Fish Passage Center

Weekly Report #11 - 15

June 24, 2011

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 79% and 185% of average at individual sub-basins over June. Precipitation above The Dalles has been 142% of average over June. Over the 2011 water year, precipitation has ranged between 109% and 133% 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 2011 June 1-20, 2011		Water Year 2011 October 1, 2010 to June 20, 2011	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	2.30	144	23.69	120
Snake River Above Ice Harbor	1.56	160	19.27	132
Columbia Above The Dalles	1.70	142	23.86	125
Kootenai	2.15	131	23.42	116
Clark Fork	2.38	185	17.53	129
Flathead	3.08	175	23.97	133
Pend Oreille/ Spokane	1.97	135	32.71	123
Central Washington	0.36	84	9.04	117
Snake River Plain	0.82	128	12.13	131
Salmon/Boise/ Payette	1.56	159	20.07	117
Clearwater	2.70	162	34.24	132
SW Washington Cascades/Cowlitz	1.61	81	70.60	109
Willamette Valley	1.19	79	60.21	109

Table 2 displays the June Final and June Mid-Month runoff volume forecasts for multiple reservoirs. The June Mid-Month forecast at The Dalles between January and July is 142000 Kaf (132% of average).

Table 2. June Final and June Mid-Month Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.

Location	June Final		June Mid-Month	
	% Average (1971-2000)	Probable Runoff Volume (Kaf)	% Average (1971-2000)	Probable Runoff Volume (Kaf)
The Dalles (Jan-July)	131	141000	132	142000
Grand Coulee (Jan-July)	124	78300	126	79100
Libby Res. Inflow, MT (Apr-Aug)	127	7930 8099*	131	8170
Hungry Horse Res. Inflow, MT (Jan-July)	153	3410	153	3410
Lower Granite Res. Inflow (Apr- July)	156	33700	156	33700
Brownlee Res. Inflow (Apr-July)	177	11200	179	11300
Dworshak Res. Inflow (Apr-July)	143	3770 3813*	143	3770

* Denotes COE Forecast

The Biological Opinion flow period began on April 3rd and ended on June 20th in the lower Snake River (Lower Granite). The flow objective this spring was 100 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 137.8 Kcfs over the spring season. The flow objective at Lower Granite over the summer period (June 21st to August 31st) is 55 Kcfs, over the first three days of the summer period flows at Lower Granite have averaged 169.2 Kcfs.

Based on the April Final Water Supply Forecast, the Spring Biological Opinion Flow Objectives are 260 Kcfs at McNary Dam (began April 10th) and 135 Kcfs at Priest Rapids Dam (began April 10th). Flows at McNary

Dam have averaged 449.1 Kcfs over the last week and 373.0 Kcfs over the spring season. Flows at Priest Rapids Dam have averaged 290.3 Kcfs over the last week and 228.7 Kcfs over the spring season.

Grand Coulee Reservoir is at 1267.2 feet (6-23-11) and has refilled 10.4 feet over the last week. Outflows at Grand Coulee have ranged between 219.6 and 239.0 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2412.8 feet (6-23-11) and has refilled 12.3 feet last week. Outflows at Libby Dam have been 16.6-25.5 Kcfs last week.

Hungry Horse is currently at an elevation of 3532.7 feet (6-23-11) and has refilled 7.7 feet last week. Outflows at Hungry Horse have been 7.1-8.1 Kcfs last week.

Dworshak is currently at an elevation of 1586.1 feet (6-23-11) and has refilled 10.3 feet last week. Outflows from Dworshak have ranged between 2.5-9.7 Kcfs last week.

The Brownlee Reservoir was at an elevation of 2073.8 feet on June 23rd, 2011 refilling 4.7 feet last week. Over the last week, outflows at Brownlee have ranged between 34.3-45.6 Kcfs.

Spill: Spill levels transitioned from spring to summer levels for fish passage on June 21st at the lower Snake River projects. Continued high flows in the Snake and Columbia rivers have resulted in uncontrolled spill levels at the Snake River projects. All lower Snake River projects in the FCRPS are spilling water in excess of hydraulic capacity.

A small amount of spill occurred at Dworshak Dam on a few days this past week. Otherwise, the project has been refilling. All units are now operational at Lower Granite Dam. Over the past week, daily average flows at Lower Granite Dam have ranged from 154.2 to 181.6 Kcfs, and spill has ranged from 44.7 to 70.2 Kcfs. At Little Goose Dam, spill has exceeded the 30% level as specified in the Court Order. Daily average spill at Little Goose dam has ranged from 47.5 Kcfs to 75.8 Kcfs. At Lower Monumental Dam spill was in excess of the Court Order and ranged from 37.6 to 61.2 Kcfs.

Beginning April 28th, the Court Order spill operations at Ice Harbor called for an alternating schedule of 45 Kcfs spill during the day and gas cap spill at night versus 30% if instantaneous flow, on 2-day alternating blocks until mid-July. Over the past week spill levels have exceeded the Court Order and, since May 22nd spill has occurred as all flow in excess of powerhouse or generation capacity. Spill has ranged from 80 to 99 Kcfs.

Project	Day/Night Spill
Lower Granite	18 Kcfs/18 Kcfs
Little Goose	30%/30%
Lower Monumental	17 Kcfs/17 Kcfs
Ice Harbor	**April 28-~mid-July:** 45 Kcfs/gas cap vs. 30%/30%

Summer spill levels were initiated at McNary Dam on June 20th and at Bonneville Dam on June 16th. Summer spill season will begin at John Day and The Dalles dams on July 1. However, due to high flows spill is in excess of the Court Ordered spill for fish passage in the lower Columbia. In addition, spill is occurring at Grand Coulee Dam, which is being operated for refill and flood control downriver.

Spill at McNary Dam has been in excess of the Court Order as a result of flows in excess of hydraulic capacity and unit outages. Spill at McNary Dam has ranged between 60.3% and 64.2% of daily average flow (daily average spill ranged from 260.1 to 304.2 Kcfs) at this project. The planned test at John Day Dam was designed to start on the evening of April 27th. Under this test, spill at John Day Dam alternates between 30% and 40% of instantaneous flow, roughly every two days. However, due to high flows the test conditions were not implementable. Spill levels at John Day have ranged from 38.9% to 45.1% of total river flow. At The Dalles Dam, spill exceeded the 40% objective this past week, ranging from 42.2% to 50.7%). Finally, at Bonneville Dam, spill exceeded the 100 Kcfs in the Court Order implemented until June 15th and exceeded the summer test operations beginning June 16th, with spill ranging from a daily average of 258.6 Kcfs to 300.69 Kcfs.

Project	Day/Night Spill
McNary	50%/50%
John Day	**Pre-test:** 30%/30% **Testing:** 30%/30% vs. 40%/40%
The Dalles	40%/40%
Bonneville	**June 16 to July 20**: alternate between 95 Kcfs/95 Kcfs and 85 Kcfs/121 Kcfs. **July 20th - August 31:** 75 Kcfs day/ GasCap night.

Most points of compliance, with the exception of the Lower Granite Dam forebay monitor, were exceeding the 115/120% TDG levels this week. Gas Bubble Trauma monitoring at Little Goose Dam showed GBT in 2% of the fish examined on June 20th, with no fish with Rank 3 and 4 signs. Incidences of GBT at Lower Monumental Dam showed 4% of fish examined showing signs of GBT on the June 22nd sample at this site. Gas Bubble Trauma examinations at McNary Dam were done on June 19th and 23rd with 2% and 0% of the fish examined showing signs of GBT, respectively. Incidence of GBT at Rock Island Dam has remained high this week. The examination on June 22nd revealed a 11% incidence of GBT, while the sample on June 23rd revealed a 26% incidence of GBT. Total dissolved gas levels in the Mid Columbia River have generally been higher than observed in the Snake and lower Columbia rivers over the past week.

The action criteria for GBT with Rank 1 signs of GBT is 15% of the population. However, with the present flows and spill levels the system is in an uncontrolled state and no action would be possible if the criteria were exceeded.

Smolt Monitoring: Smolt monitoring was ongoing at all SMP sites this past week. Subyearling Chinook predominated in the collections at all dams except Rock Island Dam, where steelhead still predominate. Steelhead passage numbers remained relatively high at all sites in the past week compared to other spring migrants as the continued high flows seem to be pushing more late steelhead down river this year.

Subyearling Chinook smolts continued to predominate in the sample this week as at Lower Granite Dam and the numbers increased compared to last week. Subyearling indices averaged 29,000 per day this week compared to 16,000 per day last week.

Steelhead, the second most predominant species, had passage numbers continue to decline with indices averaging 2,100 per day this week compared to 5,000 last week; yearling Chinook average weekly indices dropped from 1,200 to 700; sockeye indices also dropped from 500 per day last week to 200 this week. Little Goose and Lower Monumental dams showed similar patterns in passage with subyearling Chinook predominating, followed by steelhead.

Sampling at Rock Island Dam is ongoing. Steelhead and subyearling Chinook predominated in the samples over the past week. Steelhead collections averaged 217 per day this week while subyearling Chinook collections averaged just over 200 per day. Collections declined rapidly over the past week particularly for coho, while yearling Chinook numbers remained low. Sockeye collections actually increased over the past week with the average daily collection at 126 this week compared to 65 last week.

Sampling at McNary Dam is every other day in the spring. Normal sampling began on April 13. Subyearling Chinook predominated in passage at the site this past week, with the average passage index for subyearling Chinook at 40,000 per day this week compared to 37,000 last week. Indices for all spring migrants continued to go down over the past week. Coho indices were second behind subyearling Chinook, with the coho indices averaging 800 per day this week, while yearling Chinook index averaged 600 per day and sockeye and steelhead averaged about 400 per day this week.

At John Day Dam passage indices declined for all spring migrant species over the past week except lamprey. Subyearling Chinook predominated in the sample at this site as well, with the passage index for subyearlings averaging 15,000 per day this week compared to 24,000 per day last week. Lamprey collections have declined over the past week. The lamprey collection increased from 2,700 per day last week to 3,800 per day this week.

At Bonneville Dam the screens have been removed at Powerhouse 2 so that collections are lower than normal. Due to debris and high flows the COE was unable to keep the screens clean so that they removed the screens until flows subside. Given the biased collections the largest indices over the past week have been for subyearling Chinook which averaged 9,000 per day this week compared to 20,000 per day last week.

Hatchery Release:

Snake River Zone: The Snake River Zone encompasses the Snake River and its tributaries from its confluence with the Columbia River to Hells Canyon Dam. This week marks the beginning of releases of subyearling fall Chinook surrogates into the Clearwater River. These releases were expected to begin on or around June 20th and will continue through early to mid-July. In all, 98,000 fall Chinook surrogates are scheduled for release into the Clearwater River this year. The fall Chinook surrogates are 100% PIT-tagged, but otherwise unmarked. Beginning on or around June 28th, approximately 550,000 spring Chinook parr will be released into the Selway River. These spring Chinook parr are not expected to out-migrate until spring 2012 and approximately 27% are unmarked. There are no other new releases scheduled for this zone over the next two weeks.

Mid-Columbia Zone: The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. The release of nearly 3.5 million subyearling fall Chinook from Ringgold Hatchery that was scheduled to begin last week was postponed until this week. This release will likely run through the end of June. In addition, a release of nearly 6.8 million subyearling fall Chinook from Priest Rapids that began on June 5th was scheduled to end this week. There are no new releases of juvenile salmonids scheduled for the next two weeks.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. There were no scheduled releases to this zone this week. Also, there are no new releases of juvenile salmonids scheduled for this zone over the next two weeks.

Adult Passage:

The summer Chinook count began June 1st at Bonneville Dam. Daily passage numbers at Bonneville Dam ranged between 1,923 and 2,414 adult summer Chinook in the last week. The 2011 summer Chinook count of 56,632 has 552 more fish than the 2010 count and is 1.22 times greater than the 10 year average. The 2011 Bonneville Dam summer Chinook jack count of 25,099 is 3.42 times greater than the 2010 count and 3.74 times greater than the 10 year average count. At McNary Dam 22,712 adult summer Chinook have been counted. The 2011 McNary adult summer Chinook is about 99.4% of the 2010 and the 10 average counts.

The 2011 McNary Dam summer Chinook jack count of 10,339 is about 4.41 times greater than the 2010 count of 2,342 and about 3.44 times greater than the 10 year average count of 3,005. The 2011 adult summer Chinook count at Lower Granite Dam in the Snake River of 7,515 is about 61.1% of the 2010 count, while being 1.49 times greater than the 10 year average count. The 2011 Lower Granite summer Chinook jack count of 3,283 is about 2.83 times greater than the 2010 count and 3.59 times greater than the 10 year average count.

The Bonneville Dam 2011 steelhead count of 7,425 is about 39.6% of the 2010 count of 18,729 and about 59.3% of the 10 year average count of 12,511. At Rock Island Dam, as of June 21st, 75 adult steelhead had been counted and at Rock Reach Dam 561 had been counted. In the Snake River, this year's Lower Granite steelhead count of 12,332 is about 1.16 times greater than the 2010 count of 10,650 and 1.30 times greater than the 10 year average of 9,493. The 2011 Lower Granite wild steelhead count as of June 23rd was 5,789. At Willamette Falls Dam, the 2011 count for steelhead was 20,367, as of June 21st. This year's steelhead count is about 77.1% of the 2010 count of 26,444 at Willamette Falls Dam for the same date range.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 1,893 and 6,641 last week. The 2011 adult sockeye count at Bonneville Dam of 31,692 is about 19.3% of the 2010 count of 164,432 and about 54.2% of the 10 year average count of 58,411. The 2011 McNary Dam adult sockeye count of 2,664 is about 10.9% of the 2010 count and 16.2% of the 10 year average count.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 6/10/2011 to 06/23/11

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
National Marine Fisheries Service	Lyons Ferry Hatchery	CH0	FA	2011	98,000	06-20-11	07-08-11	Big Canyon (Clearwater River)	Clearwater River MF
National Marine Fisheries Service Total					**98,000**				
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2011	200,000	06-01-11	06-15-11	Cedar Flats Acclim.	Selway River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2011	200,000	06-01-11	06-15-11	Lukes Gulch Acclim.	S Fk Clearwater River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2011	300,000	05-20-11	06-15-11	Clearwater River	Snake River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2011	500,000	06-01-11	06-15-11	Nez Perce Tribal Hatchery	Clearwater River MF
Nez Perce Tribe Total					**1,200,000**				
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH0	FA	2011	2,000,000	06-16-11	06-16-11	Little White Salmon Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH0	FA	2011	2,500,000	06-16-11	06-16-11	Little White Salmon Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service Total					**4,500,000**				
Washington Dept. of Fish and Wildlife	Priest Rapids Hatchery	CH0	FA	2011	6,785,432	06-05-11	06-20-11	Priest Rapids Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2011	3,450,000	06-23-11	06-30-11	Ringold Springs Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					**10,235,432**				
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 Pond	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2011	27,365	05-07-11	06-12-11	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2011	49,379	04-29-11	06-14-11	Winthrop Hatchery	Methow River
Yakama Tribe Total					**215,289**				
Grand Total					**16,248,721**				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 6/24/2011 to 7/7/2011

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
National Marine Fisheries Service	Lyons Ferry Hatchery	CH0	FA	2011	98,000	06-20-11	07-08-11	(Clearwater River)	Clearwater River M F
National Marine Fisheries Service Total					**98,000**				
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	SP	2012	550,000	06-28-11	06-29-11	Meadow Creek - SELW	Selway River
Nez Perce Tribe Total					**550,000**				
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2011	3,450,000	06-23-11	06-30-11	Ringold Springs Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					**3,450,000**				
Grand Total					**4,098,000**				

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

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

	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
06/10/2011	223.8	63.2	223.1	106.1	251.3	109.5	262.3	81.0	264.6	78.7	272.8	146.9	274.9	175.8
06/11/2011	236.2	73.1	239.4	139.5	272.0	137.6	283.1	119.0	286.7	93.3	307.5	176.8	312.8	227.3
06/12/2011	226.2	86.7	236.9	129.1	265.6	127.4	286.0	127.4	289.7	105.6	320.0	187.7	328.7	222.1
06/13/2011	225.9	71.9	219.8	131.8	250.7	113.7	265.3	93.1	269.6	96.9	280.2	170.3	287.3	179.5
06/14/2011	241.3	86.1	248.5	142.0	276.8	145.2	292.3	119.0	295.0	112.6	318.8	203.9	323.1	214.7
06/15/2011	239.9	82.2	242.7	137.3	270.3	137.7	280.2	115.4	282.9	108.0	311.8	200.3	321.0	208.4
06/16/2011	235.6	81.4	242.4	127.2	266.9	135.3	286.0	112.2	291.3	101.0	308.6	190.5	314.3	199.9
06/17/2011	239.0	79.1	237.8	119.7	258.6	120.0	277.5	91.8	275.6	94.6	285.5	177.0	291.1	184.1
06/18/2011	232.3	79.4	242.4	133.9	263.3	119.4	272.8	139.5	277.8	96.4	297.9	180.1	303.6	182.2
06/19/2011	230.9	75.5	233.9	114.2	258.5	117.8	265.0	134.3	271.1	89.8	297.8	178.9	307.8	195.8
06/20/2011	222.8	63.4	223.5	98.0	252.8	114.3	260.3	113.1	264.4	93.2	272.4	151.9	275.2	161.1
06/21/2011	219.6	60.4	221.8	88.8	242.2	87.8	254.9	91.1	257.1	97.9	282.3	160.6	286.9	165.0
06/22/2011	220.7	60.7	221.0	92.2	250.2	92.8	253.8	88.9	261.5	75.6	273.3	158.0	276.3	174.5
06/23/2011	220.0	58.8	232.2	124.8	254.4	104.9	267.3	99.4	271.9	80.9	287.7	166.4	291.2	180.9

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

	Dworshak		Brownlee	Hells Canyon	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
Date	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
06/10/2011	6.8	0.0	59.6	50.8	197.0	86.4	188.6	98.7	199.5	84.8	202.9	122.1
06/11/2011	2.4	0.5	58.2	50.8	182.6	72.0	173.1	83.1	180.5	65.4	186.7	106.2
06/12/2011	2.3	0.2	56.7	50.9	178.8	70.2	169.0	78.8	177.2	60.2	181.6	99.0
06/13/2011	6.7	0.0	56.5	51.2	183.2	72.5	172.9	83.3	178.3	61.3	184.7	101.1
06/14/2011	6.7	0.1	56.2	51.6	188.9	77.9	180.0	91.2	188.7	71.6	191.6	108.5
06/15/2011	6.7	0.0	55.4	51.4	189.4	78.5	180.6	90.5	190.2	73.2	196.6	113.6
06/16/2011	6.6	0.0	53.2	50.6	184.5	74.5	174.0	83.4	180.9	64.6	187.6	105.1
06/17/2011	6.6	0.0	49.6	47.5	173.4	63.3	166.2	75.8	172.6	56.3	178.9	96.4
06/18/2011	2.6	0.3	44.7	44.1	158.7	50.3	149.2	59.0	154.4	40.6	161.0	80.0
06/19/2011	2.5	0.3	42.1	42.2	154.2	44.7	144.7	53.8	150.2	37.6	155.5	75.9
06/20/2011	7.7	0.1	41.5	40.4	161.8	51.7	153.7	62.2	159.2	44.5	165.1	82.4
06/21/2011	9.7	0.4	43.8	36.9	158.6	48.0	152.3	74.3	155.9	41.1	162.8	85.4
06/22/2011	9.7	0.0	42.3	37.6	167.4	56.5	154.7	47.5	162.5	45.8	168.5	85.9
06/23/2011	9.6	1.0	---	---	181.6	70.2	170.5	61.9	178.2	61.2	183.0	99.0

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

	McNary		John Day		The Dalles				Bonneville	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
06/10/2011	486.5	327.5	500.3	232.4	494.8	241.1	502.0	287.6	84.8	117.2
06/11/2011	484.3	325.3	498.6	229.5	491.1	242.9	500.2	286.0	85.9	115.9
06/12/2011	481.6	320.4	489.2	223.8	478.2	229.7	498.8	283.8	86.2	116.4
06/13/2011	484.3	325.2	492.3	223.3	482.1	241.3	498.4	280.4	87.5	118.1
06/14/2011	494.8	342.1	500.6	239.9	490.0	246.5	499.2	279.6	87.9	119.3
06/15/2011	501.5	343.3	507.0	255.4	489.8	244.2	500.8	293.6	86.8	108.0
06/16/2011	495.7	329.1	505.4	253.6	492.8	261.5	501.3	303.3	84.6	101.0
06/17/2011	478.5	304.2	500.1	225.5	488.4	247.5	500.3	300.6	85.2	102.1
06/18/2011	455.9	289.7	477.0	202.9	463.0	221.9	480.9	283.9	83.4	101.2
06/19/2011	442.0	269.9	452.0	191.5	440.4	203.0	461.5	260.1	87.3	101.7
06/20/2011	437.2	271.7	443.2	193.6	426.9	200.9	441.5	258.6	71.3	99.2
06/21/2011	431.4	260.1	441.9	171.8	428.5	191.3	440.6	259.3	71.5	97.4
06/22/2011	445.7	282.2	454.8	191.0	440.7	199.4	449.2	265.6	72.0	99.1
06/23/2011	453.2	290.8	448.1	185.8	432.9	182.9	447.6	260.8	71.5	102.9

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

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank: Rank 1	Rank 2	Rank 3	Rank 4
Lower Granite Dam											
	06/16/11	Chinook + Steelhead	66	0	0	0.00%	0.00%	0	0	0	0
	06/23/11	Chinook + Steelhead	69	0	0	0.00%	0.00%	0	0	0	0
Little Goose Dam											
	06/13/11	Chinook + Steelhead	101	14	14	13.86%	2.97%	9	2	2	1
	06/20/11	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0
Lower Monumental Dam											
	06/15/11	Chinook + Steelhead	100	8	8	8.00%	0.00%	8	0	0	0
	06/22/11	Chinook + Steelhead	100	4	4	4.00%	1.00%	3	0	1	0
McNary Dam											
	06/13/11	Chinook + Steelhead	100	1	1	1.00%	0.00%	0	1	0	0
	06/17/11	Chinook + Steelhead	100	1	1	1.00%	1.00%	0	0	1	0
	06/19/11	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0
	06/23/11	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	06/11/11	Chinook + Steelhead	65	0	0	0.00%	0.00%	0	0	0	0
	06/14/11	Chinook + Steelhead	73	1	1	1.37%	0.00%	1	0	0	0
	06/18/11	Chinook + Steelhead	28	0	0	0.00%	0.00%	0	0	0	0
	06/21/11	Chinook + Steelhead	57	0	0	0.00%	0.00%	0	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

	Hungry H. Dnst				Boundary				Grand Coulee				Grand C. Tlwr				Chief Joseph			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/10	101.5	102.8	103.4	24	131.8	132.2	132.5	23	120.3	120.7	121.1	24	135.9	137.7	138.7	23	131.2	131.5	131.8	24
6/11	103.8	104.3	104.7	23	131.7	132.0	132.5	23	121.5	121.8	122.2	24	139.0	139.3	139.5	23	132.8	134.3	135.1	24
6/12	103.8	104.2	104.6	24	132.1	132.4	132.7	22	121.7	122.0	122.7	24	140.5	142.1	143.4	22	136.2	136.9	137.1	24
6/13	104.0	104.5	104.9	24	132.0	132.1	132.5	23	121.9	122.2	122.5	24	138.1	139.4	141.8	23	137.5	138.6	139.2	24
6/14	104.3	104.6	105.0	24	132.6	133.5	134.0	23	121.0	121.3	121.6	24	140.9	141.4	141.8	23	134.2	135.2	137.2	24
6/15	104.0	104.4	104.9	24	133.0	133.1	133.2	21	121.4	121.5	121.7	24	140.4	140.6	140.8	21	137.1	137.8	138.2	24
6/16	104.2	104.9	105.3	22	133.3	133.5	133.7	21	121.0	121.1	121.4	23	140.5	141.4	142.2	21	136.0	136.2	137.0	24
6/17	104.0	104.1	104.3	24	133.3	133.5	133.7	24	121.0	121.2	121.4	24	138.7	139.4	140.4	24	137.0	137.8	138.2	24
6/18	104.4	104.6	104.9	24	133.6	133.7	134.1	21	121.7	121.9	122.4	24	138.9	139.1	139.5	21	135.9	136.2	136.7	24
6/19	103.7	103.9	104.1	24	133.6	133.9	134.2	22	121.8	122.0	122.4	24	138.9	139.2	139.8	22	135.8	136.2	136.6	24
6/20	103.3	103.6	103.8	23	133.6	133.9	134.4	21	122.2	122.5	122.6	24	137.3	138.0	139.0	21	135.4	135.9	136.5	24
6/21	103.7	104.1	104.4	24	133.5	134.1	134.5	24	122.6	122.8	122.9	24	136.2	136.5	136.9	24	134.8	135.3	135.8	24
6/22	104.3	104.7	105.0	22	133.4	133.7	134.3	18	123.1	123.5	123.7	24	136.7	136.9	137.4	18	133.3	133.8	134.1	24
6/23	104.5	105.1	105.5	24	133.4	133.8	134.6	22	123.4	123.6	124.1	24	135.9	137.0	137.4	22	133.2	133.6	133.8	24

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

	Chief J. Dnst				Wells				Wells Dwnstrm				Rocky Reach				Rocky R. Tlwr			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/10	116.8	117.7	119.4	24	121.2	121.7	122.4	24	128.4	129.0	129.8	24	126.6	127.8	129.7	24	127.0	127.5	127.9	24
6/11	118.4	119.0	119.6	24	121.1	121.6	122.2	24	135.4	148.6	150.3	24	127.7	129.2	131.1	24	127.6	128.0	128.7	24
6/12	117.6	118.5	119.4	24	122.1	122.9	123.7	24	95.3	95.6	95.8	24	128.5	129.4	130.4	24	128.1	128.4	128.7	24
6/13	116.9	117.2	117.6	24	121.3	122.4	123.1	24	95.0	95.2	95.5	24	127.9	128.4	129.5	24	127.0	127.5	128.3	24
6/14	117.7	118.2	118.9	24	121.0	121.4	121.5	23	114.7	130.9	131.6	23	125.9	127.5	129.1	24	130.4	131.2	131.9	24
6/15	117.5	118.0	118.8	24	121.0	121.7	122.3	24	130.7	131.5	132.2	24	128.0	128.6	129.1	24	128.0	128.5	130.1	24
6/16	117.2	117.5	117.7	24	121.6	121.9	122.3	24	131.1	132.1	132.7	24	128.6	129.6	130.4	24	127.8	128.3	128.7	24
6/17	117.7	118.4	119.6	24	122.8	123.8	124.8	24	130.4	131.0	131.3	24	128.4	128.8	129.5	24	127.2	127.8	128.1	24
6/18	118.1	118.7	119.7	24	123.0	123.8	124.5	24	129.9	130.7	131.5	24	128.7	129.0	129.3	24	132.8	134.5	137.8	24
6/19	118.2	118.8	120.1	24	123.1	123.7	124.8	24	129.4	130.4	132.3	24	127.6	128.1	128.5	24	126.3	127.3	131.8	24
6/20	117.6	118.4	119.2	24	123.8	124.3	124.8	24	130.7	131.4	132.5	24	128.4	129.8	130.6	24	125.7	126.2	126.5	24
6/21	118.0	119.1	119.5	24	124.3	125.2	125.8	24	128.7	129.5	130.0	24	128.5	129.2	130.0	24	125.7	126.4	126.7	24
6/22	118.5	119.2	119.5	24	124.3	124.6	124.9	24	128.8	129.2	129.5	24	127.7	128.4	128.8	24	126.5	127.0	127.4	24
6/23	118.2	118.7	119.4	24	122.2	123.0	124.1	24	128.7	129.4	130.7	24	125.6	126.8	128.0	24	125.7	126.2	127.6	24

Total Dissolved Gas Saturation at Mid Columbia River Sites

	Rock Island				Rock I. Tlwr				Wanapum				Wanapum Tlwr				Priest Rapids			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/10	124.9	125.2	125.5	24	129.3	129.8	130.1	24	126.6	127.3	128.5	24	127.3	128.4	128.9	24	123.9	124.9	126.5	24
6/11	125.4	126.2	126.9	24	128.9	129.5	130.1	24	125.8	126.7	128.1	24	129.4	130.2	130.9	24	124.6	126.3	127.3	24
6/12	126.2	126.7	127.0	24	129.7	130.0	130.4	24	125.6	126.6	127.9	24	129.4	129.9	131.0	24	125.6	127.2	127.9	24
6/13	125.2	125.8	126.2	24	128.0	129.1	129.7	24	124.8	125.5	125.7	24	128.2	129.5	130.8	24	125.1	127.2	127.9	24
6/14	124.9	125.6	126.0	24	127.7	128.1	128.6	24	121.9	122.5	123.4	24	129.5	130.1	130.9	24	123.9	125.7	126.3	24
6/15	125.2	125.5	125.8	24	127.7	128.3	128.9	24	121.6	122.2	122.5	24	129.7	130.6	131.6	24	123.8	124.9	125.8	24
6/16	125.4	125.7	126.0	24	127.3	127.6	128.1	24	123.1	123.6	124.0	24	129.3	129.9	130.5	24	124.4	125.8	127.0	24
6/17	125.9	126.2	126.7	24	127.2	127.4	127.7	24	124.2	124.9	125.2	24	128.7	129.5	129.7	24	125.1	126.5	127.2	24
6/18	127.2	128.6	130.0	24	128.4	129.3	130.2	24	123.9	124.3	124.5	24	129.0	129.2	129.5	24	125.1	127.3	127.7	24
6/19	125.5	126.2	126.8	24	127.4	127.8	128.1	24	123.4	124.2	124.6	24	128.6	128.9	129.2	24	123.9	125.3	126.5	24
6/20	125.1	126.0	126.4	24	127.7	129.0	129.2	24	123.5	124.5	126.2	24	126.8	127.1	127.6	24	124.2	125.5	125.9	24
6/21	125.4	126.1	126.6	24	128.7	129.1	129.3	24	125.7	127.5	128.5	23	126.9	127.9	128.2	23	125.0	127.6	129.4	23
6/22	125.3	125.7	126.1	24	127.4	127.9	128.4	24	128.3	129.4	130.2	24	128.4	128.9	129.6	24	126.9	128.4	129.3	24
6/23	123.5	123.9	124.3	24	125.9	126.3	126.7	24	121.5	123.2	125.1	24	127.0	128.0	128.4	24	123.7	124.6	125.6	24

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

	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		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/10	124.5	125.2	125.6	24	108.1	108.7	109.8	24	102.0	103.4	105.7	24	103.1	103.8	104.2	24	109.1	109.5	109.9	24
6/11	125.6	126.3	126.6	24	109.7	111.6	113.3	24	104.7	106.0	106.2	24	103.2	103.8	104.2	24	108.9	109.3	109.7	24
6/12	125.8	126.6	127.0	24	109.7	110.6	112.3	24	103.9	105.3	106.3	24	103.1	103.8	104.4	24	108.5	109.1	109.6	24
6/13	124.7	125.6	126.3	24	114.5	117.4	119.3	23	101.6	102.6	106.7	24	102.4	102.8	103.3	24	108.2	108.7	109.3	24
6/14	124.7	126.1	126.3	24	118.5	119.1	119.4	24	102.1	103.1	105.1	19	102.9	103.9	104.5	24	108.8	109.7	110.2	24
6/15	125.0	125.5	125.9	24	118.7	119.0	119.5	24	102.5	104.3	107.3	24	102.7	103.1	103.6	24	108.9	109.3	109.5	24
6/16	124.9	125.8	126.3	24	118.6	118.8	119.2	24	103.6	106.5	110.6	24	102.3	102.4	102.8	24	109.0	109.3	109.5	24
6/17	124.8	125.7	126.0	24	119.3	119.9	120.6	24	104.4	107.5	111.0	24	102.6	103.2	103.7	24	109.0	109.6	110.1	24
6/18	125.1	125.6	125.8	24	118.9	119.1	119.2	24	102.9	103.7	108.8	24	102.0	102.3	102.9	24	107.8	108.0	108.5	24
6/19	124.4	125.2	125.9	24	118.1	118.4	118.7	24	101.8	101.8	102.1	12	101.6	102.1	102.4	24	107.3	107.8	108.2	24
6/20	124.2	125.0	125.3	24	118.9	119.7	120.4	24	101.8	102.8	110.7	24	102.7	103.6	104.3	24	107.8	108.5	109.0	24
6/21	125.5	127.1	127.5	23	119.0	119.6	120.0	24	101.0	101.3	101.4	24	102.8	103.8	104.4	24	107.5	108.3	108.7	24
6/22	126.6	127.3	127.9	24	120.1	120.8	121.6	24	103.7	106.2	110.4	24	103.2	104.2	104.8	24	108.0	108.8	109.5	24
6/23	125.1	125.7	126.3	24	118.1	118.7	119.4	24	103.1	105.1	108.6	24	103.2	103.6	104.0	24	108.1	108.5	109.0	24

Total Dissolved Gas Saturation Data at Snake River Sites

	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		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/10	102.9	103.5	103.9	24	108.3	108.7	108.9	24	129.0	129.5	130.1	24	123.2	123.6	123.9	24	128.3	128.6	129.1	24
6/11	103.0	103.5	104.1	24	108.8	109.1	109.3	24	125.5	126.0	128.5	24	123.0	123.3	123.4	24	126.5	127.4	129.0	24
6/12	102.9	103.5	104.0	24	108.4	108.7	108.9	24	125.1	125.5	127.3	24	121.2	121.7	122.0	24	125.5	125.7	125.9	24
6/13	102.1	102.5	102.7	24	107.4	107.7	107.9	24	125.2	125.8	127.4	24	118.4	118.9	119.5	24	125.8	126.3	126.5	24
6/14	102.7	103.6	104.1	24	106.5	106.9	107.2	24	126.3	127.0	127.4	24	116.4	116.9	117.2	24	126.6	126.9	127.2	24
6/15	102.5	102.8	103.3	24	107.8	108.3	108.5	24	126.3	127.4	129.1	24	117.2	117.4	117.6	24	126.7	127.5	129.3	24
6/16	102.1	102.4	102.7	24	107.7	107.8	107.9	24	124.8	125.2	126.0	24	116.9	117.2	117.8	24	126.1	126.4	127.6	24
6/17	102.6	103.5	104.4	24	107.8	108.1	108.3	24	123.3	124.1	124.3	24	117.9	118.2	118.3	24	124.8	125.3	125.5	24
6/18	101.9	102.2	102.4	24	108.5	108.7	108.9	24	119.9	121.5	124.2	24	118.2	118.3	118.4	24	122.0	123.6	125.0	24
6/19	101.5	101.9	102.5	24	107.1	107.4	108.0	24	117.8	118.3	119.2	24	116.3	116.6	117.2	24	120.4	121.1	121.7	24
6/20	102.5	103.6	104.1	24	106.7	107.2	107.5	24	119.4	120.1	120.7	24	113.9	114.2	114.9	24	121.9	122.3	122.7	24
6/21	102.8	103.5	104.0	24	107.4	108.1	108.5	24	120.1	120.9	121.8	24	114.3	115.4	116.2	24	123.7	124.9	128.5	24
6/22	103.1	103.8	104.3	24	108.0	108.5	108.8	24	123.4	125.4	126.9	24	116.7	117.2	117.9	24	119.3	120.2	120.9	24
6/23	102.9	103.2	103.6	24	107.3	107.6	108.1	24	126.6	127.5	127.8	24	115.4	115.8	116.8	24	122.4	124.2	126.0	24

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

	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		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/10	131.8	132.1	132.3	24	125.3	125.8	126.1	24	126.0	126.2	126.5	24	127.3	128.2	128.7	24	---	---	---	0
6/11	130.7	131.1	132.3	24	123.4	124.4	126.0	24	125.3	125.5	126.1	24	125.2	126.5	128.2	24	---	---	---	0
6/12	127.5	128.3	130.0	24	122.8	123.3	123.8	24	123.5	124.0	124.8	24	123.9	124.6	125.2	24	---	---	---	0
6/13	125.8	126.7	127.1	24	122.7	123.1	123.3	24	120.9	121.7	122.5	24	124.0	124.7	124.9	24	---	---	---	0
6/14	126.0	127.2	128.5	24	124.2	125.0	125.5	24	120.1	121.0	121.8	24	125.3	127.1	128.2	24	---	---	---	0
6/15	127.6	128.2	128.8	24	124.1	125.1	127.1	24	121.7	121.8	122.1	24	126.1	127.2	128.9	24	---	---	---	0
6/16	127.2	128.0	128.4	24	123.4	124.0	124.9	24	121.5	122.1	122.6	24	125.0	126.0	128.6	24	---	---	---	0
6/17	126.6	126.9	127.3	24	122.6	123.4	123.8	24	121.5	122.0	122.3	24	123.8	124.7	125.0	24	---	---	---	0
6/18	126.3	127.2	127.7	24	119.2	121.5	122.1	24	121.7	122.0	122.3	24	121.9	122.8	123.0	24	---	---	---	0
6/19	122.3	123.6	124.9	24	117.7	119.9	121.2	24	120.0	120.4	121.0	24	120.7	121.2	121.6	24	---	---	---	0
6/20	120.3	120.5	120.7	24	120.4	120.9	121.4	24	118.3	118.6	119.1	24	121.2	121.5	122.2	24	---	---	---	0
6/21	122.4	123.2	124.4	24	119.9	120.6	121.7	24	118.7	119.1	119.5	24	122.0	123.0	126.6	24	---	---	---	0
6/22	126.4	127.7	128.3	24	121.1	121.9	122.6	24	120.8	121.3	121.7	24	122.2	122.6	123.2	24	---	---	---	0
6/23	119.4	120.0	121.2	24	122.5	123.3	124.5	24	120.0	121.1	121.8	24	123.5	123.9	125.5	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

	McNary-Wash				McNary Tlwr				John Day				John Day Tlwr				The Dalles			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr
6/10	120.4	122.0	122.8	24	131.1	131.3	131.6	24	125.3	128.9	130.6	24	129.0	129.4	130.4	24	121.6	122.5	123.0	24
6/11	119.6	120.3	120.8	24	131.1	131.5	131.7	24	130.1	130.7	131.0	24	128.4	128.8	129.2	24	124.8	125.7	126.2	24
6/12	118.1	118.4	119.1	24	130.8	130.9	131.1	24	125.2	126.2	127.7	24	127.8	128.3	129.0	24	124.1	124.4	125.0	24
6/13	117.3	118.0	118.3	24	130.4	130.8	131.4	24	121.4	121.9	122.4	24	127.7	127.9	128.2	24	121.6	122.3	123.5	24
6/14	116.5	117.4	117.9	24	129.9	130.5	132.3	24	118.5	118.8	119.1	24	128.6	129.3	130.8	24	120.4	120.8	121.6	24
6/15	116.3	116.9	117.3	24	130.1	130.8	131.4	24	115.8	116.4	117.7	24	130.3	131.1	132.3	24	120.1	120.6	120.9	24
6/16	117.2	117.4	117.8	24	130.2	130.7	131.5	24	116.0	116.2	116.4	24	129.9	131.0	131.8	24	121.2	122.0	122.6	24
6/17	117.3	118.0	118.5	24	128.6	129.8	130.1	24	117.7	118.6	119.1	24	128.5	129.4	129.8	24	120.0	120.7	121.2	24
6/18	118.0	118.4	118.6	24	127.7	128.2	128.8	24	118.3	118.6	118.9	24	125.9	126.8	127.3	24	118.5	119.0	119.5	24
6/19	116.0	116.3	116.4	24	126.1	126.4	126.7	24	116.6	117.0	117.1	24	124.1	124.6	125.1	24	116.4	116.6	116.9	24
6/20	116.1	116.5	116.8	24	126.2	126.5	126.9	24	114.6	114.8	115.6	24	124.3	125.0	125.4	24	116.9	117.4	117.9	24
6/21	118.3	119.2	119.5	24	126.0	126.3	127.0	24	115.4	116.5	117.2	24	122.3	123.4	124.5	24	117.1	117.9	118.5	24
6/22	119.4	120.0	120.5	24	127.2	127.4	128.1	24	118.9	120.1	120.7	24	124.5	124.7	125.0	24	118.2	119.0	119.4	23
6/23	117.0	118.5	119.6	24	127.4	127.6	128.6	24	117.7	118.5	119.6	24	123.4	124.0	125.6	24	115.6	115.7	116.1	16

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

	The Dalles Dnst				Bonneville				Warrendale				Camas\Washougal				Cascade Island			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
6/10	124.1	124.5	124.7	24	121.1	121.8	122.2	24	128.2	128.8	129.2	24	126.8	127.1	127.4	24	---	---	---	0
6/11	125.5	126.4	126.8	24	120.9	121.6	122.1	24	128.0	128.4	128.9	24	126.7	127.0	127.4	24	---	---	---	0
6/12	125.2	125.5	125.9	24	122.7	123.0	123.1	24	128.8	129.0	129.1	24	126.9	127.4	127.7	24	---	---	---	0
6/13	123.8	124.3	124.8	24	121.5	122.3	123.1	24	127.9	128.4	128.9	24	126.1	126.4	126.7	24	---	---	---	0
6/14	123.0	123.6	124.3	24	119.8	120.1	120.4	24	126.7	127.0	127.2	24	125.0	125.3	125.7	24	---	---	---	0
6/15	122.8	123.1	123.6	24	119.0	119.4	119.8	24	127.2	127.9	128.5	24	124.7	125.4	126.2	24	---	---	---	0
6/16	123.7	124.3	125.2	24	119.6	119.8	120.3	24	129.0	130.0	131.3	24	127.4	128.3	129.4	24	---	---	---	0
6/17	123.2	123.7	124.3	24	120.8	121.0	121.3	24	129.6	130.5	131.5	24	128.4	128.9	129.4	24	---	---	---	0
6/18	121.9	122.3	122.9	24	120.0	120.5	120.8	24	127.9	128.6	130.3	24	127.4	128.2	128.5	24	---	---	---	0
6/19	120.4	120.8	121.2	24	117.4	117.6	118.0	24	125.1	125.4	125.8	24	124.7	124.9	125.7	24	---	---	---	0
6/20	120.7	121.3	121.8	24	118.2	118.7	118.8	24	126.8	127.1	127.3	24	124.8	125.6	126.1	24	---	---	---	0
6/21	121.1	121.6	122.0	24	119.8	120.8	121.2	24	127.8	128.2	128.7	24	126.0	127.0	127.4	24	---	---	---	0
6/22	121.5	121.8	122.1	24	119.9	121.0	121.4	24	128.3	128.8	129.2	24	126.0	126.5	126.8	24	---	---	---	0
6/23	119.7	120.5	121.4	24	116.3	116.5	117.2	24	126.0	126.3	126.8	24	123.5	123.9	124.4	24	---	---	---	0

Two-Week Summary of Passage Indices

Source: Fish Passage Center Updated: 6/24/2011 11:17

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

				COMBINED YEARLING CHINOOK								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
06/10/2011	*	---	---	---	---	2,159	1,084	502	47	3,347	4,427	701
06/11/2011	*	---	0	---	---	2,362	1,857	231	78	---	1,497	307
06/12/2011	*	---	1	---	---	1,222	1,890	486	25	3,741	3,516	777
06/13/2011	*	---	5	---	---	495	2,801	419	22	---	2,493	375
06/14/2011	*	---	---	---	---	757	4,294	227	10	1,860	2,490	495
06/15/2011	*	---	0	---	---	425	2,270	135	27	---	8,334	784
06/16/2011	*	---	0	---	---	1,284	1,095	291	28	1,304	1,982	573
06/17/2011	*	---	3	---	---	880	571	159	9	---	894	389
06/18/2011	*	---	1	---	---	1,248	995	277	11	749	833	96
06/19/2011	*	---	9	---	---	287	1,467	160	28	---	1,038	300
06/20/2011	*	---	14	---	---	706	1,127	142	13	525	1,290	0
06/21/2011	*	---	---	---	---	659	736	205	12	---	613	44
06/22/2011	*	---	---	---	---	797	896	290	13	568	247	188
06/23/2011	*	---	---	---	---	460	296	407	17	---	548	219
06/24/2011	*	---	---	---	---	---	---	---	---	1,053	622	130
Total:		**0**	**33**	**0**	**0**	**13,741**	**21,379**	**3,931**	**340**	**13,147**	**30,824**	**5,378**
# Days:		**0**	**9**	**0**	**0**	**14**	**14**	**14**	**14**	**8**	**15**	**15**
Average:		**0**	**4**	**0**	**0**	**982**	**1,527**	**281**	**24**	**1,643**	**2,055**	**359**
YTD		**31,090**	**30,190**	**12,492**	**18,836**	**3,826,939**	**2,522,459**	**1,232,662**	**26,386**	**1,977,538**	**2,933,409**	**1,320,047**

				COMBINED SUBYEARLING CHINOOK								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
06/10/2011	*	---	---	---	---	23,930	44,649	6,279	272	35,005	26,597	16,829
06/11/2011	*	---	0	---	---	21,525	41,622	2,442	414	---	23,852	20,603
06/12/2011	*	---	0	---	---	14,170	33,043	4,378	368	36,019	20,076	23,776
06/13/2011	*	---	0	---	---	11,555	30,769	4,366	198	---	17,821	22,780
06/14/2011	*	---	---	---	---	14,633	32,275	3,078	132	44,319	23,702	24,416
06/15/2011	*	---	0	---	---	15,220	49,294	3,936	275	---	30,295	15,675
06/16/2011	*	---	0	---	---	11,729	27,131	3,106	333	32,999	29,316	16,052
06/17/2011	*	---	0	---	---	32,542	21,981	1,955	238	---	26,504	14,189
06/18/2011	*	---	0	---	---	42,117	15,578	2,666	122	27,681	14,394	11,722
06/19/2011	*	---	0	---	---	39,922	18,784	1,581	150	---	16,832	8,448
06/20/2011	*	---	0	---	---	28,537	30,899	3,697	293	34,371	14,469	5,408
06/21/2011	*	---	---	---	---	25,853	33,459	5,938	186	---	12,706	6,399
06/22/2011	*	---	---	---	---	17,018	18,484	7,545	158	58,930	12,083	7,822
06/23/2011	*	---	---	---	---	16,261	16,942	13,223	297	---	9,635	9,215
06/24/2011	*	---	---	---	---	---	---	---	---	67,830	20,567	15,028
Total:		**0**	**0**	**0**	**0**	**315,012**	**414,910**	**64,190**	**3,436**	**337,154**	**298,849**	**218,362**
# Days:		**0**	**9**	**0**	**0**	**14**	**14**	**14**	**14**	**8**	**15**	**15**
Average:		**0**	**0**	**0**	**0**	**22,501**	**29,636**	**4,585**	**245**	**42,144**	**19,923**	**14,557**
YTD		**9**	**36**	**12**	**163**	**900,121**	**946,347**	**191,828**	**9,946**	**775,023**	**592,478**	**2,942,476**

Two-Week Summary of Passage Indices

COMBINED COHO

		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
06/10/2011	*	---	---	---	---	93	108	72	427	6,093	3,859	1,092
06/11/2011	*	---	0	---	---	175	0	0	272	---	2,432	726
06/12/2011	*	---	0	---	---	81	283	61	165	4,103	3,423	552
06/13/2011	*	---	0	---	---	165	0	0	109	---	1,016	311
06/14/2011	*	---	---	---	---	252	298	65	125	1,035	2,029	577
06/15/2011	*	---	0	---	---	170	306	0	160	---	4,706	371
06/16/2011	*	---	0	---	---	0	0	24	134	1,665	2,118	1,051
06/17/2011	*	---	0	---	---	41	0	0	114	---	1,018	97
06/18/2011	*	---	0	---	---	78	90	43	102	1,112	1,079	96
06/19/2011	*	---	0	---	---	72	163	20	110	---	519	92
06/20/2011	*	---	0	---	---	71	80	41	101	888	1,054	150
06/21/2011	*	---	---	---	---	0	43	0	81	---	789	175
06/22/2011	*	---	---	---	---	0	0	21	62	485	619	98
06/23/2011	*	---	---	---	---	153	0	0	48	---	656	44
06/24/2011	*	---	---	---	---	---	---	---	---	727	326	43
Total:		**0**	**0**	**0**	**0**	**1,351**	**1,371**	**347**	**2,010**	**16,108**	**25,643**	**5,475**
# Days:		**0**	**9**	**0**	**0**	**14**	**14**	**14**	**14**	**8**	**15**	**15**
Average:		**0**	**0**	**0**	**0**	**97**	**98**	**25**	**144**	**2,014**	**1,710**	**365**
YTD		**0**	**0**	**0**	**218**	**79,977**	**79,887**	**18,828**	**46,149**	**185,525**	**473,517**	**437,916**

COMBINED STEELHEAD

		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
06/10/2011	*	---	---	---	---	10,180	7,802	5,310	285	2,521	6,772	502
06/11/2011	*	---	12	---	---	6,387	9,287	1,683	449	---	7,015	348
06/12/2011	*	---	5	---	---	5,049	8,015	2,645	447	2,938	7,031	901
06/13/2011	*	---	11	---	---	2,971	7,003	1,735	434	---	6,556	505
06/14/2011	*	---	---	---	---	3,280	7,898	389	500	1,607	8,024	1,732
06/15/2011	*	---	3	---	---	4,847	4,692	871	425	---	14,805	639
06/16/2011	*	---	5	---	---	3,938	1,892	437	237	639	6,152	1,338
06/17/2011	*	---	11	---	---	2,413	1,997	705	252	---	4,580	777
06/18/2011	*	---	6	---	---	1,716	2,261	277	233	433	1,455	288
06/19/2011	*	---	4	---	---	1,867	1,469	621	269	---	1,383	300
06/20/2011	*	---	8	---	---	1,837	2,188	406	157	426	1,348	62
06/21/2011	*	---	---	---	---	2,124	1,515	329	202	---	1,227	0
06/22/2011	*	---	---	---	---	2,317	898	728	180	324	619	170
06/23/2011	*	---	---	---	---	2,685	680	872	226	---	733	307
06/24/2011	*	---	---	---	---	---	---	---	---	148	618	43
Total:		**0**	**65**	**0**	**0**	**51,611**	**57,597**	**17,008**	**4,296**	**9,036**	**68,318**	**7,912**
# Days:		**0**	**9**	**0**	**0**	**14**	**14**	**14**	**14**	**8**	**15**	**15**
Average:		**0**	**7**	**0**	**0**	**3,687**	**4,114**	**1,215**	**307**	**1,130**	**4,555**	**527**
YTD		**1,080**	**13,835**	**4,071**	**2,934**	**4,100,901**	**2,017,425**	**834,097**	**27,438**	**606,666**	**2,612,699**	**245,364**

Two-Week Summary of Passage Indices

				COMBINED SOCKEYE								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
06/10/2011	*	---	---	---	---	935	325	179	71	1,394	946	247
06/11/2011	*	---	0	---	---	525	309	66	97	---	468	210
06/12/2011	*	---	0	---	---	489	666	274	93	1,165	833	306
06/13/2011	*	---	0	---	---	330	747	239	63	---	554	143
06/14/2011	*	---	---	---	---	673	596	259	51	1,050	646	412
06/15/2011	*	---	0	---	---	510	204	95	54	---	980	41
06/16/2011	*	---	0	---	---	257	398	170	26	642	273	191
06/17/2011	*	---	0	---	---	331	380	136	57	---	336	97
06/18/2011	*	---	0	---	---	546	90	85	95	419	59	192
06/19/2011	*	---	0	---	---	287	163	40	283	---	403	46
06/20/2011	*	---	0	---	---	0	239	81	202	335	409	62
06/21/2011	*	---	---	---	---	220	43	164	85	---	351	88
06/22/2011	*	---	---	---	---	0	45	62	82	475	206	161
06/23/2011	*	---	---	---	---	230	89	203	75	---	195	132
06/24/2011	*	---	---	---	---	---	---	---	---	454	434	302
Total:		**0**	**0**	**0**	**0**	**5,333**	**4,294**	**2,053**	**1,334**	**5,934**	**7,093**	**2,630**
# Days:		**0**	**9**	**0**	**0**	**14**	**14**	**14**	**14**	**8**	**15**	**15**
Average:		**0**	**0**	**0**	**0**	**381**	**307**	**147**	**95**	**742**	**473**	**175**
YTD		**0**	**0**	**1**	**0**	**115,907**	**42,138**	**30,088**	**17,957**	**314,024**	**356,783**	**109,001**

				COMBINED LAMPREY JUVENILES								
		WTB	IMN	GRN	LEW	LGR†	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)
06/10/2011	*	---	---	---	---	100	0	0	4	1,075	2,150	52
06/11/2011	*	---	0	---	---	0	100	0	3	---	3,050	17
06/12/2011	*	---	0	---	---	0	100	0	1	850	2,750	14
06/13/2011	*	---	0	---	---	0	0	0	2	---	1,250	49
06/14/2011	*	---	---	---	---	0	50	0	0	5,100	1,350	40
06/15/2011	*	---	0	---	---	0	0	0	0	---	2,650	10
06/16/2011	*	---	0	---	---	0	0	0	1	8,100	5,983	20
06/17/2011	*	---	0	---	---	0	50	0	1	---	7,133	40
06/18/2011	*	---	0	---	---	0	0	0	0	4,025	4,796	20
06/19/2011	*	---	0	---	---	0	100	0	0	---	4,833	40
06/20/2011	*	---	0	---	---	0	50	0	0	540	4,133	103
06/21/2011	*	---	---	---	---	0	25	0	0	---	3,175	50
06/22/2011	*	---	---	---	---	50	250	0	0	840	1,125	30
06/23/2011	*	---	---	---	---	0	160	0	1	---	1,289	30
06/24/2011	*	---	---	---	---	---	---	---	---	1,150	780	20
Total:		**0**	**0**	**0**	**0**	**150**	**885**	**0**	**13**	**21,680**	**46,447**	**535**
# Days:		**0**	**9**	**0**	**0**	**14**	**14**	**14**	**14**	**8**	**15**	**15**
Average:		**0**	**0**	**0**	**0**	**11**	**63**	**0**	**1**	**2,710**	**3,096**	**36**
YTD		**0**	**0**	**0**	**0**	**5,977**	**11,728**	**746**	**297**	**152,565**	**472,884**	**24,979**

* 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, and pacific lamprey macropthalmia.

† 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 = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
LGS (Index) = Little Goose Bypass Collection System : Passage Index Counts
  Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
LMN (Index) = Lower Monumental Dam Bypass Collection System : Passage Index Counts
  Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
RIS (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts
  Passage Index = Collection Counts / {Powerhouse 2 Flow / (Powerhouse 1 & 2 Flow + Spill)}
MCN (Index) = McNary Dam Bypass Collection System : Passage Index Counts
  Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
JDA (Index) = John Day Dam Bypass Collection System : Passage Index Counts
  Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
BO2 (Index) = Bonneville Dam Second Powerhouse Bypass Collection System : Passage Index Counts
  Passage Index = Collection Counts / {Powerhouse 2 Flow / (Powerhouse 1 & 2 Flow + Spill)}

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

Two Week Transportation Summary

Source: Fish Passage Center Updated: 6/24/11 11:21 AM

06/10/11 TO 06/24/11

		Species					
Site	Data	**CH0**	**CH1**	CO	ST	SO	**Grand Total**
LGR	Sum of NumberCollected	199,975	8,337	825	31,054	3,200	243,391
	Sum of NumberBarged	202,050	9,771	974	34,545	3,334	250,674
	Sum of NumberBypassed	44	0	0	1,793	0	1,837
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	34	0	0	1	3	38
	Sum of FacilityMorts	537	15	1	11	12	576
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	571	15	1	12	15	614
LGS	Sum of NumberCollected	220,955	11,306	725	29,733	2,263	264,982
	Sum of NumberBarged	249,288	12,887	1,224	33,200	2,444	299,043
	Sum of NumberBypassed	8	0	1	0	0	9
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	52	0	0	0	2	54
	Sum of FacilityMorts	1,677	19	0	21	10	1,727
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,729	19	0	21	12	1,781
LMN	Sum of NumberCollected	43,094	2,591	225	10,735	1,350	57,995
	Sum of NumberBarged	30,201	2,025	185	7,031	1,088	40,530
	Sum of NumberBypassed	7,781	606	60	5,218	379	14,044
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	1	0	0	1	0	2
	Sum of FacilityMorts	277	0	0	38	23	338
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	278	0	0	39	23	340
MCN	Sum of NumberCollected	93,709	4,011	5,121	2,942	1,838	107,621
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	92,766	3,772	5,072	2,919	1,784	106,313
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	127	4	3	2	14	150
	Sum of FacilityMorts	816	235	26	21	40	1,138
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	943	239	29	23	54	1,288
Total Sum of NumberCollected		557,733	26,245	6,896	74,464	8,651	673,989
Total Sum of NumberBarged		481,539	24,683	2,383	74,776	6,866	590,247
Total Sum of NumberBypassed		100,599	4,378	5,133	9,930	2,163	122,203
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		214	4	3	4	19	244
Total Sum of FacilityMorts		3,307	269	27	91	85	3,779
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		3,521	273	30	95	104	4,023

YTD Transportation Summary

Source: Fish Passage Center Updated: 6/24/11 11:21 AM

TO: 06/24/11

		Species					
Site	Data	**CH0**	**CH1**	CO	SO	ST	**Grand Total**
LGR	Sum of NumberCollected	557,550	2,714,334	52,434	75,739	2,701,961	6,102,018
	Sum of NumberBarged	463,456	1,702,259	37,810	32,991	1,423,949	3,660,465
	Sum of NumberBypassed	81,787	1,009,672	14,507	42,055	1,275,909	2,423,930
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	108	101	1	70	38	318
	Sum of FacilityMorts	1,614	1,761	16	473	252	4,116
	Sum of ResearchMorts	0	241	0	0	58	299
	Sum of TotalProjectMorts	1,722	2,103	17	543	348	4,733
LGS	Sum of NumberCollected	454,915	1,445,168	40,210	22,731	1,121,946	3,084,970
	Sum of NumberBarged	441,289	1,340,017	39,808	17,317	882,468	2,720,899
	Sum of NumberBypassed	58	103,168	401	5,227	238,633	347,487
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	70	50	0	9	8	137
	Sum of FacilityMorts	2,068	1,733	1	121	377	4,300
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2,138	1,783	1	130	385	4,437
LMN	Sum of NumberCollected	128,130	851,390	12,505	20,221	563,088	1,575,334
	Sum of NumberBarged	109,936	633,710	11,343	17,867	456,427	1,229,283
	Sum of NumberBypassed	8,282	215,895	1,254	1,964	103,395	330,790
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	1	3	0	0	5	9
	Sum of FacilityMorts	820	1,499	10	250	861	3,440
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	821	1,502	10	250	866	3,449
MCN	Sum of NumberCollected	230,863	951,626	70,553	131,382	295,419	1,679,843
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	228,925	948,821	70,357	131,014	295,213	1,674,330
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	173	187	8	40	13	421
	Sum of FacilityMorts	1,765	2,618	168	328	193	5,072
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,938	2,805	176	368	206	5,493
Total Sum of NumberCollected		1,371,458	5,962,518	175,702	250,073	4,682,414	12,442,165
Total Sum of NumberBarged		1,014,681	3,675,986	88,961	68,175	2,762,844	7,610,647
Total Sum of NumberBypassed		319,052	2,277,556	86,519	180,260	1,913,150	4,776,537
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		352	341	9	119	64	885
Total Sum of FacilityMorts		6,267	7,611	195	1,172	1,683	16,928
Total Sum of ResearchMorts		0	241	0	0	58	299
Total Sum of TotalProjectMorts		6,619	8,193	204	1,291	1,805	18,112

Cumulative Adult Passage at Mainstem Dams Through: 06/23

		Spring Chinook						Summer Chinook						Fall Chinook					
		2011		2010		10-Yr Avg.		2011		2010		10-Yr Avg.		2011		2010		10-Yr Avg.	
DAM	EndDate	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	**06/16**	**167097**	**50945**	**244384**	**12612**	**174444**	**16431**	**41043**	**17248**	**34856**	**3913**	**30222**	**4342**	**0**	**0**	**0**	**0**	**0**	**0**
TDA	**06/16**	**124164**	**40146**	**189839**	**11546**	**130174**	**13470**	**22624**	**10662**	**25268**	**2730**	**21600**	**2791**	**0**	**0**	**0**	**0**	**0**	**0**
JDA	**06/16**	**103401**	**39823**	**179446**	**11794**	**110572**	**12004**	**17471**	**8429**	**17804**	**1869**	**15566**	**2073**	**0**	**0**	**0**	**0**	**0**	**0**
MCN	**06/16**	**101245**	**31750**	**153500**	**9185**	**102003**	**11175**	**12823**	**6001**	**13327**	**1161**	**10758**	**1440**	**0**	**0**	**0**	**0**	**0**	**0**
IHR	**06/16**	**69306**	**18161**	**101188**	**6047**	**70295**	**6879**	**4770**	**1427**	**7904**	**348**	**4470**	**694**	**0**	**0**	**0**	**0**	**0**	**0**
LMN	**06/16**	**69832**	**18094**	**97334**	**5898**	**69566**	**5561**	**3286**	**1240**	**7854**	**379**	**3051**	**290**	**0**	**0**	**0**	**0**	**0**	**0**
LGS	**06/16**	**67321**	**23492**	**92985**	**5461**	**64800**	**6145**	**672**	**490**	**3876**	**187**	**1057**	**132**	**0**	**0**	**0**	**0**	**0**	**0**
LGR	**06/16**	**58275**	**21407**	**89489**	**6121**	**64196**	**7572**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PRD	**06/14**	**15246**	**6030**	**30539**	**932**	**20141**	**818**	**219**	**171**	**265**	**4**	**306**	**13**	**0**	**0**	**0**	**0**	**0**	**0**
RIS	**06/15**	**12720**	**7917**	**29230**	**1481**	**16814**	**1512**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
RRH	**06/15**	**6496**	**3148**	**8498**	**507**	**6165**	**497**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
WEL	**06/15**	**3393**	**2790**	**6965**	**603**	**3806**	**432**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
WFA	**06/12**	**26901**	**788**	**45037**	**1069**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0**	**0**	**0**	**0**	**-**	**-**

	Coho						Sockeye			Steelhead			
	2011		2010		10-Yr Avg.								
DAM	Adult	Jack	Adult	Jack	Adult	Jack	2011	2010	10-Yr Avg.	2011	2010	10-Yr Avg.	Wild 2011
BON	**0**	**0**	**0**	**0**	**0**	**0**	**6306**	**22598**	**13602**	**5984**	**11995**	**8572**	**1882**
TDA	**0**	**0**	**0**	**0**	**0**	**0**	**2287**	**11901**	**7419**	**1750**	**3852**	**2684**	**815**
JDA	**0**	**0**	**0**	**0**	**0**	**0**	**982**	**7480**	**4957**	**3041**	**3661**	**3936**	**1787**
MCN	**0**	**0**	**0**	**0**	**0**	**0**	**175**	**2068**	**2073**	**2785**	**2836**	**2789**	**1592**
IHR	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**2**	**1**	**3116**	**3166**	**2683**	**1214**
LMN	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**3971**	**4300**	**3067**	**2197**
LGS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6250**	**3184**	**2989**	**3343**
LGR	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12318**	**10499**	**9393**	**5786**
PRD	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**319**	**186**	**45**	**95**	**48**	**0**
RIS	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**101**	**39**	**73**	**123**	**96**	**50**
RRH	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**71**	**19**	**553**	**359**	**253**	**490**
WEL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**127**	**104**	**54**	**98**
WFA	**0**	**0**	**0**	**0**	**-**	**-**	**0**	**0**	**-**	**18290**	**23598**	**-**	**-**

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: 06/17/11

BON counts from January 1, 2011 to March 14, 2011 (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**