



# Fish Passage Center

## Weekly Report #10 - 19

July 23, 2010

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### Summary of Events:

**Water Supply:** Precipitation throughout the Columbia Basin has varied between 19% and 60% of average at individual sub-basins over July. Precipitation above The Dalles has been 43% of average over July. Over the 2010 water year, precipitation has ranged between 85% and 103% of average.

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

Location	Water Year 2010 July 1-19		Water Year 2010 October 1, 2009 to July 19, 2010	
	Observed (inches)	% Average	Observed (inches)	% Average
	Columbia Above Coulee	0.63	58	19.08
Snake River Above Ice Harbor	0.13	23	15.25	97
Columbia Above The Dalles	0.33	43	19.23	94
Kootenai	0.65	56	18.90	85
Clark Fork	0.34	46	13.57	91
Flathead	0.58	60	20.18	102
Pend Oreille/ Spokane	0.40	48	26.75	95
Central Washington	0.06	25	8.46	103
Snake River Plain	0.07	19	9.01	91
Salmon/Boise/ Payette	0.13	26	17.71	98
Clearwater	0.24	27	26.67	96
SW Washington Cascades/Cowlitz	0.30	35	61.58	93
Willamette Valley	0.21	40	53.25	94

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 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 65.6 Kcfs from June 21-July 22. Flows at Lower Granite have averaged 45.2 Kcfs over the last week.

The Summer Biological Opinion flow period began on July 1<sup>st</sup> at McNary Dam with a flow objective of 200 Kcfs. Flows from July 1<sup>st</sup> to July 22<sup>nd</sup> averaged 199.6 Kcfs and 169.5 Kcfs last week.

Grand Coulee Reservoir is at 1288.6 feet (7-22-10) and held steady over the last week. Outflows at Grand Coulee have ranged between 72.8 and 115.8 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2440.2 feet (7-22-10) and has refilled 1.6 feet last week. Outflows at Libby Dam have been decreased to 7.0 Kcfs. Inflows to Libby have ranged between 11.5 Kcfs to 14.7 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3557.9 feet (7-22-10) and has drafted 0.9 ft last week. Outflows at Hungry Horse are currently 4.3 Kcfs.

Dworshak is currently at an elevation of 1585.0 feet (7-22-10) and has drafted approximately 6.7 feet last week. Outflows from Dworshak are currently 12 Kcfs and are expected to increase to 14 Kcfs on July 24<sup>th</sup>, 2010.

The Brownlee Reservoir was at an elevation of 2066.9 feet on July 22<sup>nd</sup>, 2010 drafting 1.8 feet last week. Over the last week, outflows at Brownlee have ranged between 13.1-17.4 Kcfs.

**Spill:** On June 21<sup>st</sup> 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	<b>June 21-July 13:</b> 30%/30% vs. 45 Kcfs/Gas Cap <b>July 13-August 31:</b> 45 Kcfs/Gas Cap (approximate Gas Cap range = 75-95 Kcfs)

Spill at Dworshak Dam began on July 15<sup>th</sup>, as the outflow at the project was increased above hydraulic capacity for flow augmentation and temperature control. 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 continued through the July 13<sup>th</sup>. After that, spill at Ice Harbor reverted back to the 45Kcfs/gas cap level. Spill was below 45 Kcfs at times due to low flows and powerhouse minimums.

Summer spill programs at McNary and Bonneville dams were initiated on June 21<sup>st</sup> and at John Day and The Dalles dams on July 1<sup>st</sup>. The following table shows the planned operations for summer 2010.

Project	Day/Night Spill
McNary	50%/50%
John Day	<b>Testing (July 1-July 22):</b> 30%/30% vs. 40%/40% <b>Post-Testing (July 23-August 31):</b> 30%/30%
The Dalles	40%/40%
Bonneville	<b>Testing (June 16-July 20):</b> 85 Kcfs/121 Kcfs vs. 95 Kcfs/95 Kcfs <b>Post-Testing (July 21-August 31):</b> 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. 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. On June 21<sup>st</sup> the project began the implementation of the 75Kcfs/gas cap spill levels, which will continue through the summer period.

Total dissolved gas levels have been below the States' water quality waiver levels throughout the lower Snake and lower Columbia hydrosystem over the past week.

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 small numbers of spring migrants continue to be collected. Subyearling Chinook passage indices continued to decrease at all 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 lower at Bonneville dam.

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 also were collected during the last week. Subyearling Chinook passage indices peaked on June 5 at 115,000. The average daily subyearling index fell to 4,100 per day this week compared to a daily average of 4,900 last week. Passage indices at Little Goose Dam and Lower Monumental 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 month. Passage indices for subyearlings were higher than last week with the daily index averaging 430 this week compared to about 290 per day last week.

At McNary Dam subyearling Chinook predominated over the past week. Indices for subyearling Chinook rose to 373,000 on July 10 but the weekly average was down to 41,000 this week compared to 170,000 per day average last week. Transport began July 16 at McNary Dam and the site is now conducting every day sampling to provide data for transport operations.

At Bonneville Dam subyearling Chinook passage indices decreased from 99,000 per day last week to 57,000 per day this week.

#### **Hatchery Release:**

**Snake River Zone:** The Snake River Zone encompasses the Snake River and its tributaries from its confluence with the Columbia River to Hells Canyon Dam. 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.

**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:** Daily passage numbers at Bonneville Dam ranged between 338 and 753 adult summer Chinook in the last week. The 2010 summer Chinook count of 93829 is about 1.18 times greater than the 2009 count and 1.2 times greater than the 10 year average. The 2010 Bonneville Dam summer Chinook jack count of 14932 is only about 41.3% of the 2009 count. However, the 2010 Bonneville Dam summer Chinook jack count is about 1.20 times greater than the 10 year average count. At McNary Dam 62120 adult summer Chinook have been counted. The 2010 McNary adult summer Chinook is about 1.15 times greater than the 2009 count and about 1.10 times greater than the 10 average. The 2010 summer Chinook jack count of 7268 is about 36.7% of the 2009 count and 91.9% of the 10 year average. The adult summer Chinook count at Lower Granite Dam in the Snake River of 27752 is about 2 times greater than the 2009 count and 2.38 times greater than the 10 year average. The Lower Granite summer Chinook jack count of 4971 is about 32.3% of the 2009 count, while being 1.25 times greater than the 10 year average.

The Bonneville Dam 2010 steelhead count of 138544 is about 1.97 times greater than the 2009 count of 70227. The 2010 steelhead count is about 1.90 times greater than of the 10 year average of 72934. In the Snake River, this year's Lower Granite steelhead count of 17221 is about 1.23 times greater than the 2009 count and about 1.58 times greater than the 10 year average count of 10888. The 2010 LGR wild steelhead count as of July 22nd was 6780. The 2010 Rock Island Dam adult steelhead count of 1801 is about 2.82 times greater than the 2009 count and 1.93 times greater than the 10 year average. At Willamette Falls Dam, the 2010 count for steelhead was 26818, as of July 7th. This year's steelhead count is about 1.76 times greater than the 2009 count of 15272 at Willamette Falls Dam for the same date range.

Daily adult sockeye passage numbers at

Bonneville Dam ranged between 190 and 997 last week. The 2010 adult sockeye count at Bonneville Dam of 385720 is about 2.17 times greater than the 2009 count and about 4.1 times greater than the 10 year average. The 2010 adult sockeye count at McNary Dam of 277328 is about 2.29 times greater than the 2009 count and 4 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 1250 is about 1.45 times greater than the 2009 count of 861 and about 7.14 times greater than the 10 year average count of 175. The Lower Granite Dam 2010 adult sockeye count of 1860 is about 1.62 times greater than the 2009 count of 1145 and 7.98 times greater than the 10 year average of 233.

As of July 15th at Bonneville Dam, the adult Shad count was 1039143 which was about 75.7% of the 2009 count of 1372150 and about 33.7% of the 10 year average count of 3084815.

### Hatchery Releases Last Two Weeks

#### Hatchery Release Summary

From: 7/9/2010 to 07/22/10

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
<b>Nez Perce Tribe Total</b>					<b>300,000</b>				

### Hatchery Releases Next Two Weeks

**There are no hatchery releases planned from 07/23/10-8/05/10.**

**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
07/09/2010	126.3	0.2	136.7	0.0	149.2	13.9	153.7	18.1	162.3	29.3	168.8	39.8	167.1	46.3
07/10/2010	103.9	0.2	105.1	0.0	123.2	7.1	129.7	10.4	140.7	25.9	147.6	21.8	147.2	31.3
07/11/2010	104.2	0.2	111.8	0.0	121.0	7.4	120.5	10.3	132.0	26.6	142.5	20.1	138.8	27.8
07/12/2010	108.8	0.2	117.7	0.0	117.2	8.4	118.9	11.4	127.9	29.0	136.7	19.3	135.7	25.9
07/13/2010	120.1	0.2	114.4	0.0	131.0	7.8	129.2	11.0	137.6	29.1	133.9	20.0	129.3	27.8
07/14/2010	137.5	0.2	145.2	0.0	147.8	22.8	142.4	11.8	148.8	27.1	148.0	27.1	143.5	27.9
07/15/2010	121.2	0.2	122.2	0.0	135.0	10.3	138.5	14.8	146.2	27.1	152.5	25.7	151.8	34.2
07/16/2010	99.7	0.2	101.6	0.0	112.2	8.6	112.0	10.7	115.6	27.3	132.7	19.6	132.2	26.7
07/17/2010	90.8	0.2	93.7	0.0	106.1	8.6	107.0	8.6	113.1	21.2	119.3	19.2	116.7	26.7
07/18/2010	72.8	0.2	66.0	0.0	81.5	7.3	91.1	7.9	100.3	20.9	133.0	18.4	133.7	25.3
07/19/2010	105.2	0.2	107.6	0.0	113.5	8.6	109.5	10.0	113.8	23.9	115.5	16.6	114.5	22.3
07/20/2010	108.0	0.2	112.1	0.0	112.8	8.2	111.3	10.0	115.4	26.0	102.2	16.2	95.3	24.4
07/21/2010	115.8	0.2	117.3	0.0	117.1	8.3	115.4	9.4	119.6	25.1	116.9	19.0	110.6	26.4
07/22/2010	105.4	0.2	105.1	0.0	112.4	7.2	117.2	9.4	122.9	24.1	130.3	19.5	127.6	27.0

**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
07/09/2010	8.2	0.0	13.3	15.9	51.9	18.7	50.9	15.3	48.4	17.1	49.6	14.8		
07/10/2010	9.5	0.0	12.7	17.2	55.1	18.7	56.4	16.8	53.5	17.5	55.5	16.6		
07/11/2010	9.5	0.0	12.5	15.3	53.0	18.6	53.1	15.8	50.2	17.4	50.9	36.1		
07/12/2010	9.5	0.0	12.5	13.8	47.1	18.7	44.6	13.4	40.1	17.5	40.7	30.6		
07/13/2010	9.5	0.0	11.9	11.4	48.7	18.7	49.9	14.9	49.2	17.2	51.6	41.6		
07/14/2010	9.5	0.0	12.5	11.4	42.8	18.6	40.9	12.2	38.0	17.4	40.0	30.1		
07/15/2010	10.9	1.4	11.6	16.5	52.2	18.7	55.4	16.6	53.1	17.1	57.1	45.1		
07/16/2010	10.9	1.4	12.2	18.0	48.3	18.7	45.7	13.7	42.6	17.3	43.0	32.4		
07/17/2010	10.9	1.3	11.3	15.4	47.3	18.7	47.3	14.1	46.0	16.9	48.6	38.4		
07/18/2010	10.9	1.3	9.9	14.1	43.8	18.7	43.1	12.9	40.3	17.4	40.2	30.0		
07/19/2010	12.1	2.5	9.4	15.5	43.6	18.6	44.0	13.2	44.0	17.3	46.1	36.1		
07/20/2010	12.1	2.4	9.5	16.1	45.6	18.7	43.9	13.1	40.4	17.4	43.2	33.5		
07/21/2010	12.0	2.4	9.2	17.1	44.9	18.7	45.8	13.7	45.2	17.0	47.0	37.0		
07/22/2010	11.9	2.2	---	---	42.7	18.7	40.5	12.2	36.7	17.4	36.0	26.0		

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

Date	McNary		John Day		The Dalles		Bonneville			
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
07/09/2010	213.8	107.2	208.1	66.4	197.8	78.9	225.5	89.8	40.0	83.3
07/10/2010	213.0	106.6	194.9	58.9	180.7	72.0	193.2	100.3	0.0	80.6
07/11/2010	206.5	103.6	211.5	63.3	205.8	82.1	213.6	90.5	28.4	82.4
07/12/2010	207.1	103.8	178.6	53.6	163.4	65.4	171.4	100.4	29.2	29.5
07/13/2010	178.9	89.9	203.9	76.8	196.2	78.5	203.6	90.6	68.4	32.2
07/14/2010	188.1	93.4	175.9	70.5	162.6	65.0	179.5	99.9	36.2	31.1
07/15/2010	179.8	90.5	172.8	54.8	161.8	65.0	180.0	89.7	30.1	47.8
07/16/2010	196.0	98.1	181.5	54.5	170.4	68.5	194.0	99.7	0.0	81.9
07/17/2010	174.9	87.4	172.4	65.1	162.9	64.8	174.8	89.9	0.0	72.6
07/18/2010	169.3	83.8	157.0	62.7	144.9	58.0	156.0	94.7	0.0	49.0
07/19/2010	177.1	88.8	190.4	76.0	179.1	70.7	179.4	99.9	16.8	50.3
07/20/2010	160.6	80.7	146.4	58.6	138.8	55.5	164.4	94.9	4.5	52.6
07/21/2010	154.0	77.4	144.6	46.8	135.3	54.0	153.3	82.9	0.0	58.0
07/22/2010	154.5	77.0	138.2	41.4	134.5	54.0	140.3	88.5	0.0	39.4

## 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
<b>Lower Granite Dam</b>											
<b>Little Goose Dam</b>											
	07/12/10	Chinook + Steelhead	41	0	0	0.00%	0.00%	0	0	0	0
	07/19/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Lower Monumental Dam</b>											
<b>Rock Island Dam</b>											
	07/11/10	Chinook + Steelhead	75	0	0	0.00%	0.00%	0	0	0	0
	07/15/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/19/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Bonneville Dam</b>											
	07/13/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/20/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>McNary Dam</b>											
	07/15/10	Chinook + Steelhead	50	0	0	0.00%	0.00%	0	0	0	0
	07/20/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0

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

### Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
7/9	105.4	105.7	106.0	24	114.4	115.2	115.8	23	116.4	116.6	116.8	24	111.6	112.6	113.3	23	112.9	113.4	113.7	24
7/10	105.8	106.0	106.2	24	113.9	114.1	114.3	21	115.8	116.1	116.5	24	111.8	112.7	113.7	21	113.1	113.6	113.9	24
7/11	105.8	106.1	106.5	24	114.3	115.0	115.5	21	115.3	115.6	116.2	24	112.1	113.2	114.0	21	113.2	114.0	114.5	24
7/12	106.5	106.9	107.3	23	113.8	114.3	114.8	21	116.0	116.2	116.3	24	112.1	112.9	114.0	21	112.8	113.2	113.4	24
7/13	105.3	106.0	106.2	24	111.2	111.6	112.2	22	115.4	115.5	115.7	24	111.4	112.2	112.6	22	111.0	111.5	111.9	24
7/14	104.7	105.0	105.7	24	110.6	111.4	112.4	20	114.5	115.1	115.2	24	111.1	111.6	112.3	20	110.6	111.1	111.6	24
7/15	105.5	106.0	106.3	23	111.5	112.5	113.5	22	113.9	114.9	115.2	24	112.1	113.0	114.1	22	111.6	112.4	112.7	24
7/16	106.1	106.3	106.6	24	111.4	112.3	113.0	22	114.5	115.4	115.9	24	112.8	113.3	113.8	22	112.4	113.0	113.4	24
7/17	105.8	106.2	106.3	23	110.7	111.5	112.4	23	114.4	114.7	115.0	24	112.7	113.4	113.9	23	112.4	112.8	113.3	24
7/18	106.6	107.0	107.4	24	110.6	111.5	112.3	23	113.7	113.9	114.4	24	112.6	113.4	114.4	23	112.6	113.0	113.5	24
7/19	106.3	106.5	106.6	24	109.8	110.4	111.5	23	113.8	114.3	114.7	24	113.1	113.9	114.6	23	112.5	113.2	113.5	24
7/20	105.7	106.0	106.3	23	108.9	109.5	110.5	21	113.8	114.1	114.4	24	113.1	113.6	114.3	21	112.7	112.9	113.2	24
7/21	106.4	106.8	107.1	24	109.2	110.2	110.8	23	113.8	114.3	114.7	24	112.9	113.8	114.5	23	113.3	113.6	114.0	24
7/22	106.5	106.8	107.1	24	109.0	109.4	110.1	23	113.6	113.7	114.0	24	113.3	114.5	116.2	23	112.5	113.0	113.6	24

### Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
7/9	112.5	113.2	113.6	24	113.3	113.9	114.4	24	115.3	116.1	117.4	24	112.5	112.9	113.2	24	115.5	116.0	116.3	24
7/10	113.7	114.5	115.9	24	113.6	114.2	114.8	24	114.5	115.4	116.1	24	113.4	114.3	114.7	24	114.4	115.5	116.2	24
7/11	113.9	114.5	116.1	24	113.2	113.9	114.6	23	114.2	115.0	115.5	23	114.0	114.1	114.2	24	114.5	115.4	115.9	24
7/12	113.4	114.3	114.7	24	112.2	112.8	113.2	24	113.7	114.0	114.6	24	112.9	113.8	114.2	24	113.9	114.5	115.0	24
7/13	111.1	111.6	112.0	24	109.8	110.3	110.6	24	111.7	112.3	113.6	24	110.0	110.4	111.1	24	112.0	112.5	113.0	24
7/14	110.3	110.8	111.1	24	110.4	111.1	111.7	24	113.6	116.3	117.7	24	110.3	111.0	111.2	24	112.4	113.4	114.0	24
7/15	112.0	112.4	112.6	24	110.9	111.5	112.1	23	113.2	114.0	115.7	23	111.1	111.7	113.1	24	113.3	114.2	115.6	24
7/16	112.4	112.8	113.7	24	111.9	112.8	113.7	24	113.2	114.4	114.8	24	114.2	114.6	115.2	24	113.8	114.8	115.8	24
7/17	112.6	112.9	113.7	24	112.2	113.4	114.0	24	113.5	114.5	114.9	24	111.9	112.1	112.8	24	112.3	113.0	113.8	24
7/18	112.7	113.7	115.9	24	112.4	113.2	113.9	24	113.5	114.3	114.8	24	111.9	112.2	112.7	24	111.8	112.6	113.3	24
7/19	111.9	112.8	113.7	24	112.1	112.8	113.2	24	113.0	114.0	114.4	24	111.7	112.2	112.4	24	112.7	114.1	114.8	24
7/20	112.4	112.9	114.0	24	112.4	113.4	114.5	24	113.5	114.5	115.3	24	112.3	112.6	113.0	24	113.1	114.3	115.0	24
7/21	112.4	113.3	114.8	24	112.8	113.7	114.6	24	114.0	115.1	115.7	24	112.5	112.8	113.2	24	113.0	113.9	114.5	24
7/22	112.0	112.8	113.8	24	113.0	113.8	114.4	24	114.2	114.9	115.5	24	112.8	113.1	113.2	24	113.1	113.8	114.8	24

### Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
7/9	112.1	113.2	114.0	24	115.8	117.4	117.7	24	115.6	116.9	119.7	24	114.8	115.6	117.5	24	114.8	115.6	116.9	24
7/10	111.9	112.5	113.2	24	115.7	116.4	117.1	24	112.9	113.3	114.1	24	113.8	113.9	114.6	24	113.9	114.3	114.5	24
7/11	112.5	113.0	113.3	24	116.2	116.7	117.2	24	113.2	114.3	115.2	24	113.9	114.3	114.8	24	112.6	113.6	115.1	24
7/12	110.8	111.2	112.5	24	115.1	115.5	116.4	24	110.2	111.6	112.7	24	111.8	112.9	115.0	24	110.9	112.1	112.8	24
7/13	109.3	109.5	109.9	24	114.1	114.8	115.0	24	108.6	110.1	111.0	24	110.7	111.3	112.1	24	107.8	109.0	110.3	24
7/14	109.3	110.7	111.6	24	113.6	115.0	116.1	24	110.7	111.4	112.3	24	112.1	112.5	113.7	24	110.2	111.6	112.6	24
7/15	110.9	111.7	112.6	24	115.1	116.1	116.3	24	112.2	113.0	114.0	24	113.3	113.8	115.8	24	112.8	113.8	116.0	24
7/16	111.9	113.2	114.1	24	115.7	116.6	117.0	24	111.6	112.3	112.9	24	113.1	113.6	114.9	24	111.8	112.3	113.0	24
7/17	111.4	111.9	113.0	24	115.2	115.7	116.6	24	111.4	112.1	112.8	24	112.7	113.1	113.6	24	110.7	111.6	112.5	24
7/18	110.0	110.7	111.0	24	113.8	114.3	115.3	24	111.3	111.8	112.2	24	112.7	113.1	114.5	24	110.9	111.5	112.7	24
7/19	110.1	111.2	112.3	24	112.7	113.9	114.8	24	110.8	111.9	112.6	24	111.6	112.0	112.6	24	109.9	110.7	111.2	24
7/20	111.3	112.1	112.9	24	114.5	115.0	115.7	24	112.2	113.9	115.0	24	112.8	113.2	113.5	24	111.5	112.7	113.1	24
7/21	111.5	112.2	112.8	24	114.9	115.5	115.9	24	---	---	---	0	---	---	---	0	---	---	---	0
7/22	111.1	111.4	112.0	24	114.9	115.3	116.1	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	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
7/9	116.3	117.2	118.1	24	112.6	113.4	114.1	24	99.9	101.5	103.9	24	101.2	101.8	102.5	24	103.1	103.9	104.6	24
7/10	115.2	115.8	117.3	24	113.1	114.1	114.9	24	98.2	98.5	98.8	24	100.7	101.7	102.6	23	102.8	103.6	104.3	24
7/11	113.5	114.3	114.7	24	112.2	112.9	113.7	24	98.4	98.7	99.0	24	101.0	102.1	102.8	23	102.7	103.7	104.5	24
7/12	112.5	113.3	114.5	24	109.4	109.9	111.2	24	98.5	98.8	99.2	21	101.1	102.0	102.8	22	102.3	103.0	103.6	24
7/13	109.5	110.1	110.6	24	107.1	108.2	109.0	24	97.5	97.7	98.0	24	99.7	100.3	100.9	22	101.4	102.2	102.8	24
7/14	111.1	111.8	112.6	24	107.6	108.9	109.8	24	97.6	97.9	98.1	24	99.9	101.0	101.9	23	102.0	103.2	104.0	24
7/15	113.8	114.4	114.7	24	109.7	111.2	112.0	24	100.5	100.9	101.1	24	101.6	102.8	103.7	23	102.8	103.8	104.6	24
7/16	112.9	113.2	113.7	24	111.5	112.3	113.2	24	100.9	101.2	101.5	24	102.1	103.2	104.1	24	102.8	103.6	104.3	24
7/17	111.6	112.0	112.3	24	110.1	110.7	111.0	24	100.7	100.9	101.2	24	101.9	103.1	103.9	24	102.4	103.4	104.2	24
7/18	111.8	112.1	112.4	24	109.0	109.9	110.5	24	100.7	101.0	101.3	24	102.0	103.1	104.0	24	102.3	103.2	104.0	24
7/19	111.3	111.7	112.1	24	108.8	109.7	110.3	24	104.6	104.8	105.1	24	103.9	105.2	106.0	24	102.1	103.2	104.1	24
7/20	111.8	112.8	113.0	24	109.3	110.1	110.5	24	104.8	105.2	105.4	24	104.3	105.6	106.4	24	102.5	103.8	104.6	24
7/21	---	---	---	0	109.7	110.7	111.2	24	104.4	104.8	105.1	24	104.4	105.7	106.6	24	102.8	103.8	104.9	24
7/22	---	---	---	0	109.7	110.3	110.8	24	103.6	104.0	104.4	24	104.0	105.2	106.1	24	102.8	103.9	104.9	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	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
7/9	102.8	105.0	106.5	24	103.2	103.7	104.1	24	113.2	113.8	114.5	24	111.1	112.1	112.4	24	112.6	113.0	113.1	24
7/10	102.6	104.4	105.8	23	103.6	103.8	104.1	24	113.5	114.0	114.5	24	111.9	112.3	112.8	24	112.8	113.0	113.1	24
7/11	102.9	104.9	106.3	23	103.5	103.7	104.1	24	113.5	113.8	114.2	24	112.9	113.4	113.7	24	113.2	113.5	113.8	24
7/12	102.5	104.1	105.4	22	103.1	103.7	104.4	24	114.1	114.4	114.5	24	113.0	113.3	113.5	24	112.8	112.9	113.1	24
7/13	101.0	103.0	103.9	24	101.5	101.7	102.1	24	113.9	114.5	114.8	24	110.4	110.8	111.7	24	112.5	112.9	113.2	24
7/14	101.8	104.3	105.8	24	100.7	101.0	101.4	24	115.0	115.6	115.9	24	108.5	108.7	109.1	24	112.6	113.0	113.3	24
7/15	102.8	105.3	106.7	23	101.0	101.4	102.4	24	113.5	114.1	115.0	24	108.2	108.4	108.7	24	111.6	112.0	112.5	24
7/16	103.5	105.3	106.6	22	100.1	100.5	100.8	24	114.1	114.4	114.8	24	107.8	108.1	109.1	24	112.3	112.7	112.9	24
7/17	103.0	105.2	106.6	24	101.1	101.9	103.0	24	113.9	114.5	114.9	24	109.2	110.0	110.7	24	112.8	113.1	113.4	24
7/18	102.7	104.9	106.1	23	102.5	102.8	103.3	24	115.0	115.2	115.5	24	110.3	110.5	110.8	24	113.1	113.5	113.8	24
7/19	102.7	105.2	106.4	24	102.2	102.5	102.9	24	115.0	115.2	115.5	24	110.1	110.4	111.0	24	112.6	113.1	113.7	24
7/20	103.6	105.8	106.9	24	102.6	103.3	103.8	24	115.0	115.3	115.6	24	110.2	110.8	111.3	24	112.6	113.2	113.5	24
7/21	104.3	106.8	108.2	24	102.9	103.1	103.4	24	115.1	115.6	117.1	24	109.8	110.0	110.7	24	112.5	112.9	113.4	24
7/22	104.1	106.1	107.4	24	102.5	102.7	102.8	24	---	---	---	0	110.8	111.3	112.0	24	112.4	112.8	113.0	24

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

Date	Lower Mon.			L. Mon. Tlwr			Ice Harbor			Ice Harbor Tlwr			McNary-Oregon							
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
7/9	111.7	112.0	112.4	24	116.2	116.7	117.3	24	113.5	113.9	114.1	24	112.7	113.8	115.7	24	---	---	---	0
7/10	111.7	111.8	111.9	24	116.1	116.3	116.6	24	113.8	113.9	114.1	24	113.9	115.4	115.7	24	---	---	---	0
7/11	112.0	112.7	113.0	24	116.5	116.8	117.3	24	114.6	114.8	115.3	24	113.8	114.8	115.5	24	---	---	---	0
7/12	112.5	112.7	112.8	24	116.4	116.6	117.1	24	114.2	114.6	115.1	24	113.4	114.0	114.4	24	---	---	---	0
7/13	110.1	110.5	111.7	24	115.6	116.3	116.8	24	111.0	111.5	112.9	24	113.5	114.2	114.6	24	---	---	---	0
7/14	108.8	109.0	109.3	23	116.1	116.4	116.8	24	109.9	110.1	110.2	24	123.2	133.4	145.3	24	---	---	---	0
7/15	108.5	109.0	110.6	24	115.6	116.2	116.5	24	109.9	110.5	111.2	24	114.2	115.2	116.1	24	---	---	---	0
7/16	109.9	110.3	110.5	24	116.1	116.4	116.9	24	111.6	111.9	112.2	24	113.8	114.4	115.1	24	---	---	---	0
7/17	110.2	110.6	110.9	24	115.8	116.3	116.5	24	112.5	112.9	113.4	24	113.9	114.4	115.0	24	---	---	---	0
7/18	110.0	110.2	110.4	24	116.1	116.3	116.9	24	112.6	112.7	112.9	24	113.9	114.6	115.1	24	---	---	---	0
7/19	109.3	109.6	109.7	24	115.7	116.1	116.4	24	111.5	111.6	112.1	24	113.5	113.9	114.5	24	---	---	---	0
7/20	109.6	109.8	110.2	24	116.1	116.4	116.9	24	111.9	112.1	112.4	24	114.1	114.4	115.1	24	---	---	---	0
7/21	110.6	111.0	111.6	24	116.1	116.8	118.1	24	112.3	112.5	112.8	24	113.8	114.2	114.8	24	---	---	---	0
7/22	110.8	110.9	111.2	24	115.8	116.1	116.9	24	112.5	112.7	112.8	24	114.0	114.4	114.8	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	<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>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
7/9	112.5	113.1	114.1	24	117.6	117.8	118.0	24	110.2	110.9	111.5	24	113.8	114.4	115.1	24	112.7	112.8	113.2	24
7/10	113.3	113.5	113.8	24	117.6	117.9	118.1	24	110.9	111.5	112.1	24	114.6	115.0	115.3	24	110.6	111.2	112.1	24
7/11	113.2	113.5	114.0	24	117.6	117.9	118.1	24	112.0	112.9	113.4	24	114.6	115.1	116.0	24	110.2	110.7	111.2	24
7/12	110.9	111.9	112.3	24	117.8	118.8	125.8	24	110.7	111.5	111.9	24	114.1	114.5	117.3	24	108.1	109.4	110.4	24
7/13	107.3	107.6	108.3	24	116.7	117.0	117.4	24	107.0	107.4	108.5	24	114.3	115.4	116.2	24	106.1	106.9	107.4	24
7/14	105.9	106.4	107.6	24	116.3	116.9	117.3	24	105.5	105.8	106.2	24	113.5	114.4	115.5	24	109.1	109.9	110.3	24
7/15	107.4	108.1	108.7	24	116.2	116.7	117.3	24	106.0	106.2	106.4	24	113.9	114.3	114.7	24	111.0	111.4	111.8	24
7/16	109.3	109.5	109.7	24	116.7	117.0	117.3	24	105.1	105.3	105.6	24	113.6	113.9	114.1	24	107.9	108.7	110.0	24
7/17	109.2	109.6	110.1	24	116.0	116.5	117.0	24	104.1	104.3	104.5	24	113.2	113.7	113.9	24	105.9	106.1	106.4	24
7/18	110.0	110.3	110.5	24	116.1	117.0	117.4	24	103.9	104.2	104.6	24	113.4	113.7	114.7	24	106.5	106.8	107.0	24
7/19	109.0	109.3	109.6	24	116.1	116.7	116.9	24	105.0	106.0	106.4	24	114.4	115.4	116.6	24	106.1	107.0	108.6	24
7/20	109.1	109.4	110.1	24	115.9	116.5	116.7	24	106.0	106.3	106.5	24	112.5	113.3	113.9	24	109.5	109.8	110.1	24
7/21	108.9	109.3	110.3	24	116.4	116.8	117.1	24	105.8	106.1	106.9	24	114.3	115.2	115.7	24	109.5	109.8	110.1	24
7/22	108.9	109.1	109.3	24	116.0	116.5	116.8	24	105.0	105.3	105.7	24	114.5	114.7	115.1	24	107.1	108.1	108.8	24

### Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			#	<u>Bonneville</u>			#	<u>Warrendale</u>			#	<u>Camas\Washougal</u>			#	<u>Cascade Island</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
7/9	117.5	118.3	118.7	24	115.8	116.1	116.4	24	116.4	116.8	117.0	24	115.6	116.8	117.8	24	116.2	116.9	118.6	24
7/10	116.3	116.6	117.3	24	112.8	113.6	114.4	24	116.4	116.9	117.5	24	114.6	115.7	116.8	24	116.8	117.2	118.6	24
7/11	116.0	116.4	116.6	24	110.6	111.0	111.5	24	114.2	114.9	115.2	24	113.2	114.1	115.2	24	115.5	116.1	117.5	24
7/12	113.8	114.4	116.4	24	107.4	108.0	109.1	24	113.5	114.2	115.5	24	110.4	111.7	112.8	24	116.5	116.8	118.0	24
7/13	113.1	113.7	114.1	24	105.6	106.0	106.3	24	110.7	111.5	112.5	24	111.8	113.2	114.4	24	115.1	115.8	118.2	24
7/14	114.7	115.8	116.3	24	107.6	108.8	109.5	24	114.7	116.3	116.9	24	112.1	114.8	116.7	24	116.9	117.4	118.6	24
7/15	115.9	116.5	116.6	24	111.0	111.9	112.4	24	114.1	114.6	114.7	24	114.6	115.7	116.5	24	115.3	115.9	118.0	24
7/16	114.4	114.9	115.5	24	109.9	110.4	111.3	24	114.7	115.2	115.7	24	112.4	113.5	114.4	24	116.6	117.0	118.2	24
7/17	113.2	113.5	113.7	24	107.3	107.6	108.3	24	112.9	113.1	113.4	24	110.5	111.4	112.2	24	115.1	115.7	117.8	24
7/18	112.8	113.1	113.5	24	105.6	105.9	106.4	24	113.8	114.6	116.5	24	110.2	112.0	113.9	24	115.3	116.4	118.2	24
7/19	113.1	113.9	114.2	24	104.8	105.1	105.4	24	114.4	115.3	115.8	24	111.3	113.6	115.3	24	116.8	117.4	118.3	24
7/20	114.5	115.3	115.8	24	105.8	106.5	106.7	24	113.4	114.6	115.1	24	110.6	111.5	113.1	24	116.8	117.1	117.2	24
7/21	114.6	115.1	115.6	24	106.5	106.9	107.1	24	114.4	114.6	114.8	24	112.1	113.5	114.6	24	115.0	115.9	117.5	24
7/22	113.6	113.9	114.6	24	106.0	106.1	106.6	24	115.3	116.1	117.5	24	111.6	112.9	113.9	24	114.8	116.1	118.4	24

## Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 7/23/2010 11:03

### 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/currentsmptsubmitdata.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)	
07/09/2010	*	---	---	---	---	0	0	349	0	---	112	0
07/10/2010		---	---	---	---	0	0	61	0	0	0	0
07/11/2010	*	---	---	---	---	0	14	62	0	---	0	220
07/12/2010	*	---	---	---	---	0	0	0	0	206	0	304
07/13/2010	*	---	---	---	---	0	0	34	0	---	0	0
07/14/2010	*	---	---	---	---	0	0	0	0	0	0	0
07/15/2010	*	---	---	---	---	0	0	6	1	---	0	547
07/16/2010		---	---	---	---	16	7	25	0	0	0	0
07/17/2010		---	---	---	---	0	0	98	0	102	0	215
07/18/2010		---	---	---	---	0	11	54	0	0	0	0
07/19/2010		---	---	---	---	0	0	118	0	0	0	0
07/20/2010		---	---	---	---	0	1	53	0	103	0	0
07/21/2010		---	---	---	---	0	0	115	1	52	0	0
07/22/2010		---	---	---	---	18	1	88	0	0	0	0
07/23/2010		---	---	---	---	---	1	---	---	0	---	0
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>34</b>	<b>35</b>	<b>1,063</b>	<b>2</b>	<b>463</b>	<b>112</b>	<b>1,286</b>
<b># Days:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>15</b>	<b>14</b>	<b>14</b>	<b>11</b>	<b>14</b>	<b>15</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>76</b>	<b>0</b>	<b>42</b>	<b>8</b>	<b>86</b>
<b>YTD</b>		<b>56,130</b>	<b>80,004</b>	<b>27,916</b>	<b>7,995</b>	<b>2,452,544</b>	<b>1,260,463</b>	<b>451,094</b>	<b>11,799</b>	<b>2,093,739</b>	<b>1,034,554</b>	<b>2,302,148</b>

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)	
07/09/2010	*	---	---	---	---	5,534	5,193	6,132	335	---	65,389	78,546
07/10/2010		---	---	---	---	4,351	6,248	2,179	229	373,056	65,456	94,127
07/11/2010	*	---	---	---	---	3,651	3,933	926	215	---	63,240	117,740
07/12/2010	*	---	---	---	---	4,068	4,494	1,496	427	101,917	65,975	220,061
07/13/2010	*	---	---	---	---	4,663	4,421	765	328	---	46,309	67,344
07/14/2010	*	---	---	---	---	5,385	4,652	1,411	287	34,851	36,194	62,859
07/15/2010	*	---	---	---	---	6,504	4,778	894	193	---	27,720	54,677
07/16/2010		---	---	---	---	5,361	2,636	2,381	320	52,990	26,794	77,010
07/17/2010		---	---	---	---	2,754	2,809	3,165	222	63,736	24,885	78,524
07/18/2010		---	---	---	---	2,988	3,940	1,682	348	39,605	17,253	51,160
07/19/2010		---	---	---	---	3,099	2,884	3,435	339	32,954	19,345	54,290
07/20/2010		---	---	---	---	4,090	3,252	1,342	938	43,253	18,983	47,549
07/21/2010		---	---	---	---	5,823	4,608	4,773	499	27,018	16,648	38,883
07/22/2010		---	---	---	---	4,773	3,872	5,828	355	28,046	23,093	51,764
07/23/2010		---	---	---	---	---	3,966	---	---	23,321	---	18,161
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>63,044</b>	<b>61,686</b>	<b>36,409</b>	<b>5,035</b>	<b>820,747</b>	<b>517,284</b>	<b>1,112,695</b>
<b># Days:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>15</b>	<b>14</b>	<b>14</b>	<b>11</b>	<b>14</b>	<b>15</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,503</b>	<b>4,112</b>	<b>2,601</b>	<b>360</b>	<b>74,613</b>	<b>36,949</b>	<b>74,180</b>
<b>YTD</b>		<b>0</b>	<b>42</b>	<b>28</b>	<b>1,275</b>	<b>982,256</b>	<b>1,257,444</b>	<b>719,805</b>	<b>14,775</b>	<b>3,314,356</b>	<b>2,061,466</b>	<b>4,916,553</b>

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)
07/09/2010 *	---	---	---	---	0	0	0	21	---	0	0
07/10/2010	---	---	---	---	0	29	0	13	0	0	789
07/11/2010 *	---	---	---	---	0	0	0	17	---	0	0
07/12/2010 *	---	---	---	---	0	0	0	12	0	0	304
07/13/2010 *	---	---	---	---	0	0	0	27	---	0	0
07/14/2010 *	---	---	---	---	0	0	0	11	0	0	0
07/15/2010 *	---	---	---	---	0	0	0	6	---	0	0
07/16/2010	---	---	---	---	0	0	6	10	0	0	0
07/17/2010	---	---	---	---	0	0	0	7	0	0	0
07/18/2010	---	---	---	---	17	0	0	22	0	0	0
07/19/2010	---	---	---	---	0	0	17	4	0	0	0
07/20/2010	---	---	---	---	0	0	0	6	0	0	0
07/21/2010	---	---	---	---	0	0	0	3	0	0	0
07/22/2010	---	---	---	---	0	0	0	10	0	0	0
07/23/2010	---	---	---	---	---	0	---	---	41	---	0
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>29</b>	<b>23</b>	<b>169</b>	<b>41</b>	<b>0</b>	<b>1,093</b>
<b># Days:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>15</b>	<b>14</b>	<b>14</b>	<b>11</b>	<b>14</b>	<b>15</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>12</b>	<b>4</b>	<b>0</b>	<b>73</b>
<b>YTD</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>104</b>	<b>40,132</b>	<b>53,857</b>	<b>13,604</b>	<b>41,369</b>	<b>85,593</b>	<b>111,146</b>	<b>524,743</b>

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)
07/09/2010 *	---	---	---	---	30	29	29	2	---	0	0
07/10/2010	---	---	---	---	47	29	0	1	205	96	263
07/11/2010 *	---	---	---	---	31	57	0	0	---	0	220
07/12/2010 *	---	---	---	---	16	23	0	0	0	96	0
07/13/2010 *	---	---	---	---	17	24	0	1	---	0	0
07/14/2010 *	---	---	---	---	0	14	54	3	0	0	0
07/15/2010 *	---	---	---	---	34	7	6	1	---	0	0
07/16/2010	---	---	---	---	0	29	0	0	0	0	0
07/17/2010	---	---	---	---	0	19	16	0	0	0	215
07/18/2010	---	---	---	---	0	0	0	0	102	0	0
07/19/2010	---	---	---	---	0	7	0	0	0	84	0
07/20/2010	---	---	---	---	0	0	18	0	0	0	0
07/21/2010	---	---	---	---	17	14	0	0	0	0	0
07/22/2010	---	---	---	---	0	14	0	0	0	0	0
07/23/2010	---	---	---	---	---	0	---	---	0	---	0
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>192</b>	<b>266</b>	<b>123</b>	<b>8</b>	<b>307</b>	<b>276</b>	<b>698</b>
<b># Days:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>15</b>	<b>14</b>	<b>14</b>	<b>11</b>	<b>14</b>	<b>15</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>18</b>	<b>9</b>	<b>1</b>	<b>28</b>	<b>20</b>	<b>47</b>
<b>YTD</b>	<b>4,385</b>	<b>27,688</b>	<b>4,051</b>	<b>11,795</b>	<b>2,045,737</b>	<b>1,594,055</b>	<b>427,816</b>	<b>17,297</b>	<b>448,141</b>	<b>594,800</b>	<b>942,442</b>

## 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)
07/09/2010 *	---	---	---	---	0	57	0	0	---	0	0
07/10/2010	---	---	---	---	0	14	0	0	205	0	0
07/11/2010 *	---	---	---	---	0	0	0	0	---	0	0
07/12/2010 *	---	---	---	---	0	0	0	0	411	0	0
07/13/2010 *	---	---	---	---	0	0	0	0	---	0	0
07/14/2010 *	---	---	---	---	0	0	0	0	0	0	0
07/15/2010 *	---	---	---	---	0	14	0	4	---	0	0
07/16/2010	---	---	---	---	0	7	6	1	0	0	302
07/17/2010	---	---	---	---	0	0	0	1	0	0	0
07/18/2010	---	---	---	---	17	6	0	1	0	0	0
07/19/2010	---	---	---	---	0	0	0	0	0	0	0
07/20/2010	---	---	---	---	0	0	0	0	0	0	0
07/21/2010	---	---	---	---	0	0	0	0	0	0	0
07/22/2010	---	---	---	---	18	0	0	2	0	0	0
07/23/2010	---	---	---	---	---	0	---	---	41	---	0
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35</b>	<b>98</b>	<b>6</b>	<b>9</b>	<b>657</b>	<b>0</b>	<b>302</b>
<b># Days:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>15</b>	<b>14</b>	<b>14</b>	<b>11</b>	<b>14</b>	<b>15</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>7</b>	<b>0</b>	<b>1</b>	<b>60</b>	<b>0</b>	<b>20</b>
<b>YTD</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>188</b>	<b>8,723</b>	<b>12,812</b>	<b>2,183</b>	<b>36,488</b>	<b>1,468,664</b>	<b>655,958</b>	<b>803,394</b>

\* 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:

7/23/10 11:02 AM

		07/09/10	TO	07/23/10			
		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
<b>LGR</b>	Sum of NumberCollected	38,330	20	10	120	20	38,500
	Sum of NumberBarged	39,264	19	10	158	10	39,461
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	56	0	0	0	0	56
	Sum of FacilityMorts	109	1	0	2	0	112
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	165	1	0	2	0	168
<b>LGS</b>	Sum of NumberCollected	43,031	26	20	186	69	43,332
	Sum of NumberBarged	50,578	23	30	305	69	51,005
	Sum of NumberBypassed	3	0	0	0	0	3
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	41	0	0	0	0	41
	Sum of FacilityMorts	104	3	0	1	0	108
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	145	3	0	1	0	149
<b>LMN</b>	Sum of NumberCollected	22,425	670	14	75	4	23,188
	Sum of NumberBarged	24,275	780	14	92	2	25,163
	Sum of NumberBypassed	117	0	0	1	0	118
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	19	0	0	0	0	19
	Sum of FacilityMorts	94	0	0	2	2	98
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	113	0	0	2	2	117
<b>MCN</b>	Sum of NumberCollected	399,352	225	20	150	320	400,067
	Sum of NumberBarged	149,005	125	20	49	20	149,219
	Sum of NumberBypassed	248,448	100	0	100	300	248,948
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	67	0	0	0	0	67
	Sum of FacilityMorts	1,782	0	0	1	0	1,783
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,849	0	0	1	0	1,850
Total Sum of NumberCollected		503,138	941	64	531	413	505,087
Total Sum of NumberBarged		263,122	947	74	604	101	264,848
Total Sum of NumberBypassed		248,568	100	0	101	300	249,069
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		183	0	0	0	0	183
Total Sum of FacilityMorts		2,089	4	0	6	2	2,101
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		2,272	4	0	6	2	2,284

### YTD Transportation Summary

Source: Fish Passage Center

Updated: 7/23/10 11:02 AM

TO: 07/23/10

Site	Data	Species					Grand Total
		CH0	CH1	CO	SO	ST	
<b>LGR</b>	Sum of NumberCollected	591,013	1,622,332	28,335	5,770	1,358,123	3,605,573
	Sum of NumberBarged	586,513	1,428,762	28,325	5,745	1,309,461	3,358,806
	Sum of NumberBypassed	700	191,860	0	10	48,344	240,914
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	130	54	0	0	19	203
	Sum of FacilityMorts	977	1,231	10	5	282	2,505
	Sum of ResearchMorts	0	415	0	0	17	432
	Sum of TotalProjectMorts	1,107	1,700	10	5	318	3,140
<b>LGS</b>	Sum of NumberCollected	825,316	873,159	36,872	8,868	1,085,524	2,829,739
	Sum of NumberBarged	819,720	791,481	36,871	8,867	1,025,818	2,682,757
	Sum of NumberBypassed	67	81,373	0	0	59,473	140,913
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	95	29	1	0	10	135
	Sum of FacilityMorts	5,434	276	0	1	223	5,934
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	5,529	305	1	1	233	6,069
<b>LMN</b>	Sum of NumberCollected	487,714	305,303	8,789	1,514	239,890	1,043,210
	Sum of NumberBarged	483,482	303,770	8,789	1,411	234,667	1,032,119
	Sum of NumberBypassed	406	1,472	0	0	5,000	6,878
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	37	9	0	0	10	56
	Sum of FacilityMorts	500	200	0	3	314	1,017
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	537	209	0	3	324	1,073
<b>MCN</b>	Sum of NumberCollected	1,644,138	1,224,044	47,355	848,670	259,990	4,024,197
	Sum of NumberBarged	149,005	125	20	20	49	149,219
	Sum of NumberBypassed	1,490,588	1,222,563	47,275	847,904	259,728	3,868,058
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	217	121	5	96	16	455
	Sum of FacilityMorts	4,278	1,235	55	650	197	6,415
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	4,495	1,356	60	746	213	6,870
Total Sum of NumberCollected		3,548,181	4,024,838	121,351	864,822	2,943,527	11,502,719
Total Sum of NumberBarged		2,038,720	2,524,138	74,005	16,043	2,569,995	7,222,901
Total Sum of NumberBypassed		1,491,761	1,497,268	47,275	847,914	372,545	4,256,763
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		479	213	6	96	55	849
Total Sum of FacilityMorts		11,189	2,942	65	659	1,016	15,871
Total Sum of ResearchMorts		0	415	0	0	17	432
Total Sum of TotalProjectMorts		11,668	3,570	71	755	1,088	17,152

Cumulative Adult Passage at Mainstem Dams Through: 07/22

DAM	EndDate	Spring Chinook						Summer Chinook					
		2010		2009		10-Yr Avg.		2010		2009		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	07/15	244362	12613	114525	66631	167834	17301	90192	14245	75120	34497	72919	11484
TDA	07/15	189839	11546	93908	53646	121486	13792	73553	11192	73031	25365	63054	8615
JDA	07/14	179446	11794	76806	49733	101283	12037	63731	10611	58876	28929	55990	8790
MCN	07/14	153246	9178	70413	43328	93119	11340	57859	6526	50216	18729	51176	7082
IHR	07/15	101188	6047	55435	28223	64058	7222	27741	3134	21734	8996	14315	3153
LMN	07/14	97334	5899	66931	20009	63381	6004	33112	4027	21512	10393	14373	2604
LGS	07/14	92991	5461	52642	24331	58937	6617	30288	3582	18283	10095	11572	3091
LGR	07/15	94100	6390	49667	31064	59309	8137	27149	4639	13427	14549	11085	3682
PRD	07/13	30539	932	13469	2910	19097	834	33152	439	38972	1644	37047	1286
RIS	07/13	29684	1513	12634	6003	15841	1581	27886	1602	30850	4364	30902	2748
RRH	07/13	8660	523	6090	1086	6208	510	16193	509	20124	2696	18767	1471
WEL	07/09	7555	661	6307	1867	4866	487	6527	138	10323	732	7671	297
WFA	06/30	58599	1299	23424	2203	-	-	-	-	-	-	-	-

DAM	EndDate	Fall Chinook					
		2010		2009		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack
BON	7/15	0	0	0	0	0	0
TDA	7/15	0	0	0	0	0	0
JDA	7/15	0	0	0	0	0	0
MCN	7/15	0	0	0	0	0	0
IHR	7/15	0	0	0	0	0	0
LMN	7/15	0	0	0	0	0	0
LGS	7/15	0	0	0	0	0	0
LGR	7/15	0	0	0	0	0	0
PRD	7/15	0	0	0	0	0	0
RIS	7/15	0	0	0	0	0	0
RRH	7/15	0	0	0	0	0	0
WEL	7/15	0	0	0	0	0	0
WFA	6/30	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	382343	175798	92988	101092	38407	45630	50180
TDA	0	0	0	0	0	0	320569	153383	79037	54383	19449	22405	28773
JDA	0	0	0	0	0	0	317068	152424	83670	34922	20515	18145	17494
MCN	0	0	0	0	0	0	268959	118028	66797	19231	10373	10870	8162
IHR	0	0	0	0	0	0	1096	822	169	12812	7892	6810	4529
LMN	3	1	0	0	0	0	1305	1039	201	12213	9477	6339	4880
LGS	0	0	0	0	0	0	1158	945	177	7421	7702	4542	3101
LGR	0	0	0	0	0	0	1509	1014	207	14560	12875	10091	5635
PRD	0	2	0	0	0	0	314391	137287	78707	1623	500	796	0
RIS	0	0	0	0	0	0	277392	134089	69215	940	335	566	555
RRH	0	0	0	0	1	0	230471	100913	49060	812	599	526	473
WEL	0	0	0	0	0	0	125808	54761	29132	214	134	117	146
WFA	0	0	0	0	-	-	-	-	-	25918	14283	-	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: 07/16/2010

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