16/2012	*	0	0	0	0	2,265	---	---	9	---	0	62,483
04/17/2012	*	0	0	0	0	0	---	---	0	77	0	65,909
04/18/2012	*	0	0	0	0	0	---	0	4	---	0	58,668
04/19/2012	*	0	---	0	0	0	---	---	2	122	0	32,317
04/20/2012	*	0	0	---	0	0	---	---	16	---	0	21,229
04/21/2012	*	0	---	---	0	0	---	4	16	424	0	4,853
04/22/2012	*	0	0	---	0	0	---	---	12	---	0	4,077
04/23/2012	*	0	0	---	0	0	---	---	21	1,321	0	4,827
04/24/2012	*	---	---	---	0	1,191	---	0	9	---	0	2,596
04/25/2012	*	---	---	---	---	2,112	0	0	15	2,498	0	1,415
04/26/2012	*	---	---	---	---	1,899	---	0	17	---	0	1,727
04/27/2012	*	---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	7,845	3	5	133	4,771	90	1,564,349
# Days:		11	9	7	12	14	3	6	14	7	14	14
Average:		0	0	0	0	560	1	1	10	682	6	111,739
YTD		0	2	31	7	8,452	125	9	144	4,891	352	1,787,904

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)	
04/13/2012	*	0	0	0	0	0	---	---	2	41	0	3,641
04/14/2012	*	0	0	0	0	125	---	---	0	---	0	4,646
04/15/2012	*	0	0	0	1	143	0	0	6	62	0	6,112
04/16/2012	*	0	0	0	0	0	---	---	0	---	29	940
04/17/2012	*	0	0	0	0	0	---	---	0	154	71	1,883
04/18/2012	*	0	0	0	0	0	---	0	25	---	57	1,672
04/19/2012	*	0	---	0	0	268	---	---	14	203	38	4,063
04/20/2012	*	0	0	---	1	0	0	---	34	---	265	7,637
04/21/2012	*	0	---	---	1	0	---	0	39	424	143	6,165
04/22/2012	*	0	0	---	0	0	---	---	40	---	381	2,656
04/23/2012	*	0	0	---	0	0	---	---	58	550	1,076	2,482
04/24/2012	*	---	---	---	0	298	---	0	76	---	0	4,039
04/25/2012	*	---	---	---	---	1,760	0	0	61	749	0	3,754
04/26/2012	*	---	---	---	---	380	---	0	77	---	707	8,460
04/27/2012	*	---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	3	2,974	0	0	432	2,183	2,767	58,150
# Days:		11	9	7	12	14	3	6	14	7	14	14
Average:		0	0	0	0	212	0	0	31	312	198	4,154
YTD		0	0	0	37	3,138	0	0	436	2,223	2,815	77,698

		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)	
04/13/2012	*	70	78	103	12	15,052	---	---	2	1,208	1,897	286
04/14/2012	*	80	71	84	17	18,214	---	---	3	---	2,115	0
04/15/2012	*	97	95	37	49	156,492	14,828	111	0	4,582	1,803	611
04/16/2012	*	37	72	42	12	150,271	---	---	20	---	2,040	783
04/17/2012	*	73	187	145	39	61,187	---	---	14	1,624	2,586	1,593
04/18/2012	*	58	65	219	80	98,904	---	199	9	---	2,884	557
04/19/2012	*	134	---	159	86	49,791	---	---	16	7,592	3,504	580
04/20/2012	*	150	138	---	133	34,185	78,644	---	30	---	3,705	388
04/21/2012	*	261	---	---	88	46,586	---	101	16	29,657	7,501	262
04/22/2012	*	124	406	---	90	33,863	---	---	46	---	31,917	563
04/23/2012	*	75	268	---	323	46,938	---	---	54	42,791	55,970	3,034
04/24/2012	*	---	---	---	153	117,023	---	181	76	---	76,929	4,616
04/25/2012	*	---	---	---	---	204,522	169,158	114	108	27,723	95,062	5,024
04/26/2012	*	---	---	---	---	296,959	---	305	288	---	294,383	4,317
04/27/2012	*	---	---	---	---	---	---	---	---	---	---	---
Total:		1,159	1,380	789	1,082	1,329,987	262,630	1,011	682	115,177	582,296	22,614
# Days:		11	9	7	12	14	3	6	14	7	14	14
Average:		105	153	113	90	94,999	87,543	169	49	16,454	41,593	1,615
YTD		1,379	3,277	1,317	1,211	1,414,570	270,632	1,346	688	115,619	591,324	24,137

Two-Week Summary of Passage Indices

COMBINED SOCKEYE											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
04/13/2012 *	0	0	0	0	0	---	---	0	20	29	0
04/14/2012 *	0	0	0	0	0	---	---	0	---	0	0
04/15/2012 *	0	0	0	0	0	0	1	31	62	0	0
04/16/2012 *	0	0	0	0	0	---	---	46	---	0	0
04/17/2012 *	0	0	0	0	0	---	---	20	38	57	0
04/18/2012 *	0	0	0	0	0	---	3	19	---	0	0
04/19/2012 *	0	---	0	0	0	---	---	32	81	0	0
04/20/2012 *	0	0	---	0	0	307	---	66	---	52	0
04/21/2012 *	0	---	---	0	0	---	1	217	212	0	131
04/22/2012 *	0	0	---	0	247	---	---	522	---	0	134
04/23/2012 *	0	0	---	0	0	---	---	462	1,101	0	138
04/24/2012 *	---	---	---	0	0	---	1	398	---	0	144
04/25/2012 *	---	---	---	---	0	0	2	311	3,497	0	144
04/26/2012 *	---	---	---	---	380	---	2	395	---	2,120	0
04/27/2012 *	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	627	307	10	2,519	5,011	2,258	691
# Days:	11	9	7	12	14	3	6	14	7	14	14
Average:	0	0	0	0	45	102	2	180	716	161	49
YTD	0	0	0	0	1,465	442	17	2,521	5,011	2,274	724

COMBINED LAMPREY JUVENILES											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR [†] (Coll)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)
04/13/2012 *	0	0	0	0	0	---	---	1	130	710	3,375
04/14/2012 *	0	0	0	0	0	---	---	1	---	740	2,400
04/15/2012 *	0	0	0	0	0	0	2	4	290	560	2,800
04/16/2012 *	0	0	0	0	0	---	---	1	---	600	150
04/17/2012 *	0	0	0	0	200	---	---	1	520	740	50
04/18/2012 *	0	0	0	0	0	---	0	2	---	440	150
04/19/2012 *	0	---	0	0	0	---	---	3	220	375	60
04/20/2012 *	0	0	---	0	0	400	---	8	---	433	200
04/21/2012 *	0	---	---	0	0	---	0	6	150	500	0
04/22/2012 *	0	0	---	0	0	---	---	5	---	950	60
04/23/2012 *	0	0	---	0	0	---	---	4	400	1,000	50
04/24/2012 *	---	---	---	0	0	---	0	1	---	286	100
04/25/2012 *	---	---	---	---	0	0	0	5	400	2,143	0
04/26/2012 *	---	---	---	---	200	---	0	1	---	19,857	0
04/27/2012 *	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	400	400	2	43	2,110	29,334	9,395
# Days:	11	9	7	12	14	3	6	14	7	14	14
Average:	0	0	0	0	29	133	0	3	301	2,095	671
YTD	6	0	0	0	2,715	540	6	58	2,130	109,890	21,779

Two-Week Summary of Passage Indices

* 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, sockeye, and lamprey juveniles. Two classes of fish counts are shown in these tables:

Two classes of fish counts are shown in these tables:

Collection counts (Coll), which account for sample rates but are not adjusted for flow;

Passage indices (INDEX), 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.

Combined lamprey juvenile collection counts are provided for all sites. Combined lamprey juveniles is a combination of pacific lamprey ammocoetes, brook lamprey ammocoetes, unknown lamprey ammocoetes, pacific lamprey macrophthalmia, and unidentified lamprey species.

† Caution should be used with interpreting lamprey juvenile collection counts at LGR because of the possibility that lamprey may escape the sample tank before being sampled

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: 04/27

DAM	EndDate	Spring Chinook						Summer Chinook						Fall Chinook					
		2012		2011		10-Yr Avg.		2012		2011		10-Yr Avg.		2012		2011		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	04/26	19,351	172	9,583	100	49,425	345	0	0	0	0	0	0	0	0	0	0	0	0
TDA	04/26	3,897	120	1,409	28	26,706	144	0	0	0	0	0	0	0	0	0	0	0	0
JDA	04/26	1,421	76	641	19	20,162	103	0	0	0	0	0	0	0	0	0	0	0	0
MCN	04/26	297	2	282	9	13,096	100	0	0	0	0	0	0	0	0	0	0	0	0
IHR	04/26	123	2	180	1	8,408	27	0	0	0	0	0	0	0	0	0	0	0	0
LMN	04/26	49	0	76	0	5,991	13	0	0	0	0	0	0	0	0	0	0	0	0
LGS	04/26	27	1	70	0	4,624	25	0	0	0	0	0	0	0	0	0	0	0	0
LGR	04/26	16	0	33	0	3,517	14	0	0	0	0	0	0	0	0	0	0	0	0
PRD	04/24	7	0	27	0	967	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS	04/25	1	0	13	0	393	1	0	0	0	0	0	0	0	0	0	0	0	0
RRH	04/25	0	0	2	0	52	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	04/23	347	5	179	0	4,297	18	0	0	0	0	0	0	0	0	0	0	0	0

DAM	Coho						Sockeye			Steelhead					
	2012		2011		10-Yr Avg.		2012	2011	10-Yr Avg.	2012	2011	10-Yr Avg.	Wild 2012	Wild 2011	10-Yr Avg.
	Adult	Jack	Adult	Jack	Adult	Jack									
BON	0	0	0	0	0	0	0	0	0	2,480	2,096	2,259	768	853	694
TDA	0	0	0	0	0	0	0	0	0	594	1,034	1,116	337	602	500
JDA	0	0	0	0	0	0	0	0	0	1,583	2,273	2,288	1,088	1,475	1,100
MCN	-1	0	0	0	0	0	0	0	0	1,413	2,207	1,927	838	1,385	860
IHR	0	0	0	0	0	0	0	0	0	2,001	2,530	2,406	936	932	840
LMN	0	0	0	0	0	0	0	0	0	2,965	3,117	2,745	1,577	1,657	1,239
LGS	0	0	0	0	0	0	0	0	0	3,153	5,086	2,897	1,838	2,512	1,217
LGR	0	0	0	0	0	0	0	0	0	8,111	11,097	9,441	3,357	4,875	2,782
PRD	0	0	0	0	0	0	0	0	0	46	9	10	0	0	0
RIS	0	0	0	0	0	0	0	0	0	65	31	39	42	22	22
RRH	0	0	0	0	0	0	0	0	0	344	214	151	284	211	107
WEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WFA	0	0	0	0	0	0	0	0	0	6,436	7,042	8,558	0	0	0

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: 04/27/12

BON counts from January 1, 2012 to March 13, 2012 (historical counts begin March 15):

Year	Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
2012	12	1	1,471	497
2011	47	0	1,370	580

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

4/27/12 10:47 AM

		04/13/12 TO 04/27/12					
		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
LGR	Sum of NumberCollected	5,100	1,050,622	1,800	897,078	400	1,955,000
	Sum of NumberBarged	153	56,873	84	51,089	0	108,199
	Sum of NumberBypassed	4,947	993,644	1,715	845,964	399	1,846,669
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	43	1	21	0	65
	Sum of FacilityMorts	0	52	0	2	1	55
	Sum of ResearchMorts	0	10	0	2	0	12
	Sum of TotalProjectMorts	0	105	1	25	1	132
LGS	Sum of NumberCollected		125,313		147,870	200	273,383
	Sum of NumberBarged		0		0	0	0
	Sum of NumberBypassed		125,288		147,864	200	273,352
	Sum of Numbertrucked		0		0	0	0
	Sum of SampleMorts		3		0	0	3
	Sum of FacilityMorts		22		6	0	28
	Sum of ResearchMorts		0		0	0	0
	Sum of TotalProjectMorts		25		6	0	31
LMN	Sum of NumberCollected	4	373		479	6	862
	Sum of NumberBarged	0	0		0	0	0
	Sum of NumberBypassed	4	369		479	6	858
	Sum of Numbertrucked	0	0		0	0	0
	Sum of SampleMorts	0	4		0	0	4
	Sum of FacilityMorts	0	0		0	0	0
	Sum of ResearchMorts	0	0		0	0	0
	Sum of TotalProjectMorts	0	4		0	0	4
MCN	Sum of NumberCollected	2,060	53,147	980	51,917	2,100	110,204
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	2,058	53,123	980	51,911	2,099	110,171
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	2	13	0	5	1	21
	Sum of FacilityMorts	0	11	0	1	0	12
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2	24	0	6	1	33
Total Sum of NumberCollected		7,164	1,229,455	2,780	1,097,344	2,706	2,339,449
Total Sum of NumberBarged		153	56,873	84	51,089	0	108,199
Total Sum of NumberBypassed		7,009	1,172,424	2,695	1,046,218	2,704	2,231,050
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		2	63	1	26	1	93
Total Sum of FacilityMorts		0	85	0	9	1	95
Total Sum of ResearchMorts		0	10	0	2	0	12
Total Sum of TotalProjectMorts		2	158	1	37	2	200

YTD Transportation Summary

Source: Fish Passage Center

Updated: 4/27/12 10:47 AM

TO: 04/27/12

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	5,580	1,277,642	1,935	1,095	965,708	2,251,960
	Sum of NumberBarged	153	72,169	100	34	60,233	132,689
	Sum of NumberBypassed	5,427	1,205,085	1,833	1,057	905,445	2,118,847
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	111	1	2	22	136
	Sum of FacilityMorts	0	267	1	2	6	276
	Sum of ResearchMorts	0	10	0	0	2	12
	Sum of TotalProjectMorts	0	388	2	4	30	424
LGS	Sum of NumberCollected	92	135,080		293	153,874	289,339
	Sum of NumberBarged	0	0		0	0	0
	Sum of NumberBypassed	90	134,999		289	153,857	289,235
	Sum of NumberTrucked	0	0		0	0	0
	Sum of SampleMorts	0	11		1	2	14
	Sum of FacilityMorts	2	70		3	15	90
	Sum of ResearchMorts	0	0		0	0	0
	Sum of TotalProjectMorts	2	81		4	17	104
LMN	Sum of NumberCollected	7	712		11	723	1,453
	Sum of NumberBarged	0	0		0	0	0
	Sum of NumberBypassed	7	700		10	723	1,440
	Sum of NumberTrucked	0	0		0	0	0
	Sum of SampleMorts	0	12		1	0	13
	Sum of FacilityMorts	0	0		0	0	0
	Sum of ResearchMorts	0	0		0	0	0
	Sum of TotalProjectMorts	0	12		1	0	13
MCN	Sum of NumberCollected	2,120	53,667	1,000	2,100	52,137	111,024
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	2,118	53,643	1,000	2,099	52,131	110,991
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	2	13	0	1	5	21
	Sum of FacilityMorts	0	11	0	0	1	12
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2	24	0	1	6	33
Total Sum of NumberCollected		7,799	1,467,101	2,935	3,499	1,172,442	2,653,776
Total Sum of NumberBarged		153	72,169	100	34	60,233	132,689
Total Sum of NumberBypassed		7,642	1,394,427	2,833	3,455	1,112,156	2,520,513
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		2	147	1	5	29	184
Total Sum of FacilityMorts		2	348	1	5	22	378
Total Sum of ResearchMorts		0	10	0	0	2	12
Total Sum of TotalProjectMorts		4	505	2	10	53	574

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											
	04/19/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/26/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Little Goose Dam											
	04/14/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/19/12	Chinook + Steelhead	101	0	0	0.00%	0.00%	0	0	0	0
	04/24/12	Chinook + Steelhead	38	0	0	0.00%	0.00%	0	0	0	0
	04/25/12	Chinook + Steelhead	62	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	04/18/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/25/12	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0
McNary Dam											
	04/16/12	Chinook + Steelhead	101	2	2	1.98%	0.00%	2	0	0	0
	04/20/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/22/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/26/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
Bonneville Dam											
	04/18/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/21/12	Chinook + Steelhead	70	0	0	0.00%	0.00%	0	0	0	0
	04/22/12	Chinook + Steelhead	30	0	0	0.00%	0.00%	0	0	0	0
	04/24/12	Chinook + Steelhead	100	2	2	2.00%	0.00%	1	1	0	0
Rock Island Dam											
	04/18/12	Chinook + Steelhead	76	0	0	0.00%	0.00%	0	0	0	0
	04/19/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/24/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/26/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0