



Fish Passage Center

Weekly Report #11 - 07

April 29, 2011

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 134% and 226% of average at individual sub-basins over April. Precipitation above The Dalles has been 189% of average over April. Over the 2011 water year, precipitation has ranged between 106% and 137% 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 2011		Water Year 2011	
	April 1-25, 2011		October 1, 2010 to April 25, 2011	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	2.52	183	18.98	121
Snake River Above Ice Harbor	2.33	192	14.86	129
Columbia Above The Dalles	2.59	189	19.26	123
Kootenai	2.70	185	19.22	120
Clark Fork	1.88	182	12.93	129
Flathead	2.86	218	18.48	137
Pend Oreille/Spokane	3.93	209	26.96	122
Central Washington	0.71	134	6.82	106
Snake River Plain	1.46	168	9.05	130
Salmon/Boise/Payette	2.20	165	16.46	117
Clearwater	5.02	226	27.08	130
SW Washington Cascades/Cowlitz	7.16	161	62.61	108
Willamette Valley	6.46	160	53.16	108

Snowpack in the Columbia River for basins above the Snake River confluence is 142% of average, for Snake River Basins snowpack is 149% of average, and for lower Columbia Basins between McNary and Bonneville Dam snowpack is 159% of average.

Table 2 displays the April Final and May EarlyBird runoff volume forecasts for multiple reservoirs. The May EarlyBird forecast at The Dalles between January and July is 128000 Kaf (119% of average).

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

Location	April Final		May EarlyBird	
	% Average (1971-2000)	Probable Runoff Volume (Kaf)	% Average (1971-2000)	Probable Runoff Volume (Kaf)
The Dalles (Jan-July)	109	117000	119	128000
Grand Coulee (Jan-July)	108	68200	119	74700
Libby Res. Inflow, MT (Apr-Aug)	109	6800 7191*	125	7800
Hungry Horse Res. Inflow, MT (Jan-July)	128	2840	141	3140
Lower Granite Res. Inflow (Apr-July)	116	25100	129	27900
Brownlee Res. Inflow (Apr-July)	119	7510	137	8620
Dworshak Res. Inflow (Apr-July)	116	3060 3387*	130	3430

* 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 100 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 97.8 Kcfs over the last week and 107.0 Kcfs over the spring season.

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 259.3 Kcfs over the last week and 266.5 Kcfs over the spring season. Flows at Priest Rapids Dam have averaged 149.1 Kcfs over the last week and 153.2 Kcfs over the spring season.

Grand Coulee Reservoir is at 1221.2 feet (4-28-11) and has drafted 5.4 feet over the last week. Drum gate maintenance is currently being performed at Grand Coulee which requires a maximum reservoir elevation of 1255 feet. The end of April FC Elevation at Grand Coulee is 1220.2 feet (based on the April Final WSF). Outflows at Grand Coulee have ranged between 123.1 and 141.2 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2351.3 feet (4-28-11) and has drafted 5.6 feet last week. The end of April FC Elevation at Libby is 2359.2 feet (based on the April Final WSF). Outflows at Libby Dam have been 10.8-17.2 Kcfs last week.

Hungry Horse is currently at an elevation of 3477.1 feet (4-28-11) and has drafted 5.2 feet last week. The end of April FC Elevation at Hungry Horse is 3479.5 feet (based on the April Final WSF). Outflows at Hungry Horse have been 9.9 Kcfs last week.

Dworshak is currently at an elevation of 1451.1 feet (4-28-11) and has drafted 3.1 feet last week. The end of April FC Elevation at Dworshak is 1471.6 feet (based on the April Final WSF). Outflows from Dworshak are currently 12.0 Kcfs and will remain at 12.0 Kcfs until the reservoir reaches elevation 1450 feet then the COE plans to pass inflow.

The Brownlee Reservoir was at an elevation of 2014.8 feet on April 28th, 2011 drafting 0.3 feet last week. The end of April FC Elevation at Brownlee is 2017.4 feet (based on the April Final WSF). Over the last week, outflows at Brownlee have ranged between 46.8-53.6 Kcfs.

Spill: Spill at Dworshak Dam has ranged from 1.5 to 1.7 Kcfs over the past week. Spill for fish passage began on April 3rd at the lower Snake River projects, and on April 10th at the lower Columbia River projects.

After a brief increase in flows late last week and early this week (Apr. 19-23), flows began to decrease as this week progressed. Despite decreasing flows, hydraulic capacity at Lower Granite Dam is still limited due to an outage of two units. Because of this limited hydraulic capacity, forced spill occurred at Lower

Granite Dam that was in excess of the 20 Kcfs specified in the Court Order. The two units are expected out until mid May. At Little Goose Dam, spill has been provided to the 30% of instantaneous flow level as specified in the Court Order over the past week. The tailrace TDG has consistently been around 112% to 114%, below the 120% TDG waiver.

At Lower Monumental Dam the COE decreased the estimated spill cap due to exceedences in the tailrace and/or forebay monitors from April 22nd to 25th. Since April 25th, the spill cap has gradually been increased to as high as 30 Kcfs. On April 20th, the fishery management agencies and tribes submitted an SOR (SOR 2011-2) requesting that the project go to a uniform spill pattern at flows of 100 Kcfs and above, to address the dissolved gas issues and allow better fish passage at the project by preventing spill restrictions. The Technical Management Team (TMT) discussed this SOR on April 20th and again on April 22nd, at which time the Corps of Engineers stated that, upon reviewing 2009 study results, it was not compelled to make a change to the 2011 Spring FOP. After further discussion, the Oregon representative on TMT asked to have this SOR elevated to the RIOG, which was scheduled to meet on April 27th. The RIOG met on April 27th and requested that the Hydro Coordination Senior Technical Team (HCSTT) consider the issue. The HCSTT met on April 28th and will be developing a technical briefing paper to be considered by the RIOG on Monday, May 2nd. No official decision has been made on SOR 2011-2 at this point.

Prior to this week, spill at Ice Harbor Dam under the Court Order was 45 Kcfs during the day and gas cap at night. However, beginning April 28th, the Court Order spill operations at Ice Harbor call for an alternating schedule of 45 Kcfs spill during the day and gas cap spill at night versus 30% if instantaneous flow. These operations will operate on 2-day alternating blocks and will likely last until mid-July. Spill levels have generally met the Court Order this week but the provision of spill to the gas cap continues to be limited, at times, by the operation of one turbine unit during nighttime hours.

Project	Day/Night Spill
Lower Granite	20 Kcfs/20 Kcfs
Little Goose	30%/30%
Lower Monumental	Gas Cap/Gas Cap
Ice Harbor	April 3-April 27: 45 Kcfs/gas cap April 28~mid-July: 45 Kcfs/gas cap vs. 30%/30%

Spill for fish passage at the Lower Columbia projects began on April 10th. Spill at McNary Dam was at times in excess of the Court Order as a result of spill in excess of hydraulic capacity due to unit outages. The planned test at John Day Dam started this week. Under this test, spill at John Day Dam will alternate between 30% and 40% of instantaneous flow, roughly every two days. The first day of 40% spill was April 28th. Spill levels at John Day have met the Court Order this week. At The Dalles Dam, spill has met the 40% objective. Finally, at Bonneville Dam, spill met the 100 Kcfs in the Court Order.

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

Gas bubble trauma samples were taken this past week at Lower Granite, Little Goose, Lower Monumental, McNary, Rock Island and Bonneville dams. One fish was observed with Rank 1 signs of GBT at Little Goose Dam on April 23rd. This represents 1% of the sample at this project. The action criteria for GBT with Rank 1 signs of GBT is 15% of the population.

Smolt Monitoring: Sampling is ongoing at all Smolt Monitoring Program sites. Steelhead passage in the Snake River has been well ahead of historic average and that early timing was a function of early hatchery releases in the Clearwater River Basin that coincided with unusually high flows. Yearling Chinook smolt passage has continued to increase at Lower Granite Dam as is typical for this time of year. Again this week there were relatively large numbers of sockeye (likely kokanee) in the samples at Snake River sites. Bonneville Dam had fewer subyearling Chinook passing than during the previous week as releases from Spring Creek NFH and Little White Salmon NFH passed the project. At the SMP traps large numbers of smolts have been collected over the past week as tributary flows dropped back from early peak flows but remained relatively high.

At the Salmon River Trap, located at River km 103, and operated by Idaho Department of Fish and Game the trap has mainly collected yearling Chinook to this point. Of the 1,800 smolts collected in the past week over 1,600 were yearling Chinook and more than 75% of those were hatchery origin. Steelhead collection numbers declined this week. Steelhead peak passage at the trap is typically in the first week of May. Flows in the Salmon River at White Bird, fell to between 9,000 and 10,000 cfs from April 22 to April 29; flows were well below historic average for that time of year. Historically median flows begin to rise above 15,000 cfs by April 28.

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 several days of sampling the numbers of yearling Chinook has declined as the hatchery releases pass. This pattern is similar to historic timing at the trap as yearling Chinook numbers gradually decline beginning about April 20. Steelhead collections have also increased in the past week with over 400 fish sampled on April 27. Historically steelhead passage increase rapidly at this time of the season with hatchery releases. Flows in the Grande Ronde River dropped to near 6000 cfs on April 29, which is near historic median for that date.

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. We have no data for the past week of

sampling and will update that information as the data becomes available. Flows in the Imnaha River have fluctuated between 600 and 800 cfs over the past week—well below average for this time of year. Median flows for this week are in the range of 1000 to 1100 cfs.

At the Lewiston Trap, operated by IDFG, located at River km 225 on the Snake River, just above the confluence with the Clearwater River, collections of yearling Chinook have remained high over the past two weeks while steelhead have been low—which is normal for this site at this time of year. The total collection of over 3100 yearling Chinook collected in the past week was again above historic average. The collections of yearling Chinook have stayed high as flows in the Snake River have remained well above historic median. The Lewiston trap typically collects fish more effectively at higher flows and flows at the USGS gage at Anatone have been between 60 and 80 Kcfs over the past week which was 20 to 40% above historic average. At Lower Granite Dam steelhead had predominated in the sample in the first 3 weeks of sampling but in the past two weeks of sampling yearling Chinook and steelhead collections were about even. This week however, the yearling Chinook average daily passage index was 51,000 per day while steelhead averaged 39,000. Sockeye or rather kokanee in the sample are likely fish washing out from Dworshak Reservoir. Research transport barges have been loaded on April 7, April 14 and April 21: an estimated 24,000 steelhead and 8,200 yearling Chinook and 670 sockeye were transported on April 7; 14,000 yearling Chinook, 12,000 steelhead and 400 sockeye on April 14; and 16,000 yearling Chinook, 17,000 steelhead and 480 sockeye on April 21; 25,000 yearling Chinook, 15,700 steelhead and 81 sockeye. Collection for full transportation will begin on May 1 at Lower Granite Dam.

At Little Goose Dam, which is sampling for condition only, every 5 days, the first sample was predominated by steelhead—mirroring the pattern seen at Lower Granite Dam. And as with Lower Granite Dam yearling Chinook were about equal with steelhead based on the sample taken April 24, when the index was 50,000 for yearling Chinook compared to about 55,000 steelhead. Lower Monumental Dam is sampling every third day and is collecting small numbers of fish for condition information.

Sampling at McNary Dam is every other day in the spring. Normal sampling began on April 13. Yearling Chinook predominated in passage at the site

this past week, with the average passage index at 35,000 compared to 32,000 for steelhead. Small numbers of coho, sockeye, subyearling Chinook and lamprey were also passing the project.

At John Day Dam sampling has been ongoing. Relatively large numbers of yearling Chinook and steelhead have been collected over the past two weeks. Steelhead predominated in the sample the past week with the passage index averaging 21,000 per day while yearling Chinook averaged about 17,000 fish per day. Lamprey collections have declined over the past week. The lamprey collection averaged about 1100 per day this week compared to over 5,000 per day last week. The site has been monitoring condition of lamprey as part of a pilot study to ascertain the relative condition of these fish using similar external measures of fish conditions that are being used to describe salmon smolts.

At Bonneville Dam the largest collections over the past week have been hatchery yearling Chinook. The yearling Chinook index predominated for the first time this season as subyearling Chinook indices have continued to go down after the wave of hatchery releases have passed. Spring Creek NFH released 6.4 million subyearlings on April 12. An additional release of 2.3 million subyearling Chinook were released from Little White Salmon NFH on April 14.

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. The only releases of juvenile salmonids that were scheduled to begin this week were of summer steelhead juveniles. In all, there were six releases of summer steelhead that were scheduled to begin this week. These releases were expected to total nearly 522,000 steelhead juveniles. Of these, about 54% were to be released into the Salmon River, 23% were scheduled for release into the Pahsimeroi River, and 23% were scheduled for release into the Imnaha River. Of the summer steelhead that were scheduled for release this week, approximately 54% are unclipped, but do have coded-wire tags. None of the unclipped steelhead were to be released to the Imnaha River.

There are several releases of juvenile salmonids that are scheduled to begin over the next two weeks. Beginning May 1st, approximately 850,000 subyearling fall Chinook are scheduled to be released into the Snake River, below Hells Canyon Dam. In addition, about

500,000 subyearling fall Chinook are scheduled for release into Lapwai Creek, a tributary of the Clearwater River, on or around May 10th. Of these, about 20% will have adipose fin clips (and coded-wire tags), 40% will be unclipped but have coded-wire tags, and 40% will be unmarked. Approximately 190,000 sockeye smolts are scheduled for release into this zone over the next two weeks. About 72% of these sockeye smolts will be released into Redfish Lake Creek while 28% will be released directly into the Salmon River. These releases are scheduled to begin on or around May 11th. Finally, just over 736,000 summer steelhead are scheduled for release into this zone over the next two weeks. These summer steelhead releases are scheduled to take place on the Salmon (60%), Grande Ronde (23%), and Wallowa (17%) 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. There were two releases of subyearling fall Chinook to the Yakima River scheduled to begin this week. In all, these releases were expected to total about 1.72 million juveniles. Approximately 99% of the subyearling fall Chinook that were scheduled for release this week are adipose fin clipped. In addition to the subyearling fall Chinook releases, approximately 23,000 yearling fall Chinook were scheduled for release into the Yakima River this week. All of these yearling fall Chinook are unmarked.

Two releases of yearling summer Chinook were scheduled to begin this week. These releases are expected to total about 1.01 million summer Chinook juveniles. Of these, approximately 81% were scheduled for release to the Wenatchee River while 19% were scheduled for direct release into the mid-Columbia River. In addition to these two releases, a release of 446,313 yearling summer Chinook from Wells Hatchery that began on April 15th finished this week.

Nearly 450,000 coho juveniles were scheduled for release into the Methow (67%) and Wenatchee (33%) rivers this week. These coho releases are part of a Yakama Tribal program to reintroduce coho to the Yakima, Methow, and Wenatchee rivers. Releases for this program are expected to total nearly 2.4 million total coho juveniles in 2011. Most of the coho juveniles that are released under this program are unclipped, but have either coded-wire or blank-wire tags. Over the next two weeks, nearly 386,000 coho juveniles will also be released to this zone, as part of this program. These future releases are scheduled for the Wenatchee and

Methow rivers.

Beginning on or around May 10th, approximately 484,000 subyearling summer Chinook are scheduled for release into the Mid-Columbia River. Finally, several releases of summer steelhead to the Wenatchee River are scheduled to begin over the next two weeks. In all, these releases are expected to total about 359,000 summer steelhead juveniles.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Approximately 37,500 yearling spring Chinook were scheduled for release into Hood River this week. Three releases of summer steelhead to the Umatilla River were scheduled for this week. In all, these releases were expected to total about 138,000 summer steelhead juveniles. Also, a release of approximately 20,000 winter steelhead to the White Salmon River was scheduled to begin this week.

There are several releases of juvenile salmonids scheduled for this zone over the next two weeks. Approximately 4.6 million subyearling fall Chinook tules are scheduled to be released from Spring Creek NFH on or around May 4th. Beginning on or around May 11th, about 240,000 yearling spring Chinook will be released into the Deschutes River, above Round Butte Dam. Approximately 1.0 million coho juveniles are scheduled to be released into Klickitat River in early May. Finally, about 158,300 summer steelhead juveniles are scheduled for release into this zone over the next two weeks. Of these, approximately 56% are scheduled for release into the Klickitat River, about 32% are scheduled for release into Hood River, and about 13% are scheduled for release into the White Salmon River.

Adult Passage:

Adult counts at Bonneville Dam have been updated through April 28th. Daily adult spring Chinook counts at Bonneville Dam ranged from 410 to 5,846 adult salmon per day. Between March 15th and April 28th, 20,119 adult spring Chinook have been counted at Bonneville Dam. In 2010, 119,140 adult spring Chinook were counted at Bonneville Dam for the same time period. The 2011 adult spring Chinook count at Bonneville Dam is 16.9% of the 2010 count and only about 23.2% of the 10 year average of 86,678. At Willamette Falls Dam 1,828 adult spring Chinook have been counted so far this year. At The Dalles Dam the 2011 adult spring Chinook is 2,710 and at McNary Dam 432 adult spring Chinook have been counted. The

Dalles Dam 2011 adult spring Chinook count is only about 3.7% of the 2010 count of 73,279 and 5.1% of the 10 year average count of 53,020. The 2011 McNary Dam adult spring Chinook count is about 1.05% of the 2010 count and about 1.3% of the 10 year average count of 32,409.

The Bonneville Dam 2011 steelhead count of 2,201 is about 53.8% of the 2010 count of 4,092 and about 91.3% of the 10 year average count of 2,410. 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 94 to 136 adults per day last week. This year's Lower Granite steelhead count of 11,303 is about 1.16 times greater than the 2010 count of 9,777 and 1.26 times greater than the 10 year average of 8,957. The 2011 Lower Granite wild steelhead count as of April 28th was 5,020. At Willamette Falls Dam, the 2011 count for steelhead was 7,574, as of April 27th. This year's steelhead count is about 67.7% of the 2010 count of 11,188 at Willamette Falls Dam for the same date range.

Hatchery Releases Last Two Weeks

Hatchery Release Summary
4/15/2011 to 04/28/11

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Colville Tribe	Cassimer Bar Hatchery	ST	SU	2011	12,290	04-15-11	04-30-11	Omak Creek	Okanogan River
Colville Tribe	Cassimer Bar Hatchery	ST	SU	2011	20,118	04-15-11	04-30-11	Omak Creek	Okanogan River
Colville Tribe Total					32,408				
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2011	120,000	04-27-11	04-28-11	McNabb/Salm on River	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2011	280,753	04-19-11	04-22-11	Squaw Creek East Fk	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2011	282,118	04-14-11	04-19-11	Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs Hatchery	ST	SU	2011	830,000	04-13-11	05-03-11	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2011	1,051,220	04-20-11	04-21-11	Pahsimeroi Hatchery	Pahsimeroi River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2011	2,490,066	03-15-11	04-21-11	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game	Sawtooth Hatchery	CH1	SP	2011	397,877	04-19-11	04-20-11	Yankee Fk (Salmon R)	Salmon River (ID)
Idaho Dept. of Fish and Game Total					5,452,034				
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2011	85,600	04-10-11	04-20-11	Crooked River Newsome Creek	S Fk Clearwater
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2011	134,904	04-11-11	04-18-11	Creek	S Fk Clearwater
Nez Perce Tribe	Clearwater Hatchery	ST	SU	2011	153,500	04-10-11	04-20-11	Red River Newsome Creek	S Fk Clearwater
Nez Perce Tribe	Dworshak NFH Lookingglass Hatchery	ST	SU	2011	103,700	04-10-11	04-20-11	Creek	Clearwater
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	SP	2011	63,110	04-19-11	04-19-11	Lostine Accim Pond	Wallowa River
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2011	155,000	04-10-11	04-20-11	Cpt John Acclim Pond Big Canyon (Clearwater River)	Snake River
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2011	164,000	04-10-11	04-20-11	Pittsburg Landing Acclim Pond	Clearwater River M F
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2011	167,000	04-10-11	04-20-11	Pond	Snake River
Nez Perce Tribe Total					1,026,814				

Hatchery Releases Last Two Weeks - (Continued)

Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2011	44,000	04-26-11	04-26-11	Little Sheep Creek	Imnaha River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2011	74,000	04-26-11	04-26-11	L Sheep Acclim Pond Meacham	Imnaha River
Oregon Dept. of Fish and Wildlife	Umatilla Hatchery	ST	SU	2011	46,000	04-25-11	04-25-11	Creek	Umatilla River
Oregon Dept. of Fish and Wildlife									
Total					164,000				
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2011	436,135	04-13-11	04-25-11	Salmon River (ID)	Salmon River (ID)
U.S. Fish and Wildlife Service	Leavenworth NFH	CH1	SP	2011	1,189,442	04-19-11	04-20-11	Leavenworth Hatchery	Wenatchee River
U.S. Fish and Wildlife Service	Warm Springs NFH	CH1	SP	2011	538,388	04-04-11	04-27-11	Warm Springs Hatchery	Deschutes River
U.S. Fish and Wildlife Service	Winthrop NFH	CH1	SP	2011	461,000	04-15-11	04-20-11	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2011	43,200	04-20-11	04-30-11	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2011	64,000	04-20-11	04-30-11	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service									
Total					2,732,165				
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2011	234,000	04-13-11	04-19-11	Thornhollow Acclim Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	ST	SU	2011	46,000	04-25-11	04-25-11	Minthorn Acclimation Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	ST	SU	2011	46,000	04-25-11	04-25-11	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe									
Total					326,000				
Warm Springs Tribe	Carson NFH	CH1	SP	2011	44,604	04-21-11	04-21-11	Blackberry Acclim Pond	Hood River
Warm Springs Tribe	Round Butte Hatchery	CH1	SP	2011	37,500	04-24-11	04-24-11	W Fk Hood River	Hood River
Warm Springs Tribe									
Total					82,104				

Hatchery Releases Last Two Weeks - (Continued)

Washington Dept. of Fish and Wildlife	Chelan Hatchery	CH1	SU	2011	190,000	04-25-11	04-25-11	Chelan Falls	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	CH1	SP	2011	440,000	04-20-11	05-16-11	Chiwawa River	Wenatchee River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SP	2011	520,000	04-13-11	05-13-11	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2011	820,000	04-26-11	05-09-11	Dryden Acclim Pond	Wenatchee River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH1	FA	2011	460,000	04-10-11	04-20-11	Lyons Ferry Hatchery	Snake River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2011	6,400	04-10-11	04-20-11	Baileysburg Bridge	Touchet River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2011	8,000	04-10-11	04-20-11	Baileysburg Bridge	Touchet River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2011	54,000	04-15-11	05-15-11	Baileysburg Bridge	Touchet River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2011	100,000	04-10-11	04-20-11	Walla Walla River	Walla Walla River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2011	160,000	04-10-11	04-20-11	Lyons Ferry Hatchery	Snake River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2011	67,300	04-15-11	04-20-11	Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2011	90,100	04-15-11	04-20-11	Chewuch Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2011	408,100	04-15-11	04-20-11	Methow Hatchery	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SU	2011	400,000	04-12-11	05-12-11	Carlton Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	ST	SU	2011	144,438	04-14-11	04-21-11	Ringold Springs Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	WI	2011	20,000	04-25-11	05-05-11	White Salmon River	White Salmon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2011	113,000	04-01-11	04-30-11	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2011	118,000	04-01-11	04-30-11	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	ST	SU	2011	77,000	04-10-11	04-20-11	Tucannon Hatchery	Tucannon River

Hatchery Releases Last Two Weeks - (Continued)

Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2011	446,313	04-15-11	04-27-11	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2011	120,000	04-20-11	05-15-11	Okanogan River	Okanogan River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2011	320,000	04-15-11	05-15-11	Methow River	Methow River
Washington Dept. of Fish and Wildlife Total					5,082,651				
Yakama Tribe	Cascade Hatchery	CO	UN	2011	69,321	04-19-11	04-19-11	Icicle Creek	Wenatchee
Yakama Tribe	Cascade Hatchery	CO	UN	2011	138,648	04-22-11	04-22-11	Icicle Creek Jack Creek	Wenatchee
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2011	273,539	03-15-11	05-14-11	Acclim Pond Clark Flat	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2011	279,639	03-15-11	05-14-11	Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2011	282,335	03-15-11	05-14-11	Easton Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2011	37,000	04-20-11	06-01-11	Boone Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2011	79,015	04-15-11	06-01-11	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2011	88,175	04-20-11	06-01-11	Stiles Pond Lost Creek	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2011	88,942	04-20-11	06-01-11	Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2011	90,498	04-20-11	06-01-11	Easton Pond	Yakima River
Yakama Tribe	Eastbank Hatchery	CH0	SU	2011	100,000	04-20-11	04-21-11	Stiles Pond	Yakima River
Yakama Tribe	Little White Salmon NFH	CH0	FA	2011	1,700,000	04-23-11	04-23-11	Prosser Acclim Pond	Yakima River
Yakama Tribe	Priest Rapids Hatchery	CH0	FA	2011	500,000	04-16-11	04-16-11	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2011	800,000	04-16-11	04-16-11	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2011	50,000	04-20-11	06-01-11	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2011	100,000	04-20-11	06-01-11	Easton Pond Lost Creek	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2011	100,297	04-20-11	06-01-11	Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2011	100,671	04-15-11	06-01-11	Holmes Pond Prosser Acclim	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2011	245,455	04-15-11	06-01-11	Pond Nason	Yakima River Wenatchee
Yakama Tribe	Willard Hatchery	CO	UN	2011	51,119	04-28-11	04-29-11	Wetlands	River Mid-Columbia
Yakama Tribe	Willard Hatchery	CO	UN	2011	51,854	04-21-11	04-21-11	Wells Hatchery	River
Yakama Tribe	Willard Hatchery	CO	UN	2011	77,835	04-22-11	04-22-11	Icicle Creek	Wenatchee
Yakama Tribe	Willard Hatchery	CO	UN	2011	229,620	04-19-11	04-20-11	Icicle Creek Winthrop Hatchery	Wenatchee
Yakama Tribe	Winthrop NFH	CO	UN	2011	248,757	04-23-11	04-23-11	Hatchery	Methow River
Yakama Tribe Total					5,782,720				
Grand Total					20,680,896				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Colville Tribe	Cassimer Bar Hatchery	ST	SU	2011	12,290	04-15-11	04-30-11	Omak Creek	Okanogan River
Colville Tribe	Cassimer Bar Hatchery	ST	SU	2011	20,118	04-15-11	04-30-11	Omak Creek	Okanogan River
Colville Tribe Total					32,408				
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2011	30,000	04-29-11	04-29-11	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2011	90,000	04-29-11	04-29-11	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2011	830,000	04-13-11	05-03-11	Pahsimeroi River Hells Canyon	Pahsimeroi River
Idaho Dept. of Fish and Game	Oxbow-Idaho	CH0	FA	2011	200,000	05-05-11	05-05-11	Dam Redfish Lake	Snake River
Idaho Dept. of Fish and Game	Oxbow-Oregon	SO	UN	2011	27,000	05-11-11	05-11-11	Creek	Salmon River (ID)
Idaho Dept. of Fish and Game	Oxbow-Oregon	SO	UN	2011	27,000	05-11-11	05-11-11	Salmon River (ID)	Salmon River (ID)
Idaho Dept. of Fish and Game	Sawtooth Hatchery	SO	UN	2011	26,000	05-11-11	05-11-11	Salmon River (ID) Redfish Lake	Salmon River (ID)
Idaho Dept. of Fish and Game	Sawtooth Hatchery	SO	UN	2011	110,000	05-11-11	05-11-11	Creek	Salmon River (ID)
Idaho Dept. of Fish and Game Total					1,340,000				
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2011	500,000	05-10-11	05-25-11	Lapwai Creek	Clearwater River M F
Nez Perce Tribe Total					500,000				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	CH0	FA	2011	650,000	05-01-11	05-01-11	Hells Canyon Dam	Snake River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2011	126,000	05-06-11	05-06-11	Wallowa Acclim Pond Big Canyon Acclim.Pd	Wallowa River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2011	168,000	05-09-11	05-09-11	(Grande Ronde)	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	CH1	SP	2011	240,000	05-11-11	05-11-11	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife Total					1,184,000				
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2011	163,830	04-29-11	04-29-11	East Fk Salmon River	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2011	216,297	05-02-11	05-02-11	Yankee Fk (Salmon R)	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2011	226,125	05-02-11	05-02-11	Yankee Fk (Salmon R)	Salmon River (ID)
U.S. Fish and Wildlife Service	Spring Creek NFH	CH0	FA	2011	4,600,000	05-04-11	05-04-11	Spring Creek Hatchery	L Col R (D/s McN Dam)
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2011	43,200	04-20-11	04-30-11	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2011	64,000	04-20-11	04-30-11	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service Total					5,313,452				
Warm Springs Tribe	Oak Springs Hatchery	ST	SU	2011	25,000	04-30-11	04-30-11	E Fk Irrig Dist Sand Trap	Hood River
Warm Springs Tribe	Oak Springs Hatchery	ST	SU	2011	25,000	04-30-11	05-14-11	Parkdale Acclim	Hood River
Warm Springs Tribe Total					50,000				
Washington Dept. of Fish and Wildlife	Chelan Hatchery	ST	SU	2011	25,000	05-02-11	05-06-11	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	CH1	SP	2011	440,000	04-20-11	05-16-11	Chiwawa River Similkameen	Wenatchee River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SP	2011	520,000	04-13-11	05-13-11	Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2011	820,000	04-26-11	05-09-11	Dryden Acclim Pond	Wenatchee River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	ST	SU	2011	50,000	05-02-11	05-06-11	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2011	54,000	04-15-11	05-15-11	Baileysburg Bridge	Touchet River

Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SU	2011	400,000	04-12-11	05-12-11	Carlton Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2011	20,000	05-10-11	05-20-11	White Salmon River	White Salmon River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2011	88,300	05-10-11	05-20-11	Klickitat Hatchery	Klickitat River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	WI	2011	20,000	04-25-11	05-05-11	White Salmon River	White Salmon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2011	113,000	04-01-11	04-30-11	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2011	118,000	04-01-11	04-30-11	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2011	81,000	05-02-11	05-06-11	Chiwawa River	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2011	91,000	05-02-11	05-06-11	Nason Creek	Wenatchee River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2011	92,000	05-02-11	05-06-11	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH0	SU	2011	484,000	05-10-11	05-25-11	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2011	120,000	04-20-11	05-15-11	Okanogan River	Okanogan River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2011	320,000	04-15-11	05-15-11	Methow River	Methow River
Washington Dept. of Fish and Wildlife Total					3,856,300				
Yakama Tribe	Cascade Hatchery	CO	UN	2011	69,223	05-07-11	06-16-11	Coulter Creek	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2011	69,322	05-07-11	06-12-11	Rolfings Acclim Butcher Creek	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2011	69,331	05-07-11	06-07-11	Acclim. Pond	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2011	69,339	04-29-11	06-07-11	Beaver Creek Acclim Pond	Wenatchee River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2011	273,539	03-15-11	05-14-11	Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2011	279,639	03-15-11	05-14-11	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2011	282,335	03-15-11	05-14-11	Easton Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2011	37,000	04-20-11	06-01-11	Boone Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2011	79,015	04-15-11	06-01-11	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2011	88,175	04-20-11	06-01-11	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2011	88,942	04-20-11	06-01-11	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2011	90,498	04-20-11	06-01-11	Easton Pond	Yakima River
Yakama Tribe	Eastbank Hatchery	ST	SU	2011	20,000	05-02-11	05-06-11	Rolfings Acclim	Wenatchee River
Yakama Tribe	Klickitat Hatchery	CO	NO	2011	1,000,000	05-01-11	05-01-11	Klickitat Hatchery	Klickitat River
Yakama Tribe	Prosser Acclim. Pond	CH1	FA	2011	23,000	04-29-11	04-29-11	Prosser Acclim	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2011	23,000	04-29-11	04-29-11	Prosser Acclim	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2011	50,000	04-20-11	06-01-11	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2011	100,000	04-20-11	06-01-11	Easton Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2011	100,297	04-20-11	06-01-11	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2011	100,671	04-15-11	06-01-11	Holmes Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2011	245,455	04-15-11	06-01-11	Prosser Acclim	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2011	27,365	05-07-11	06-12-11	Rolfings Acclim	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2011	29,279	04-29-11	06-07-11	Beaver Creek Acclim Pond	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2011	49,379	04-29-11	06-14-11	Winthrop	Methow River
Yakama Tribe	Willard Hatchery	CO	UN	2011	51,119	04-28-11	04-29-11	Nason Wetlands	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2011	60,901	05-07-11	06-07-11	Butcher Creek Acclim. Pond	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2011	89,403	05-08-11	06-02-11	Twisp Acclim	Methow River
Yakama Tribe Total					3,466,227				
Grand Total					15,742,387				

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
04/15/2011	145.6	0.0	147.7	0.0	147.6	10.0	143.2	0.0	147.6	0.0	149.4	0.0	144.4	0.0
04/16/2011	120.1	0.0	116.8	0.0	128.1	10.0	131.3	0.0	136.3	0.0	152.4	0.0	154.6	0.0
04/17/2011	119.5	0.0	123.9	0.0	130.7	10.0	129.3	0.0	133.7	14.3	146.9	0.0	147.3	0.0
04/18/2011	121.4	0.0	122.7	0.0	133.5	9.9	133.6	0.0	136.7	13.2	143.9	0.0	148.3	0.0
04/19/2011	140.5	0.0	143.8	0.0	145.4	10.0	140.6	0.0	144.2	14.0	139.3	0.0	136.7	0.0
04/20/2011	137.9	0.0	146.0	0.0	144.0	10.0	142.9	0.0	149.0	13.9	151.9	13.8	145.4	0.0
04/21/2011	137.9	0.0	136.5	0.0	141.0	9.7	137.8	0.0	139.3	13.8	145.8	8.5	144.8	0.0
04/22/2011	141.2	0.0	147.7	0.0	148.8	9.9	142.8	0.0	147.9	14.2	153.9	17.2	151.6	0.0
04/23/2011	134.9	0.0	138.2	0.0	144.5	10.0	145.3	0.0	151.4	14.4	156.2	16.5	156.1	0.0
04/24/2011	128.2	0.0	129.7	0.0	134.7	10.0	134.0	0.0	138.8	14.4	149.5	7.9	151.9	0.0
04/25/2011	134.7	0.0	134.7	0.0	136.5	10.0	135.0	0.0	139.5	14.4	140.6	3.3	136.2	0.0
04/26/2011	132.9	0.0	138.9	0.0	143.0	10.0	140.2	0.0	143.5	14.4	149.8	18.5	148.6	28.4
04/27/2011	123.1	0.0	121.0	0.0	133.7	9.9	138.8	0.0	142.8	14.0	152.9	25.6	156.7	39.5
04/28/2011	133.9	0.0	139.1	0.0	139.0	10.0	133.7	0.0	136.1	14.1	144.7	20.1	142.3	26.9

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

Date	Dworshak		Hells Brownlee Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
04/15/2011	10.4	0.6	42.0	45.1	89.9	21.5	88.3	26.5	91.7	26.9	94.1	60.8
04/16/2011	5.2	0.0	42.4	45.7	82.6	20.1	79.1	23.8	82.2	27.9	84.2	59.8
04/17/2011	5.0	0.0	44.8	46.0	89.4	21.1	87.5	26.3	89.3	27.9	90.4	61.4
04/18/2011	5.0	0.0	51.6	49.8	96.6	25.0	92.9	27.8	96.1	27.9	98.0	65.5
04/19/2011	4.9	0.0	52.4	60.3	104.8	33.0	102.6	30.7	106.1	28.2	108.3	70.5
04/20/2011	8.1	0.8	54.8	60.4	106.8	35.9	102.0	30.6	104.7	29.7	106.2	66.5
04/21/2011	11.9	1.5	56.1	58.9	109.8	37.7	105.6	31.7	110.2	30.6	113.0	67.4
04/22/2011	11.9	1.5	53.8	54.9	104.9	38.4	102.4	30.6	104.9	30.0	107.3	67.5
04/23/2011	12.1	1.5	49.8	54.8	102.0	30.3	97.1	29.0	99.5	29.5	101.6	65.6
04/24/2011	11.9	1.6	50.0	53.3	98.2	26.4	95.6	28.7	97.3	28.3	99.3	64.1
04/25/2011	11.8	1.6	50.3	49.8	93.8	25.1	90.7	27.3	92.8	28.1	94.0	61.5
04/26/2011	11.9	1.6	49.9	49.8	95.8	27.0	93.7	28.2	95.8	28.5	99.1	63.8
04/27/2011	12.0	1.7	49.3	49.9	96.4	24.6	91.7	27.5	94.3	29.4	96.0	65.6
04/28/2011	12.0	1.7	---	---	93.6	21.7	91.1	27.4	94.1	29.8	95.2	41.5

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		
04/15/2011	262.1	124.2	283.0	84.8	275.7	109.5	280.8	99.8	82.0	86.6
04/16/2011	224.3	90.0	215.1	64.4	202.9	80.8	250.7	99.6	52.8	85.9
04/17/2011	248.4	100.1	253.4	76.1	242.9	97.3	259.2	99.6	59.3	87.8
04/18/2011	260.7	114.7	278.8	83.7	267.9	107.1	279.1	99.6	81.3	85.8
04/19/2011	252.7	103.7	257.7	77.4	251.2	100.5	286.2	99.5	81.6	92.7
04/20/2011	275.1	125.9	281.5	84.2	270.8	108.5	294.0	99.6	83.7	98.3
04/21/2011	277.7	127.4	282.9	85.0	270.2	108.1	284.2	99.8	79.1	92.9
04/22/2011	271.1	121.1	293.5	88.2	282.1	113.1	303.7	99.8	86.1	105.4
04/23/2011	263.4	113.4	262.5	78.8	255.6	102.3	274.2	99.7	72.3	89.9
04/24/2011	250.4	101.5	256.2	76.9	243.8	97.5	263.7	99.6	60.2	91.5
04/25/2011	257.4	112.8	264.6	79.4	253.7	101.3	271.0	99.6	62.8	96.2
04/26/2011	258.3	113.1	247.0	74.4	234.9	94.0	256.9	99.7	54.1	90.7
04/27/2011	258.4	109.8	270.1	85.5	261.8	104.7	282.0	99.7	70.7	99.2
04/28/2011	255.8	106.6	269.8	107.9	257.2	103.3	271.1	99.8	65.8	93.1

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>							
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>				
	<u>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>				
4/15	111.8	111.9	112.0	24	109.3	110.0	110.3	24	105.6	106.2	106.3	24	105.5	105.8	106.2	24	103.1	103.4	103.5	24
4/16	111.9	112.1	112.3	24	110.1	111.3	111.8	24	107.0	107.6	108.2	24	107.0	107.9	108.6	24	104.1	104.4	104.6	24
4/17	111.8	111.9	112.1	23	108.5	109.2	110.2	22	106.4	106.6	106.8	24	106.5	106.7	106.8	22	104.3	104.7	105.0	24
4/18	111.9	112.0	112.1	24	109.0	110.4	111.5	23	106.3	106.4	106.6	24	106.4	106.6	106.8	23	104.4	104.6	105.0	24
4/19	111.7	111.8	112.0	23	109.7	110.3	110.7	22	106.5	107.1	108.3	24	104.7	105.6	106.1	22	104.3	104.5	104.7	24
4/20	108.3	111.7	112.0	24	110.4	111.1	111.7	23	107.5	108.3	109.0	24	105.1	105.7	106.2	23	104.7	105.1	105.2	24
4/21	99.5	102.2	104.7	22	111.6	112.6	113.0	21	107.4	107.7	107.9	24	105.4	105.7	106.0	21	105.0	105.2	105.4	24
4/22	95.9	95.9	96.0	24	111.3	112.8	113.8	22	106.5	106.7	107.0	24	104.8	105.2	105.7	22	104.5	104.8	105.2	24
4/23	96.2	96.4	96.6	24	112.4	112.9	113.9	22	108.3	109.5	110.5	24	105.3	106.0	106.5	22	105.1	105.6	105.8	24
4/24	96.6	96.8	97.0	23	111.1	111.8	112.7	21	109.5	109.9	110.7	24	106.3	106.9	107.1	21	106.1	106.5	106.7	24
4/25	97.0	97.3	97.5	24	111.5	112.0	112.4	24	109.5	109.8	110.1	24	107.1	107.4	107.6	24	106.4	106.7	106.9	24
4/26	96.5	96.7	96.9	24	110.2	110.8	112.5	22	108.9	109.1	109.4	24	106.5	106.8	107.1	22	105.9	106.0	106.3	24
4/27	96.0	96.2	96.3	23	109.9	110.4	112.2	23	109.5	109.8	110.0	24	107.1	107.7	108.2	23	105.9	106.1	106.2	24
4/28	96.6	96.7	96.8	24	109.2	109.5	109.7	24	109.7	109.9	110.3	24	107.7	108.0	108.2	24	106.4	106.5	106.9	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>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>				
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
4/15	103.4	103.8	104.3	24	102.5	102.7	103.0	23	105.0	105.4	105.8	23	106.9	107.1	107.4	24	106.3	106.4	106.8	24
4/16	104.7	105.2	105.7	24	103.7	104.3	104.8	24	106.3	107.0	107.5	24	106.2	106.5	106.6	24	105.6	105.8	106.0	24
4/17	105.1	105.8	106.7	24	103.9	104.4	105.0	24	106.2	107.0	107.6	24	106.0	106.2	106.4	24	105.3	105.5	105.7	24
4/18	105.0	105.5	106.1	24	103.7	104.1	104.7	22	105.8	106.3	106.9	22	105.8	105.9	106.1	24	105.1	105.2	105.3	24
4/19	104.5	105.0	105.5	23	103.3	103.8	104.0	22	105.5	106.2	106.6	22	105.4	105.7	105.9	24	104.7	104.9	105.2	24
4/20	104.6	105.5	106.2	24	104.4	104.8	105.2	24	106.6	107.3	107.8	24	106.1	106.6	106.9	24	105.3	105.7	106.1	24
4/21	104.9	105.5	106.3	24	104.1	104.4	104.7	23	106.2	106.7	107.2	23	106.2	106.4	106.6	24	105.4	105.5	105.6	24
4/22	104.1	104.5	105.1	24	103.6	104.1	104.5	24	105.4	106.0	106.2	24	105.5	105.9	106.1	24	104.6	105.0	105.2	24
4/23	104.9	105.7	106.5	24	105.0	105.6	106.3	24	107.2	108.1	108.9	24	106.4	107.0	107.3	24	105.5	106.2	106.4	24
4/24	106.0	106.7	107.6	24	105.8	106.4	107.3	24	107.9	108.7	109.5	24	107.5	108.1	108.3	24	106.5	106.9	107.5	24
4/25	106.2	106.6	107.3	24	106.0	106.5	107.1	24	108.1	108.7	109.6	24	108.0	108.1	108.3	24	107.0	107.1	107.2	24
4/26	105.7	105.9	106.4	24	105.2	105.5	106.1	24	107.5	107.9	108.4	24	107.0	107.2	107.5	24	105.7	106.3	106.5	24
4/27	105.9	106.4	107.3	24	105.2	105.6	105.8	23	107.3	107.8	108.3	23	105.4	107.2	107.6	24	106.2	106.5	107.0	24
4/28	106.2	106.6	107.4	24	105.3	105.7	106.4	24	107.5	108.0	108.8	24	107.0	107.3	107.4	24	106.3	106.5	106.6	24

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>				
	<u>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>				
4/15	106.4	106.8	107.7	24	106.6	107.0	108.0	24	105.8	106.2	106.5	24	105.9	106.3	106.6	24	107.3	107.8	108.2	24
4/16	105.8	106.0	106.3	24	105.9	106.1	106.4	24	107.5	108.1	108.8	24	107.6	108.2	108.5	24	106.8	107.2	107.8	24
4/17	105.0	105.3	105.5	24	107.8	108.6	110.1	24	106.6	106.9	107.5	24	106.7	107.0	107.8	24	106.7	107.0	107.4	24
4/18	104.8	105.0	105.2	24	106.6	107.2	108.6	24	105.5	105.9	106.1	24	105.7	105.9	106.2	24	105.4	105.7	106.1	24
4/19	104.5	104.9	105.3	24	106.8	107.5	107.8	24	105.2	105.8	106.5	24	104.9	105.2	105.5	24	104.3	104.6	105.1	24
4/20	105.1	105.6	105.9	24	107.2	108.0	108.9	24	106.4	106.9	107.6	24	107.0	107.9	109.5	24	105.8	106.5	106.9	24
4/21	105.1	105.3	105.7	24	107.4	108.3	109.7	24	105.7	106.1	106.6	23	106.5	106.7	107.1	23	106.2	107.1	107.4	23
4/22	104.7	105.2	105.5	24	107.1	107.7	108.4	24	105.7	106.8	108.4	24	106.2	107.1	108.0	24	105.6	106.7	107.0	24
4/23	105.5	106.3	106.7	24	107.8	108.5	109.6	24	107.5	109.0	110.3	24	107.7	109.0	111.5	24	108.6	110.0	111.8	24
4/24	106.4	106.9	107.2	24	109.0	109.6	110.0	24	108.1	108.6	109.4	24	108.2	108.6	109.0	24	109.0	109.8	110.8	24
4/25	107.1	107.3	107.3	24	109.4	109.7	110.4	24	107.9	108.1	108.4	24	108.1	108.3	108.5	24	108.4	108.8	109.2	24
4/26	106.1	106.4	106.7	24	108.2	108.6	109.3	24	106.5	106.8	107.2	24	108.7	109.4	109.6	24	106.6	106.8	106.9	24
4/27	106.2	106.6	106.9	24	108.0	108.3	108.9	24	106.7	107.2	107.4	24	109.8	110.3	113.7	24	109.0	109.7	110.6	24
4/28	106.3	106.5	106.8	24	108.4	108.7	109.5	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	Priest R. Dnst			Pasco			Dworshak			Clrwtr-Peck			Anatone							
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
4/15	106.6	107.2	107.6	24	105.0	105.5	105.8	24	99.2	100.8	106.9	24	100.8	101.7	106.0	24	105.7	106.2	106.5	24
4/16	106.3	106.8	107.1	24	104.5	104.8	105.0	24	100.1	100.7	105.0	24	101.5	102.0	102.4	24	106.0	106.5	107.0	24
4/17	106.3	106.5	106.8	24	103.9	104.7	105.1	24	100.2	100.8	105.0	24	101.2	101.5	101.6	24	104.7	105.2	105.7	24
4/18	105.1	105.4	106.0	24	103.6	103.9	104.5	24	99.1	100.3	105.1	24	100.5	100.7	101.1	23	104.1	104.4	104.7	24
4/19	104.0	104.2	104.4	24	102.2	102.8	103.1	24	98.4	99.3	102.6	24	100.7	101.3	102.0	21	105.7	106.8	107.2	24
4/20	105.3	106.0	106.2	24	102.8	103.4	103.6	24	100.5	101.8	105.2	24	101.2	101.8	102.2	23	106.7	107.3	108.0	24
4/21	105.8	106.4	106.8	23	102.4	102.7	103.3	24	101.6	101.6	101.7	10	101.0	101.3	101.6	24	106.5	106.9	107.5	24
4/22	104.6	105.4	106.0	24	103.4	105.2	105.9	24	99.7	99.9	100.3	17	100.5	100.9	101.4	21	106.5	107.1	107.7	24
4/23	106.7	107.3	107.8	24	105.0	106.2	107.0	24	100.8	101.5	101.9	24	101.5	102.5	103.2	24	107.2	108.1	108.8	24
4/24	107.8	108.5	109.6	24	105.5	105.8	106.2	24	102.1	102.4	103.1	24	102.0	102.7	103.2	24	107.1	107.8	108.3	24
4/25	107.3	107.7	107.9	24	104.3	105.0	105.4	24	102.2	102.3	102.6	22	101.7	102.0	102.1	24	106.3	106.7	107.0	24
4/26	108.5	110.7	112.3	24	102.7	103.7	104.2	24	101.8	102.0	102.2	24	101.2	101.7	102.0	24	105.7	106.4	107.0	24
4/27	112.1	113.3	116.1	24	104.7	106.3	106.8	24	102.3	102.8	103.9	24	101.8	102.4	102.7	24	106.2	106.9	107.4	24
4/28	---	---	---	0	105.2	105.8	106.6	24	101.9	102.3	102.9	24	101.3	101.7	102.3	24	106.1	106.7	107.3	24

Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clrwtr-Lewiston			Lower Granite			L. Granite Tlwr			Little Goose			L. Goose Tlwr							
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
4/15	102.1	103.2	104.9	24	105.3	105.5	105.9	24	110.7	111.4	115.1	24	110.9	111.1	111.3	24	112.4	112.6	113.0	24
4/16	101.2	102.4	103.2	23	106.3	106.9	107.2	24	110.4	110.7	111.1	24	110.8	111.0	111.3	24	112.7	112.9	113.2	24
4/17	100.5	101.4	102.3	22	106.4	106.6	106.9	24	110.5	111.1	111.7	24	110.6	110.7	110.9	24	112.7	112.9	113.1	24
4/18	99.8	100.3	101.0	23	105.3	105.6	106.1	24	112.2	113.2	113.6	24	108.9	109.6	110.3	24	112.0	112.3	112.6	24
4/19	100.1	101.4	102.3	24	103.8	104.0	104.3	24	114.7	116.2	116.3	24	107.6	107.9	108.3	24	112.6	113.1	113.4	24
4/20	100.7	101.7	102.3	23	104.1	104.5	105.0	24	115.7	116.4	116.8	24	108.7	109.4	109.8	24	113.4	113.9	115.6	24
4/21	100.7	101.2	102.1	20	105.7	105.9	106.1	24	116.4	116.8	116.9	24	110.4	111.1	111.5	24	114.2	114.6	114.9	24
4/22	100.3	101.3	102.3	23	105.0	105.1	105.3	24	116.0	117.8	119.6	24	110.8	111.0	111.3	24	113.7	114.0	114.2	24
4/23	101.4	102.9	104.1	24	105.5	106.1	106.4	24	114.2	114.6	114.9	24	111.6	112.1	112.7	24	113.5	113.7	113.9	24
4/24	101.8	102.9	103.7	22	106.8	107.0	107.2	24	113.7	113.9	114.4	24	114.5	115.8	117.1	24	114.2	114.4	114.7	24
4/25	100.9	101.4	101.7	24	107.1	107.4	107.7	24	112.7	114.7	116.6	24	113.4	114.2	114.6	24	113.6	113.9	114.4	24
4/26	100.6	101.5	102.5	23	105.0	105.3	106.0	24	112.8	114.4	116.9	24	109.2	109.7	110.7	24	112.2	112.6	112.8	24
4/27	101.4	102.8	104.8	24	103.8	104.0	104.3	24	112.8	112.9	113.1	24	107.6	107.9	108.3	24	111.8	112.3	112.5	24
4/28	101.7	102.6	103.9	24	104.2	104.8	105.2	24	110.7	111.6	112.7	24	107.6	108.2	108.8	24	111.9	112.2	112.8	24

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

Date	Lower Mon.			L. Mon. Tlwr			Ice Harbor			Ice Harbor Tlwr			McNary-Oregon							
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
4/15	112.4	112.9	113.5	24	118.2	118.7	119.1	24	113.8	114.1	114.3	24	116.8	117.8	119.7	24	---	---	---	0
4/16	113.9	114.1	114.3	24	118.7	118.9	119.1	24	114.3	114.4	114.6	24	115.8	116.2	116.7	24	---	---	---	0
4/17	112.9	113.2	113.8	24	118.7	118.9	119.1	24	114.3	114.6	114.8	24	116.5	117.2	118.7	24	---	---	---	0
4/18	111.9	112.1	112.5	24	118.2	118.4	118.6	24	114.3	114.4	114.7	24	117.3	118.4	119.9	24	---	---	---	0
4/19	111.4	111.7	112.0	24	118.2	118.4	118.8	24	113.2	113.5	113.8	24	118.3	119.0	119.9	24	---	---	---	0
4/20	112.5	113.2	114.1	24	119.0	119.9	120.8	24	114.2	114.6	114.8	24	117.8	119.1	120.0	24	---	---	---	0
4/21	113.0	113.5	114.1	24	120.4	120.6	120.9	24	113.9	114.3	114.7	24	117.8	119.5	120.2	24	---	---	---	0
4/22	111.4	111.8	112.3	24	119.9	120.1	120.2	24	112.7	113.1	113.7	24	117.8	119.2	119.8	24	---	---	---	0
4/23	114.0	114.8	115.5	24	120.1	120.4	120.7	24	114.6	115.5	116.0	24	117.5	118.6	119.8	24	---	---	---	0
4/24	115.3	115.5	115.7	24	119.1	119.7	120.2	24	116.0	116.2	116.4	24	117.1	117.8	118.2	24	---	---	---	0
4/25	114.3	114.7	114.8	24	118.6	119.1	119.6	24	114.9	115.6	115.7	24	116.5	117.5	119.2	24	---	---	---	0
4/26	111.9	112.3	113.0	24	118.3	118.4	118.6	24	111.7	111.9	112.5	24	116.7	117.6	119.2	24	---	---	---	0
4/27	110.7	110.9	111.2	24	119.0	119.4	119.9	24	111.5	112.2	112.8	24	116.9	118.2	119.8	24	---	---	---	0
4/28	111.3	111.5	112.0	24	119.3	119.6	120.0	24	112.4	112.7	113.1	24	116.0	117.3	119.6	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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>	
	Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	AVG	High	
4/15	109.3	110.1	110.6	24	116.8	117.3	117.4	24	111.2	111.6	111.9	24	115.0	116.0	117.1	24	111.1	111.4	111.6	24
4/16	110.0	110.1	110.3	24	114.8	115.0	115.0	24	112.5	112.9	113.0	24	113.9	114.5	115.0	24	111.9	112.1	112.3	24
4/17	109.1	109.5	110.1	24	115.4	115.6	115.8	24	111.7	111.9	112.1	24	115.0	115.5	116.6	24	110.5	110.9	111.4	24
4/18	107.9	108.3	109.1	24	116.6	117.6	117.8	24	110.7	111.1	111.4	24	114.7	115.8	116.6	24	110.0	110.3	110.7	24
4/19	107.6	108.0	109.8	24	115.3	115.8	116.8	24	109.5	109.7	109.8	24	114.1	114.6	115.0	24	109.8	110.5	110.9	24
4/20	108.9	109.3	109.6	24	116.7	117.2	117.5	24	110.1	110.5	110.8	24	115.2	115.7	117.0	24	111.2	111.4	111.6	24
4/21	107.9	108.4	109.0	24	116.0	116.2	116.3	24	109.0	109.6	110.4	24	114.7	115.5	116.2	24	108.7	109.4	110.7	24
4/22	106.8	108.1	110.0	24	115.4	115.8	116.2	24	108.3	109.2	109.8	24	115.3	116.3	117.0	24	109.1	110.4	111.2	24
4/23	108.5	110.0	110.8	24	114.6	115.0	115.3	24	110.1	110.6	111.2	24	114.1	115.1	116.3	24	111.0	111.5	111.8	24
4/24	109.2	109.6	110.5	24	113.3	113.7	114.0	24	110.2	110.8	111.1	24	113.5	114.2	116.1	24	110.9	111.3	112.0	24
4/25	108.5	109.2	110.3	24	113.9	114.6	115.2	24	108.9	109.3	109.7	24	114.1	115.2	115.9	24	110.1	110.5	110.8	24
4/26	105.6	106.0	106.3	24	114.2	115.4	116.4	24	108.4	108.7	109.0	24	114.0	114.8	115.3	24	108.7	109.2	109.6	24
4/27	105.7	106.2	107.1	24	114.4	115.1	115.6	24	108.4	108.6	108.9	24	115.2	116.2	118.4	24	109.7	110.1	110.3	24
4/28	106.7	107.0	107.2	24	114.0	114.5	114.8	24	106.9	107.2	107.7	24	117.5	117.9	118.4	24	109.6	110.3	110.7	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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>	
	Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	AVG	High	
4/15	116.6	117.0	117.3	24	114.3	114.8	115.1	24	115.6	115.9	116.0	24	112.9	113.2	113.5	24	118.7	118.9	119.2	24
4/16	116.4	116.6	116.9	24	114.8	115.1	115.4	24	116.1	116.2	116.3	24	113.8	114.3	114.6	24	118.3	118.5	119.0	24
4/17	115.9	116.2	116.4	24	112.7	112.9	113.5	24	114.9	115.2	115.4	24	113.8	114.6	115.2	24	118.3	118.7	119.4	24
4/18	115.7	115.9	116.1	24	112.1	112.4	112.8	24	114.0	114.2	114.3	24	112.9	113.3	113.6	24	118.4	118.5	118.8	24
4/19	115.6	116.2	116.7	24	112.1	112.9	113.3	24	114.0	114.4	114.7	24	113.0	114.1	114.9	24	118.8	119.1	119.4	24
4/20	117.1	117.5	117.7	24	114.3	114.7	114.9	24	115.4	115.6	115.7	24	113.9	114.5	115.2	24	119.6	120.1	120.4	24
4/21	115.5	116.0	116.7	24	113.0	113.7	114.5	24	114.6	114.9	115.2	24	113.0	113.4	113.9	24	118.8	119.3	119.6	24
4/22	116.0	116.9	117.7	24	112.7	113.6	114.2	24	114.3	115.1	115.4	24	113.4	114.4	115.1	24	119.3	119.9	120.3	24
4/23	117.1	117.5	118.0	24	114.9	115.6	116.3	24	115.9	116.5	116.8	24	113.3	114.5	115.1	24	118.7	118.8	119.0	24
4/24	116.7	117.0	117.5	24	115.7	116.3	116.7	24	116.7	116.9	117.2	24	114.8	115.5	115.9	24	118.5	118.6	118.8	24
4/25	116.1	116.6	117.3	24	113.8	114.6	115.1	24	115.4	116.1	116.5	24	113.4	114.7	115.4	24	118.5	118.7	119.6	24
4/26	115.1	115.4	115.8	24	111.5	111.9	112.2	24	114.2	114.5	114.8	24	111.4	112.0	112.8	24	117.8	118.0	118.1	24
4/27	116.0	116.5	117.1	24	112.8	113.3	113.7	23	114.6	114.8	115.1	24	112.6	113.3	114.0	24	118.4	118.8	119.5	24
4/28	116.1	116.4	116.8	24	113.0	113.3	113.5	24	114.7	115.0	115.4	24	112.2	112.7	113.2	24	118.4	118.5	118.7	24

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											
	04/21/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/28/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Little Goose Dam											
	04/18/11	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	04/23/11	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
Lower Monumental Dam											
	04/16/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/22/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	04/18/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/22/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/24/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/28/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	04/16/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/19/11	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	04/23/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/26/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	04/21/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/22/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/26/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/28/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 4/29/2011 8:14

Two-Week Summary of Passage Indices

* One or more of the sites on this date had an incomplete or biased sample.

See Sampling Comments: <http://www.fpc.org/currentDaily/smpcomments.htm>

For clip information see: <http://www.fpc.org/CurrentDaily/catch.htm>

For sockeye and yearling chinook (Snake only) race information see: <http://www.fpc.org/smoltqueries/currentsmpsubmitdata.asp>

Date	COMBINED YEARLING CHINOOK										
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
04/15/2011 *	647	2,705	231	56	20,465	---	---	0	3,958	2,962	5,104
04/16/2011 *	102	646	148	70	19,468	---	676	3	---	3,725	42,898
04/17/2011 *	126	444	801	68	22,670	---	---	6	10,332	2,864	41,110
04/18/2011 *	334	784	430	116	32,440	---	---	21	---	4,008	23,374
04/19/2011 *	942	1,584	451	563	35,366	29,123	558	40	13,445	5,774	19,266
04/20/2011 *	1,298	896	424	602	36,835	---	---	132	---	8,558	18,170
04/21/2011 *	394	---	396	390	35,759	---	---	370	24,643	8,921	13,058
04/22/2011 *	423	---	325	565	42,918	---	1,802	690	---	10,403	24,026
04/23/2011 *	555	---	302	551	45,463	---	---	256	25,892	14,655	16,285
04/24/2011 *	228	---	199	353	33,811	49,821	---	282	---	14,989	10,676
04/25/2011 *	79	---	171	185	39,420	---	3,263	325	30,714	15,168	12,085
04/26/2011 *	63	---	296	336	45,977	---	---	222	---	21,294	20,260
04/27/2011 *	168	---	212	437	57,207	---	---	342	50,230	19,272	13,458
04/28/2011 *	169	---	212	716	88,744	---	4,102	663	---	23,979	15,387
04/29/2011	---	---	---	---	---	---	---	---	---	---	---
Total:	5,528	7,059	4,598	5,008	556,543	78,944	10,401	3,352	159,214	156,572	275,157
# Days:	14	6	14	14	14	2	5	14	7	14	14
Average:	395	1,177	328	358	39,753	39,472	2,080	239	22,745	11,184	19,654
YTD	29,049	27,569	7,873	9,632	850,875	103,867	10,807	3,429	161,581	183,567	319,598

Date	COMBINED SUBYEARLING CHINOOK										
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
04/15/2011 *	0	0	0	2	0	---	---	10	532	286	89,616
04/16/2011 *	0	0	0	0	0	---	0	7	---	287	59,650
04/17/2011 *	0	0	0	0	0	---	---	9	1,018	115	39,753
04/18/2011 *	0	0	0	0	0	---	---	11	---	0	48,831
04/19/2011 *	0	0	0	0	0	0	0	27	713	96	25,763
04/20/2011 *	0	5	0	0	302	---	---	9	---	0	15,857
04/21/2011 *	0	---	0	0	0	---	---	4	526	172	10,637
04/22/2011 *	0	---	0	2	0	---	0	23	---	0	9,610
04/23/2011 *	0	---	0	4	0	---	---	6	544	143	5,618
04/24/2011 *	0	---	0	3	0	1	---	7	---	0	6,110
04/25/2011 *	0	---	0	1	272	---	0	7	772	190	3,453
04/26/2011 *	0	---	1	0	538	---	---	13	---	47	3,842
04/27/2011 *	0	---	0	0	0	---	---	12	632	52	2,397
04/28/2011 *	0	---	0	1	0	---	0	7	---	0	3,969
04/29/2011	---	---	---	---	---	---	---	---	---	---	---
Total:	0	5	1	13	1,112	1	0	152	4,737	1,388	325,106
# Days:	14	6	14	14	14	2	5	14	7	14	14
Average:	0	1	0	1	79	1	0	11	677	99	23,222
YTD	9	11	11	58	2,839	10	0	380	5,369	2,866	1,840,098

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)
04/15/2011 *	0	0	0	0	0	---	---	0	530	0	3,302
04/16/2011 *	0	0	0	2	0	---	0	3	---	172	2,505
04/17/2011 *	0	0	0	0	0	---	---	4	1,524	0	305
04/18/2011 *	0	0	0	1	0	---	---	3	---	96	596
04/19/2011 *	0	0	0	5	0	0	0	16	1,817	143	1,130
04/20/2011 *	0	0	0	10	0	---	---	35	---	0	2,628
04/21/2011 *	0	---	0	6	0	---	---	20	4,207	515	1,761
04/22/2011 *	0	---	0	3	0	---	0	37	---	96	2,767
04/23/2011 *	0	---	0	5	0	---	---	4	3,541	334	3,485
04/24/2011 *	0	---	0	0	284	286	---	21	---	763	1,576
04/25/2011 *	0	---	0	0	0	---	0	14	3,774	1,002	1,105
04/26/2011 *	0	---	0	2	538	---	---	7	---	1,481	1,533
04/27/2011 *	0	---	0	3	0	---	---	17	3,162	287	1,488
04/28/2011 *	0	---	0	13	0	---	0	30	---	1,486	2,089
04/29/2011	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	50	822	286	0	211	18,555	6,375	26,270
# Days:	14	6	14	14	14	2	5	14	7	14	14
Average:	0	0	0	4	59	143	0	15	2,651	455	1,876
YTD	0	0	0	97	3,035	429	0	263	18,807	6,524	101,600

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)
04/15/2011 *	40	26	114	28	12,415	---	---	1	15,808	20,449	1,051
04/16/2011 *	17	9	70	38	18,161	---	351	1	---	17,364	939
04/17/2011 *	34	22	417	25	33,144	---	---	2	12,873	13,860	1,413
04/18/2011 *	94	74	254	27	55,876	---	---	9	---	19,612	2,084
04/19/2011 *	59	131	238	60	34,016	22,659	452	5	5,696	19,997	1,162
04/20/2011 *	35	148	128	55	42,572	---	---	16	---	18,110	2,057
04/21/2011 *	17	---	73	101	40,911	---	---	14	13,555	16,927	1,981
04/22/2011 *	17	---	54	54	65,011	---	1,541	24	---	16,892	1,675
04/23/2011 *	21	---	23	89	40,480	---	---	17	33,519	12,746	1,707
04/24/2011 *	13	---	22	36	24,719	54,795	---	19	---	11,553	827
04/25/2011 *	7	---	16	14	44,857	---	2,861	7	27,350	16,932	1,174
04/26/2011 *	4	---	72	95	31,458	---	---	21	---	22,916	1,859
04/27/2011 *	39	---	448	54	33,817	---	---	33	36,073	26,770	1,719
04/28/2011 *	15	---	107	150	29,315	---	1,082	45	---	39,168	1,601
04/29/2011	---	---	---	---	---	---	---	---	---	---	---
Total:	412	410	2,036	826	506,752	77,454	6,287	214	144,874	273,296	21,249
# Days:	14	6	14	14	14	2	5	14	7	14	14
Average:	29	68	145	59	36,197	38,727	1,257	15	20,696	19,521	1,518
YTD	548	2,650	2,422	1,011	1,362,995	300,363	7,283	268	172,147	423,165	31,669

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)
04/15/2011 *	0	0	0	0	955	---	---	0	654	343	0
04/16/2011 *	0	0	0	0	915	---	37	1	---	802	157
04/17/2011 *	0	0	0	0	265	---	---	0	474	172	277
04/18/2011 *	0	0	0	0	794	---	---	0	---	286	0
04/19/2011 *	0	0	0	0	1,620	833	28	19	643	477	157
04/20/2011 *	0	0	0	0	302	---	---	4	---	515	210
04/21/2011 *	0	---	0	0	303	---	---	19	1,091	286	73
04/22/2011 *	0	---	0	0	604	---	42	26	---	429	874
04/23/2011 *	0	---	0	0	623	---	---	43	1,098	620	498
04/24/2011 *	0	---	0	0	284	2,725	---	139	---	907	585
04/25/2011 *	0	---	0	0	1,087	---	85	64	1,292	286	483
04/26/2011 *	0	---	0	0	0	---	---	18	---	526	196
04/27/2011 *	0	---	0	0	282	---	---	47	1,825	866	373
04/28/2011 *	0	---	0	0	1,066	---	57	94	---	1,082	348
04/29/2011	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	9,100	3,558	249	474	7,077	7,597	4,231
# Days:	14	6	14	14	14	2	5	14	7	14	14
Average:	0	0	0	0	650	1,779	50	34	1,011	543	302
YTD	0	0	0	0	30,037	7,212	483	478	7,751	9,441	5,432

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)
04/15/2011 *	0	0	0	0	100	---	---	1	7,240	5,420	1,450
04/16/2011 *	0	0	0	0	0	---	0	0	---	5,720	600
04/17/2011 *	0	0	0	0	100	---	---	1	1,620	8,680	490
04/18/2011 *	0	0	0	0	0	---	---	2	---	7,500	550
04/19/2011 *	0	0	0	0	0	40	0	1	720	3,767	428
04/20/2011 *	0	0	0	0	0	---	---	1	---	2,247	215
04/21/2011 *	0	---	0	0	0	---	---	0	980	1,920	125
04/22/2011 *	0	---	0	0	0	---	0	0	---	3,367	325
04/23/2011 *	0	---	0	0	0	---	---	2	1,200	2,300	225
04/24/2011 *	0	---	0	0	0	0	---	0	---	566	253
04/25/2011 *	0	---	0	0	0	---	0	0	250	534	200
04/26/2011 *	0	---	0	0	0	---	---	1	---	667	253
04/27/2011 *	0	---	0	0	0	---	---	1	600	250	98
04/28/2011 *	0	---	0	0	0	---	0	0	---	166	150
04/29/2011	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	200	40	0	10	12,610	43,104	5,362
# Days:	14	6	14	14	14	2	5	14	7	14	14
Average:	0	0	0	0	14	20	0	1	1,801	3,079	383
YTD	0	0	0	0	3,527	2,691	0	36	18,710	120,165	18,056

* 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:

- 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, and pacific lamprey macrophthalmia.

† 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

Two-Week Summary of Passage Indices

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 = $\text{Collection Counts} / \{\text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill})\}$

LGS (Index) = Little Goose Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{\text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill})\}$

LMN (Index) = Lower Monumental Dam Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{\text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill})\}$

RIS (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{\text{Powerhouse 2 Flow} / (\text{Powerhouse 1 \& 2 Flow} + \text{Spill})\}$

MCN (Index) = McNary Dam Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{\text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill})\}$

JDA (Index) = John Day Dam Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{\text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill})\}$

BO2 (Index) = Bonneville Dam Second Powerhouse Bypass Collection System : Passage Index Counts

Passage Index = $\text{Collection Counts} / \{\text{Powerhouse 2 Flow} / (\text{Powerhouse 1 \& 2 Flow} + \text{Spill})\}$

JDA and BO2 data collected for the FPC by Pacific States Marine Fisheries Commission.

RIS data collected for the FPC by Chelan Co. PUD/Washington Dept. of Fish and Wildlife.

LGR, LMN, and MCN data collected for the FPC by Washington Dept. of Fish and Wildlife.

LGS and GRN data collected for the FPC by Oregon Dept. of Fish and Wildlife.

IMN data collected for the FPC by the Nez Perce Tribe.

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

4/29/11 8:16 AM

04/15/11 TO 04/29/11

Site	Data	Species					Grand Total
		CH0	CH1	CO	ST	SO	
LGR	Sum of NumberCollected	800	397,532	600	359,468	6,600	765,000
	Sum of NumberBarged	158	41,427	102	32,647	569	74,903
	Sum of NumberBypassed	642	356,007	498	326,782	6,001	689,930
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	12	0	4	2	18
	Sum of FacilityMorts	0	86	0	35	28	149
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	98	0	39	30	167
LGS	Sum of NumberCollected		55,208	200	54,175	2,489	112,072
	Sum of NumberBarged		0	0	0	0	0
	Sum of NumberBypassed		55,183	200	54,170	2,478	112,031
	Sum of Numbertrucked		0	0	0	0	0
	Sum of SampleMorts		3	0	4	2	9
	Sum of FacilityMorts		22	0	1	9	32
	Sum of ResearchMorts		0	0	0	0	0
	Sum of TotalProjectMorts		25	0	5	11	41
LMN	Sum of NumberCollected		7,308		4,429	174	11,911
	Sum of NumberBarged		0		0	0	0
	Sum of NumberBypassed		7,307		4,428	174	11,909
	Sum of Numbertrucked		0		0	0	0
	Sum of SampleMorts		1		1	0	2
	Sum of FacilityMorts		0		0	0	0
	Sum of ResearchMorts		0		0	0	0
	Sum of TotalProjectMorts		1		1	0	2
MCN	Sum of NumberCollected	2,642	88,708	10,325	80,183	3,912	185,770
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	2,636	88,553	10,319	80,150	3,887	185,545
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	4	19	1	3	0	27
	Sum of FacilityMorts	2	136	5	30	25	198
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	6	155	6	33	25	225
Total Sum of NumberCollected		3,442	548,756	11,125	498,255	13,175	1,074,753
Total Sum of NumberBarged		158	41,427	102	32,647	569	74,903
Total Sum of NumberBypassed		3,278	507,050	11,017	465,530	12,540	999,415
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		4	35	1	12	4	56
Total Sum of FacilityMorts		2	244	5	66	62	379
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		6	279	6	78	66	435

YTD Transportation Summary

Source: Fish Passage Center

Updated:

4/29/11 8:16 AM

TO: 04/29/11

Site	Data	Species					Grand Total
		CH0	CH1	CO	SO	ST	
LGR	Sum of NumberCollected	1,875	582,935	1,959	20,989	859,869	1,467,627
	Sum of NumberBarged	257	63,671	262	1,633	68,973	134,796
	Sum of NumberBypassed	1,612	519,128	1,696	19,253	790,838	1,332,527
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	6	30	1	50	19	106
	Sum of FacilityMorts	0	106	0	53	39	198
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	6	136	1	103	58	304
LGS	Sum of NumberCollected		72,633	300	5,147	218,307	296,387
	Sum of NumberBarged		0	0	0	0	0
	Sum of NumberBypassed		72,605	300	5,127	218,297	296,329
	Sum of NumberTrucked		0	0	0	0	0
	Sum of SampleMorts		4	0	3	4	11
	Sum of FacilityMorts		24	0	17	6	47
	Sum of ResearchMorts		0	0	0	0	0
	Sum of TotalProjectMorts		28	0	20	10	58
LMN	Sum of NumberCollected		7,556		330	5,092	12,978
	Sum of NumberBarged		0		0	0	0
	Sum of NumberBypassed		7,555		330	5,091	12,976
	Sum of NumberTrucked		0		0	0	0
	Sum of SampleMorts		1		0	1	2
	Sum of FacilityMorts		0		0	0	0
	Sum of ResearchMorts		0		0	0	0
	Sum of TotalProjectMorts		1		0	1	2
MCN	Sum of NumberCollected	2,943	89,835	10,445	4,233	93,166	200,622
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	2,932	89,672	10,439	4,207	93,129	200,379
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	8	20	1	0	4	33
	Sum of FacilityMorts	3	143	5	26	33	210
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	11	163	6	26	37	243
Total Sum of NumberCollected		4,818	752,959	12,704	30,699	1,176,434	1,977,614
Total Sum of NumberBarged		257	63,671	262	1,633	68,973	134,796
Total Sum of NumberBypassed		4,544	688,960	12,435	28,917	1,107,355	1,842,211
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		14	55	2	53	28	152
Total Sum of FacilityMorts		3	273	5	96	78	455
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		17	328	7	149	106	607

Cumulative Adult Passage at Mainstem Dams Through: 04/28

DAM	EndDate	Spring Chinook						Summer Chinook						Fall Chinook					
		2011		2010		10-Yr Avg.		2011		2010		10-Yr Avg.		2011		2010		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	04/21	20119	255	119140	711	86678	706	0	0	0	0	0	0	0	0	0	0	0	0
TDA	04/21	2710	73	73279	395	53020	298	0	0	0	0	0	0	0	0	0	0	0	0
JDA	04/21	997	30	63249	537	40883	224	0	0	0	0	0	0	0	0	0	0	0	0
MCN	04/21	432	15	41299	496	32409	214	0	0	0	0	0	0	0	0	0	0	0	0
IHR	04/21	252	6	24956	289	20564	108	0	0	0	0	0	0	0	0	0	0	0	0
LMN	04/21	110	4	15042	179	17290	43	0	0	0	0	0	0	0	0	0	0	0	0
LGS	04/21	94	1	9950	187	14093	68	0	0	0	0	0	0	0	0	0	0	0	0
LGR	04/21	43	0	6234	85	12208	26	0	0	0	0	0	0	0	0	0	0	0	0
PRD	04/18	41	1	2790	0	2422	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS	04/20	11	0	397	1	622	1	0	0	0	0	0	0	0	0	0	0	0	0
RRH	04/20	1	0	53	1	75	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	04/20	1828	11	14599	139	-	-	-	-	-	-	-	-	0	0	0	0	-	-

DAM	Coho						Sockeye			Steelhead			
	2011		2010		10-Yr Avg.		2011	2010	10-Yr Avg.	2011	2010	10-Yr Avg.	Mild 201
	Adult	Jack	Adult	Jack	Adult	Jack							
BON	0	0	0	0	0	0	0	1	0	2201	4092	2410	888
TDA	0	0	0	0	0	0	0	1	0	1069	1866	1108	628
JDA	0	0	0	0	0	0	0	0	0	2333	2119	2287	1519
MCN	0	0	0	0	0	0	0	0	0	2250	1930	1871	1413
IHR	0	0	0	0	0	0	0	0	0	2623	2690	2324	984
LMN	0	0	0	0	0	0	0	0	0	3233	3510	2638	1744
LGS	0	0	0	0	0	0	0	0	0	5308	2648	2617	2666
LGR	0	0	0	0	0	0	0	0	0	11303	9777	8957	5020
PRD	0	0	0	0	0	0	0	0	0	10	52	13	0
RIS	0	0	0	0	0	0	0	0	0	22	71	37	0
RRH	0	0	0	0	0	0	0	0	0	147	212	127	0
WEL	0	0	0	0	0	0	0	0	0	0	0	0	0
WFA	0	0	0	0	-	-	-	-	-	7574	11188	-	-

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:

04/29/11

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

Year	Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
2011	49	1	1,419	600
2010	39	0	2,318	657