



Fish Passage Center

Weekly Report #10 - 15

June 25, 2010

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 173% and 321% of average at individual sub-basins over June. Precipitation above The Dalles has been 225% of average over June. Over the 2010 water year, precipitation has ranged between 89% and 106% 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 2010		Water Year 2010	
	June 1-21		October 1, 2009 to June 21, 2010	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	3.20	191	17.97	91
SNAKE RIVER ABOVE ICE HARBOR	2.52	247	14.70	100
Columbia Above The Dalles	2.82	225	18.54	97
Kootenai	2.98	173	18.06	89
Clark Fork	3.18	235	12.98	95
Flathead	4.10	222	19.16	106
Pend Oreille/Spokane	4.29	280	25.51	96
Central Washington	1.33	297	8.22	106
SNAKE RIVER PLAIN	1.31	195	9.02	97
Salmon/Boise/Payette	2.89	281	17.45	102
Clearwater	5.07	291	25.70	99
SW Washington Cascades/Cowlitz	4.81	232	60.28	93
Willamette Valley	5.06	321	53.1	96

Table 2 displays the June Final and June Mid Month runoff volume forecasts for multiple reservoirs. The June Mid Month Runoff Volume Forecasts remained similar to the June Final Forecasts at Upper Columbia locations; however increased between 10-17% relative to the June Final forecasts at Snake River locations. The current forecast at The Dalles between January and July is 80900 Kaf (75% 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)	69	74000	75	80900
Grand Coulee (Jan-July)	74	46400	76	47800
Libby Res. Inflow, MT (Apr-Aug)	71	4420	69	4310
Hungry Horse Res. Inflow, MT (Jan-July)	75	1660	76	1680
Lower Granite Res. Inflow (Apr- July)	68	14600	85	18300
Brownlee Res. Inflow (Apr-July)	58	3670	74	4700
Dworshak Res. Inflow (Apr-July)	63	1670	73	1920

* Denotes COE Forecast

The Spring Biological Opinion flow period began on April 3rd and ended on June 20th in the lower Snake River (Lower Granite). According to the April Final Water Supply Forecast, the spring flow objective this spring was 85 Kcfs at Lower Granite, flows at Lower Granite Dam averaged 78.1 Kcfs from April 3 to June 20.

The Summer Biological Opinion flow period began on June 21 in the lower Snake River (Lower Granite). According to the June Final Water Supply Forecast, the summer flow objective this summer is 50 Kcfs at Lower Granite, flows at Lower Granite Dam have averaged 103.2 Kcfs from June 21-24.

The Biological Opinion flow period began on April 10th in the mid and lower Columbia River (Priest Rapids and McNary Dams). According to the April Final Water Supply Forecast, the flow objective this spring is 220 Kcfs at McNary and 135 Kcfs at Priest Rapids. Flows from April 10 to June 24 have averaged 218.6 Kcfs at McNary Dam and 130.7 Kcfs at Priest Rapids Dam. Over the last week, flows have averaged 323.0 Kcfs at McNary Dam and 224.3 Kcfs at Priest Rapids Dam.

Grand Coulee Reservoir is at 1289.3 feet (6-24-10) and refilled 1.1 feet over the last week. Outflows at Grand Coulee have ranged between 139.3 and 198.4 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2427.0 feet (6-24-10) and has refilled 3.5 last week. The sturgeon pulse continues at Libby Dam, outflows have been decreased to 20 Kcfs. Inflows to Libby have ranged between 28.4 Kcfs to 36.5 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3558.2 feet (6-24-10) and has refilled 2.5 feet last week. Outflows at Hungry Horse have been 7.0 Kcfs. Inflows to Hungry Horse Dam have ranged between 10.1 Kcfs to 13.7 Kcfs over the last week.

Dworshak is currently at an elevation of 1600.0 feet (6-24-10) and has refilled approximately 0.2 feet last week. Outflows from Dworshak have ranged between 7.1-13.7 Kcfs last week. Inflows to Dworshak have ranged between 8.8 to 14.0 Kcfs over the last week.

The Brownlee Reservoir was at an elevation of 2075.6 feet on June 24, 2010 drafting 0.9 feet last week. Over the last week, outflows at Brownlee have ranged between 20.7-28.1 Kcfs. Inflows to Brownlee have ranged between 21.4 Kcfs and 26.7 Kcfs over the last week.

Spill:

The 2010 planned spring spill program at the lower Snake River Projects began on April 3 at 0001 hours and ended on June 20th at midnight. On June 21st the Snake projects transitioned to the summer spill program. The following table shows the planned operations for summer 2010.

Project	Day/Night Spill
Lower Granite	18Kcfs/18Kcfs
Little Goose	30%/30%
Lower Monumental	17Kcfs/17Kcfs
Ice Harbor	June 21-July 13: 30%/30% vs. 45 Kcfs/Gas Cap July 13-August 31: 45 Kcfs/Gas Cap (approximate Gas Cap range = 75-95 Kcfs)

As flows receded over the past week, spill levels decreased. Spill occurred as both planned spill and, in some instances, unplanned (in excess of hydraulic or generation capacity) spill. At Dworshak, the reservoir is nearly full and has been spilling some water. At Lower Granite Dam the project is operating with limited hydraulic capacity due to Unit 3 being out of service. Consequently, on some days spill at Lower Granite Dam was in excess of the 20 Kcfs instantaneous level, or the 18 Kcfs summer spill level over the past week. Daily average spill ranged from 18.7 Kcfs to 30.2 Kcfs. Spill at Little Goose Dam was managed near to the 30% level, with the exception of June 18th when spill was less than the 30%. Spill at Lower Monumental Dam was managed to the gas cap level of 27 Kcfs until June 20th, when spill dropped to the summer level of 17 Kcfs. The Ice Harbor simulated test of 30% spill versus 45 Kcfs during daytime hours and gas cap spill during nighttime hours began on April 29 and continues through the summer until July 13th. Spill ranged from a daily average of 29.9 Kcfs to 65.9 Kcfs.

The 2010 spill program at the lower Columbia River projects began at 0001 hours on April 10th and continues through June 30th. Summer spill programs were initiated early at McNary and Bonneville dams. The following table shows the planned operations for spring 2010 and the early summer operations.

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-July 20: 85 Kcfs/121 Kcfs vs. 95 Kcfs/95 Kcfs July 21-August 31: 75 Kcfs/Gas Cap

The planned spill levels of 40% of instantaneous flows were exceeded at McNary Dam due to the higher flow levels until June 21st. Spill ranged from 43 to 48% of average daily flow. However, the project was not able to meet the 50% spill level beginning June 21st due to high TDG in the McNary tailrace. At John Day Dam the testing of 30% spill versus 40% spill occurred in two-day blocks. The objectives of the study were met on the planned 30% spill days, but not always met on the 40% days when the gas cap implemented by the COE prevented the project from meeting the 40% spill level. The planned spill levels were met at The Dalles over the past week. At Bonneville Dam spill exceeded the 100 Kcfs spill level. The summer spill test was scheduled to begin June 16th. However, the spill test conditions cannot be implemented until river flows drop below 300 Kcfs. Therefore, beginning on June 16th spill was implemented according to the System Operational Request submitted by the fishery managers. Recent high flows have resulted in high debris levels and increased descaling of fish passing the difficult to keep clean debris laden fish screens. The request was for a reduction of flow through the Bonneville Second Powerhouse, to the low to mid range of peak efficiency, and spill of any water above that operating range. This operation continued due to continued high descaling and mortality rates.

Total dissolved gas levels have been below the State's water quality waiver levels throughout the lower Snake hydrosystem, with the exception of one day at Ice Harbor Dam forebay. There was some elevated TDG levels in the Lower Columbia at McNary Dam tailrace and forebay, and at Bonneville Dam forebay and tailrace.

At present, GBT monitoring is being implemented at Lower Granite, Little Goose, Lower Monumental, McNary, Bonneville and Rock Island

dams. The decreasing levels of TDG systemwide are reflected by the decrease in fish observed with signs of GBT. There were no fish detected with signs of GBT over the past week.

Smolt Monitoring:

Smolt collections at Snake River dams decreased over the past week as the late spring migrants appeared to be pushed out by the high flows. Subyearling Chinook passage indices also continued to decrease at Snake River sites. At McNary Dam subyearling indices were much higher this week as the Mid-Columbia hatchery releases and wild Hanford subyearlings began passing the project. Subyearling Chinook indices were also higher at John Day and Bonneville dams, but not to the extent seen at McNary.

At Lower Granite Dam passage indices for all smolts decreased over the past week. Subyearling Chinook predominated in the samples over the past week. Subyearling Chinook passage indices peaked on June 5 at 115,000 and the average index fell to 14,000 per day this week compared to a daily average of 16,000 last week. Passage indices at Little Goose and Lower Monumental dams followed a similar pattern, with subyearling Chinook predominating but numbers of smolts of all species declining as well.

At Rock Island Dam the bypass trap has collected an unusually large number of coho this season, but for the first time this year subyearling summer migrants predominated in the sample over the past week. The passage indices for coho averaged nearly 500 per day last week, but decreased to an average of 50 per day this week compared to an average of 70 per day for subyearling Chinook. Passage indices for subyearlings are lower than last week also, but their numbers did not decrease to the extent that most spring migrants did with the drop in flows over the past week.

At McNary Dam subyearling Chinook predominated over the past week. Indices for subyearling Chinook rose to 206,000 on June 24 and the weekly average was 137,000 this week compared to 68,000 last week. Descaling in sockeye has remained high in the sample at McNary Dam since early June. The percent of sockeye descaled varied between 0% and 33% this past week, but the number sampled was very low (from 17 fish down to 3 fish). It appears that sockeye have mainly past the project so that few fish are being affected by passage conditions at this point. The COE has been cleaning screens at the project to reduce debris load on the vertical barrier screens. High

flows and winds have brought in debris to the project—especially tumble weeds which are a particular problem at the site. Subyearling Chinook, which predominated, had low descaling (less than 2%) and mortality rates (0%) over the past week.

At Bonneville Dam the largest collections over the past week have been subyearling Chinook also. Subyearling Chinook passage indices increased from 25,000 per day last week to 55,000 per day this week. Bonneville Dam has seen lower descaling rates in subyearling Chinook this past week. Descaling rates ranged between 0 and 3%. But mortality has remained relatively high for subyearlings in the past week with a peak of 6.6% mortality on June 22. The COE has reduced turbine loading in Powerhouse 2 over the past several days and mortality steadily declined to 0% (0 of 192 fish) by June 25.

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. Releases of subyearling fall Chinook surrogates to the Clearwater River continued this week. These releases are scheduled to run through early July. As with the Snake River surrogates, the Clearwater River surrogates are 100% unmarked but are tagged with PIT-tags. Approximately 400,000 spring Chinook parr from the Nez Perce Tribal Hatchery were scheduled for release into the Meadow Creek, a tributary of the Clearwater River, this week. These spring Chinook parr are 100% unmarked and are not expected to out-migrate until spring of 2011. There were no other releases of juvenile salmonids scheduled for this zone this week.

The only release of juvenile salmonids scheduled for this zone over the next two weeks is a release of approximately 300,000 spring Chinook parr to the Selway River, a tributary of the Clearwater River. These parr were reared at the Nez Perce Tribal Hatchery and are expected to be released sometime between July 1st and July 15th. As with the Meadow Creek release, these parr are 100% unmarked and are not expected to out-migrate until spring of 2011.

Mid-Columbia Zone: The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. Releases of subyearling fall Chinook from Ringgold and Priest Rapids hatcheries continued this week. These releases began in early to mid-June, are expected to total about 10.25 million subyearlings, and

are expected to end by next week. In addition, a release of approximately 800,000 subyearling summer Chinook from Turtle Rock Hatchery was scheduled to end this week. Of these subyearling summer Chinook, about 75% are unmarked. There are no releases of juvenile salmonids to this zone that are expected to begin over 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. On June 24th, approximately 2.0 million subyearling fall Chinook were released from Little White Salmon NFH into the Little White Salmon River. This release is 100% marked with adipose fin clips and/or coded-wire-tags. There are no other releases of juvenile salmonids to this zone that are expected to begin over the next two weeks.

Adult Fish Passage:

The summer Chinook count began June 1st at Bonneville Dam. Daily passage numbers at Bonneville Dam ranged between 2453 and 3464 adult summer Chinook in the last week. The 2010 summer Chinook count of 56080 is about 1.1 times greater than the 2009 count and 1.3 times greater than the 10 year average. The 2010 Bonneville Dam summer Chinook jack count of 7345 is only about 31.8% of the 2009 count. However, the 2010 Bonneville Dam summer Chinook jack count is about 1.13 times greater than the 10 year average count. At McNary Dam 22851 adult summer Chinook have been counted. Although the 2010 McNary adult summer Chinook is only 88.2% of the 2009 count, it is about 1.1 times greater than the 10 year average count. The 2010 summer Chinook jack count of 2342 is about 25.3% of the 2009 count and 79.8% of the 10 year average. The adult summer Chinook count at Lower Granite Dam in the Snake River of 12307 is about 2.1 times greater than the 2009 count and 3.12 times greater than the 10 year average. The Lower Granite summer Chinook jack count of 1161 is about 31.3% of the 2009 count, while being 1.29 times greater than the 10 year average.

The Bonneville Dam 2010 steelhead count of 18626 is about 1.78 times greater than the 2009 count of 10420. The 2010 steelhead count is about 1.59 times greater than of the 10 year average of 11732. In the Snake River, this year's Lower Granite steelhead count of 10654 is about 96.6% of the 2009 count. The 2010 LGR steelhead count is about 1.23 times greater than the 10 year average count of 8693. The

2010 LGR wild steelhead count as of June 23rd was 4221. At Rock Island Dam, as of June 23rd, 139 adult steelhead had been counted and at Rocky Reach Dam 366 adult steelhead had been counted. At Willamette Falls Dam, the 2010 count for steelhead was 23560, as of June 20th. This year's steelhead count is only about 1.85 times greater than the 2009 count of 12759 at Willamette Falls Dam for the same date range.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 12523 and 30374 last week. The 2010 adult sockeye count at Bonneville Dam of 164430 is about 2.07 times greater than the 2009 count and about 3.45 times greater than the 10 year average. The 2010 adult sockeye count at McNary Dam of 24350 is about 1.13 times greater than the 2009 count and 1.57 times greater than the 10 year average.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 6/11/2010 to 06/24/10

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
National Marine Fisheries Service	Lyons Ferry Hatchery	CH0	FA	2010	98,000	06-15-10	07-03-10	Big Canyon (Clearwater River)	Clearwater River M F
National Marine Fisheries Service Total					98,000				
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2010	200,000	06-12-10	06-12-10	Lukes Gulch Acclim.	S Fk Clearwater
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2010	200,000	06-15-10	06-15-10	Cedar Flats Acclim.	Selway River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2010	500,000	06-01-10	06-15-10	Nez Perce Tribal Hatchery	Clearwater River M F
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	SP	2011	400,000	06-21-10	06-25-10	Meadow Creek -	S Fk Clearwater
Nez Perce Tribe Total					1,300,000				
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH0	FA	2010	2,000,000	06-24-10	06-24-10	Little White Salmon Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH0	FA	2010	2,500,000	06-17-10	06-17-10	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	2010	6,800,000	06-09-10	06-20-10	Priest Rapids Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2010	3,450,000	06-14-10	06-29-10	Ringold Springs Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	CH0	SU	2010	800,000	06-10-10	06-20-10	Turtle Rock Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					11,050,000				
Grand Total					16,948,000				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From:		6/25/2010	to	7/8/2010					
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
National Marine Fisheries Service	Lyons Ferry Hatchery	CH0	FA	2010	98,000	06-15-10	07-03-10	Big Canyon (Clearwater River)	Clearwater River M F
National Marine Fisheries Service Total					98,000				
Nez Perce Tribe	Clearwater Hatchery	CH0	SP	2011	300,000	07-01-10	07-15-10	Selway River	Clearwater River M F
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	SP	2011	400,000	06-21-10	06-25-10	Meadow Creek - CLES	S Fk Clearwater River
Nez Perce Tribe Total					700,000				
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2010	3,450,000	06-14-10	06-29-10	Ringold Springs Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					3,450,000				
Grand Total					4,248,000				

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
06/11/2010	168.6	31.9	161.2	52.1	192.3	21.1	199.2	55.1	207.8	63.6	221.1	88.4	221.5	110.5
06/12/2010	142.2	0.6	144.7	0.0	162.4	10.0	163.2	22.9	176.6	41.4	179.2	48.8	180.0	70.0
06/13/2010	136.4	0.3	136.0	0.0	158.7	10.0	162.2	30.6	173.6	35.4	175.4	44.5	178.2	80.6
06/14/2010	147.8	5.3	146.0	3.0	169.7	10.0	173.9	49.0	183.1	39.4	191.7	56.2	190.7	79.7
06/15/2010	178.9	48.3	171.8	37.2	194.9	24.9	195.4	54.8	203.7	38.7	209.4	87.5	210.5	103.6
06/16/2010	176.0	44.6	174.1	33.8	198.7	32.2	201.7	61.5	211.2	39.7	216.1	80.4	218.0	95.8
06/17/2010	186.9	52.3	180.6	39.1	204.9	33.2	203.4	56.7	208.5	36.8	214.7	81.6	217.7	101.9
06/18/2010	178.3	31.1	179.6	36.9	202.5	21.0	206.2	58.2	212.4	41.5	220.8	83.8	219.7	86.4
06/19/2010	164.4	26.8	163.0	25.4	185.7	21.3	192.5	58.6	200.7	41.9	216.0	78.2	219.5	91.8
06/20/2010	139.3	4.6	146.1	3.6	167.1	10.0	176.9	41.2	184.9	41.9	181.7	49.4	189.8	73.4
06/21/2010	197.6	49.0	191.7	57.8	207.8	40.6	201.5	57.9	204.0	42.2	209.6	71.9	206.2	93.4
06/22/2010	194.2	43.0	196.0	58.6	225.4	54.6	230.4	76.1	236.6	44.3	246.7	113.3	251.6	123.2
06/23/2010	198.4	29.2	197.1	38.1	218.9	48.1	222.2	62.6	222.0	36.5	234.7	103.4	236.4	120.2
06/24/2010	188.0	31.3	188.1	34.3	217.9	47.7	220.8	81.9	225.3	24.7	236.9	104.7	246.6	118.4

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

Date	Dworshak		Brownlee Canyon		Hells Granite		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
06/11/2010	5.0	0.4	41.6	45.3	168.0	77.9	162.3	51.0	167.6	54.3	173.1	93.5		
06/12/2010	5.6	0.0	39.2	43.8	151.1	61.8	147.0	42.0	150.7	37.2	156.2	77.6		
06/13/2010	5.6	0.0	37.8	37.8	137.6	48.8	134.5	42.6	136.9	30.2	139.8	61.2		
06/14/2010	7.9	0.2	35.9	37.8	131.0	40.9	129.1	37.4	130.8	26.9	132.2	48.8		
06/15/2010	9.5	0.8	33.4	35.3	130.0	39.9	124.7	34.2	125.9	26.2	128.6	57.0		
06/16/2010	9.5	0.8	31.8	35.3	131.0	41.3	129.1	31.1	132.7	26.9	135.7	65.9		
06/17/2010	9.4	0.7	29.3	32.2	122.3	32.6	116.7	31.2	118.0	26.9	118.5	45.1		
06/18/2010	9.5	0.8	24.2	28.1	113.4	30.2	110.4	31.8	110.8	26.9	113.9	34.4		
06/19/2010	8.9	0.8	26.7	25.9	104.2	20.6	102.5	31.0	103.9	26.4	103.1	52.4		
06/20/2010	11.3	2.4	24.2	24.3	100.6	20.2	100.1	30.0	99.5	26.8	100.8	65.9		
06/21/2010	13.7	4.2	23.7	24.9	107.8	21.8	105.0	31.5	103.9	17.5	108.2	45.4		
06/22/2010	11.2	1.7	22.6	25.7	112.8	24.9	111.7	33.4	110.0	17.5	112.0	38.6		
06/23/2010	7.1	0.0	21.4	22.7	98.6	18.7	97.1	29.1	96.6	17.0	98.8	29.9		
06/24/2010	8.2	0.5	21.8	24.9	93.7	22.1	94.9	28.4	91.0	17.4	93.8	32.9		

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
06/11/2010	391.7	229.9	408.4	125.0	390.8	133.5	391.7	191.2	72.6	115.5
06/12/2010	362.9	202.2	400.9	124.2	385.3	133.9	397.7	195.1	72.1	118.1
06/13/2010	319.3	161.4	328.2	98.8	317.3	123.5	343.8	145.1	72.7	113.7
06/14/2010	305.8	137.2	317.6	95.1	297.1	118.0	301.3	107.5	72.9	108.5
06/15/2010	328.8	155.1	329.2	113.6	311.8	120.2	315.3	112.3	80.3	110.3
06/16/2010	350.8	179.7	356.4	127.1	340.5	134.2	346.6	151.7	83.7	98.8
06/17/2010	342.1	168.6	356.9	113.2	340.5	135.7	354.2	173.0	82.8	86.0
06/18/2010	338.6	162.0	358.5	107.7	341.8	135.6	348.3	166.8	83.4	85.7
06/19/2010	309.5	134.5	318.5	119.0	304.3	122.0	317.0	139.6	81.4	83.6
06/20/2010	281.2	120.2	290.4	116.1	273.3	109.4	281.4	99.5	84.2	85.3
06/21/2010	318.6	143.3	309.9	123.8	290.0	115.6	303.2	108.7	80.9	101.2
06/22/2010	343.2	167.8	362.9	141.9	345.1	137.7	345.5	151.1	83.8	98.2
06/23/2010	336.4	166.1	343.9	112.0	331.7	131.0	341.8	163.9	82.4	83.0
06/24/2010	333.6	162.9	343.9	103.5	327.2	125.9	335.0	154.9	82.4	85.3

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	Hungry H. Dnst			Boundary			Grand Coulee			Grand C. Tlwr			Chief Joseph													
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#											
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High											
6/12	102	.5	1	3.1	103	0.5	24	1	23.5	124	.1	1	24.6	22	105	.3	1	5.6	105	0.8	24	1	5.4	106	.0	1
6/13	103	.9	1	4.8	105	0.4	24	1	24	124	.7	1	25.6	21	105	.9	1	6.2	106	0.5	24	1	5.4	105	.8	1
6/14	105	.1	1	5.7	106	0	24	1	24.1	124	.4	1	25.1	22	106	.5	1	6.7	107	0	24	1	4.8	105	.0	1
6/15	105	.4	1	5.9	106	0.4	24	1	23.8	124	.6	1	24.9	22	107	.0	1	7.1	108	0.1	24	1	8.3	109	.8	1
6/16	104	.6	1	5.3	105	0.5	24	1	21.2	121	.6	1	23.4	23	106	.9	1	7	107	0.2	24	1	10.4	111	.6	1
6/17	104	.3	1	4.7	105	0.3	24	1	22.7	123	.3	1	23.8	23	107	.0	1	7.1	107	0.3	24	1	12.3	114	.0	1
6/18	105	.1	1	5.7	106	0.2	23	1	25.2	125	.5	1	27.1	21	106	.9	1	7.2	107	0.4	24	1	11.1	111	.8	1
6/19	105	.8	1	6	106	0.1	24	1	25.9	126	.5	1	27.4	23	107	.1	1	7.4	107	0.7	24	1	10.8	113	.1	1
6/20	105	.8	1	6.3	107	0.4	24	1	25.2	125	.5	1	26	22	107	.6	1	8	108	0.5	24	1	7.7	108	.6	1
6/21	105	.6	1	6.2	108	0.8	24	1	26	126	.5	1	26.8	22	108	.7	1	9	109	0.2	24	1	11.6	114	.4	1
6/22	105	.3	1	5.3	105	0.4	24	1	25.1	125	.4	1	25.7	23	109	.1	1	9.2	109	0.5	24	1	12	112	.8	1
6/23	106	.0	1	6.4	106	0.7	24	1	24.4	125	.1	1	25.6	23	109	.9	1	10.5	111	0.4	24	1	10.5	111	.3	1
6/24	106	.2	1	6.5	107	0.1	24	1	23.5	124	.7	1	25.7	23	111	.5	1	11.8	112	0.6	24	1	11.2	112	.2	1

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	Chief J. Dnst			Wells			Wells Dwnstrm			Rocky Reach			Rocky R. Tlwr													
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#											
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High											
6/12	109	.3	1	12	115	0.3	24	1	8.5	109	.2	1	11.6	24	110	.7	1	11.5	114	0	24	1	14.2	115	.0	1
6/13	110	.9	1	13.9	115	0.5	24	1	10.3	112	.3	1	13.7	24	111	.3	1	12.9	114	0	24	1	12.7	114	.0	1
6/14	105	.5	1	6.4	113	0.3	24	1	10	112	.1	1	13.7	24	111	.8	1	13.6	114	0.2	24	1	9.8	110	.4	1
6/15	111	.9	1	13.4	114	0.1	24	1	5.9	106	.2	1	6.7	24	109	.7	1	11.5	113	0.9	24	1	11.1	112	.4	1
6/16	111	.7	1	13	113	0.7	24	1	5.7	106	.1	1	6.6	24	111	.3	1	14.4	119	0.1	24	1	8.4	109	.2	1
6/17	112	.9	1	13.9	114	0.3	24	1	8.8	110	.9	1	11.5	24	114	.3	1	17.9	129	0.9	24	1	11.2	113	.3	1
6/18	113	.8	1	15.5	117	0.2	24	1	10.9	112	.2	1	12.7	24	114	.0	1	15.5	115	0.9	24	1	12.5	114	.1	1
6/19	112	.5	1	14.8	117	0.5	24	1	12.1	112	.9	1	14	24	114	.8	1	15.6	117	0	24	1	13.3	113	.8	1
6/20	109	.2	1	10.2	111	0.9	24	1	10.3	111	.8	1	12.8	24	111	.9	1	13	113	0.6	24	1	13.2	113	.4	1
6/21	116	.6	1	19.2	119	0.9	24	1	9.2	110	.2	1	11.6	24	114	.5	1	19.1	124	0.3	24	1	11.7	112	.3	1
6/22	115	.0	1	16.4	118	0.7	24	1	11.6	112	.3	1	13.1	24	118	.8	1	21	125	0.3	24	1	13.7	117	.8	1
6/23	112	.9	1	13.8	115	0.6	24	1	11	112	.8	1	13.6	24	116	.9	1	17.8	119	0.8	24	1	18.1	119	.9	1
6/24	112	.3	1	13.6	114	0.1	24	1	12.9	114	.0	1	14.5	24	118	.8	1	20.9	124	0.4	24	1	16	116	.6	1

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	Rock Island			Rock I. Tlwr			Wanapum			Wanapum Tlwr			Priest Rapids													
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#											
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High											
6/12	15.4	24	117	.3	1	117	.8	1	18.3	118	0.7	24	1	15.1	116	.9	1	18.5	24	116	.5	1	17.7	120	0.3	
6/13	14.9	24	117	.7	1	117	.5	1	18.3	118	0.8	24	1	17	117	.4	1	18.3	24	115	.9	1	16	116	0.3	
6/14	11.1	24	118	.6	1	116	.4	1	18	118	0.7	24	1	14.6	115	.0	1	15.7	24	115	.0	1	15.4	115	0.9	
6/15	12.8	24	118	.7	1	116	.9	1	17.7	118	0.1	24	1	12.5	112	.8	1	13.9	24	118	.1	1	19.9	123	0	
6/16	12.1	24	117	.3	1	116	.2	1	16.8	117	0.4	24	1	12.9	113	.3	1	13.6	24	116	.7	1	17.9	122	0.3	
6/17	15.7	24	118	.1	1	117	.9	1	19.1	120	0.6	24	1	12.5	112	.9	1	13.5	24	116	.5	1	16.9	118	0.6	
6/18	15.1	24	118	.5	1	117	.6	1	18.9	119	0.1	24	---	---	---	---	---	0	---	---	---	---	---	---	---	---
6/19	14.8	24	119	.3	1	119	.3	1	19.8	120	0.1	24	1	15.3	115	.6	1	16.1	24	117	.2	1	18.2	120	0.8	
6/20	13.8	24	118	.4	1	118	.6	1	19.5	119	0.8	24	1	15.1	115	.3	1	15.5	24	---	---	---	---	---	---	
6/21	12.4	24	118	.9	1	117	.6	1	18.3	119	0.1	24	1	15.5	115	.6	1	15.9	24	116	.5	1	16.5	119	0.7	
6/22	21.7	24	121	.4	1	119	.4	1	20.4	121	0.4	24	---	---	---	---	---	0	---	---	---	---	---	---	---	
6/23	21.8	24	121	.0	1	120	.8	1	21.7	122	0.7	24	---	---	---	---	---	0	---	---	---	---	---	---	---	
6/24	18	24	121	.5	1	119	.4	1	20.3	121	0.4	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 and Snake River Sites

Date	<u>Priest R. Dnst</u>				<u>Pasco</u>				<u>Dworshak</u>				<u>Clrwtr-Peck</u>				<u>Anatone</u>			
	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#
	<u>Avg</u>	<u>High</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>High</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>High</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>High</u>	<u>Avg</u>	<u>High</u>	
6/12	24	17.4	118	5	19.2	24	119	0	104	4.6	104	0.9	24	2.9	103	9	4.7	24	107	
6/13	24	15.2	115	6	16.4	24	118	8	104	4.9	105	0.5	24	2.9	103	8	4.4	24	107	
6/14	24	12.9	113	7	14.1	24	117	7	99	1.9	106	0.6	24	1.8	102	5	3.3	24	106	
6/15	24	13.3	115	3	16.9	24	118	8	100	3.9	107	0.5	24	2	102	6	3.4	24	105	
6/16	24	15.7	117	1	19.3	24	119	5	100	4.6	108	0.5	24	1.1	101	9	3.5	18	105	
6/17	24	14	114	4	14.7	24	118	6	100	3.5	107	0.6	24	1	101	6	2.4	23	105	
6/18	0	---	---	---	0	---	---	---	100	2.1	104	0.8	24	1.9	102	5	3.1	24	105	
6/19	19	15.9	116	7	17.1	24	120	1	101	4.2	108	0.4	24	1.9	102	7	3.4	24	105	
6/20	0	14.7	115	3	16	24	118	2	103	6.9	107	0.4	24	2.4	103	4	3.9	22	104	
6/21	10	13.2	113	7	14	24	118	9	109	10.8	111	0.1	24	3.2	103	9	4.1	24	103	
6/22	0	---	---	---	0	---	---	---	102	7.7	110	0.9	24	2.6	103	6	4.1	24	104	
6/23	0	---	---	---	0	---	---	---	98	98.7	98	0.9	24	1.2	101	9	2.6	24	104	
6/24	0	---	---	---	0	---	---	---	100	4	107	0.8	24	2	102	4	2.5	24	104	

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwtr-Lewiston</u>				<u>Lower Granite</u>				<u>L. Granite Tlwr</u>				<u>Little Goose</u>				<u>L. Goose Tlwr</u>			
	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#
	<u>Avg</u>	<u>High</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>High</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>High</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>High</u>	<u>Avg</u>	<u>High</u>	
6/12	6	8.3	108	0	24	2.5	103	7	4.4	24	106	3	119	8	20.8	121	0	24	17.5	119
6/13	1	7.6	108	0	24	2.8	103	7	4.5	24	107	6	122	4	23	123	0	24	17.8	119
6/14	3	6.8	107	0	24	2.2	102	8	3.5	24	107	5	121	8	22.1	122	0	24	16.6	117
6/15	9	6.5	106	0	24	1.9	102	9	3.9	24	106	4	118	8	19.6	120	0	24	15.2	116
6/16	5	5.6	105	0	24	0.5	101	1	1.5	23	104	9	116	0	16.4	117	0	24	14.2	114
6/17	1	5.3	105	0	24	0.7	101	5	2.3	24	103	6	114	0	14.5	115	0	24	13.6	113
6/18	8	6.6	107	0	24	2.5	103	8	4.8	22	103	9	113	1	13.4	113	0	24	14	114
6/19	1	5.6	106	0	24	2.3	103	7	5.1	24	104	8	113	0	13.3	113	0	24	14.1	114
6/20	2	4.4	104	0	24	1.1	101	6	2.2	24	105	2	111	6	11.8	112	0	24	13.3	113
6/21	9	4.3	104	0	24	2.1	102	4	2.5	24	104	2	109	5	10.3	111	0	24	13	113
6/22	4	5.1	105	0	24	3.2	104	4	6	24	103	1	108	2	8.6	108	0	24	13.5	113
6/23	5	5	105	0	24	1.8	103	0	3.9	24	104	1	109	5	10	110	0	24	13.2	113
6/24	5	5.2	105	0	24	2.6	104	3	5.7	24	105	3	112	6	13.7	114	0	24	13.5	113

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>Avg</u>	<u>High</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>High</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>High</u>	<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>High</u>	<u>Avg</u>	<u>High</u>	
6/12	6	20.4	24	120	2	20.4	120	0	24	20.5	121	0	21.3	24	119	4	112	2	13.4	114
6/13	5	20.9	24	119	8	20.5	121	0	24	17.9	119	6	21.2	24	120	0	115	1	15.6	116
6/14	2	17.6	24	121	4	22.2	122	0	24	17.4	118	7	21.3	24	118	9	115	8	16.2	116
6/15	2	17	24	118	3	18.5	119	0	24	20.3	120	5	20.9	24	118	1	113	2	13.6	114
6/16	3	14.4	24	116	9	17.7	118	0	24	19.8	120	2	20.6	24	116	1	110	8	11	111
6/17	7	13.9	24	113	9	14.2	114	0	24	19.3	119	6	19.8	24	114	6	110	3	10.6	110
6/18	4	14.8	24	113	6	14.1	114	0	24	19.5	119	8	20.2	24	114	0	111	2	12.2	112
6/19	4	14.5	24	114	5	14.8	115	0	24	19.4	119	8	20.1	24	114	7	112	1	12.8	113
6/20	6	13.7	24	114	1	14.2	114	0	24	18.9	119	1	19.3	24	113	9	113	0	13.2	113
6/21	5	14.2	24	113	1	13.4	113	0	24	16.2	116	8	17.2	24	113	0	111	5	11.7	112
6/22	8	13.9	24	112	7	13	113	0	24	17	117	4	18.2	24	112	7	111	0	11.7	112
6/23	5	13.8	24	114	2	14.8	115	0	24	17	117	3	18	24	114	1	113	3	14.4	115
6/24	8	14.1	24	114	8	15	115	0	24	16.7	117	0	17.3	24	115	1	116	5	17.6	118

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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										
6/12	0	24	1	21.2	121	.8	1	22.6	24	110	.2	1	11	111	0.7	24	1	18.8	119	.1	1	111	.9	1	13	113
6/13	0	24	1	18.6	118	.8	1	19.1	24	113	.1	1	13.9	114	0.4	24	1	17	117	.6	1	112	.3	1	12.6	112
6/14	0.7	24	1	17.6	117	.8	1	17.9	24	115	.1	1	15.9	116	0.4	24	1	16.6	117	.8	1	111	.0	1	11.7	112
6/15	0.8	24	1	18.2	118	.9	1	19	24	114	.1	1	14.8	115	0.3	24	1	17.4	118	.5	1	110	.9	1	11.2	111
6/16	0.2	24	1	19.5	120	.2	1	21.1	24	110	.4	1	11.3	112	0.3	24	1	18.2	118	.4	1	110	.7	1	11	111
6/17	0.9	24	1	22.1	123	.6	1	23.9	24	107	.4	1	7.7	108	0.2	24	1	18.3	118	.5	1	109	.5	1	9.9	110
6/18	0.8	24	1	23.7	124	.3	1	24.5	24	107	.6	1	8.3	108	0.7	24	1	18.3	118	.9	1	109	.6	1	10.5	111
6/19	0.2	24	1	21.7	122	.8	1	23.5	24	109	.0	1	9.4	109	0.7	24	1	17.6	118	.3	1	109	.7	1	10.4	110
6/20	0.5	24	1	20.5	121	.1	1	21.3	24	109	.4	1	9.8	110	0.3	24	1	17.3	118	.1	1	109	.7	1	10	110
6/21	0.2	24	1	21	122	.0	1	23.9	24	110	.9	1	11.5	111	0.8	24	1	17.7	119	.1	1	110	.0	1	10.5	112
6/22	0.4	24	1	20.6	121	.1	1	21.8	24	111	.2	1	11.5	111	0.8	24	1	19	119	.6	1	113	.3	1	14.6	115
6/23	0.4	24	1	20.2	120	.8	1	21.1	24	111	.5	1	11.8	112	0	24	1	17.9	118	.6	1	113	.7	1	14.3	114
6/24	0.6	24	1	20	120	.6	1	20.8	24	112	.3	1	13	114	0.1	24	1	17.6	118	.8	1	112	.1	1	12.6	113

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			<u>Bonneville</u>			<u>Warrendale</u>			<u>CamasWashougal</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										
6/12	0.7	24	1	16.6	117	.2	1	17.8	24	114	.6	1	16.3	117	0.3	24	1	20.1	120	.9	1	21.6	24	117	.8	1
6/13	0.9	24	1	17.8	118	.1	1	18.6	24	115	.9	1	16.8	117	0.3	24	1	18.4	120	.1	1	22.1	24	118	.5	1
6/14	0.3	24	1	16.9	117	.2	1	17.6	24	111	.6	1	12.5	113	0.4	24	1	13.8	114	.2	1	15.3	24	113	.3	1
6/15	0.3	24	1	16.5	116	.9	1	17.5	24	110	.8	1	11.3	111	0.9	24	1	13.2	113	.7	1	14.4	24	111	.5	1
6/16	0.3	24	1	16.5	116	.8	1	17.3	24	111	.7	1	11.8	112	0	24	1	15.5	116	.3	1	16.9	24	112	.8	1
6/17	0.4	24	1	16.2	116	.6	1	17.6	24	112	.5	1	12.7	113	0.2	24	1	17.1	117	.5	1	18.2	24	116	.1	1
6/18	0.2	24	1	16.8	117	.4	1	18.3	24	114	.2	1	14.7	115	0	24	1	18.1	118	.7	1	19.1	24	117	.4	1
6/19	0.8	24	1	16.4	116	.8	1	17.4	24	113	.3	1	13.6	114	0.3	24	1	16.4	117	.2	1	18.6	24	116	.6	1
6/20	0.7	24	1	16.2	116	.5	1	17.3	24	111	.1	1	11.7	113	0.2	24	1	13	113	.5	1	14.1	24	113	.3	1
6/21	0	24	1	16.4	117	.0	1	17.6	24	110	.0	1	10.1	110	0.2	24	1	12.6	113	.3	1	14.2	24	111	.5	1
6/22	0.3	24	1	18.6	119	.7	1	20.3	24	112	.3	1	14.3	116	0	24	1	16	118	.0	1	19.4	24	113	.2	1
6/23	0.6	24	1	19.1	119	.5	1	20.1	24	117	.4	1	18	118	0.3	24	1	19.9	120	.4	1	21	24	118	.5	1
6/24	0	24	1	17.5	117	.8	1	18.1	24	116	.3	1	16.9	117	0.3	24	1	18.9	119	.4	1	20.1	24	118	.9	1
	118	118	119	24	113	113	114	24	---	---	---	0	115	115	116	24	119	120	120	120	24					

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 6/25/2010 7:47

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/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)	
06/11/2010	*	---	10	---	---	983	9,575	5,836	280	---	10,965	3,535
06/12/2010	*	---	---	---	---	859	2,251	3,940	268	2,297	2,893	4,140
06/13/2010	*	---	13	---	---	84	4,003	3,238	158	---	2,646	4,673
06/14/2010	*	---	13	---	---	337	2,943	2,800	52	5,051	4,002	6,572
06/15/2010	*	---	15	---	---	993	571	879	49	---	3,639	2,886
06/16/2010	*	---	---	---	---	215	472	1,013	23	1,761	2,695	3,190
06/17/2010	*	---	---	---	---	436	963	1,028	14	---	2,911	1,694
06/18/2010	*	---	---	---	---	199	309	1,307	26	2,394	2,576	796
06/19/2010	*	---	---	---	---	372	599	668	28	---	2,880	593
06/20/2010	*	---	---	---	---	63	251	1,037	12	2,446	1,497	633
06/21/2010	*	---	---	---	---	218	187	818	4	---	1,170	1,278
06/22/2010	*	---	---	---	---	545	143	474	14	1,356	918	1,008
06/23/2010	*	---	---	---	---	31	143	250	4	---	655	2,075
06/24/2010	*	---	---	---	---	195	47	245	9	1,046	477	794
06/25/2010	*	---	---	---	---	---	---	---	---	---	---	---
Total:		0	51	0	0	5,530	22,457	23,533	941	16,351	39,924	33,867
# Days:		0	4	0	0	14	14	14	14	7	14	14
Average:		0	13	0	0	395	1,604	1,681	67	2,336	2,852	2,419
YTD		56,130	80,004	27,916	7,995	2,452,238	1,259,927	444,015	11,767	2,090,879	1,032,690	2,299,778

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)	
06/11/2010	*	---	0	---	---	20,159	67,678	76,483	673	---	25,217	9,746
06/12/2010	*	---	---	---	---	21,332	112,516	37,360	564	81,734	25,463	21,936
06/13/2010	*	---	1	---	---	14,827	69,531	29,915	308	---	34,329	33,387
06/14/2010	*	---	0	---	---	10,885	31,851	21,379	205	69,607	25,919	32,698
06/15/2010	*	---	0	---	---	9,884	15,444	18,968	144	---	32,947	34,516
06/16/2010	*	---	---	---	---	13,332	21,218	16,292	161	53,936	48,005	20,592
06/17/2010	*	---	---	---	---	21,299	33,159	13,238	112	---	45,326	22,206
06/18/2010	*	---	---	---	---	21,608	24,015	12,805	83	81,151	50,096	23,078
06/19/2010	*	---	---	---	---	10,575	26,281	8,418	83	---	37,728	31,645
06/20/2010	*	---	---	---	---	4,450	13,979	1,866	69	68,015	37,667	30,264
06/21/2010	*	---	---	---	---	7,815	13,916	8,934	105	---	26,739	50,330
06/22/2010	*	---	---	---	---	17,665	26,310	7,584	52	194,362	58,419	106,733
06/23/2010	*	---	---	---	---	17,766	23,194	12,088	41	---	51,978	74,312
06/24/2010	*	---	---	---	---	15,846	18,291	7,351	74	206,138	27,793	71,476
06/25/2010	*	---	---	---	---	---	---	---	---	---	---	---
Total:		0	1	0	0	207,443	497,383	272,681	2,674	754,943	527,626	562,919
# Days:		0	4	0	0	14	14	14	14	7	14	14
Average:		0	0	0	0	14,817	35,527	19,477	191	107,849	37,688	40,209
YTD		0	43	28	1,275	835,199	1,047,953	568,604	7,332	909,044	642,314	2,514,769

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)	
06/11/2010	*	---	0	---	---	295	618	154	913	---	3,788	2,034
06/12/2010	*	---	---	---	---	316	985	408	968	3,189	2,701	1,961
06/13/2010	*	---	0	---	---	126	0	0	715	---	2,083	1,883
06/14/2010	*	---	0	---	---	37	699	382	387	2,788	2,383	4,430
06/15/2010	*	---	0	---	---	183	214	251	270	---	2,777	2,842
06/16/2010		---	---	---	---	72	67	0	140	600	2,904	2,055
06/17/2010	*	---	---	---	---	73	0	257	76	---	1,768	941
06/18/2010		---	---	---	---	33	0	0	68	1,571	1,431	995
06/19/2010	*	---	---	---	---	34	143	0	96	---	1,056	791
06/20/2010		---	---	---	---	0	108	0	50	1,673	915	598
06/21/2010	*	---	---	---	---	31	71	63	27	---	1,003	959
06/22/2010		---	---	---	---	32	72	0	22	379	751	864
06/23/2010	*	---	---	---	---	125	107	61	30	---	218	1,132
06/24/2010		---	---	---	---	65	47	0	49	406	191	0
06/25/2010		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	1,422	3,131	1,576	3,811	10,606	23,969	21,485
# Days:		0	4	0	0	14	14	14	14	7	14	14
Average:		0	0	0	0	102	224	113	272	1,515	1,712	1,535
YTD		0	0	0	104	39,805	53,399	13,447	40,970	84,930	110,263	521,133

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)	
06/11/2010	*	---	5	---	---	6,097	7,413	4,761	111	---	6,976	6,106
06/12/2010	*	---	---	---	---	3,661	6,332	3,396	67	2,224	6,849	4,140
06/13/2010	*	---	57	---	---	2,806	4,891	1,554	51	---	6,381	2,465
06/14/2010	*	---	57	---	---	2,394	5,936	1,909	52	2,615	4,192	2,587
06/15/2010	*	---	82	---	---	2,997	3,140	1,256	41	---	2,586	2,255
06/16/2010		---	---	---	---	2,867	1,955	1,564	51	1,823	2,384	1,638
06/17/2010	*	---	---	---	---	2,799	3,223	386	70	---	2,704	1,505
06/18/2010		---	---	---	---	2,560	1,372	915	108	202	1,908	398
06/19/2010	*	---	---	---	---	2,095	1,256	535	76	---	576	0
06/20/2010		---	---	---	---	2,068	1,756	415	38	0	499	246
06/21/2010	*	---	---	---	---	2,958	1,230	440	42	---	418	160
06/22/2010		---	---	---	---	2,106	1,038	474	38	951	668	0
06/23/2010	*	---	---	---	---	1,533	1,432	629	48	---	545	38
06/24/2010		---	---	---	---	1,851	809	429	56	205	383	0
06/25/2010		---	---	---	---	---	---	---	---	---	---	---
Total:		0	201	0	0	38,792	41,783	18,663	849	8,020	37,069	21,538
# Days:		0	4	0	0	14	14	14	14	7	14	14
Average:		0	50	0	0	2,771	2,985	1,333	61	1,146	2,648	1,538
YTD		4,385	27,688	4,051	11,795	2,041,960	1,589,084	425,812	16,962	446,815	593,237	940,169

Two-Week Summary of Passage Indices

Date	COMBINED SOCKEYE										
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
06/11/2010 *	---	0	---	---	98	0	0	92	---	9,568	5,569
06/12/2010 *	---	---	---	---	136	0	0	49	16,704	8,006	4,728
06/13/2010 *	---	0	---	---	126	148	0	10	---	4,896	4,518
06/14/2010 *	---	0	---	---	0	140	255	6	7,366	6,195	3,868
06/15/2010 *	---	0	---	---	146	214	0	2	---	4,214	5,098
06/16/2010	---	---	---	---	108	34	252	5	6,041	3,628	3,262
06/17/2010 *	---	---	---	---	73	0	0	5	---	3,328	2,258
06/18/2010	---	---	---	---	0	0	0	2	3,541	3,435	1,791
06/19/2010 *	---	---	---	---	0	0	0	2	---	1,344	1,582
06/20/2010	---	---	---	---	63	0	0	5	2,788	1,497	528
06/21/2010 *	---	---	---	---	31	0	0	3	---	1,253	0
06/22/2010	---	---	---	---	32	36	0	0	570	668	1,440
06/23/2010 *	---	---	---	---	0	0	0	2	---	328	1,283
06/24/2010	---	---	---	---	0	47	0	2	1,017	191	0
06/25/2010	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	813	619	507	185	38,027	48,551	35,925
# Days:	0	4	0	0	14	14	14	14	7	14	14
Average:	0	0	0	0	58	44	36	13	5,432	3,468	2,566
YTD	80	0	0	188	8,602	12,563	2,122	36,464	1,466,110	653,894	802,036

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

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

Definitions for Smolt Index Counts

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

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

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

6/25/10 7:51 AM

06/11/10 TO 06/25/10

Site	Data	Species					Grand Total
		CH0	CH1	CO	ST	SO	
LGR	Sum of NumberCollected	142,950	3,628	900	26,164	525	174,167
	Sum of NumberBarged	152,059	3,871	1,050	26,789	524	184,293
	Sum of NumberBypassed	0	0	0	428	0	428
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	27	1	0	1	0	29
	Sum of FacilityMorts	136	6	0	26	1	169
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	163	7	0	27	1	198
LGS	Sum of NumberCollected	347,787	15,265	2,183	29,179	433	394,847
	Sum of NumberBarged	393,557	20,408	2,150	39,387	399	455,901
	Sum of NumberBypassed	40	0	0	0	0	40
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	23	0	0	0	0	23
	Sum of FacilityMorts	2,830	5	0	18	1	2,854
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2,853	5	0	18	1	2,877
LMN	Sum of NumberCollected	202,420	17,410	1,200	13,859	400	235,289
	Sum of NumberBarged	257,104	21,191	1,400	23,019	400	303,114
	Sum of NumberBypassed	70	10	0	59	0	139
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	6	0	0	0	0	6
	Sum of FacilityMorts	207	0	0	21	0	228
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	213	0	0	21	0	234
MCN	Sum of NumberCollected	377,774	8,137	5,113	3,852	17,705	412,581
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	376,163	7,708	5,098	3,801	17,576	410,346
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	94	4	2	0	23	123
	Sum of FacilityMorts	1,517	425	13	51	106	2,112
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,611	429	15	51	129	2,235
Total Sum of NumberCollected		1,070,931	44,440	9,396	73,054	19,063	1,216,884
Total Sum of NumberBarged		802,720	45,470	4,600	89,195	1,323	943,308
Total Sum of NumberBypassed		376,273	7,718	5,098	4,288	17,576	410,953
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		150	5	2	1	23	181
Total Sum of FacilityMorts		4,690	436	13	116	108	5,363
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		4,840	441	15	117	131	5,544

YTD Transportation Summary

Source: Fish Passage Center

Updated:

6/25/10 7:51 AM

TO: 06/25/10

Site	Data	Species					Grand Total
		CH0	CH1	CO	SO	ST	
LGR	Sum of NumberCollected	491,808	1,622,107	28,100	5,685	1,355,363	3,503,063
	Sum of NumberBarged	478,043	1,428,398	28,040	5,670	1,305,278	3,245,429
	Sum of NumberBypassed	700	191,860	0	10	48,344	240,914
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	56	54	0	0	19	129
	Sum of FacilityMorts	820	1,230	10	5	280	2,345
	Sum of ResearchMorts	0	415	0	0	17	432
	Sum of TotalProjectMorts	876	1,699	10	5	316	2,906
LGS	Sum of NumberCollected	679,165	872,783	36,553	8,693	1,082,054	2,679,248
	Sum of NumberBarged	661,044	791,078	36,519	8,659	1,021,789	2,519,089
	Sum of NumberBypassed	56	81,373	0	0	59,473	140,902
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	35	29	1	0	9	74
	Sum of FacilityMorts	5,236	271	0	1	217	5,725
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	5,271	300	1	1	226	5,799
LMN	Sum of NumberCollected	380,710	300,181	8,675	1,470	238,345	929,381
	Sum of NumberBarged	374,246	298,510	8,675	1,369	232,788	915,588
	Sum of NumberBypassed	140	1,460	0	0	4,989	6,589
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	8	9	0	0	10	27
	Sum of FacilityMorts	341	200	0	1	309	851
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	349	209	0	1	319	878
MCN	Sum of NumberCollected	454,168	1,222,614	47,031	847,396	259,336	2,830,545
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	452,203	1,221,263	46,975	846,654	259,128	2,826,223
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	100	121	5	96	16	338
	Sum of FacilityMorts	1,865	1,230	51	646	192	3,984
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,965	1,351	56	742	208	4,322
Total Sum of NumberCollected		2,005,851	4,017,685	120,359	863,244	2,935,098	9,942,237
Total Sum of NumberBarged		1,513,333	2,517,986	73,234	15,698	2,559,855	6,680,106
Total Sum of NumberBypassed		453,099	1,495,956	46,975	846,664	371,934	3,214,628
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		199	213	6	96	54	568
Total Sum of FacilityMorts		8,262	2,931	61	653	998	12,905
Total Sum of ResearchMorts		0	415	0	0	17	432
Total Sum of TotalProjectMorts		8,461	3,559	67	749	1,069	13,905

Cumulative Adult Passage at Mainstem Dams Through: 06/24

DAM	EndDate	Spring Chinook						Summer Chinook						Fall Chinook					
		2010		2009		10-Yr Avg.		2010		2009		10-Yr Avg.		2010		2009		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	06/23	244362	12613	114525	66631	167834	17301	56080	7345	51065	23101	42039	6511	0	0	0	0	0	0
TDA	06/23	189839	11546	93908	53646	121486	13792	38748	4601	45390	15501	32984	4597	0	0	0	0	0	0
JDA	06/23	179446	11794	76806	49733	101283	12037	29538	3646	34685	15907	26650	4097	0	0	0	0	0	0
MCN	06/23	153246	9178	70413	43328	93119	11340	22851	2342	25896	9245	21094	2967	0	0	0	0	0	0
IHR	06/23	101188	6047	55435	28223	64058	7222	16873	1188	11927	5184	8547	1570	0	0	0	0	0	0
LMN	06/23	97334	5899	66931	20009	63381	6004	19998	1622	12593	3858	7475	1022	0	0	0	0	0	0
LGS	06/23	92991	5461	52642	24331	58937	6617	16959	1403	8311	3637	5063	1031	0	0	0	0	0	0
LGR	06/23	94100	6390	49667	31064	59309	8137	12307	1161	5836	3701	3937	897	0	0	0	0	0	0
PRD	06/22	30539	932	13469	2910	19097	834	3127	57	7656	274	5203	169	0	0	0	0	0	0
RIS	06/23	29684	1513	12634	6003	15841	1581	1759	98	4608	781	2585	225	0	0	0	0	0	0
RRH	06/23	8660	523	6090	1086	6208	510	298	8	1356	175	795	37	0	0	0	0	0	0
WEL	06/23	7136	640	3908	1761	3776	448	0	0	0	0	0	0	0	0	0	0	0	0
WFA	06/20	48413	1166	20839	1931	-	-	-	-	-	-	-	-	0	0	0	0	-	-

DAM	Coho						Sockeye			Steelhead			Wild 2010
	2010		2009		10-Yr Avg.		2010	2009	10-Yr Avg.	2010	2009	10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack							
BON	0	0	0	0	0	0	164430	79505	47622	18626	10420	11732	5646
TDA	0	0	0	0	0	0	89014	54071	34270	5787	3484	4120	2178
JDA	0	0	0	0	0	0	61246	43688	29146	5132	6265	5576	2158
MCN	0	0	0	0	0	0	24350	21568	15462	3478	3648	3396	1507
IHR	0	0	0	0	0	0	36	53	6	3565	3713	2772	1362
LMN	0	0	0	0	0	0	23	23	2	4725	5487	2995	2321
LGS	0	0	0	0	0	0	12	15	0	3356	5711	2898	1637
LGR	0	0	0	0	0	0	9	5	0	10654	11024	8693	4221
PRD	0	0	0	0	0	0	3448	8413	3702	134	89	82	0
RIS	0	0	0	0	0	0	1200	3409	1291	139	124	116	102
RRH	0	0	0	0	0	0	725	1380	566	366	460	245	280
WEL	0	0	0	0	0	0	229	513	197	111	102	53	92
WFA	0	0	0	0	-	-	-	-	-	23560	12759	-	0

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

Page last updated on: 06/05/2010

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

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

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											
	06/14/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/21/10	Chinook + Steelhead	17	0	0	0.00%	0.00%	0	0	0	0
Little Goose Dam											
	06/14/10	Chinook + Steelhead	100	15	15	15.00%	4.00%	8	3	3	1
	06/21/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	06/16/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/23/10	Chinook + Steelhead	39	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	06/15/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/19/10	Chinook + Steelhead	67	0	0	0.00%	0.00%	0	0	0	0
	06/22/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	06/13/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/17/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/21/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0