



Fish Passage Center

Weekly Report #13 - 13

June 14, 2013

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has been below average over June, varying between 7% and 65% of average at individual sub-basins over June. Precipitation above The Dalles has been 28% of average over June. Over the 2013 water year, precipitation has ranged between 68% and 101% of average.

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

Location	Water Year 2013 June 1–12, 2013		Water Year 2013 October 1, 2012 to June 12, 2013	
	Observed (inches)	% Average	Observed (inches)	% Average
	Columbia above Coulee	0.62	48	28.8
Snake River above Ice Harbor	0.09	13	13.7	73
Columbia above The Dalles	0.24	28	18.9	83
Kootenai	0.44	30	30.7	101
Clark Fork	0.64	65	16.9	76
Flathead	0.72	57	28.7	99
Pend Oreille Basin	0.65	58	23.3	87
Snake Basin above Hells Canyon	0.04	8	11.0	71
Salmon River Basin	0.17	17	16.1	68
Clearwater	0.34	29	29.3	84
Willamette River above Portland	0.07	7	53.2	90

Snowpack in the Columbia River for basins above the Snake River confluence is now at 94% of average. For Snake River Basins the average snowpack is now 19% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is currently 1% of average.

Table 2 displays the April 7th and June 12th ESP runoff volume forecasts for multiple reservoirs. The June 12th forecast at The Dalles between January and July is 94,692 Kaf (93% of average).

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

Location	April 7, 2013 ESP		June 12, 2013 ESP	
	% Average (1971– 2000)	Runoff Volume (Kaf)	% Average (1971– 2000)	Runoff Volume (Kaf)
The Dalles (Jan–July)	93	94287	93	94692
Grand Coulee (Jan–July)	101	60415	103	61250
Libby Res. Inflow, MT (Apr–Aug)	102	6001 *6189	112	6570 **6535
Hungry Horse Res. Inflow, MT (Jan–July)	99	2084	106	2227
Lower Granite Res. Inflow (Apr–July)	83	16485	70	13932
Brownlee Res. Inflow (Apr–July)	62	3376	44	2417
Dworshak Res. Inflow (Apr–July)	96	2319 *2036	85	2062 **2296

* Denotes COE April Forecast
 ** Denotes COE May Forecast

Grand Coulee Reservoir is at 1286.3 feet (6-13-13) and refilled 3.5 feet over the last week. Outflows at Grand Coulee have ranged between 107.7 and 158.2 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2435.4 feet (6-13-13) and has refilled 6.9 feet last week. Outflows at Libby Dam have decreased from 22.0 Kcfs to 16.0 Kcfs over the last week; inflows to Libby have ranged from 35.4 Kcfs to 47.4 Kcfs over the same period.

Hungry Horse is currently at an elevation of 3553.8 feet (6-13-13) and has refilled 5.1 feet last week. Outflows at Hungry Horse Dam have decreased from 7.5 Kcfs to 4.7 Kcfs over the last week; inflows to Hungry Horse have ranged from 12.3 Kcfs to 18.7 Kcfs over the same period.

Dworshak is currently at an elevation of 1599.9 feet (6-13-13) and has refilled 0.3 feet last week. Outflows from Dworshak have varied between 6.5 and 9.5 Kcfs over the last week. Inflows to Dworshak have ranged between 7.5 Kcfs and 10.3 Kcfs last week.

The Brownlee Reservoir was at an elevation of 2076.5 feet on June 13th, 2013, refilling 0.3 feet over the last week. Over the last week, inflows at Brownlee have ranged between 9.2 and 12.1 Kcfs.

The Biological Opinion flow period began on April 3rd in the lower Snake River (Lower Granite). According to the April Final Water Supply Forecast, the flow objective this spring is 85 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 69.7 Kcfs from April 3rd to June 13th. Over the last week flows at Lower Granite have averaged 68.5 Kcfs.

Based on the April Final Water Supply Forecast, the Spring Biological Opinion Flow Objectives will be 226 Kcfs at McNary Dam (began April 10th) and 135 Kcfs at Priest Rapids Dam (began April 10th). Flows at McNary Dam have averaged 265.0 Kcfs between April 10th and June 13th. Over the last week flows at McNary have averaged 246.6 Kcfs. Flows at Priest Rapids Dam have averaged 185.2 Kcfs between April 10th and June 13th. Over the last week flows have averaged 169.8 Kcfs at Priest Rapids.

Spill: Spring spill for fish passage began on April 3rd at the lower Snake River projects.

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

Flow in the Snake River continued to decrease over the past week. All the lower Snake River dams met the Court Order spill levels described in the table. In the Regional Implementation Oversight Group discussions last week, it was decided that spring spill to the gas cap would continue through June 20th at Lower Monumental Dam. Earlier the COE had expressed a desire to switch to summer spill levels of 17 Kcfs beginning June 4th for performance standards testing.

However, while still spilling to the gas cap, gas cap spill at Lower Monumental Dam was decreased from 29 Kcfs to 21 Kcfs to address the total dissolved gas (TDG) in the Ice Harbor Dam forebay. While the Ice Harbor forebay TDG has been reduced to 111%, the spill at Lower Monumental Dam has not been increased. The COE claims the decrease in TDG was due to a wind event and they must, therefore, maintain the low spill at Lower Monumental Dam.

Spring spill for fish passage at the Lower Columbia projects began on April 10th.

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

Flow in the lower Columbia River has remained relatively steady over the past week. At McNary Dam spill met, or exceeded, the Court Order spill of 40% of instantaneous flow. At John Day Dam the COE implemented the test conditions of 30% versus 40%. At The Dalles Dam spill met the Court Order spill of 40% of instantaneous flow. At Bonneville Dam spill was decreased and then slowly increased over the past week, ranging from a daily average of 94.8 to 99.6 Kcfs, in response to the Camas-Washougal TDG monitor exceeding 115% last week. The Camas Washougal TDG monitor represents a hypothetical forebay downstream of Bonneville Dam that is not a point of compliance for the TDG waiver.

In the past week, most TDG estimates were below the 115/120% TDG standards, with the exception of the Ice Harbor Dam forebay. However, all FCRPS stations have been in compliance since June 12th. Based on historic data collected since 1995 through the gas bubble trauma (GBT) monitoring program, we would not expect to see fish exhibit signs of GBT at the present TDG levels. Consistent with historic data, only two fish were sampled on June 9th, and one on June 13th, with minor signs of GBT at McNary Dam.

Smolt Monitoring: Smolt monitoring is ongoing at all seven SMP dams (BON, JDA, MCN, RIS, LMN, LGS, and LGR). The Imnaha River Trap is the only trap that continues to operate for the 2013 season.

Passage of many salmonid species decreased this week at BON, when compared to last week. This week's daily average passage indices for yearling Chinook, coho, sockeye, and steelhead at BON were about 3,000, 4,400, 400, and 2,500 per day, respectively. This week's daily average passage index for subyearling Chinook was about 6,600, which was a 60% increase over last week's daily average passage index of nearly 4,100 per day. Steelhead also showed a small increase in passage at BON this week. Finally, only pacific lamprey macrophthalmia were collected at BON this week. Pacific macrophthalmia were collected five of the seven days of sampling, with a daily average collection for the week of 37 per day.

Subyearling Chinook dominated the bypass sample at JDA this week. This week's daily average passage index for subyearling Chinook was about 12,800 per day, which is an increase over last week's daily average passage index of about 1,400 per day. Passage of yearling Chinook decreased this week, as did indices for steelhead, sockeye, and coho. This week's daily average passage indices for steelhead, sockeye, and coho at JDA were about 800, 500, and 1,000 per day, respectively. Last week's daily average passage indices were about 2,200 for steelhead, 2,100 for sockeye, and 2,000 for coho. Passage of yearling Chinook decreased this week. This week's daily average passage index for yearling Chinook at JDA was about 3,000 per day. Last week's daily average passage index for yearling Chinook was just over 8,700 per day. Finally, only pacific lamprey macrophthalmia were sampled at JDA this week. Passage of pacific lamprey macrophthalmia increased this week, when compared to last week. The daily average collection for pacific lamprey macrophthalmia this week was about 2,500 per day. Last week's daily average collection was about 1,700 per day.

Sampling at MCN for the 2013 season is every-other-day. Passage of nearly all salmonid species decreased this week, when compared to last week. However, subyearling Chinook passage increased. This week's daily average passage index for subyearling Chinook at MCN was over 33,000 per day. Last week's daily average passage index for subyearling Chinook was only about 6,500 per day. Pacific lamprey macrophthalmia continue to be the only species and life-stage of lamprey collected at MCN this season. This week's daily average collection for pacific lamprey

macrophthalmia was about 630 which is a decrease from last week's daily average collection of about 950 per day.

Subyearling Chinook continued to dominate the bypass samples at LGR this week. This week's daily average passage index for subyearling Chinook was about 25,100 per day, which was similar to last week's daily average passage index of about 27,200 per day. Passage of all other juvenile salmonids decreased this past week. This week's daily average passage indices for yearling Chinook and steelhead at LGR were about 200 and 1,700 per day, respectively. Last week's daily average passage indices were about 1,200 for yearling Chinook and 2,900 for steelhead. Passage of coho and sockeye was very low this week and decreased for both species this week at LGR. This week's daily average passage indices for coho and sockeye at LGR were 21 and 5 per day, respectively. No lamprey juveniles were collected at LGR this week. Finally, due to the possible resampling of PIT-tagged research fish that are released into the gatewells, daily estimates of yearling Chinook, steelhead, and subyearling Chinook collection and passage indices may be inflated. The FPC is aware of this possible bias and is investigating ways to correct these inflated estimates after the research has ended. However, the magnitude of this bias is relatively low and is unlikely to skew estimates of timing for these two species.

Passage of subyearling Chinook at LGS increased substantially this week. This week's daily average passage index for subyearling Chinook at LGS was about 26,600 per day. Last week's daily average passage index was only about 16,000 per day. Yearling Chinook, coho, and steelhead passage at LGS continued to decrease this week, when compared to last week. The largest decrease among these species was for yearling Chinook. The daily average passage index for yearling Chinook this week was about 300 per day. Last week's daily average passage index for yearling Chinook at LGS was about 900 per day. Sockeye passage this week was low similar to last week. Finally, only pacific lamprey macrophthalmia were collected at LGS this week. Pacific lamprey macrophthalmia were collected on June 8, June 10, and June 11.

Similar to LGS, passage of spring migrants continued to decrease at LMN this week. The largest percentage decreases in passage at LMN this week was for coho. This week's daily average passage index for

coho at LMN was about 37 per day. Last week's daily average passage index for coho was about 60 per day. Yearling Chinook passage at LMN this week was very similar to last week with the index averaging 320. As with LGR and LGS, there was a significant increase in subyearling Chinook passage at LMN this week. This week's daily average passage index for subyearling Chinook at LMN was about 14,500 per day. Last week's daily average passage index was only about 2,500 per day. Only pacific lamprey macrophthalmia were collected at LMN this week. This week's daily average collection for pacific lamprey macrophthalmia was 75 per day.

This week's collections at RIS were dominated by subyearling Chinook. However, when compared to last week, subyearling Chinook passage decreased this week. This week's daily average passage index for subyearling Chinook at RIS was about 100 per day. Last week's daily average passage index for subyearling Chinook was about 140 per day. Passage of yearling Chinook, coho, sockeye, and steelhead all decreased this week, when compared to last week. This week's daily average passage indices for yearling Chinook, coho, sockeye, and steelhead at RIS were about 30, 90, 3, and 30 per day, respectively. Last week's daily average passage indices were about 240 for yearling Chinook, 500 for coho, 6 for sockeye, and 90 for steelhead. The daily average passage index for subyearling Chinook at RIS this week was about 100 per day, which is a decrease compared to last week's daily average passage index of about 140 per day. Finally, only one pacific lamprey macrophthalmia was collected this week (on June 10).

As with previous weeks, the Imnaha River Trap continues to collect only steelhead and yearling Chinook at this time. However, steelhead have dominated the collections in recent weeks.

Hatchery Release

Snake River Zone: The Snake River Zone encompasses the Snake River and its tributaries from its confluence with the Columbia River to Hells Canyon Dam. Approximately 400,000 subyearling fall Chinook juveniles were scheduled for release into the Snake River on June 14th. Of these, half were released into the South Fork of the Clearwater River, and half were released into the Selway River. All of these smolts were marked.

Over the next two weeks, approximately 400,000 parr are scheduled for release into the Selway River. These will outmigrate in 2014 and are all unmarked, and will therefore be undistinguishable from wild spring Chinook.

Mid-Columbia Zone: The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. A volitional release of 6.7 million subyearling fall Chinook was scheduled to begin on June 10th. Of these, approximately 2.7 million are unmarked and are therefore undistinguishable from wild subyearling Chinook.

Over the next two weeks, a volitional release of approximately 3.5 million subyearling fall Chinook is scheduled to begin at the Ringold Springs Hatchery. All of these smolts will be marked.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. No releases were scheduled to begin over the past week in this zone. There is one release of approximately 3.5 million subyearling fall Chinook scheduled for release into the Klickitat River. This release is scheduled to begin on or around June 17th. Of this release, about 1.1 million will be unmarked and will therefore be undistinguishable from wild subyearling Chinook.

Adult Fish Passage

The summer Chinook count began June 1st at Bonneville Dam. Daily passage numbers at Bonneville Dam ranged between 843 and 2,231 adult summer Chinook in the last week. The 2013 summer Chinook count of 9,516 is about 82% of the 2012 count and 94% of the 10-year average. The 2013 Bonneville Dam summer Chinook jack count of 3,011 is 3.8 times greater than the 2012 count and 1.5 times greater than the 10-year average count. The 2013 adult spring Chinook count at Bonneville Dam totaled 83,345. The 2012 adult spring Chinook count at Bonneville Dam was 158,089. The 2013 adult spring Chinook count at Bonneville Dam was about 52.7% of the 2012 count and 58.8% of the of the 10-year average count of 141,713. The 2013 spring Chinook jack count of 33,820 was 4.4 times greater than the 2012 count of 7,592 and 1.7 times greater than the 10-year average count of 20,323. At Willamette Falls 18,011 adult spring Chinook have been counted so far this year.

In 2012, 21,371 adult spring Chinook were counted at Willamette. This year's count is 84.3% of the 2012 count and 54.7% of the 10-year average count of 32,932. As of June 6th, a total of 69,202 adult spring Chinook have been counted at The Dalles Dam and 50,426 have been counted at McNary Dam. The Dalles Dam 2013 adult spring Chinook count is 59.1% of the 2012 count and 64.4% of the 10-year average count. The 2013 McNary Dam adult spring Chinook count is about 50.9% of the 2012 count and 61.9% of the 10-year average count.

The 2013 Bonneville Dam adult steelhead count of 3,748 is about 58.1% of the 2012 count of 6,448 and 55.4% of the 10-year average count of 6,765. The 2013 Bonneville Dam adult wild steelhead count of 985 is about 50.4% of the 2012 count of 1,953 and 59.5% of the 10-year average count of 1,655. In the Snake River, this year's Lower Granite steelhead count of 7,445 is about 83.3% of the 2012 count of 8,932 and 77.2% of the 10-year average count of 9,648. The 2013 Lower Granite Dam adult wild steelhead count of 3,235 is about 82% of the 2012 count of 3,942, while having 32 more fish than the 10-year average count of 3,203. At Willamette Falls, the 2013 count for steelhead was 11,187 as of June 1st. This year's steelhead count is about 57.2% of the 2012 count of 19,554 and about 69.6% of the 10-year average count of 16,077.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 15 and 328 last week. The 2013 adult sockeye count at Bonneville Dam of 756 is about 42.1% of the 2012 count of 1,796 and about 94.1% of the 10-year average count of 803.

Hatchery Releases Last Two Weeks

Hatchery Release Summary									
From:	5/31/2013		to		06/13/13				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2013	725,000	06-03-13	06-14-13	Nez Perce Tribal Hatchery	Clearwater River M F
Nez Perce Tribe Total					725,000				
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	CH1	SP	2013	258,885	04-15-13	06-01-13	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife Total					258,885				
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	ST	SU	2013	24,000	04-25-13	06-20-13	Blackbird Island Acc Pond	Wenatchee River
Washington Dept. of Fish and Wildlife	Priest Rapids Hatchery	CH0	FA	2013	6,700,000	06-10-13	06-20-13	Priest Rapids Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					6,724,000				
Yakama Tribe	Cascade Hatchery	CO	UN	2013	65,362	05-01-13	06-14-13	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Eagle Creek NFH	CO	UN	2013	102,975	04-15-13	07-01-13	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2013	104,059	04-15-13	07-01-13	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2013	237,043	04-15-13	07-01-13	Easton Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2013	124,425	04-15-13	07-01-13	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2013	131,858	04-15-13	07-01-13	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2013	322,100	04-01-13	07-01-13	Prosser Acclim Pond	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2013	36,293	05-06-13	06-06-13	Methow River	Methow River
Yakama Tribe	Willard Hatchery	CO	UN	2013	42,298	04-19-13	06-04-13	Winthrop Hatchery	Methow River
Yakama Tribe	Willard Hatchery	CO	UN	2013	56,507	05-09-13	06-14-13	Coulter Creek	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2013	59,798	05-01-13	06-14-13	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2013	109,826	05-01-13	06-14-13	Wenatchee River	Wenatchee River
Yakama Tribe	Winthrop NFH	CO	UN	2013	253,091	04-22-13	06-09-13	Winthrop Hatchery	Methow River
Yakama Tribe Total					1,645,635				
Grand Total					9,353,520				

Hatchery Releases Next Two Weeks

Hatchery Release Summary									
From:	6/14/2013		to		6/27/2013				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2013	200,000	06-14-13	06-14-13	Cedar Flats Acclim.	Selway River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2013	200,000	06-14-13	06-14-13	Lukes Gulch Acclim. Nez Perce Tribal	S Fk Clearwater River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2013	725,000	06-03-13	06-14-13	Hatchery Meadow Creek -	Clearwater River M F
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	SP	2014	400,000	06-25-13	06-29-13	SELW	Selway River
Nez Perce Tribe Total					1,525,000				
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	ST	SU	2013	24,000	04-25-13	06-20-13	Blackbird Island Acc Pond	Wenatchee River
Washington Dept. of Fish and Wildlife	Priest Rapids Hatchery	CH0	FA	2013	6,700,000	06-10-13	06-20-13	Priest Rapids Hatchery Ringold Springs	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2013	3,450,000	06-20-13	07-15-13	Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					10,174,000				
Yakama Tribe	Cascade Hatchery	CO	UN	2013	65,362	05-01-13	06-14-13	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Eagle Creek NFH	CO	UN	2013	102,975	04-15-13	07-01-13	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2013	104,059	04-15-13	07-01-13	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2013	237,043	04-15-13	07-01-13	Easton Pond	Yakima River
Yakama Tribe	Klickitat Hatchery	CH0	FA	2013	3,500,000	06-17-13	06-17-13	Klickitat Hatchery Lost Creek Acclim	Klickitat River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2013	124,425	04-15-13	07-01-13	Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2013	131,858	04-15-13	07-01-13	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2013	322,100	04-01-13	07-01-13	Prosser Acclim Pond	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2013	56,507	05-09-13	06-14-13	Coulter Creek	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2013	59,798	05-01-13	06-14-13	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2013	109,826	05-01-13	06-14-13	Wenatchee River	Wenatchee River
Yakama Tribe Total					4,813,953				
Grand Total					16,512,953				

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
05/24/2013	183.1	3.7	185.0	21.0	213.4	36.0	210.3	41.4	211.1	20.5	216.5	82.4	218.0	96.6
05/25/2013	184.6	5.0	183.6	21.0	212.6	37.4	208.8	45.7	211.0	19.8	226.5	88.7	227.2	105.2
05/26/2013	182.1	5.0	182.7	21.0	207.2	38.3	206.9	41.8	209.8	19.6	218.6	80.9	220.2	94.4
05/27/2013	189.7	5.0	189.5	21.0	211.1	38.5	210.2	38.6	210.3	21.4	217.6	75.6	220.0	90.6
05/28/2013	173.6	1.8	174.4	12.5	199.0	28.7	200.7	36.9	204.8	20.9	219.2	77.0	219.7	103.7
05/29/2013	148.7	0.1	152.6	0.0	181.4	19.2	178.1	16.7	184.6	21.0	201.4	61.0	206.1	69.6
05/30/2013	106.7	0.1	107.2	0.0	132.4	10.0	137.7	0.0	145.6	20.8	160.5	19.4	160.0	23.3
05/31/2013	147.2	0.1	139.3	0.0	153.1	10.0	144.8	0.0	149.7	19.0	156.5	18.9	147.0	25.1
06/01/2013	146.6	0.2	145.9	0.0	157.1	10.0	149.2	0.0	153.9	14.3	152.8	22.3	149.5	26.3
06/02/2013	153.7	0.2	157.7	0.0	179.1	13.3	176.7	14.3	182.1	17.3	193.3	56.3	188.1	61.3
06/03/2013	148.4	0.1	148.7	0.0	160.2	11.3	160.7	4.8	168.1	24.1	180.0	42.9	181.0	36.6
06/04/2013	161.4	0.1	162.6	0.0	177.7	16.0	176.9	15.3	181.9	24.0	192.0	50.6	188.3	46.7
06/05/2013	157.3	0.1	160.5	0.0	183.2	11.4	179.3	17.3	187.2	38.1	198.5	60.8	198.1	51.7
06/06/2013	139.8	0.1	140.8	0.0	162.0	10.0	162.0	15.6	171.1	36.1	179.2	44.0	176.3	34.8

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

Date	Dworshak		Hells Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/24/2013	3.9	0.0	---	---	71.0	20.5	69.1	20.8	70.8	28.1	73.4	31.8
05/25/2013	3.9	0.0	---	---	68.5	26.1	68.7	25.3	72.5	28.2	72.0	30.0
05/26/2013	3.9	0.0	---	---	63.8	20.4	63.1	18.9	64.9	28.2	62.7	18.8
05/27/2013	3.9	0.0	---	---	60.6	20.3	55.3	16.6	59.1	29.3	59.8	17.8
05/28/2013	3.9	0.0	---	---	65.1	20.4	65.0	19.5	67.0	28.7	66.5	43.0
05/29/2013	3.9	0.0	---	---	63.9	20.2	63.4	19.1	64.8	28.5	66.0	51.1
05/30/2013	7.4	0.0	---	---	70.1	20.1	69.2	20.7	71.1	28.3	70.9	51.8
05/31/2013	7.4	0.0	---	---	74.4	20.2	73.9	22.2	75.5	28.8	77.1	54.8
06/01/2013	7.5	0.0	---	---	69.2	20.2	67.6	20.3	68.7	28.2	68.7	29.3
06/02/2013	3.0	0.0	---	---	63.5	20.2	61.6	18.4	63.1	27.4	64.1	19.2
06/03/2013	3.0	0.0	---	---	59.4	20.4	57.7	17.3	59.9	26.5	57.7	40.7
06/04/2013	3.0	0.0	---	---	63.4	20.2	62.6	18.8	63.5	25.6	65.7	49.5
06/05/2013	4.5	0.0	---	---	62.9	20.2	63.1	18.9	64.4	23.3	64.0	26.5
06/06/2013	4.5	0.0	---	---	63.7	20.2	61.2	18.3	62.3	24.0	63.5	19.1

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		
05/24/2013	299.3	144.1	292.8	117.2	277.1	110.7	307.9	98.8	100.5	96.2
05/25/2013	295.1	147.9	294.4	112.9	273.8	110.1	292.4	97.3	95.0	87.7
05/26/2013	297.7	139.2	299.4	90.1	282.5	112.9	307.7	95.5	106.4	93.4
05/27/2013	301.7	141.9	299.6	94.7	281.3	112.1	303.0	94.7	102.7	93.2
05/28/2013	292.6	133.7	297.9	119.0	276.1	109.4	300.3	93.1	95.1	99.7
05/29/2013	280.2	120.6	273.0	104.7	257.8	102.9	287.3	90.4	89.5	94.9
05/30/2013	256.4	103.6	254.9	76.1	238.9	95.7	260.1	93.1	65.7	88.9
05/31/2013	245.1	98.3	253.6	80.9	240.6	96.1	273.4	98.4	73.5	89.1
06/01/2013	246.6	98.9	250.2	99.7	233.3	93.2	254.0	99.2	55.7	86.8
06/02/2013	232.7	93.4	211.8	80.7	194.4	77.8	216.9	98.0	22.2	84.3
06/03/2013	264.0	105.9	265.5	79.6	253.2	100.8	264.6	98.1	67.8	86.3
06/04/2013	241.5	96.8	242.4	77.0	221.8	88.5	245.4	99.5	45.9	87.6
06/05/2013	260.1	116.3	248.8	99.3	235.3	93.8	256.3	98.6	56.2	89.1
06/06/2013	266.1	119.2	264.5	101.6	247.2	95.1	261.9	96.4	64.8	88.3

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											
	05/28/13	Chinook + Steelhead	44	0	0	0.00%	0.00%	0	0	0	0
Little Goose Dam											
	05/27/13	Chinook + Steelhead	77	0	0	0.00%	0.00%	0	0	0	0
	06/04/13	Chinook + Steelhead	101	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	05/29/13	Chinook + Steelhead	50	0	0	0.00%	0.00%	0	0	0	0
	06/05/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	05/24/13	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0
	05/26/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/30/13	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	06/03/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	05/25/13	Chinook + Steelhead	88	0	0	0.00%	0.00%	0	0	0	0
	05/28/13	Chinook + Steelhead	75	1	1	1.33%	0.00%	1	0	0	0
	06/01/13	Chinook + Steelhead	70	0	0	0.00%	0.00%	0	0	0	0
	06/04/13	Chinook + Steelhead	54	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	05/26/13	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/27/13	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/05/13	Chinook + Steelhead	100	3	3	3.00%	0.00%	3	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 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>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High	
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
5/24	---	---	---	0	---	---	---	0	111.3	111.4	111.6	24	107.4	107.6	107.8	24	109.1	109.6	109.7	24
5/25	---	---	---	0	---	---	---	0	111.5	111.8	112.0	24	107.5	108.0	108.4	24	108.5	108.7	108.8	24
5/26	---	---	---	0	---	---	---	0	112.1	112.4	112.6	24	107.7	108.1	108.3	24	108.9	109.2	109.5	24
5/27	---	---	---	0	---	---	---	0	112.8	113.2	113.3	24	108.7	109.2	109.6	24	109.3	109.4	109.7	24
5/28	---	---	---	0	---	---	---	0	113.4	113.7	114.0	24	108.7	109.0	109.3	24	109.8	110.0	110.1	24
5/29	---	---	---	0	---	---	---	0	113.5	113.6	113.8	24	108.3	108.8	109.1	24	110.1	110.2	110.2	24
5/30	---	---	---	0	---	---	---	0	113.3	113.4	113.6	24	106.7	107.1	107.2	24	109.9	110.1	110.2	24
5/31	---	---	---	0	---	---	---	0	112.3	112.6	112.8	24	107.4	108.6	108.9	24	109.7	110.2	110.4	24
6/1	---	---	---	0	---	---	---	0	113.1	113.5	113.9	24	108.7	110.1	111.0	24	111.1	111.8	112.1	24
6/2	---	---	---	0	---	---	---	0	114.1	114.3	114.5	24	109.6	110.6	111.2	24	111.4	111.5	111.7	24
6/3	99.5	99.8	99.9	24	---	---	---	0	114.1	114.3	114.5	24	109.8	110.7	111.4	24	111.5	111.7	112.0	24
6/4	99.0	99.3	99.6	24	---	---	---	0	114.2	114.5	115.0	24	110.4	111.3	112.1	24	111.8	112.2	112.5	24
6/5	99.8	100.1	100.3	24	---	---	---	0	115.0	115.3	115.5	24	111.2	112.1	112.8	24	112.5	112.8	113.1	24
6/6	100.0	100.2	100.6	23	---	---	---	0	115.4	115.6	115.9	23	111.6	112.5	113.7	23	113.0	113.3	113.5	23

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>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High	
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
5/24	110.0	110.2	110.2	24	108.5	108.7	109.1	23	113.2	113.9	115.1	23	111.0	112.0	112.3	24	118.6	119.1	119.3	24
5/25	109.9	110.1	110.3	24	107.9	108.1	108.2	22	113.1	113.7	115.0	22	112.0	112.5	113.0	24	119.4	119.6	119.7	24
5/26	110.0	110.2	110.3	24	108.1	108.4	108.5	24	113.4	113.8	114.1	24	112.3	112.6	113.0	24	119.2	119.4	119.6	24
5/27	110.2	110.3	110.5	24	108.3	108.5	108.7	21	113.5	113.9	114.2	21	112.7	112.9	113.0	24	119.6	119.8	119.9	24
5/28	109.6	109.9	110.4	24	108.8	109.2	109.5	21	113.1	114.0	114.4	21	112.7	113.0	113.2	24	119.3	120.0	121.0	24
5/29	109.5	109.7	110.1	24	108.7	108.9	109.3	20	111.3	112.1	112.3	20	112.5	113.0	113.2	24	116.5	118.6	118.9	24
5/30	109.8	110.1	110.6	24	107.8	108.1	108.4	21	109.4	109.8	110.1	21	110.2	110.4	110.6	24	109.8	110.0	110.4	24
5/31	108.9	109.5	110.0	24	108.1	108.5	108.6	21	109.5	110.1	110.5	21	108.3	108.6	109.2	24	107.8	108.1	108.4	24
6/1	110.3	110.8	111.1	24	109.4	110.1	110.3	23	110.8	111.5	111.8	23	109.0	109.9	110.3	24	108.4	109.2	109.6	24
6/2	110.6	110.9	111.6	24	110.7	111.0	111.9	22	112.6	113.1	113.6	22	110.3	110.7	111.0	24	113.6	115.3	115.8	24
6/3	110.5	110.8	111.0	24	110.3	110.5	110.8	21	111.9	112.3	112.7	21	111.3	111.8	112.0	24	112.3	113.5	115.0	24
6/4	110.1	111.1	111.4	24	110.6	111.0	111.2	24	113.0	113.3	113.9	24	111.1	111.4	111.7	24	115.4	115.9	116.3	24
6/5	111.6	111.9	112.1	24	111.5	111.8	112.0	21	113.3	113.6	114.1	21	112.6	113.2	113.4	24	116.8	117.2	117.5	24
6/6	112.4	112.6	112.9	23	112.0	112.4	112.6	22	113.3	113.7	114.1	22	112.5	112.7	112.9	23	116.2	116.8	117.2	23

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>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High	
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
5/24	112.3	112.8	113.4	24	114.5	115.1	115.5	24	112.3	112.4	112.6	24	115.7	116.1	117.1	24	113.3	113.8	114.3	24
5/25	113.2	114.1	114.6	24	115.2	116.1	116.5	24	112.6	112.9	113.3	24	116.8	117.2	118.2	24	115.4	116.2	116.7	24
5/26	113.6	113.7	114.0	24	115.5	115.8	116.0	24	113.5	113.8	114.0	24	116.4	116.6	117.6	24	115.4	115.8	116.4	24
5/27	113.8	114.1	114.3	24	115.8	116.2	116.3	24	114.1	114.3	114.5	24	116.0	116.5	116.8	24	115.3	115.7	115.9	24
5/28	114.0	114.8	115.4	24	115.9	116.4	116.7	24	114.6	114.8	115.0	24	116.1	116.6	116.7	24	115.0	115.8	116.1	24
5/29	111.7	113.1	113.4	24	114.9	115.5	115.9	24	114.6	114.9	114.9	24	114.7	115.0	115.1	24	113.7	114.2	115.7	24
5/30	109.0	109.6	111.8	24	112.5	113.5	115.2	24	112.3	113.4	113.8	24	112.8	113.5	113.8	24	112.0	112.4	112.9	24
5/31	107.7	108.0	108.5	24	111.3	112.3	113.3	24	111.6	113.0	113.8	24	111.6	112.1	112.6	24	110.4	111.1	111.7	24
6/1	107.7	108.4	109.0	24	109.8	110.8	111.8	24	112.2	113.0	114.0	24	112.5	112.9	113.4	24	112.1	112.4	112.8	24
6/2	109.7	110.6	111.6	24	111.5	112.6	113.6	24	111.1	111.8	113.3	24	112.5	113.0	113.6	24	111.6	112.1	112.7	24
6/3	110.5	111.2	111.5	24	114.0	114.5	115.1	24	109.7	110.5	111.2	24	111.2	111.4	112.2	24	110.8	111.1	111.7	24
6/4	110.8	111.8	112.5	24	114.1	114.8	115.4	24	---	---	---	0	---	---	---	0	---	---	---	0
6/5	112.1	113.3	114.0	24	116.7	118.1	118.5	24	---	---	---	0	---	---	---	0	---	---	---	0
6/6	112.0	112.6	113.1	23	116.9	117.9	118.3	23	---	---	---	0	---	---	---	0	---	---	---	0

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

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

Date	<u>Priest R. Dnst</u>			#	<u>Pasco</u>			#	<u>Dworshak</u>			#	<u>Clrwr-Peck</u>			#	<u>Anatone</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	<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>	
5/24	117.8	118.4	118.7	24	---	---	---	0	96.7	97.1	97.3	24	---	---	---	0	104.0	104.4	104.7	24
5/25	119.2	119.6	119.9	24	---	---	---	0	97.0	97.5	98.0	24	---	---	---	0	104.3	105.1	105.6	24
5/26	119.0	119.2	119.6	24	---	---	---	0	97.3	97.9	98.6	24	---	---	---	0	103.8	104.2	104.5	24
5/27	118.6	118.9	119.0	24	---	---	---	0	97.4	98.0	98.6	24	---	---	---	0	103.9	104.6	105.1	24
5/28	119.0	119.3	119.6	24	---	---	---	0	97.6	98.1	98.6	24	---	---	---	0	103.7	104.2	104.8	24
5/29	117.2	117.8	118.6	24	---	---	---	0	97.7	98.2	98.6	24	---	---	---	0	103.4	103.7	104.1	24
5/30	114.2	114.4	115.2	24	---	---	---	0	96.8	97.2	97.7	24	---	---	---	0	103.4	104.1	104.4	24
5/31	112.6	112.9	113.3	24	---	---	---	0	96.5	96.9	97.2	24	---	---	---	0	103.8	104.8	105.6	24
6/1	114.2	114.7	114.9	24	---	---	---	0	97.1	97.6	97.8	24	---	---	---	0	104.0	104.8	105.3	24
6/2	115.6	116.1	116.6	24	---	---	---	0	97.0	99.2	100.3	24	---	---	---	0	103.6	104.0	104.2	24
6/3	113.7	114.0	114.9	24	---	---	---	0	98.1	98.5	98.9	24	---	---	---	0	103.9	104.9	105.5	24
6/4	---	---	---	0	---	---	---	0	97.3	97.8	98.2	24	---	---	---	0	104.0	104.8	105.3	24
6/5	---	---	---	0	---	---	---	0	101.4	102.6	103.0	24	---	---	---	0	104.3	105.1	105.7	24
6/6	---	---	---	0	---	---	---	0	102.3	102.6	103.2	23	---	---	---	0	104.4	105.2	105.9	23

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwr-Lewiston</u>			#	<u>Lower Granite</u>			#	<u>L. Granite Tlwr</u>			#	<u>Little Goose</u>			#	<u>L. Goose Tlwr</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	<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>	
5/24	100.8	101.3	101.8	24	102.2	102.4	102.6	24	110.8	111.1	111.3	24	108.3	108.5	108.7	24	113.1	113.4	113.6	24
5/25	101.5	103.0	104.0	24	102.7	103.0	103.3	24	112.7	114.2	116.3	24	109.0	109.4	109.5	24	114.8	115.6	116.8	24
5/26	101.3	102.2	102.6	24	103.5	103.7	103.9	24	111.9	112.3	112.9	24	110.1	110.4	110.5	24	113.9	114.0	114.2	24
5/27	101.5	102.5	103.6	24	103.5	103.7	103.9	24	111.9	112.3	112.6	24	111.0	111.4	111.7	24	114.7	115.1	115.4	24
5/28	101.0	101.7	102.4	24	104.0	104.1	104.2	24	111.9	112.2	112.9	24	111.8	112.2	112.5	24	115.0	115.2	115.5	24
5/29	100.8	101.3	102.2	24	103.8	104.1	104.5	24	112.2	112.5	112.9	24	112.6	112.7	112.8	24	114.7	115.1	115.5	24
5/30	100.7	101.6	102.2	24	102.4	102.8	103.1	24	111.2	111.4	111.9	24	111.4	111.6	112.1	24	113.8	114.0	114.2	24
5/31	101.5	102.9	103.9	24	101.3	101.4	101.8	24	110.8	111.2	111.6	24	110.4	110.6	110.7	24	113.5	113.9	114.3	24
6/1	101.6	102.7	103.4	24	101.7	102.1	102.6	24	110.6	111.2	111.8	24	110.7	111.1	111.2	24	113.9	114.3	114.5	24
6/2	101.8	102.7	103.7	24	103.1	103.3	103.7	24	111.8	112.2	113.4	24	111.6	111.8	112.0	24	114.4	114.7	115.0	24
6/3	102.3	103.7	104.6	24	103.6	103.8	104.1	24	112.2	112.8	113.8	24	111.6	111.7	111.8	24	113.3	114.4	115.4	24
6/4	102.6	104.0	105.1	24	103.3	103.4	103.7	24	111.5	111.9	112.2	24	111.6	111.8	112.1	24	111.9	112.2	112.3	24
6/5	103.0	104.6	105.6	24	103.1	103.3	103.7	24	111.2	111.6	112.4	24	112.5	112.8	113.1	24	111.8	112.2	112.9	24
6/6	103.0	104.3	105.3	23	103.6	103.8	104.5	23	111.4	111.8	112.6	23	113.0	113.2	113.3	23	112.2	112.4	112.6	23

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>	
5/24	111.3	111.4	111.5	24	118.1	118.7	119.2	24	112.2	112.7	113.2	24	114.8	115.3	116.1	24	---	---	---	0
5/25	111.6	111.9	112.3	24	118.0	119.1	119.4	24	113.7	114.0	114.2	24	115.4	115.9	116.9	24	---	---	---	0
5/26	111.8	111.9	112.0	24	117.7	118.6	119.4	24	114.4	114.7	114.9	24	114.7	115.2	115.5	24	---	---	---	0
5/27	113.5	114.3	114.7	24	119.2	120.1	120.9	24	115.3	115.6	115.7	24	113.3	114.4	116.0	24	---	---	---	0
5/28	113.4	113.6	114.0	24	119.6	120.3	120.9	24	115.6	115.9	116.0	24	114.6	115.8	116.1	24	---	---	---	0
5/29	113.1	113.3	113.4	24	118.9	119.6	120.4	24	116.1	116.2	116.5	24	115.6	116.2	116.7	24	---	---	---	0
5/30	112.0	112.2	112.5	24	118.4	119.1	119.4	24	114.7	115.1	115.7	24	115.5	115.8	116.1	24	---	---	---	0
5/31	111.6	111.8	112.0	24	118.6	119.0	119.4	24	114.0	114.1	114.3	24	115.8	116.0	116.0	24	---	---	---	0
6/1	112.6	113.1	113.5	24	118.5	119.2	119.8	24	115.4	116.1	116.5	24	115.4	115.7	116.0	24	---	---	---	0
6/2	114.1	114.2	114.3	24	118.3	119.5	120.0	24	117.1	117.5	117.7	24	114.8	116.4	116.8	24	---	---	---	0
6/3	113.9	114.1	114.3	24	119.0	119.6	120.1	24	117.3	117.6	117.7	24	114.7	115.7	116.0	24	---	---	---	0
6/4	113.7	114.0	114.4	24	117.0	119.1	119.5	24	117.4	117.6	118.2	24	115.6	115.8	115.9	24	---	---	---	0
6/5	113.9	114.1	114.2	24	113.9	114.2	115.3	24	117.6	117.9	118.1	24	115.6	116.5	117.2	24	---	---	---	0
6/6	113.2	113.4	113.8	23	113.7	114.1	114.5	23	117.8	118.2	118.5	23	116.1	117.1	117.6	23	---	---	---	0

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>McNary-Wash</u>			<u>McNary Tlwr</u>			<u>John Day</u>			<u>John Day Tlwr</u>			<u>The Dalles</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr				
5/24	111.2	111.9	112.2	24	117.6	117.9	118.1	24	109.8	110.4	111.0	24	117.9	118.1	118.5	24	112.8	113.3	113.5	24
5/25	112.4	112.9	113.5	24	117.1	117.7	119.2	24	108.6	109.1	109.6	24	117.7	118.1	118.5	24	112.4	112.8	113.3	24
5/26	112.5	113.0	113.7	24	117.2	117.4	117.5	24	111.0	111.5	111.7	24	116.0	116.3	116.8	24	112.4	112.9	113.4	24
5/27	114.2	114.5	114.7	24	117.1	117.4	117.6	24	111.5	111.7	112.0	24	116.3	117.0	118.6	24	112.1	112.3	112.5	24
5/28	113.3	113.4	114.1	24	117.1	117.5	117.7	24	112.1	112.6	113.1	24	118.3	118.6	118.8	24	112.5	113.1	113.7	24
5/29	112.3	112.6	112.8	24	116.3	116.4	116.7	24	112.9	113.3	113.4	24	117.6	118.5	119.4	24	113.5	113.9	114.0	24
5/30	110.7	110.9	111.0	24	114.5	114.9	116.0	24	110.5	110.9	111.5	24	114.6	115.0	115.2	24	110.6	111.0	111.8	24
5/31	109.9	110.3	110.7	24	113.9	114.1	115.2	24	108.9	109.1	109.4	24	114.4	115.6	117.6	24	110.1	110.9	111.4	24
6/1	111.7	112.3	113.0	24	113.8	114.2	114.6	24	109.1	109.3	109.6	24	116.8	117.6	118.0	24	111.8	112.6	113.0	24
6/2	112.8	113.1	113.6	24	114.0	114.2	114.5	24	108.8	108.9	109.3	24	114.1	115.9	116.6	24	112.0	112.8	113.1	24
6/3	111.9	112.2	112.5	24	114.2	114.5	114.8	24	109.0	109.8	110.4	24	114.7	115.5	116.0	24	110.6	111.1	111.5	24
6/4	112.7	113.6	114.2	24	114.2	114.3	114.6	24	111.3	112.4	113.4	24	114.1	115.2	117.4	24	111.4	112.2	113.0	24
6/5	113.3	113.9	114.5	24	114.7	115.6	116.4	24	113.2	113.6	114.0	24	116.5	117.7	118.0	24	113.7	114.4	114.7	24
6/6	112.9	113.4	113.8	23	116.5	116.9	119.8	23	113.7	114.2	114.7	23	116.8	118.1	118.3	23	114.5	114.9	115.0	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			<u>Bonneville</u>			<u>Warrendale</u>			<u>Camas\Washougal</u>			<u>Cascade Island</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
5/24	117.9	118.5	118.8	24	115.2	115.4	115.4	24	115.8	115.9	116.0	24	113.4	114.3	114.5	23	119.9	120.5	120.8	24
5/25	117.8	118.2	118.6	24	115.6	116.3	116.6	24	116.0	116.4	116.7	24	115.3	116.3	117.0	24	119.1	119.4	120.4	24
5/26	118.0	118.4	119.2	24	116.3	116.4	116.5	24	116.4	116.5	116.6	24	115.3	115.7	115.9	24	120.7	121.1	121.3	24
5/27	117.8	118.1	118.3	24	115.9	116.2	116.4	24	116.2	116.5	116.6	24	114.8	115.1	115.3	24	120.4	121.1	121.4	24
5/28	117.6	118.1	118.7	24	115.5	115.7	116.0	24	115.8	116.0	116.2	24	114.5	115.0	115.3	24	120.7	120.8	121.3	24
5/29	118.3	118.7	119.0	24	115.0	115.5	115.8	24	115.2	115.7	116.1	24	113.4	114.2	115.0	24	119.4	120.5	120.7	24
5/30	116.4	116.9	117.4	24	113.3	113.6	113.9	24	114.7	114.9	115.1	24	112.5	113.2	113.6	24	117.5	118.2	118.5	24
5/31	115.9	116.4	116.9	24	112.9	113.3	113.6	24	114.8	114.9	115.1	24	114.0	115.1	115.8	24	118.6	118.7	118.9	24
6/1	117.4	118.0	118.6	24	114.2	114.7	115.0	24	115.8	116.4	116.6	24	114.7	116.0	116.8	24	118.7	118.8	118.8	24
6/2	117.2	117.6	118.2	24	114.1	114.6	114.9	24	116.3	116.5	116.8	24	114.6	115.2	115.9	24	118.7	118.8	118.9	24
6/3	116.7	117.1	117.6	24	112.7	112.9	112.9	24	114.8	115.1	115.5	24	113.8	114.6	115.5	24	118.4	118.6	118.7	24
6/4	116.9	117.6	118.1	24	113.8	114.8	115.3	24	116.1	116.9	117.1	24	114.3	115.9	116.7	24	118.7	119.0	119.2	24
6/5	118.3	118.9	119.3	24	115.8	116.1	116.5	24	116.9	117.3	117.5	24	115.8	117.2	118.2	24	118.8	118.9	119.0	24
6/6	118.5	119.0	119.4	23	115.2	115.3	115.4	23	116.3	116.6	116.8	23	115.6	116.4	117.2	23	118.7	118.9	119.0	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 6/7/2013 8:04

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/smolqueries/currentsmppsubmitdata.asp>

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)
05/24/2013 *	---	8	---	---	2,475	3,874	1,865	397	---	28,355	17,672
05/25/2013 *	---	9	---	---	1,938	1,965	416	340	31,572	22,283	19,387
05/26/2013 *	---	4	---	---	665	1,561	687	318	---	14,739	9,085
05/27/2013 *	---	10	---	---	967	1,219	525	284	21,752	13,750	11,064
05/28/2013 *	---	4	---	---	511	1,021	288	350	---	15,330	7,624
05/29/2013 *	---	13	---	---	2,264	1,290	508	632	24,280	19,116	7,853
05/30/2013 *	---	23	---	---	1,518	1,090	315	585	---	13,995	7,691
05/31/2013	---	---	---	---	3,397	2,091	531	488	50,303	13,657	6,330
06/01/2013 *	---	---	---	---	1,928	1,033	539	249	---	11,930	4,802
06/02/2013	---	---	---	---	862	931	394	234	26,168	7,796	4,660
06/03/2013 *	---	---	---	---	1,062	645	101	155	---	7,564	4,667
06/04/2013	---	---	---	---	344	588	415	119	28,097	8,958	3,663
06/05/2013 *	---	---	---	---	354	573	351	211	---	5,679	3,960
06/06/2013	---	---	---	---	295	430	202	232	17,754	5,347	4,876
06/07/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	71	0	0	18,580	18,311	7,137	4,594	199,926	188,499	113,334
# Days:	0	7	0	0	14	14	14	14	7	14	14
Average:	0	10	0	0	1,327	1,308	510	328	28,561	13,464	8,095
YTD	50,632	55,252	26,301	2,797	2,605,170	1,496,628	610,501	27,966	2,056,407	2,019,823	1,848,472

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)
05/24/2013 *	---	0	---	---	1,650	2,941	487	14	---	2,350	5,720
05/25/2013 *	---	0	---	---	6,008	3,223	500	8	999	2,010	5,173
05/26/2013 *	---	0	---	---	4,026	908	172	12	---	776	2,963
05/27/2013 *	---	0	---	---	2,929	1,076	659	16	1,690	1,862	2,709
05/28/2013 *	---	0	---	---	3,712	949	126	14	---	839	3,644
05/29/2013 *	---	0	---	---	11,452	1,405	272	89	1,390	1,670	4,108
05/30/2013 *	---	0	---	---	21,290	2,626	374	50	---	1,564	3,628
05/31/2013	---	---	---	---	30,875	10,469	924	146	2,125	1,144	3,165
06/01/2013 *	---	---	---	---	21,960	14,956	1,245	75	---	1,377	4,727
06/02/2013	---	---	---	---	24,221	13,289	1,237	126	1,778	725	2,652
06/03/2013 *	---	---	---	---	20,668	11,614	609	113	---	1,302	4,304
06/04/2013	---	---	---	---	16,775	12,615	3,269	87	5,853	1,345	3,722
06/05/2013 *	---	---	---	---	35,245	30,561	7,580	162	---	1,374	4,575
06/06/2013	---	---	---	---	40,423	18,302	2,740	250	16,055	2,807	5,386
06/07/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	241,234	124,934	20,194	1,162	29,890	21,145	56,476
# Days:	0	7	0	0	14	14	14	14	7	14	14
Average:	0	0	0	0	17,231	8,924	1,442	83	4,270	1,510	4,034
YTD	2	41	195	2,668	277,672	142,745	31,256	2,442	50,257	27,691	2,065,593

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)
05/24/2013 *	---	0	---	---	34	430	0	1,651	---	8,460	9,566
05/25/2013 *	---	0	---	---	78	472	0	1,977	3,997	3,853	7,971
05/26/2013 *	---	0	---	---	111	0	0	1,987	---	3,568	12,992
05/27/2013 *	---	0	---	---	30	72	123	1,708	2,627	3,724	7,659
05/28/2013 *	---	0	---	---	45	57	10	2,118	---	3,203	6,073
05/29/2013 *	---	0	---	---	59	158	27	2,545	4,354	3,756	8,534
05/30/2013 *	---	0	---	---	72	230	119	1,571	---	3,362	9,940
05/31/2013	---	---	---	---	166	215	65	952	6,120	2,503	10,142
06/01/2013 *	---	---	---	---	138	660	25	660	---	2,397	8,553
06/02/2013	---	---	---	---	72	287	160	548	3,132	1,503	8,108
06/03/2013 *	---	---	---	---	114	143	63	347	---	1,612	5,704
06/04/2013	---	---	---	---	105	179	55	375	4,820	2,576	7,444
06/05/2013 *	---	---	---	---	133	86	35	398	---	1,588	4,469
06/06/2013	---	---	---	---	111	36	7	336	2,911	1,905	5,840
06/07/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	1,268	3,025	689	17,173	27,961	44,010	112,995
# Days:	0	7	0	0	14	14	14	14	7	14	14
Average:	0	0	0	0	91	216	49	1,227	3,994	3,144	8,071
YTD	0	0	0	107	61,600	53,285	10,271	48,752	77,454	179,092	727,190

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)
05/24/2013 *	---	181	---	---	6,016	8,895	5,595	431	---	8,146	3,013
05/25/2013 *	---	106	---	---	7,016	8,255	2,832	458	3,214	5,864	2,368
05/26/2013 *	---	45	---	---	5,060	4,720	3,863	507	---	4,655	1,791
05/27/2013 *	---	60	---	---	5,264	5,235	2,834	636	1,895	4,440	1,541
05/28/2013 *	---	27	---	---	4,418	2,333	1,535	465	---	3,737	1,396
05/29/2013 *	---	82	---	---	5,876	6,121	1,618	273	2,503	3,172	2,015
05/30/2013 *	---	37	---	---	4,148	2,568	1,548	159	---	3,284	1,741
05/31/2013	---	---	---	---	4,391	4,053	916	111	5,374	2,002	1,654
06/01/2013 *	---	---	---	---	2,341	5,253	1,112	83	---	3,977	1,275
06/02/2013	---	---	---	---	4,025	3,654	773	93	2,116	2,282	2,430
06/03/2013 *	---	---	---	---	3,641	2,724	406	88	---	2,294	2,697
06/04/2013	---	---	---	---	1,867	1,687	474	105	3,930	1,660	1,063
06/05/2013 *	---	---	---	---	2,169	4,673	608	99	---	1,618	762
06/06/2013	---	---	---	---	2,029	2,829	363	73	2,159	1,404	1,191
06/07/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	538	0	0	58,261	63,000	24,477	3,581	21,191	48,535	24,937
# Days:	0	7	0	0	14	14	14	14	7	14	14
Average:	0	77	0	0	4,162	4,500	1,748	256	3,027	3,467	1,781
YTD	3,789	39,479	3,547	9,925	2,019,975	1,685,179	603,304	14,479	450,314	720,357	434,055

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)
05/24/2013 *	---	0	---	---	34	287	405	203	---	23,969	31,813
05/25/2013 *	---	0	---	---	78	314	250	138	12,393	11,560	22,618
05/26/2013 *	---	0	---	---	0	508	0	65	---	12,102	7,554
05/27/2013 *	---	0	---	---	30	0	67	24	11,641	9,167	7,819
05/28/2013 *	---	0	---	---	15	115	55	9	---	6,102	3,514
05/29/2013 *	---	0	---	---	29	129	18	20	8,907	7,429	2,868
05/30/2013 *	---	0	---	---	58	72	34	3	---	6,959	3,555
05/31/2013	---	---	---	---	110	72	65	6	8,162	4,076	2,590
06/01/2013 *	---	---	---	---	138	57	8	6	---	2,600	1,876
06/02/2013	---	---	---	---	0	0	29	8	3,896	2,117	807
06/03/2013 *	---	---	---	---	76	0	4	7	---	1,612	933
06/04/2013	---	---	---	---	30	0	5	5	4,566	2,461	768
06/05/2013 *	---	---	---	---	30	0	18	7	---	855	349
06/06/2013	---	---	---	---	0	36	16	3	2,723	1,003	737
06/07/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	628	1,590	974	504	52,288	92,012	87,801
# Days:	0	7	0	0	14	14	14	14	7	14	14
Average:	0	0	0	0	45	114	70	36	7,470	6,572	6,272
YTD	1	0	0	326	54,499	32,675	11,260	24,621	615,441	404,449	388,129

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)
05/24/2013 *	---	0	---	---	0	50	0	0	---	10,900	0
05/25/2013 *	---	0	---	---	0	300	50	2	5,700	11,200	0
05/26/2013 *	---	0	---	---	0	50	0	0	---	6,300	0
05/27/2013 *	---	0	---	---	0	25	12	0	3,600	6,100	0
05/28/2013 *	---	0	---	---	0	20	15	0	---	4,300	75
05/29/2013 *	---	0	---	---	20	0	10	1	1,300	3,800	25
05/30/2013 *	---	0	---	---	10	10	5	0	---	4,050	25
05/31/2013	---	---	---	---	0	20	15	0	850	4,050	25
06/01/2013 *	---	---	---	---	0	60	250	1	---	2,100	25
06/02/2013	---	---	---	---	0	125	100	0	1,200	1,000	87
06/03/2013 *	---	---	---	---	0	0	6	1	---	1,420	80
06/04/2013	---	---	---	---	0	0	401	0	850	1,220	60
06/05/2013 *	---	---	---	---	0	0	1	0	---	1,140	100
06/06/2013	---	---	---	---	0	0	0	0	900	1,060	80
06/07/2013	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	30	660	865	5	14,400	58,640	582
# Days:	0	7	0	0	14	14	14	14	7	14	14
Average:	0	0	0	0	2	47	62	0	2,057	4,189	42
YTD	0	8	0	0	4,872	51,026	60,225	84	55,210	123,833	3,394

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.

†† Passage index for yearling Chinook, steelhead, and subyearling Chinook at LGR may be inflated in 2013 due to possible resampling of PIT-tagged research fish

† 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.

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.

Fall (post SMP season) trapping at the Imnaha River Fish Trap (IMN) is funded by the Lower Snake River Compensation Program (LSRCP)

WTB and LEW data collected for the FPC by Idaho Dept. of Fish and Game.

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

6/7/13 8:05 AM

05/24/13 TO 06/07/13

		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
LGR	Sum of NumberCollected	166,075	12,912	870	39,852	435	220,144
	Sum of NumberBarged	133,162	11,973	792	34,802	432	181,161
	Sum of NumberBypassed	5,923	705	0	3,841	0	10,469
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	324	24	2	8	2	360
	Sum of FacilityMorts	91	4	1	6	1	103
	Sum of ResearchMorts	27	6	0	6	0	39
	Sum of TotalProjectMorts	442	34	3	20	3	502
LGS	Sum of NumberCollected	86,939	12,637	2,080	43,388	1,085	146,129
	Sum of NumberBarged	74,124	12,329	2,055	41,400	1,060	130,968
	Sum of NumberBypassed	20	0	0	0	0	20
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	10	4	0	2	0	16
	Sum of FacilityMorts	14	4	0	11	0	29
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	24	8	0	13	0	45
LMN	Sum of NumberCollected	12,135	4,206	393	14,277	581	31,592
	Sum of NumberBarged	9,273	4,061	388	13,951	571	28,244
	Sum of NumberBypassed	1,543	12	0	90	0	1,645
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	1	2	0	2	0	5
	Sum of FacilityMorts	13	7	1	13	0	34
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	14	9	1	15	0	39
MCN	Sum of NumberCollected	16,462	111,610	15,600	11,854	28,465	183,991
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	16,462	111,575	15,599	11,852	28,441	183,929
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	9	1	1	8	19
	Sum of FacilityMorts	0	26	0	1	16	43
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	35	1	2	24	62
Total Sum of NumberCollected		281,611	141,365	18,943	109,371	30,566	581,856
Total Sum of NumberBarged		216,559	28,363	3,235	90,153	2,063	340,373
Total Sum of NumberBypassed		23,948	112,292	15,599	15,783	28,441	196,063
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		335	39	3	13	10	400
Total Sum of FacilityMorts		118	41	2	31	17	209
Total Sum of ResearchMorts		27	6	0	6	0	39
Total Sum of TotalProjectMorts		480	86	5	50	27	648

YTD Transportation Summary

Source: Fish Passage Center

Updated:

6/7/13 8:05 AM

TO: 06/07/13

		Species						
Site	Data	CH0	CH1	CO	SO	ST	LU	Grand Total
LGR	Sum of NumberCollected	193,660	1,863,841	47,930	42,535	1,433,398		3,581,364
	Sum of NumberBarged	159,339	1,553,097	47,586	42,466	1,076,179		2,878,667
	Sum of NumberBypassed	7,283	308,258	210	52	355,707		671,510
	Sum of NumberTrucked	0	0	0	0	0		0
	Sum of SampleMorts	331	172	2	2	35		542
	Sum of FacilityMorts	132	2,064	57	15	242		2,510
	Sum of ResearchMorts	27	52	0	0	45		124
	Sum of TotalProjectMorts	490	2,288	59	17	322		3,176
LGS	Sum of NumberCollected	99,193	1,024,104	36,280	22,385	1,153,375		2,335,337
	Sum of NumberBarged	86,168	976,536	36,055	22,360	1,085,087		2,206,206
	Sum of NumberBypassed	229	46,698	200	0	66,201		113,328
	Sum of NumberTrucked	0	0	0	0	0		0
	Sum of SampleMorts	10	14	0	0	7		31
	Sum of FacilityMorts	15	556	0	0	105		676
	Sum of ResearchMorts	0	0	0	0	0		0
	Sum of TotalProjectMorts	25	570	0	0	112		707
LMN	Sum of NumberCollected	20,695	468,515	7,793	7,983	454,878	1	959,865
	Sum of NumberBarged	17,406	466,791	7,788	7,967	453,353	0	953,305
	Sum of NumberBypassed	1,561	1,070	0	2	1,090	16	3,739
	Sum of NumberTrucked	0	0	0	0	0	0	0
	Sum of SampleMorts	1	13	0	0	10	0	24
	Sum of FacilityMorts	24	517	1	4	204	0	750
	Sum of ResearchMorts	0	0	0	0	0	0	0
	Sum of TotalProjectMorts	25	530	1	4	214	0	774
MCN	Sum of NumberCollected	26,637	1,061,226	39,333	305,235	243,712		1,676,143
	Sum of NumberBarged	0	0	0	0	0		0
	Sum of NumberBypassed	26,631	1,060,418	39,329	304,990	243,664		1,675,032
	Sum of NumberTrucked	0	0	0	0	0		0
	Sum of SampleMorts	2	57	1	30	5		95
	Sum of FacilityMorts	4	751	3	215	43		1,016
	Sum of ResearchMorts	0	0	0	0	0		0
	Sum of TotalProjectMorts	6	808	4	245	48		1,111
Total Sum of NumberCollected		340,185	4,417,686	131,336	378,138	3,285,363	1	8,552,709
Total Sum of NumberBarged		262,913	2,996,424	91,429	72,793	2,614,619	0	6,038,178
Total Sum of NumberBypassed		35,704	1,416,444	39,739	305,044	666,662	16	2,463,609
Total Sum of NumberTrucked		0	0	0	0	0	0	0
Total Sum of SampleMorts		344	256	3	32	57	0	692
Total Sum of FacilityMorts		175	3,888	61	234	594	0	4,952
Total Sum of ResearchMorts		27	52	0	0	45	0	124
Total Sum of TotalProjectMorts		546	4,196	64	266	696	0	5,768

Cumulative Adult Passage at Mainstem Dams Through: 06/07

DAM	ENDDA	Spring Chinook						Summer Chinook						Fall Chinook					
		2013		2012		10-Yr Avg.		2013		2012		10-Yr Avg.		2013		2012		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	06/06	83345	33820	158089	7592	141713	20323	9516	3011	11598	784	10127	1956	0	0	0	0	0	0
TDA	06/06	69202	32311	117087	7175	107368	16911	4061	1061	5076	354	3834	709	0	0	0	0	0	0
JDA	06/06	56991	28957	107655	6755	92410	15875	1062	391	1863	105	844	149	0	0	0	0	0	0
MCN	06/06	50426	21773	99050	4618	81362	13229	0	0	0	0	0	0	0	0	0	0	0	0
IHR	06/06	36075	17384	67141	2669	55270	7750	0	0	0	0	0	0	0	0	0	0	0	0
LMN	06/06	33583	17249	63052	2623	52615	6375	0	0	0	0	0	0	0	0	0	0	0	0
LGS	06/06	31016	17134	60094	3015	46821	6913	0	0	0	0	0	0	0	0	0	0	0	0
LGR	06/06	30483	17079	56919	2964	44910	7677	0	0	0	0	0	0	0	0	0	0	0	0
PRD	06/05	11172	1157	17598	900	13480	1205	0	0	0	0	0	0	0	0	0	0	0	0
WAN	06/05	11638	1536	18503	846	14277	1882	0	0	0	0	0	0	0	0	0	0	0	0
RIS	06/05	9344	2635	16931	705	11989	1635	0	0	0	0	0	0	0	0	0	0	0	0
RRH	06/05	4577	1921	5873	368	4358	566	0	0	0	0	0	0	0	0	0	0	0	0
WEL	06/05	2813	2341	4006	407	2666	475	0	0	0	0	0	0	0	0	0	0	0	0
WFA	06/01	18011	850	21371	749	32932	667	0	0	0	0	0	0	0	0	0	0	0	0

DAM	ENDDA	Coho						Sockeye			Steelhead					Lamprey			
		2013		2012		10-Yr Avg.		2013	2012	10-Yr Avg.	10-Yr Avg.	Wild	Wild	10-Yr	2013	2012	10-Yr		
		Adult	Jack	Adult	Jack	Adult	Jack												
BON	06/06	0	0	0	0	0	0	756	1796	803	3748	6448	6765	985	1953	1655	2224	1985	2047
TDA	06/06	0	0	0	0	0	0	257	741	340	947	1970	3064	374	957	994	3	0	23
JDA	06/06	0	0	0	0	0	0	216	450	214	1044	2019	6647	504	1290	2038	40	4	130
MCN	06/06	1	0	0	0	0	0	53	31	43	1567	4811	6415	725	2219	2104	24	4	5
IHR	06/06	0	0	0	0	0	0	1	0	0	3869	2425	5289	1499	1089	1517	11	0	0
LMN	06/06	0	0	0	0	0	0	1	0	0	2543	3638	9774	1381	1928	3013	1	3	0
LGS	06/06	0	0	0	0	0	0	1	0	0	2216	3934	9562	1186	2304	3061	2	1	0
LGR	06/06	0	0	0	0	0	0	2	0	0	7445	8932	9648	3235	3942	3203	1	0	0
PRD	06/05	0	0	0	0	0	0	6	0	1	60	99	50	0	0	0	21	10	8
WAN	06/05	0	0	0	0	0	0	2	1	0	123	160	127	0	0	0	3	4	0
RIS	06/05	0	0	0	0	0	0	1	0	1	109	191	97	80	133	58	0	0	0
RRH	06/05	0	0	0	0	0	0	0	1	0	165	754	356	141	635	262	0	0	0
WEL	06/05	0	0	0	0	0	0	0	0	0	71	106	67	64	83	44	0	0	0
WFA	06/01	2	0	0	0	0	0	0	0	0	11187	19554	16077	0	0	0	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.