



Fish Passage Center

Weekly Report #10 - 17

July 9, 2010

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 139% and 242% of average at individual sub-basins over June. Precipitation above The Dalles has been 179% of average over June. Over the 2010 water year, precipitation has ranged between 88% and 104% 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 June 1-28		Water Year 2010 October 1, 2009 to June 28, 2010	
	Observed (inches)	% Average	Observed (inches)	% Average
	Columbia Above Coulee	3.47	156	18.24
SNAKE RIVER ABOVE ICE HARBOR	2.65	194	14.83	99
Columbia Above The Dalles	3.00	179	18.72	96
Kootenai	3.19	139	18.28	88
Clark Fork	3.29	183	13.09	93
Flathead	4.14	168	19.19	103
Pend Oreille/Spokane	4.44	217	25.65	95
Central Washington	1.31	220	8.20	104
SNAKE RIVER PLAIN	1.46	163	9.16	96
Salmon/Boise/Payette	2.99	218	17.55	100
Clearwater	5.15	222	25.78	97
SW Washington Cascades/Cowlitz	4.82	174	60.29	92
Willamette Valley	5.09	242	53.13	95

Table 2 displays the June Final and July Final runoff volume forecasts for multiple reservoirs. The July Final Runoff Volume Forecasts remained similar to the June Final Forecasts at Upper Columbia locations; however increased between 11-18% relative to the June Final forecasts at Snake River locations. The current forecast at The Dalles between January and July is 81900 Kaf (76% of average).

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

Location	June Final		July Final	
	% Average (1971 -2000)	Probable Runoff Volume (Kaf)	% Average (1971 -2000)	Probable Runoff Volume (Kaf)
The Dalles (Jan-July)	69	74000	76	81900
Grand Coulee (Jan-July)	74	46400	76	47900
Libby Res. Inflow, MT (Apr-Aug)	71	4420	71	4440
Hungry Horse Res. Inflow, MT (Jan-July)	75	1660	81	1800
Lower Granite Res. Inflow (Apr- July)	68	14600	86	18600
Brownlee Res. Inflow (Apr-July)	58	3670	74	4680
Dworshak Res. Inflow (Apr-July)	63	1670	74	1950

* 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 79.5 Kcfs from June 21-July 8. Flows at Lower Granite have averaged 60.6 Kcfs over the last week.

The Spring Biological Opinion flow period began on April 10th and ended on June 30th 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 was 220 Kcfs at McNary and 135 Kcfs at Priest Rapids. Flows from April 10 to June 30 flows averaged 225.7 Kcfs at McNary Dam and 137.7 Kcfs at Priest Rapids Dam

The Summer Biological Opinion flow period began on July 1st at McNary Dam with a flow objective of 200 Kcfs. Flows from July 1st to July 8th averaged 227.3 Kcfs.

Grand Coulee Reservoir is at 1288.3 feet (7-8-10) and refilled 2.3 feet over the last week. Outflows at Grand Coulee have ranged between 110.2 and 156.7 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2435.2 feet (7-8-10) and has refilled 2.4 feet last week. Outflows at Libby Dam have been decreased to 9.0 Kcfs. Inflows to Libby have ranged between 16.2 Kcfs to 24.2 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3559.1 feet (7-8-10) and has drafted 0.6 feet last week. Outflows at Hungry Horse have been 4.4-8.0 Kcfs.

Dworshak is currently at an elevation of 1598.1 feet (7-8-10) and has drafted approximately 1.3 feet last week. Outflows from Dworshak have been 7.6 Kcfs.

The Brownlee Reservoir was at an elevation of 2074.9 feet on July 8th, 2010 drafting 0.3 feet last week. Over the last week, outflows at Brownlee have ranged between 11.6-16.7 Kcfs.

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	18 Kcfs/18 Kcfs
Little Goose	30%/30%
Lower Monumental	17 Kcfs/17 Kcfs
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 continued to recede to below hydraulic capacity, spill at the lower Snake River projects went back to planned summer levels. Spill at Dworshak Dam was discontinued this week. Spill levels at Lower Granite, Little Goose, and Lower Monumental dams were managed to their respective planned summer levels. 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 at Ice Harbor ranged from a daily average of 17.3 Kcfs to 52.6 Kcfs this week.

The 2010 spill program at the lower Columbia River projects began at 0001 hours on April 10th and continued through June 30th. Summer spill programs at McNary and Bonneville dams were initiated on June 21st and at John Day and The Dalles dams on July 1st. The following table shows the planned operations for summer 2010.

Project	Day/Night Spill
McNary	50%/50%
John Day	Testing (July 1-July 22): 30%/30% vs. 40%/40% Post-Testing (July 23-August 31): 30%/30%
The Dalles	40%/40%
Bonneville	Testing (June 16-July 20): 85 Kcfs/121 Kcfs vs. 95 Kcfs/95 Kcfs Post-Testing (July 21-August 31): 75 Kcfs/Gas Cap

The planned spill levels of 50% of instantaneous flows were met at McNary Dam this week. 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 both the 30% and 40% spill days. The planned spill levels of 40% were met at The Dalles Dam over the past week. With flows decreasing to below 300 Kcfs in the Lower Columbia this week, conditions at Bonneville Dam allowed for the start of the summer spill test conditions. The first complete day where test conditions could be met was July 2nd. Since then, spill at Bonneville Dam has been managed to the study objectives of 95 Kcfs for 24 hours versus 85 Kcfs during daytime hours and 121 Kcfs during nighttime hours.

Total dissolved gas levels have been below the State's water quality waiver levels throughout the lower Snake and lower Columbia hydrosystem, with the exception of one day (July 8) at the Bonneville forebay. Furthermore, the Lower Monumental tailrace and McNary tailrace monitors malfunctioned for two days this week (July 7-8). Both of these monitors were repaired and operating by the afternoon of July 8th.

At present, GBT monitoring is being implemented at Little Goose, Lower Monumental, McNary, Bonneville and Rock Island dams. No signs of GBT were seen at any of the monitoring sites this week.

Smolt Monitoring:

Subyearling Chinook predominate at all SMP sampling sites as collections of late spring migrants continue to decline. Subyearling Chinook passage indices continued to decrease at most Snake River sites. At Rock Island Dam subyearling Chinook passage increased while at McNary Dam subyearling indices

were lower this week. Subyearling Chinook indices were also lower at John Day and Bonneville dams.

At Lower Granite Dam passage indices for all smolts decreased over the past week. Subyearling Chinook are the primary species passing, but small numbers of steelhead and other spring migrant species also passed during the last week. Subyearling Chinook passage indices peaked on June 5 at 115,000. The average daily subyearling index fell to less than 6,000 per day this week compared to a daily average of just over 6,000 last week. Passage indices at Little Goose Dam followed a similar pattern, with subyearling Chinook predominating but numbers of smolts of all species declining.

At Rock Island Dam subyearling summer migrants predominated in the sample over the past three weeks. Passage indices for subyearlings were higher than last week with the daily index averaging 230 this week compared to about 140 per day last week. The bypass at Rock Island was shutdown on July 6 as adult salmon (mostly sockeye) made their way into an attraction water pool outside the right-bank fishway. A missing section of grating allowed fish to move out of the ladder and into the attraction water pool. The attraction pool is fed by the bypass system so that the entire bypass had to be shutdown. So no juvenile fish sampling has been available since a partial sample on July 7 and turbine loading priority has been shifted to Powerhouse 1 on the left bank while repairs are made.

At McNary Dam subyearling Chinook predominated over the past week. Indices for subyearling Chinook rose to 268,000 on July 4 but the weekly average was down to 190,000 this week compared to 270,000 per day average last week. Descaling rates in subyearling Chinook have remained (at or less than 3%) and sample mortality rates were below 1% over the past week.

At Bonneville Dam subyearling Chinook passage indices decreased slightly from 93,000 per day last week to 90,000 per day this week. Bonneville Dam has also seen lower descaling rates in subyearling Chinook the past two weeks. Descaling rates ranged between 0 and 1.0% this past week. And mortality for subyearlings has also dropped this week to 0.5% or less.

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 was the final week of releases of

subyearling fall Chinook surrogates to the Clearwater River. In all, approximately 98,000 subyearling fall Chinook surrogates were scheduled for release into the Clearwater River. As with the Snake Rive surrogates, the Clearwater River surrogates are 100% unmarked but are tagged with PIT-tags. Approximately 300,000 spring Chinook parr from the Nez Perce Tribal Hatchery were scheduled for release into the Selway River between July 1st and July 15th. 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. Furthermore, there are no releases of juvenile salmonids 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. There were no releases of juvenile salmonids scheduled for this zone this week. Furthermore, there are no releases of juvenile salmonids scheduled for this zone 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. There were no releases of juvenile salmonids scheduled for this zone this week. There are also no releases of juvenile salmonids scheduled for this zone 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 1038 and 2011 adult summer Chinook in the last week. The 2010 summer Chinook count of 84036 is about 1.2 times greater than the 2009 count and 1.27 times greater than the 10 year average. The 2010 Bonneville Dam summer Chinook jack count of 12741 is only about 39.2% of the 2009 count. However, the 2010 Bonneville Dam summer Chinook jack count is about 1.23 times greater than the 10 year average count. At McNary Dam 50625 adult summer Chinook have been counted. The 2010 McNary adult summer Chinook is about 1.1 times greater than the 2009 count and about 1.12 times greater than the 10 average. The 2010 summer Chinook jack count of 5441 is about 31.4% of the 2009 count and 87.5% of the 10 year average. The adult summer Chinook count at Lower Granite Dam in the Snake River of 25325 is about 2.15 times greater than the 2009 count and 2.53 times greater than the 10 year average. The Lower

Granite summer Chinook jack count of 3792 is about 32.4% of the 2009 count, while being 1.22 times greater than the 10 year average.

The Bonneville Dam 2010 steelhead count of 56242 is about 2.27 times greater than the 2009 count of 24773. The 2010 steelhead count is about 1.96 times greater than of the 10 year average of 28635. In the Snake River, this year's Lower Granite steelhead count of 12324 is about 1.04 times greater than the 2009 count and about 1.31 times greater than the 10 year average count of 9434. The 2010 LGR wild steelhead count as of July 8th was 4753. The 2010 Rock Island Dam adult steelhead count of 399 is about 2.05 times greater than the 2009 count and 1.27 times greater than the 10 year average. At Willamette Falls Dam, the 2010 count for steelhead was 24904, as of June 25th. This year's steelhead count is about 1.85 times greater than the 2009 count of 13471 at Willamette Falls Dam for the same date range.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 4910 and 10620 last week. The 2010 adult sockeye count at Bonneville Dam of 364017 is about 2.14 times greater than the 2009 count and about 4.06 times greater than the 10 year average. The 2010 adult sockeye count at McNary Dam of 242129 is about 2.22 times greater than the 2009 count and 3.93 times greater than the 10 year average. Two of the major spawning sites for sockeye in the Upper Columbia River zone are Lake Wenatchee and Lake Osoyoos (Okanogan basin). In the Snake River zone at Ice Harbor Dam, the 2010 adult sockeye count of 716 is about 1.1 times greater than the 2009 count of 653 and about 5.2 times greater than the 10 year average count of 137. The Lower Granite Dam 2010 adult sockeye count of 931 is about 1.88 times greater than the 2009 count of 495 and 8.31 times greater than the 10 year average of 112.

Rock Island Dam has experienced issues with its right bank fishway over the last several days. On the afternoon of 7-7-10 it was noticed that some grating was missing/damaged on the Right Bank Fishway that separates the attraction water pool from the actual fishway. As a result of this problem, Chelan PUD has had to shut down the right bank fishway. This fishway is typically the most used fishway as it is part of the newer Powerhouse which is usually prioritized. Chelan PUD fixed the problem with the right bank fishway and the fishway was back in service as of Thursday evening. While the right bank fishway was out of service, Chelan PUD prioritized the old powerhouse in an effort to

attract fish to the left bank and middle fishways. As of the afternoon of July 8th, 2010, Chelan PUD reported rescuing several hundred sockeye from the right bank fishway and released these fish into the forebay of Rock Island Dam. Chelan PUD has reported some mortality as a result of this problem, but exact numbers are not known at this time.

As of July 8th at Bonneville Dam, the adult Shad count was 1028733 which was about 75.3% of the 2009 count of 1366420 and about 33.7% of the 10 year average count of 3053156.

Hatchery Releases Last Two Weeks

Hatchery Release Summary									
From:	6/25/2010		to		07/08/10				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
National Marine Fisheries Service National Marine Fisheries Service Total	Lyons Ferry Hatchery	CH0	FA	2010	98,000	06-15-10	07-03-10	Big Canyon (Clearwater River)	Clearwater River M F
Nez Perce Tribe Nez Perce Tribe Total	Clearwater Hatchery	CH0	SP	2011	300,000	07-01-10	07-15-10	Selway River	Clearwater River M F
Washington Dept. of Fish and Wildlife Washington Dept. of Fish and Wildlife Total	Ringold Springs Hatchery	CH0	FA	2010	3,398,559	06-14-10	06-29-10	Ringold Springs Hatchery	Mid-Columbia River
Grand Total					3,796,559				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 7/9/2010 to 7/22/2010

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
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 Total					300,000				
Grand Total					300,000				

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

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

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
06/25/2010	189.7	38.4	186.1	42.7	210.2	43.7	212.9	73.5	217.3	24.5	225.3	89.8	232.9	109.4
06/26/2010	178.8	40.6	179.5	45.1	202.2	47.7	204.4	55.7	209.8	38.0	222.7	89.3	225.7	103.3
06/27/2010	175.4	17.6	174.8	17.2	195.2	38.1	205.5	52.3	209.8	34.7	222.1	99.8	224.8	100.2
06/28/2010	185.4	15.7	188.5	24.5	210.8	32.8	209.3	54.4	212.3	33.9	225.5	99.4	225.8	99.2
06/29/2010	184.1	30.4	186.5	30.1	208.2	47.9	205.4	46.8	208.4	40.5	223.0	101.9	227.6	109.5
06/30/2010	177.1	22.9	179.6	34.1	204.0	29.7	201.5	28.1	203.3	41.9	222.2	105.2	224.0	109.0
07/01/2010	165.6	10.7	169.6	16.2	190.3	38.7	193.4	32.7	194.6	40.8	208.3	79.3	207.6	87.3
07/02/2010	156.7	6.1	160.3	4.6	176.6	16.8	177.1	19.1	181.5	34.7	196.9	79.2	195.0	76.0
07/03/2010	113.8	0.2	129.3	0.0	144.5	10.0	147.0	14.6	155.3	28.9	163.3	35.8	159.2	39.2
07/04/2010	110.2	0.2	103.1	0.0	116.6	8.2	116.3	12.6	120.3	29.8	133.0	20.1	134.4	27.7
07/05/2010	129.9	0.2	126.5	0.0	136.9	8.5	136.1	11.7	141.6	27.0	143.2	20.1	137.1	26.7
07/06/2010	110.0	0.2	121.2	0.0	136.4	8.0	140.0	11.9	147.4	27.4	153.8	20.4	152.8	27.1
07/07/2010	120.6	0.2	113.9	0.0	119.5	6.8	116.7	12.2	121.9	27.8	135.4	19.4	136.4	26.7
07/08/2010	132.6	0.2	136.8	0.0	142.2	7.0	144.1	12.4	146.9	28.6	145.1	20.3	136.4	27.0

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

Date	Dworshak		Brownlee Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
06/25/2010	9.4	0.0	19.7	24.9	98.3	19.3	98.3	29.5	96.6	17.3	100.6	51.2
06/26/2010	8.4	1.2	18.4	20.8	90.3	30.0	90.7	27.2	88.3	17.4	90.2	62.8
06/27/2010	7.2	0.2	17.3	17.3	85.9	20.5	87.2	26.2	83.8	17.1	86.4	59.6
06/28/2010	6.8	0.0	16.6	17.0	81.4	19.1	81.2	24.3	77.6	17.5	80.3	55.8
06/29/2010	6.6	0.1	17.0	19.3	81.5	19.5	81.8	24.6	80.3	17.2	81.2	36.1
06/30/2010	7.4	0.4	15.5	14.3	79.6	21.5	78.8	23.7	75.5	17.5	79.6	28.5
07/01/2010	8.1	0.4	15.0	14.3	76.9	21.2	76.3	22.9	74.5	17.1	75.1	48.3
07/02/2010	4.5	0.0	13.9	15.6	72.2	19.0	72.7	21.9	69.3	17.3	71.6	52.6
07/03/2010	5.3	0.0	13.4	13.1	62.8	18.8	64.5	19.4	61.9	17.5	63.3	25.9
07/04/2010	5.3	0.0	14.0	12.6	60.4	18.8	60.3	18.1	57.0	17.4	58.2	17.3
07/05/2010	5.3	0.0	13.6	14.1	58.2	18.7	58.4	17.4	56.0	17.3	58.4	40.6
07/06/2010	7.4	0.0	14.3	12.5	56.9	18.7	56.4	16.9	54.0	17.4	56.4	46.5
07/07/2010	7.6	0.0	13.9	15.9	56.3	18.6	56.2	16.9	53.1	17.3	55.2	24.2
07/08/2010	7.6	0.0	---	---	57.4	18.7	57.9	17.4	56.3	17.5	59.4	17.7

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		
06/25/2010	327.4	157.4	325.4	97.5	309.0	124.0	324.4	145.7	81.4	84.9
06/26/2010	325.2	154.9	330.5	99.4	313.3	125.3	316.4	136.5	82.1	85.4
06/27/2010	315.1	158.3	326.6	122.6	309.4	121.2	324.5	142.8	83.2	86.1
06/28/2010	297.4	146.9	304.7	121.7	288.9	115.1	299.6	131.8	74.5	80.8
06/29/2010	320.3	156.1	305.4	96.2	292.0	116.9	308.2	134.0	75.1	86.7
06/30/2010	308.9	150.4	329.7	99.3	313.7	125.3	321.3	140.4	82.9	85.6
07/01/2010	268.3	134.2	268.3	100.2	252.6	101.3	275.0	107.5	74.9	80.2
07/02/2010	253.9	127.3	255.2	102.0	242.7	97.3	250.6	90.2	66.2	81.8
07/03/2010	251.9	128.4	252.7	81.1	234.6	93.7	244.5	99.8	52.9	79.5
07/04/2010	218.9	109.7	201.4	60.7	191.9	77.0	202.3	94.6	17.4	77.9
07/05/2010	206.7	103.6	218.9	82.2	208.2	83.4	224.4	89.4	39.8	82.8
07/06/2010	206.9	103.7	203.8	81.4	186.4	75.0	199.2	94.2	9.0	83.5
07/07/2010	203.2	102.1	204.4	81.8	193.5	77.5	210.6	99.6	16.9	81.7
07/08/2010	208.7	104.8	203.3	81.3	191.5	76.8	200.6	94.7	18.2	76.1

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>			#				
	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High		#			
	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg			hr	Avg	Avg	hr
6/25	106.3	106.6	106.9	24	123.5	123.8	124.2	22	113.0	113.4	113.6	24	112.9	113.9	115.6	22	111.5	113.1	114.2	24
6/26	106.9	107.1	107.4	24	123.4	124.2	124.8	22	113.8	114.1	114.4	24	113.6	115.1	115.8	22	111.4	113.2	114.1	24
6/27	106.2	106.5	107.0	24	122.8	123.3	123.7	23	114.3	114.7	114.9	24	112.2	112.5	113.4	23	112.9	113.5	113.9	24
6/28	106.9	107.6	108.2	24	122.9	123.3	123.6	22	114.8	115.0	115.3	24	112.1	112.5	112.9	22	113.9	114.3	114.9	24
6/29	107.8	107.9	108.7	15	122.5	122.8	123.2	22	115.5	115.7	115.9	24	113.3	114.4	116.3	22	111.2	111.6	112.5	24
6/30	105.9	106.0	106.5	15	121.4	121.7	122.1	20	115.4	115.5	115.7	24	112.8	113.7	118.2	20	111.2	112.2	113.2	24
7/1	105.5	105.8	106.0	24	120.3	120.6	121.0	23	115.5	116.2	116.5	24	111.9	112.3	114.6	23	113.9	115.6	116.6	24
7/2	105.4	105.7	106.1	23	119.4	120.1	120.4	21	116.3	116.5	116.8	24	111.5	112.1	112.9	21	113.0	113.8	115.2	24
7/3	104.9	105.0	105.2	24	117.5	118.2	118.6	22	116.2	116.3	116.5	24	109.4	109.9	110.2	22	111.6	111.9	112.6	24
7/4	104.7	105.0	105.0	24	117.9	118.2	118.9	21	116.5	116.7	116.8	24	110.5	111.1	112.1	21	111.7	112.1	112.4	24
7/5	104.6	104.7	104.8	23	116.9	117.1	117.5	21	116.1	116.3	116.4	24	110.6	111.2	112.8	21	110.8	111.1	111.4	24
7/6	104.3	104.5	104.7	24	116.3	116.8	117.6	23	116.0	116.2	116.5	24	110.1	110.5	111.1	23	111.1	111.5	111.9	24
7/7	103.9	104.3	104.5	24	117.4	117.8	118.3	22	115.8	116.0	116.1	24	111.2	111.9	112.5	22	111.4	112.3	112.6	24
7/8	104.7	105.1	105.4	23	115.4	115.8	117.0	21	115.8	116.2	116.6	24	111.4	112.3	113.1	21	112.5	113.3	113.7	24

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. Tlwr</u>			#				
	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High		#			
	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg			hr	Avg	Avg	hr
6/25	113.8	114.7	115.0	24	110.4	110.8	111.0	23	116.7	119.4	122.0	23	118.0	119.6	120.4	24	122.0	122.6	123.5	24
6/26	113.8	114.1	114.4	24	111.5	112.1	112.5	24	118.1	120.9	122.2	24	114.4	116.0	117.0	24	119.3	119.8	120.2	24
6/27	112.0	112.7	113.5	24	111.9	112.5	112.8	24	116.8	118.3	120.2	24	116.3	117.9	118.7	24	119.7	120.1	120.6	24
6/28	111.8	112.2	112.6	24	112.7	113.5	113.8	24	116.8	118.6	120.8	24	116.4	117.2	118.3	24	120.1	120.6	120.8	24
6/29	112.1	113.0	114.3	24	111.9	112.9	113.3	24	119.1	123.2	126.3	24	114.7	115.2	115.2	24	119.0	120.1	121.3	24
6/30	112.6	113.4	114.5	24	109.8	110.6	110.8	24	114.0	114.9	116.4	24	116.0	117.8	118.7	24	118.1	119.1	119.5	24
7/1	113.8	115.4	116.6	24	111.2	111.6	111.9	24	116.6	118.0	119.9	24	112.6	113.0	113.8	24	117.0	117.7	118.6	24
7/2	111.7	112.2	114.6	24	112.9	113.9	114.5	24	115.1	115.9	116.8	24	115.0	115.7	116.6	24	116.9	117.7	117.9	24
7/3	111.5	112.3	112.8	24	111.2	111.5	112.2	24	112.9	113.4	113.8	24	112.9	113.1	113.2	24	115.1	115.8	116.2	24
7/4	111.8	112.5	113.2	24	111.1	111.8	112.7	24	112.5	113.2	114.0	24	112.2	112.4	112.8	24	114.2	115.1	115.5	24
7/5	110.4	110.6	111.2	24	109.9	110.5	111.3	24	111.4	112.2	113.0	24	110.4	110.7	111.4	24	113.3	114.0	114.3	24
7/6	111.1	111.6	112.1	24	110.2	110.8	111.1	22	111.4	112.1	112.3	22	110.5	111.0	111.5	24	113.0	113.9	114.4	24
7/7	110.9	112.0	112.7	24	111.3	112.2	112.4	24	112.2	113.3	113.7	24	110.7	111.4	111.8	24	113.0	114.3	114.8	24
7/8	112.3	112.7	113.0	24	112.0	112.9	113.3	24	113.1	114.1	114.5	24	111.5	111.9	112.3	24	113.9	114.9	115.2	24

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>			#				
	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High		#			
	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg			hr	Avg	Avg	hr
6/25	118.6	119.6	120.2	24	119.9	120.8	121.8	24	118.7	119.7	120.9	24	119.8	121.0	122.0	24	118.9	119.8	121.5	24
6/26	115.1	116.1	116.5	24	117.8	118.9	119.4	24	117.0	117.8	118.2	24	119.0	120.5	121.4	24	118.8	120.2	120.9	24
6/27	116.1	116.8	117.2	24	118.4	119.0	119.2	24	116.2	116.5	117.0	24	120.3	123.0	125.3	24	118.9	122.0	124.6	24
6/28	117.2	117.8	118.5	24	119.3	119.8	120.7	24	116.9	117.7	119.0	24	120.8	121.6	122.6	24	118.8	120.4	122.4	24
6/29	115.3	116.2	116.8	24	118.4	119.7	120.5	24	115.6	115.8	116.1	24	120.9	123.0	124.3	24	119.1	120.3	121.1	24
6/30	115.1	117.5	118.4	24	118.4	120.8	121.7	24	113.8	114.7	116.1	24	121.8	124.0	125.3	24	119.6	122.6	125.2	24
7/1	113.1	114.0	114.8	24	117.1	118.6	119.3	24	115.6	115.9	116.2	21	120.9	122.9	125.3	21	120.0	121.4	122.8	21
7/2	113.3	114.6	115.3	24	117.3	118.7	119.7	24	114.8	115.8	116.2	24	117.2	118.4	119.8	24	116.7	119.1	123.1	24
7/3	112.2	112.8	113.3	24	116.3	117.3	117.7	24	112.6	113.2	114.7	24	113.5	114.3	118.2	24	115.2	115.9	116.5	24
7/4	110.8	111.0	112.0	24	116.4	116.9	117.1	24	111.7	111.9	112.3	24	112.6	112.9	113.5	24	111.8	112.7	113.1	24
7/5	110.2	110.5	110.8	24	114.8	115.2	116.9	24	112.5	114.4	116.0	24	112.3	112.6	113.0	24	110.9	112.4	114.3	24
7/6	109.6	110.5	111.2	24	113.9	115.0	115.7	24	113.4	114.8	115.5	24	113.1	113.4	114.0	24	112.5	114.0	115.5	24
7/7	110.6	111.2	111.8	24	113.3	115.0	115.5	24	114.8	116.3	118.1	24	113.6	113.9	114.6	24	114.2	115.0	116.5	24
7/8	110.9	111.6	112.4	24	113.7	115.0	115.7	24	---	---	---	0	---	---	---	0	---	---	---	0

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

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

Date	Priest R. Dnst			Pasco			Dworshak			Clwrtr-Peck			Anatone			#				
	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High					
6/25	122.0	122.5	123.9	24	117.6	118.3	119.1	24	98.0	98.3	99.2	24	101.0	101.5	101.9	22	104.2	104.7	105.2	24
6/26	121.5	121.9	122.5	24	115.9	116.8	117.5	24	103.6	107.5	109.9	24	102.4	104.2	105.2	23	104.2	105.0	105.6	24
6/27	121.3	122.8	123.6	24	116.1	116.9	117.6	24	99.6	101.0	107.0	24	101.9	102.6	103.3	22	104.5	105.3	106.0	24
6/28	121.0	122.1	123.0	24	116.7	118.0	119.3	24	98.4	98.8	99.1	24	101.5	102.4	103.2	24	104.6	105.5	106.2	24
6/29	121.4	122.2	122.8	24	115.7	116.6	117.4	24	98.7	99.3	102.3	24	101.5	102.1	102.8	24	104.2	104.8	105.5	24
6/30	121.1	122.3	123.1	24	114.6	115.4	115.9	24	99.6	101.1	104.8	24	101.3	101.7	102.3	24	103.5	104.3	105.0	24
7/1	121.1	121.7	122.6	21	115.7	117.1	118.5	24	100.6	102.6	109.2	24	101.3	101.9	102.5	23	103.8	104.6	105.3	24
7/2	119.0	119.7	120.4	24	114.4	115.0	115.3	24	104.4	105.0	105.3	24	101.8	102.5	103.0	24	103.3	103.8	104.4	24
7/3	116.0	117.0	118.2	24	112.8	113.5	113.9	24	99.2	99.9	104.0	24	100.7	101.6	102.2	23	103.2	104.0	104.8	24
7/4	113.0	113.7	114.4	24	111.4	112.2	112.6	24	98.6	99.0	99.3	24	100.6	101.5	102.1	24	103.3	104.2	104.6	24
7/5	111.7	112.4	113.0	24	109.1	109.9	110.2	24	98.3	98.6	99.0	24	100.6	101.4	102.1	21	102.8	103.3	103.9	24
7/6	113.3	114.0	114.6	24	109.6	111.0	111.9	24	99.9	101.5	104.8	24	100.8	101.3	102.0	23	103.0	104.0	104.7	24
7/7	114.6	114.8	115.3	24	111.3	112.5	113.3	24	100.0	101.4	103.7	24	101.1	101.6	102.2	23	103.2	104.1	104.8	24
7/8	---	---	---	0	112.2	112.9	113.5	24	100.1	101.5	103.6	24	101.2	101.8	102.5	24	103.1	103.9	104.6	24

Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clwrtr-Lewiston			Lower Granite			L. Granite Tlwr			Little Goose			L. Goose Tlwr			#				
	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High					
6/25	101.7	102.8	103.5	24	104.8	105.0	105.2	24	112.2	112.6	114.8	24	111.7	112.0	113.0	24	113.4	113.8	114.6	24
6/26	101.4	102.6	103.0	24	104.1	104.3	104.5	24	116.1	116.5	116.8	24	110.9	111.3	111.6	24	113.2	113.6	113.9	24
6/27	102.7	103.9	104.6	24	103.6	103.8	103.9	24	112.7	113.8	116.1	24	110.4	110.8	111.1	24	112.7	113.2	113.4	24
6/28	102.5	103.9	104.9	22	103.4	103.7	103.9	24	111.7	112.0	112.5	24	111.2	112.2	112.9	24	112.9	113.7	113.9	24
6/29	102.3	103.6	104.6	23	103.8	104.0	104.3	24	112.0	112.6	115.3	24	113.3	113.6	113.8	24	113.0	113.3	113.7	24
6/30	101.8	103.4	104.9	22	103.2	103.6	103.8	24	112.8	114.0	116.4	24	110.6	111.0	112.1	24	112.0	112.6	113.2	24
7/1	101.9	103.5	105.3	23	103.6	103.7	103.8	24	112.8	114.1	116.6	24	110.4	110.7	110.9	24	111.9	112.4	112.9	24
7/2	101.6	102.6	103.6	23	102.7	102.9	103.0	24	112.0	112.5	113.3	24	109.5	109.8	110.3	24	111.5	111.6	111.7	24
7/3	101.6	102.8	103.6	23	102.0	102.2	102.9	24	112.2	112.6	113.2	24	109.0	109.4	110.2	24	110.9	111.1	111.2	24
7/4	101.8	103.4	104.6	24	101.7	101.8	101.9	24	111.8	112.3	113.2	24	109.3	109.6	109.8	24	111.5	111.8	112.0	24
7/5	101.6	102.7	103.7	22	101.1	101.3	101.6	24	111.7	111.9	112.3	24	107.7	108.0	108.5	24	110.8	111.0	111.2	24
7/6	102.2	104.2	105.8	23	101.1	101.3	101.4	24	112.1	112.7	114.9	24	107.5	108.1	108.9	24	111.3	111.9	112.1	24
7/7	102.5	104.6	106.1	24	101.9	102.1	102.5	24	111.8	112.1	112.6	24	109.1	110.4	112.0	24	111.6	112.1	112.4	24
7/8	102.6	104.7	106.2	24	102.2	102.6	103.1	24	112.2	112.7	113.5	24	110.1	110.3	110.8	24	111.9	112.4	112.6	24

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

Date	Lower Mon.			L. Mon. Tlwr			Ice Harbor			Ice Harbor Tlwr			McNary-Oregon			#				
	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High					
6/25	114.7	114.8	115.0	24	117.3	117.8	118.4	24	115.8	115.9	116.1	24	117.1	117.5	117.9	24	---	---	---	0
6/26	113.9	114.2	114.8	24	117.1	117.4	117.5	24	114.7	114.9	115.5	24	116.7	117.5	118.7	24	---	---	---	0
6/27	113.4	113.5	113.6	24	116.7	117.2	117.5	24	114.5	114.7	114.9	24	116.7	117.6	118.7	24	---	---	---	0
6/28	113.8	114.1	114.3	24	116.8	117.0	117.5	24	114.9	115.1	115.4	24	116.0	116.3	116.6	24	---	---	---	0
6/29	113.4	113.6	113.7	24	116.1	116.4	116.7	24	114.7	114.8	114.9	24	115.7	116.2	116.8	24	---	---	---	0
6/30	112.4	112.5	112.6	24	116.3	116.7	116.9	24	113.3	113.5	114.1	23	115.5	116.2	116.5	24	---	---	---	0
7/1	112.7	112.9	113.1	24	116.6	117.0	117.2	24	113.2	113.3	113.4	24	115.3	116.1	116.5	24	---	---	---	0
7/2	112.4	112.6	113.0	24	116.2	116.3	116.5	24	112.9	112.9	113.1	24	115.7	115.9	116.2	24	---	---	---	0
7/3	110.1	110.3	111.1	24	117.5	119.5	131.6	24	111.5	111.8	112.6	24	114.8	115.4	116.5	24	---	---	---	0
7/4	109.4	109.5	109.7	24	115.4	115.6	115.8	24	110.9	111.1	111.2	24	112.9	114.1	114.6	24	---	---	---	0
7/5	108.9	109.0	109.2	24	115.1	115.3	115.6	24	110.4	110.6	110.8	24	114.7	115.3	116.0	24	---	---	---	0
7/6	109.0	109.3	109.6	24	116.2	117.2	120.7	24	110.6	110.8	111.0	24	114.3	114.9	115.7	24	---	---	---	0
7/7	109.8	110.2	110.3	24	128.4	138.9	139.8	24	111.1	111.4	111.6	24	113.1	114.5	116.1	24	---	---	---	0
7/8	110.6	111.2	112.0	24	126.9	137.5	140.5	24	112.3	112.9	113.3	24	112.8	114.2	115.8	24	---	---	---	0

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	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		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	AVG	High	
6/25	117.5	117.8	118.1	24	120.2	120.8	121.4	24	114.5	114.7	115.0	24	117.0	117.9	118.2	24	112.4	112.6	112.8	24
6/26	116.5	116.7	117.0	24	120.0	120.5	120.7	24	113.4	113.6	114.1	24	117.3	117.7	117.9	24	111.6	112.0	112.3	24
6/27	115.3	115.7	116.0	24	119.8	120.3	120.7	24	112.7	112.9	113.0	24	117.7	119.4	119.6	24	112.3	113.4	114.7	24
6/28	116.1	116.7	117.1	24	119.4	120.1	120.5	24	112.7	113.0	113.2	24	117.9	119.0	119.6	24	114.3	114.5	114.7	24
6/29	115.4	115.7	116.2	24	119.8	120.3	120.6	24	111.0	111.4	112.2	24	116.5	117.6	118.4	24	111.1	112.0	113.6	20
6/30	113.0	113.5	114.1	24	119.4	119.8	120.0	24	110.9	111.5	112.1	24	116.9	117.3	118.1	24	110.6	112.0	112.7	24
7/1	114.2	114.7	115.1	24	118.2	118.4	118.7	24	111.6	111.8	112.1	24	116.5	117.4	118.0	24	111.5	111.8	112.4	24
7/2	113.0	113.3	114.2	24	118.2	118.6	118.8	24	109.6	110.2	111.0	24	116.3	117.5	117.9	24	110.7	111.1	111.8	24
7/3	112.1	112.4	112.7	24	118.0	118.5	118.9	24	107.7	108.0	108.2	24	114.1	115.0	116.2	24	108.7	109.0	109.5	24
7/4	111.9	112.1	112.6	24	117.1	117.3	118.0	24	107.6	107.8	107.9	24	113.7	113.9	114.2	24	107.7	108.0	108.4	24
7/5	110.5	110.8	111.2	24	116.7	116.9	117.2	24	106.5	106.7	107.1	24	114.6	115.5	116.5	24	106.4	106.9	107.6	24
7/6	110.2	110.6	111.7	24	117.1	117.6	118.4	24	106.1	106.6	107.7	24	113.7	115.6	117.5	24	109.6	110.7	111.1	24
7/7	110.7	111.3	112.3	24	123.5	130.1	148.8	24	107.4	108.2	108.9	24	114.4	115.5	116.6	24	111.9	112.2	112.6	24
7/8	111.6	112.7	113.6	24	133.7	145.1	145.9	24	108.9	109.4	110.4	24	114.9	116.2	116.8	24	112.3	112.5	112.7	24

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	The Dalles Dnst			#	Bonneville			#	Warrendale			#	Camas\Washougal			#	Cascade Island			#
	24 h	12 h			24 h	12 h			24h	12h			24h	12h			24h	12h		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	AVG	High	
6/25	118.0	118.4	118.9	24	113.4	114.2	114.9	24	116.7	117.2	117.7	24	117.0	117.4	117.6	24	122.6	123.2	123.4	24
6/26	117.5	118.0	118.2	24	112.0	112.3	113.0	24	115.4	115.8	116.0	24	115.0	115.9	116.5	24	121.3	122.6	123.2	24
6/27	117.5	118.2	118.8	24	113.8	114.4	115.0	24	116.6	117.9	118.4	24	115.0	116.1	116.6	24	121.7	123.1	123.3	24
6/28	119.2	120.0	121.3	24	115.2	115.7	116.0	24	117.1	117.5	118.4	24	116.8	117.5	118.2	24	121.0	121.7	122.6	24
6/29	117.4	118.1	119.5	24	113.2	113.5	114.2	24	115.9	116.6	117.2	24	114.2	114.9	115.7	24	121.3	122.7	123.0	24
6/30	116.8	117.6	118.3	24	112.4	113.1	113.3	24	115.7	116.5	117.7	24	114.8	115.7	116.0	24	122.5	122.9	123.4	24
7/1	117.2	117.6	118.6	24	113.6	113.8	113.9	24	115.4	115.7	116.0	24	115.0	115.4	115.7	24	119.4	120.4	121.7	24
7/2	116.6	117.0	117.7	24	112.1	112.6	113.2	24	113.8	114.3	115.0	24	112.5	112.9	113.7	24	116.6	117.3	119.1	24
7/3	115.2	115.6	115.9	24	110.1	110.3	110.5	24	113.7	114.1	114.8	24	111.9	113.0	114.2	24	117.7	118.1	119.1	24
7/4	114.4	114.8	115.7	24	109.0	109.7	110.3	24	113.9	114.5	114.9	24	111.0	111.4	111.7	24	116.6	117.0	117.5	24
7/5	113.5	113.9	114.3	24	107.3	107.7	108.2	24	112.4	113.3	114.5	24	110.5	110.9	111.4	24	115.1	115.9	118.5	24
7/6	115.7	116.9	117.5	24	108.5	109.5	110.3	24	114.3	114.7	115.8	24	111.3	113.3	114.5	24	115.7	116.8	118.8	24
7/7	117.0	117.6	118.3	24	111.8	112.7	113.7	24	115.7	116.1	116.5	24	111.7	112.7	113.3	24	117.1	117.6	118.9	24
7/8	117.0	117.7	118.5	24	114.7	115.1	115.5	24	116.6	117.1	117.8	24	113.6	115.5	116.6	24	117.0	117.4	117.7	24

Two-Week Summary of Passage Indices

COMBINED YEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
06/25/2010 *	---	---	---	---	62	95	610	5	---	143	0
06/26/2010	---	---	---	---	131	47	437	4	393	382	0
06/27/2010 *	---	---	---	---	37	72	189	2	---	384	25
06/28/2010 *	---	---	---	---	0	1	254	2	612	332	0
06/29/2010 *	---	---	---	---	0	108	255	7	---	0	344
06/30/2010	---	---	---	---	0	57	69	2	776	143	0
07/01/2010 *	---	---	---	---	0	0	107	2	---	144	0
07/02/2010	---	---	---	---	27	14	741	6	204	0	0
07/03/2010 *	---	---	---	---	0	14	1,658	0	---	0	0
07/04/2010	---	---	---	---	0	29	509	0	207	0	0
07/05/2010 *	---	---	---	---	0	14	512	0	---	0	715
07/06/2010	---	---	---	---	0	27	184	0	205	112	0
07/07/2010 *	---	---	---	---	0	23	244	0	---	112	0
07/08/2010 *	---	---	---	---	15	0	247	---	0	0	0
07/09/2010	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	272	501	6,016	30	2,397	1,752	1,084
# Days:	0	0	0	0	14	14	14	13	7	14	14
Average:	0	0	0	0	19	36	430	2	342	125	77
YTD	56,130	80,004	27,916	7,995	2,452,510	1,260,428	450,031	11,797	2,093,276	1,034,442	2,300,862

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)
06/25/2010 *	---	---	---	---	6,421	12,226	4,332	73	---	77,018	74,112
06/26/2010	---	---	---	---	4,342	15,139	5,248	49	374,480	88,077	66,005
06/27/2010 *	---	---	---	---	4,465	19,193	10,979	180	---	113,508	71,722
06/28/2010 *	---	---	---	---	4,334	12,562	6,044	90	229,685	71,466	97,147
06/29/2010 *	---	---	---	---	6,361	6,194	8,477	238	---	56,863	102,089
06/30/2010	---	---	---	---	5,978	9,643	5,214	184	212,017	70,818	115,842
07/01/2010 *	---	---	---	---	12,738	8,118	3,973	179	---	66,756	126,421
07/02/2010	---	---	---	---	8,315	9,291	15,183	233	193,067	43,493	95,835
07/03/2010 *	---	---	---	---	7,222	12,233	11,467	176	---	61,688	94,676
07/04/2010	---	---	---	---	4,849	5,790	4,723	179	268,485	68,446	111,114
07/05/2010 *	---	---	---	---	3,956	3,739	11,598	267	---	41,715	94,795
07/06/2010	---	---	---	---	4,202	4,385	4,955	506	121,878	41,734	94,396
07/07/2010 *	---	---	---	---	5,112	18,238	14,260	54	---	49,924	76,028
07/08/2010 *	---	---	---	---	5,718	11,054	8,339	---	184,953	50,362	68,907
07/09/2010	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	84,013	147,805	114,792	2,408	1,584,565	901,868	1,289,089
# Days:	0	0	0	0	14	14	14	13	7	14	14
Average:	0	0	0	0	6,001	10,558	8,199	185	226,366	64,419	92,078
YTD	0	42	28	1,275	919,212	1,195,758	683,396	9,740	2,493,609	1,544,182	3,803,858

Two-Week Summary of Passage Indices

COMBINED COHO											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
06/25/2010 *	---	---	---	---	0	0	61	47	---	501	386
06/26/2010	---	---	---	---	0	143	0	26	2	286	742
06/27/2010 *	---	---	---	---	37	36	0	21	---	96	25
06/28/2010 *	---	---	---	---	52	36	0	10	408	0	0
06/29/2010 *	---	---	---	---	26	36	0	22	---	0	344
06/30/2010	---	---	---	---	0	29	0	21	0	0	356
07/01/2010 *	---	---	---	---	56	14	0	10	---	0	362
07/02/2010	---	---	---	---	53	29	0	29	6	0	0
07/03/2010 *	---	---	---	---	28	29	0	7	---	0	302
07/04/2010	---	---	---	---	58	29	73	11	0	0	0
07/05/2010 *	---	---	---	---	0	0	0	5	---	0	0
07/06/2010	---	---	---	---	0	23	0	21	0	0	0
07/07/2010 *	---	---	---	---	0	11	0	0	---	0	0
07/08/2010 *	---	---	---	---	0	14	0	---	206	0	0
07/09/2010	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	310	429	134	230	622	883	2,517
# Days:	0	0	0	0	14	14	14	13	7	14	14
Average:	0	0	0	0	22	31	10	18	89	63	180
YTD	0	0	0	104	40,115	53,828	13,581	41,200	85,552	111,146	523,650

COMBINED STEELHEAD											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
06/25/2010 *	---	---	---	---	561	858	549	73	---	429	0
06/26/2010	---	---	---	---	816	644	125	42	0	382	0
06/27/2010 *	---	---	---	---	856	752	189	51	---	0	355
06/28/2010 *	---	---	---	---	130	695	191	35	408	332	0
06/29/2010 *	---	---	---	---	237	358	191	15	---	0	0
06/30/2010	---	---	---	---	269	215	267	23	194	0	712
07/01/2010 *	---	---	---	---	194	86	107	33	---	0	0
07/02/2010	---	---	---	---	187	186	26	29	208	0	0
07/03/2010 *	---	---	---	---	83	273	0	3	---	0	0
07/04/2010	---	---	---	---	29	129	145	12	0	0	29
07/05/2010 *	---	---	---	---	58	129	0	11	---	144	238
07/06/2010	---	---	---	---	60	139	31	0	205	0	0
07/07/2010 *	---	---	---	---	45	69	29	0	---	0	0
07/08/2010 *	---	---	---	---	60	172	31	---	4	0	241
07/09/2010	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	3,585	4,705	1,881	327	1,019	1,287	1,575
# Days:	0	0	0	0	14	14	14	13	7	14	14
Average:	0	0	0	0	256	336	134	25	146	92	113
YTD	4,385	27,688	4,051	11,795	2,045,545	1,593,789	427,693	17,289	447,834	594,524	941,744

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)
06/25/2010 *	---	---	---	---	0	47	0	2	---	501	0
06/26/2010	---	---	---	---	33	36	0	2	386	859	0
06/27/2010 *	---	---	---	---	0	0	0	2	---	288	0
06/28/2010 *	---	---	---	---	0	0	0	2	619	166	0
06/29/2010 *	---	---	---	---	26	0	0	2	---	0	344
06/30/2010	---	---	---	---	27	0	0	0	582	0	712
07/01/2010 *	---	---	---	---	0	0	0	2	---	0	0
07/02/2010	---	---	---	---	0	29	26	0	0	167	0
07/03/2010 *	---	---	---	---	0	0	0	2	---	83	0
07/04/2010	---	---	---	---	0	14	0	0	207	0	0
07/05/2010 *	---	---	---	---	0	14	0	1	---	0	0
07/06/2010	---	---	---	---	0	11	0	0	0	0	0
07/07/2010 *	---	---	---	---	0	0	29	0	---	0	0
07/08/2010 *	---	---	---	---	0	0	0	---	103	0	0
07/09/2010	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	86	151	55	15	1,897	2,064	1,056
# Days:	0	0	0	0	14	14	14	13	7	14	14
Average:	0	0	0	0	6	11	4	1	271	147	75
YTD	80	0	0	188	8,688	12,714	2,177	36,479	1,468,007	655,958	803,092

* 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:

7/9/10 10:52 AM

		06/25/10 TO 07/09/10					
		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
LGR	Sum of NumberCollected	60,875	205	225	2,640	65	64,010
	Sum of NumberBarged	69,206	345	275	4,025	65	73,916
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	18	0	0	0	0	18
	Sum of FacilityMorts	48	0	0	0	0	48
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	66	0	0	0	0	66
LGS	Sum of NumberCollected	103,120	350	299	3,284	106	107,159
	Sum of NumberBarged	108,098	380	322	3,724	139	112,663
	Sum of NumberBypassed	8	0	0	0	0	8
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	19	0	0	1	0	20
	Sum of FacilityMorts	94	2	0	5	0	101
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	113	2	0	6	0	121
LMN	Sum of NumberCollected	84,579	4,452	100	1,470	40	90,641
	Sum of NumberBarged	84,961	4,480	100	1,787	40	91,368
	Sum of NumberBypassed	149	12	0	10	0	171
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	10	0	0	0	0	10
	Sum of FacilityMorts	65	0	0	3	0	68
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	75	0	0	3	0	78
MCN	Sum of NumberCollected	790,618	1,205	304	504	954	793,585
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	789,937	1,200	300	500	950	792,887
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	50	0	0	0	0	50
	Sum of FacilityMorts	631	5	4	4	4	648
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	681	5	4	4	4	698
Total Sum of NumberCollected		1,039,192	6,212	928	7,898	1,165	1,055,395
Total Sum of NumberBarged		262,265	5,205	697	9,536	244	277,947
Total Sum of NumberBypassed		790,094	1,212	300	510	950	793,066
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		97	0	0	1	0	98
Total Sum of FacilityMorts		838	7	4	12	4	865
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		935	7	4	13	4	963

YTD Transportation Summary

Source: Fish Passage Center

Updated:

7/9/10 10:52 AM

TO: 07/09/10

Site	Data	Species					Grand Total
		CH0	CH1	CO	SO	ST	
LGR	Sum of NumberCollected	552,683	1,622,312	28,325	5,750	1,358,003	3,567,073
	Sum of NumberBarged	547,249	1,428,743	28,315	5,735	1,309,303	3,319,345
	Sum of NumberBypassed	700	191,860	0	10	48,344	240,914
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	74	54	0	0	19	147
	Sum of FacilityMorts	868	1,230	10	5	280	2,393
	Sum of ResearchMorts	0	415	0	0	17	432
	Sum of TotalProjectMorts	942	1,699	10	5	316	2,972
LGS	Sum of NumberCollected	782,285	873,133	36,852	8,799	1,085,338	2,786,407
	Sum of NumberBarged	769,142	791,458	36,841	8,798	1,025,513	2,631,752
	Sum of NumberBypassed	64	81,373	0	0	59,473	140,910
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	54	29	1	0	10	94
	Sum of FacilityMorts	5,330	273	0	1	222	5,826
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	5,384	302	1	1	232	5,920
LMN	Sum of NumberCollected	465,289	304,633	8,775	1,510	239,815	1,020,022
	Sum of NumberBarged	459,207	302,990	8,775	1,409	234,575	1,006,956
	Sum of NumberBypassed	289	1,472	0	0	4,999	6,760
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	18	9	0	0	10	37
	Sum of FacilityMorts	406	200	0	1	312	919
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	424	209	0	1	322	956
MCN	Sum of NumberCollected	1,244,786	1,223,819	47,335	848,350	259,840	3,624,130
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	1,242,140	1,222,463	47,275	847,604	259,628	3,619,110
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	150	121	5	96	16	388
	Sum of FacilityMorts	2,496	1,235	55	650	196	4,632
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2,646	1,356	60	746	212	5,020
Total Sum of NumberCollected		3,045,043	4,023,897	121,287	864,409	2,942,996	10,997,632
Total Sum of NumberBarged		1,775,598	2,523,191	73,931	15,942	2,569,391	6,958,053
Total Sum of NumberBypassed		1,243,193	1,497,168	47,275	847,614	372,444	4,007,694
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		296	213	6	96	55	666
Total Sum of FacilityMorts		9,100	2,938	65	657	1,010	13,770
Total Sum of ResearchMorts		0	415	0	0	17	432
Total Sum of TotalProjectMorts		9,396	3,566	71	753	1,082	14,868

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
Little Goose Dam											
	06/28/10	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	07/05/10	Chinook + Steelhead	101	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	06/30/10	Chinook + Steelhead	71	0	0	0.00%	0.00%	0	0	0	0
	07/07/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	07/01/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/05/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	06/29/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/03/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/06/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	07/02/10	Chinook + Steelhead	50	0	0	0.00%	0.00%	0	0	0	0
	07/06/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0

Cumulative Adult Passage at Mainstem Dams Through: 07/08

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	07/08	244362	12613	114525	66631	167834	17301	84036	12741	69776	32490	66117	10330	0	0	0	0	0	0
TDA	07/08	189839	11546	93908	53646	121486	13792	67528	10025	68313	23777	56683	7688	0	0	0	0	0	0
JDA	07/08	179446	11794	76806	49733	101283	12037	57303	9116	55559	27096	51017	7884	0	0	0	0	0	0
MCN	07/08	153246	9178	70413	43328	93119	11340	50325	5441	46132	17307	45226	6215	0	0	0	0	0	0
IHR	07/08	101188	6047	55435	28223	64058	7222	26533	2738	19763	8633	13471	2914	0	0	0	0	0	0
LMN	07/08	97334	5899	66931	20009	63381	6004	31764	3590	20336	8640	13445	2290	0	0	0	0	0	0
LGS	07/08	92991	5461	52642	24331	58937	6617	28786	3087	16282	8796	10676	2760	0	0	0	0	0	0
LGR	07/08	94100	6390	49667	31064	59309	8137	25325	3792	11767	11712	10009	3102	0	0	0	0	0	0
PRD	07/05	30539	932	13469	2910	19097	834	20341	267	29438	1253	25208	868	0	0	0	0	0	0
RIS	07/06	29684	1513	12634	6003	15841	1581	14887	858	22182	3117	19525	1727	0	0	0	0	0	0
RRH	07/06	8660	523	6090	1086	6208	510	7854	201	13215	1542	10608	730	0	0	0	0	0	0
WEL	07/05	7555	661	6307	1867	4866	487	2604	71	7408	492	4567	180	0	0	0	0	0	0
WFA	06/25	54433	1253	22039	2052	-	-	-	-	-	-	-	-	0	0	0	0	0	0

DAM	Coho						Sockeye			Steelhead			
	2010		2009		10-Yr Avg.		2010	2009	10-Yr Avg.	2010	2009	10-Yr Avg.	Wild 2010
	Adult	Jack	Adult	Jack	Adult	Jack							
BON	0	0	0	0	0	0	364017	170384	89581	56242	24773	28635	26330
TDA	0	0	0	0	0	0	299107	147859	75635	27708	11624	13067	14018
JDA	0	0	0	0	0	0	293891	144727	79243	19785	14065	13046	9126
MCN	0	0	0	0	0	0	242129	108850	61565	11562	7097	7686	4490
IHR	0	0	0	0	0	0	716	653	137	7437	5632	4998	2487
LMN	3	1	0	0	0	0	941	729	149	8503	7447	4888	3445
LGS	0	0	0	0	0	0	747	644	127	5352	6714	3889	2251
LGR	0	0	0	0	0	0	931	495	112	12324	11851	9434	4753
PRD	0	2	0	0	0	0	221176	89829	55478	641	252	407	0
RIS	0	0	0	0	0	0	146952	72504	41344	399	194	314	260
RRH	0	0	0	0	0	1	108637	48035	27342	485	491	367	335
WEL	0	0	0	0	0	0	42253	29319	15028	165	118	87	121
WFA	0	0	0	0	0	-	-	-	-	24904	13471	-	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: 07/09/2010

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