Fish Passage Center

Weekly Report #11 - 22

August 12, 2011

1827 NE 44th Ave., Suite 240 Portland, OR 97213 phone: 503/230-4099 fax: 503/230-7559

Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 34% and 183% of average at individual sub-basins over July. Precipitation above The Dalles has been 96% of average over July. Over the 2011 water year, precipitation has ranged between 109% and 127% 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.

	Water Ye			1, 2010 to
		-25, 2011	July 25	
Tastion	Observed	%	Observed	%
Location	(inches)	Average	(inches)	Average
Columbia Above Coulee	1.87	131	25.91	118
Snake River Above Ice Harbor	0.35	47	19.90	126
Columbia Above The Dalles	0.96	96	25.12	121
Kootenai	2.16	141	25.76	114
Clark Fork	0.78	81	18.63	123
Flathead	1.29	101	25.62	127
Pend Oreille/ Spokane	0.78	70	33.49	118
Central Washington	0.24	82	9.30	113
Snake River Plain	0.21	43	12.38	123
Salmon/Boise/ Payette	0.22	34	20.41	112
Clearwater	0.65	55	35.39	127
SW Washington Cascades/Cowlitz	1.14	102	72.36	109
Willamette Valley	1.23	183	61.98	110

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

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

	June	Final	July Final				
Location	% Average (1971- 2000)	Probable Runoff Volume (Kaf)	% Average (1971- 2000)	Probable Runoff Volume (Kaf)			
The Dalles (Jan-July)	131	141000	132	142000			
Grand Coulee (Jan-July)	124	78300	126	79500			
Libby Res. Inflow, MT (Apr-Aug)	127	7930 8099*	129	8090			
Hungry Horse Res. Inflow, MT (Jan-July)	153	3410	154	3430			
Lower Granite Res. Inflow (Apr- July)	156	33700	159	34200			
Brownlee Res. Inflow (Apr-July)	177	11200	173	10900			
Dworshak Res. Inflow (Apr-July)	143	3770 3813*	149	3940			

^{*} Denotes COE Forecast

The flow objective at Lower Granite over the summer period (June 21st to August 31st) is 55 Kcfs; over the summer period flows at Lower Granite have averaged 98.4 Kcfs and 40.9 Kcfs over the last week.

The summer flow objective period began at McNary Dam on July 1st with a flow objective of 200 Kcfs. Over the summer flow period, flows at McNary have averaged 293.7 Kcfs and 209.2 Kcfs last week.

Grand Coulee Reservoir is at 1288.8 feet (8-11-11) and has drafted 0.9 feet over the last week. The August 31st draft elevation at Grand Coulee is 1280 feet. Outflows at Grand Coulee have ranged between 133.2 and 152.8 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2452.5 feet (8-11-11) and has drafted 0.8 feet last week. Outflows at Libby Dam have been 16.0 Kcfs last week. The COE plans to target elevation 2449 feet by the end of September.

Hungry Horse is currently at an elevation of 3558.7 feet (8-11-11) and has drafted 0.5 feet last week. Outflows at Hungry Horse have been 4.0 Kcfs last week. The BOR plans to target elevation 3550 feet by the end of September.

Dworshak is currently at an elevation of 1572.5 feet (8-11-11) and has drafted 7.7 feet last week. Outflows from Dworshak have been 12.9-13.4 Kcfs last week. The temperature of the water being released from Dworshak was reduced to approximately 45 degrees Fahrenheit on August 4th, 2011 to assist with temperature regulation at Lower Granite Dam.

The Brownlee Reservoir was at an elevation of 2057.7 feet on August 11th, 2011 drafting 0.9 feet last week. Over the last week, outflows at Brownlee have ranged between 12.6 -16.6 Kcfs.

Spill: Spill levels transitioned from spring to summer levels for fish passage on June 21st at the lower Snake River projects. Flows continued to decrease over the past week.

Spill occurred at Dworshak Dam this past week, as the project drafts to the end of August target elevation of 1535 feet that, because of total dissolved gas restriction on the amount of spill, will be met sometime in September. Excess spill has occurred at Lower Granite Dam since August 1st due to a powerhouse outage for transmission line repairs. Two units are now back on line and excess generation spill decreased by week's end. Over the past week, daily average flows at Lower Granite Dam have ranged from 36.6 to 44 Kcfs, and daily average spill has been 19.3 to 35.7 Kcfs. At Little Goose Dam, spill met the 30% of instantaneous flow Court Order through the week. At Lower Monumental Dam spill met the Court ordered 17 Kcfs over the past week.

Beginning July 13, spill levels at Ice Harbor were changed to the 45 Kcfs/gas cap levels, which will continue through the rest of the summer period. Over the past week spill levels have met the Court Order, except when flows were too low to maintain the spill levels and powerhouse minimum flows. Daily average spill ranged from 26.3 to 37.4 Kcfs.

Project	Day/Night Spill
Lower Granite	18 Kcfs/18 Kcfs
Little Goose	30%/30%
Lower Monumental	17 Kcfs/17 Kcfs
Ice Harbor	July 13 – August 31: 45 Kcfs /gas cap

Summer spill levels were initiated at McNary Dam on June 20th and at Bonneville Dam on June 16th. Summer spill season began at John Day and The Dalles dams on July 1st. Spill at McNary Dam has met, or exceeded, the Court Ordered 50% of daily average flow. The higher spill levels were due to unit outages and transmission line repairs. Spill levels at John Day are now meeting post-test conditions of 30% of total river flow. At The Dalles Dam, spill met the 40% of instantaneous flow Court Order over the past week. Finally, at Bonneville Dam spill met the Court ordered summer operations.

Project	Day/Night Spill
McNary	50%/50%
John Day	Post-test: 30%/30%
The Dalles	40%/40%
Bonneville	July 20 th - August 31: 75 Kcfs day/ GasCap night.

Projects are now in compliance with the 115/120% total dissolved gas criteria. One fish was observed with minor signs of gas bubble trauma this past week at McNary Dam in the sample taken on August 8th, and one fish at Rock Island in the sample taken on August 9th.

Smolt Monitoring: Smolt monitoring was ongoing at all SMP sites this past week. Subyearling Chinook continued to predominate in the collections at all dams over the past week. The numbers of spring migrant salmonids and lamprey have continued to decline or remain very low over the past week. The largest numbers of subyearling Chinook continue to pass the Lower Columbia dams in the reach from McNary Dam to Bonneville Dam, as both wild Hanford subyearlings and large hatchery releases from the mid-Columbia River pass through the system.

At Lower Granite Dam subvearling Chinook smolts continued to predominate in the passage indices, however subvearling Chinook indices decreased from last week. However, from August 2nd to August 8th, Lower Granite Dam was only passing about 10-13% of the overall river flow through the powerhouse for maintenance on the transmission line. With this change in operations, it is difficult know to what degree the decrease in the subvearling Chinook index since August 1st was due to an actual decrease in passage or the decreased flows through the powerhouse. Powerhouse flows at Lower Granite Dam began to increase on August 9th, with normal operations resuming by the afternoon of August 11th. This increase in powerhouse flows coincides with an increase in the subyearling Chinook index on August 11th. The subvearling Chinook index averaged approximately 432 per day this week compared to nearly 2,400 per day last week. Coho continue to be the second most predominant species, with the average daily passage index decreasing over the last week. The average daily passage index for coho at Lower Granite this week was 17 per day, compared to about 220 per day last week. Sockeye indices at Lower Granite also decreased this week. Little Goose and Lower Monumental dams showed similar passage as Lower Granite, with subvearling Chinook predominating and lower passage indices for coho and sockeye. Steelhead and yearling Chinook passage at Lower Granite, Little Goose, and Lower Monumental dams have been are zero or near zero over the past week.

Sampling at Rock Island Dam is ongoing. Subyearling Chinook predominated in the samples over the past week. The subyearling Chinook indices continued to decrease this week, with an average daily passage index of 142 per day compared to approximately 250 per day last week. All spring migrant indices averaged fewer than 15 fish per day over the past week.

Sampling at McNary Dam moved to every day sampling with the beginning of collections for transportation on July 20th. The first barge load of smolts was shipped on July 21st this year. Subyearling Chinook were the predominate species passing the project this week, with the average passage index at nearly 43,500 per day this week compared to over 128,000 last week. Indices for all spring migrants, except sockeye, continued to remain low, with less than 40 per day over the past week. The sockeye passage index averaged about 189 per day over the past week.

The average daily passage indices for spring migrant species at John Day Dam are zero or near zero this week. The passage index for subyearling Chinook also decreased this week, with about 20,700 per day this week compared to nearly 38,000 per day last week. Lamprey collections increased this week, with about 250 per day this week compared to about 150 per day last week.

Beginning on August 10th, powerhouse priority was switched from powerhouse 2 to powerhouse 1, in order to repair diffuser gratings in the Washington shore adult fish ladder. This operation is expected to last for about a week. During this time, juvenile passage through the powerhouse 2 juvenile bypass system will be reduced, which will reduce the passage indices. This week's average daily passage index at Bonneville Dam for subyearling Chinook was about 13,000 per day, compared to about 31,500 per day last week. Indices for spring migrant species at Bonneville Dam remain low; at zero or near zero.

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 scheduled releases to this zone this week. In addition, there are no new releases of juvenile salmonids scheduled for 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 scheduled releases to this zone this week. In addition, there are no new releases of juvenile salmonids scheduled for the next two weeks.

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

Adult Passage: Fall Chinook began to pass Bonneville Dam on August 1st. Daily counts of fall Chinook at Bonneville Dam ranged from 123 to 170. The 2011 adult fall Chinook count of 4,953 is about 1.26 times greater than the 2010 count and 1.07 times greater than the 10 average. The 2011 Bonneville Dam fall Chinook jack count of 1,666 is about 2.67 times greater than the 2010 count and 2.12 times greater than the 10 year average. The adult summer Chinook count at Lower Granite Dam in the Snake River of 36,248 is about 1.27 times greater than the 2010 count and 2.47 times greater than the 10 year average. The Lower Granite summer Chinook jack count of 16,362 is about 3.11 times greater than the 2010 count and 3.75 times greater than the 10 year average.

The Bonneville Dam 2011 steelhead count of 172,295 is about 67.5% of the 2010 count of 255,284 and about 94.1% of the 10 year average count of 183,193. In the Snake River, this year's Lower Granite steelhead count of 19,332 is about 77.3% of the 2010 count, while being about 1.22 times greater than the 10 year average count of 15,771. The 2011 LGR wild steelhead count as of August 10th was 8,781. The 2011 Rock Island Dam adult steelhead count of 2,227 is about 28.5% of the 2010 count and 56.6% of the 10 year average. At Willamette Falls Dam, the 2011 count for steelhead was 27,088, as of August 7th. This year's steelhead count is about 85.6% of the 2010 count and about 97.2% of the 10 year average.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 9 and 11 last week. The 2011 adult sockeye count at Bonneville Dam of 185,767 is about 48.1% of the 2010 count, while being about 1.5 times greater than the 10 year average. The 2011 adult sockeye count at McNary Dam of 113,856 is about 48% of the 2010 count, while being 1.24 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 2011 adult sockeye count of 1,131 is about 87% of the 2010 count of 1,300, while being about 4 times greater than the 10 year average count of 280. The Lower Granite Dam 2011 adult sockeye count of 1,480 is about 69.8% of the 2010 count of 2,119 and 3.48 times greater than the 10 year average of 425.

The coho salmon run at Bonneville Dam is just beginning with 41 adults and 24 jacks counted to date. As of August 10th at Bonneville Dam, the adult Shad

count was 947,280 which was about 90.8% of the 2010 count of 1,042,138 and about 30.8% of the 10 year average count of 3,070,911.

Hatchery Releases Last Two Weeks

No releases to report.

Hatchery Releases Next Two Weeks

No releases to report.

28.3

29.3

34.6

35.9

Daily Average Flow and Spill (in kcfs) at Mid-Columbia Projects														
	Gr	and	Chi	ef	Rocky Rock							Priest		
	Co	ulee	Jose	ph	We	ells	Re	ach	Isla	nd	Wan	apum	Rapids	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
07/29/2011	155.0	0.2	156.1	0.0	169.0	28.0	173.4	48.9	175.5	32.7	189.1	57.5	189.0	49.4
07/30/2011	145.3	0.2	149.9	0.0	159.2	10.0	161.7	22.6	164.5	32.6	175.6	43.0	174.7	48.2
07/31/2011	141.0	0.2	142.4	0.0	148.3	10.4	148.4	18.4	152.1	32.5	155.4	25.5	150.8	37.0
08/01/2011	142.5	3.6	135.8	3.4	149.0	14.7	156.8	18.9	164.5	31.5	177.7	38.7	176.4	39.2
08/02/2011	153.7	17.0	154.2	17.5	158.8	10.0	156.6	14.4	158.1	32.3	163.2	34.4	161.8	62.7
08/03/2011	149.1	8.0	144.7	0.0	153.5	13.7	157.9	17.6	162.6	32.1	170.0	33.9	168.9	39.2
08/04/2011	136.4	1.8	133.9	0.0	143.9	9.8	144.5	14.3	149.2	32.2	157.8	27.3	161.1	26.8
08/05/2011	133.2	0.1	136.7	0.0	138.5	10.0	139.0	12.0	143.0	26.1	154.3	20.0	147.6	25.5
08/06/2011	137.3	0.1	142.4	0.0	151.2	18.4	154.0	12.0	159.2	25.8	157.7	27.7	149.2	37.4
08/07/2011	133.6	0.1	135.1	0.0	144.4	10.0	147.6	13.0	153.2	26.1	165.7	33.8	164.3	38.0

10.0 142.0

10.0 142.7

10.0 150.7

10.2 152.3

11.7

12.9

11.8

12.4

144.9

147.4

153.6

153.2

26.3 149.8

26.3 153.8

26.3 163.2

26.3 161.2

20.2 146.9

23.7 151.6

29.3 160.7

30.8 158.6

	Daily Average Flow and Spill (in kcfs) at Snake Basin Projects												
				Hells	Lov	wer	Li	ttle	Lov	ver	I	ce	
	Dwo	rshak	Brownlee	Canyon	Gra	nite	Goose		Monum	ental	Harbor		
Date	Flow	Spill	Inflow	Inflow Outflow I		Spill	Flow	Spill	Flow	Spill	Flow	Spill	
07/29/2011	14.1	4.4	14.9	20.0	55.4	18.7	55.1	16.4	54.6	17.0	58.2	45.8	
07/30/2011	14.1	4.4	14.3	20.1	50.8	18.7	50.2	14.9	49.2	16.8	53.3	42.7	
07/31/2011	14.1	4.4	14.5	17.2	54.5	18.7	51.7	15.5	52.6	17.0	55.0	43.8	
08/01/2011	14.0	4.3	14.3	20.8	46.3	35.8	45.9	26.9	46.3	16.6	48.5	38.7	
08/02/2011	14.1	4.5	15.0	21.5	51.5	46.2	53.9	32.8	53.8	17.0	59.5	48.1	
08/03/2011	14.2	4.5	14.8	22.8	52.8	47.4	52.5	15.8	51.5	16.5	54.6	45.0	
08/04/2011	13.8	4.1	13.5	15.2	49.8	44.3	53.3	15.9	52.2	17.1	57.1	46.7	
08/05/2011	13.3	3.6	14.7	13.9	40.9	35.4	40.0	12.0	40.3	16.8	41.4	31.3	
08/06/2011	13.4	3.7	13.8	14.0	41.2	35.7	42.7	12.8	42.7	17.0	44.2	34.2	
08/07/2011	13.4	3.7	14.8	13.9	40.3	35.0	42.0	12.7	41.9	16.7	43.2	33.0	
08/08/2011	13.4	3.6	14.9	17.5	40.6	35.1	42.3	12.7	40.8	17.0	42.5	32.3	
08/09/2011	13.2	3.4	14.6	17.3	43.0	31.8	44.9	14.2	45.7	16.7	47.5	37.4	
08/10/2011	13.0	3.2	13.3	14.6	44.0	26.8	46.1	13.8	43.9	16.9	44.7	34.7	
08/11/2011	12.9	3.1			36.6	19.3	36.4	10.9	34.8	16.5	36.3	26.3	

08/08/2011

08/09/2011

08/10/2011

08/11/2011

136.7

143.5

143.5

152.8

0.1

0.1

0.3

0.2

138.7

138.4

142.2

149.5

0.0

0.0

0.0

0.0

141.8

143.4

147.2

153.3

Daily Average Flow and Spill (in kcfs) at Lower Columbia Projects													
	McI	Nary	John I	Day	The D	alles		В	onneville				
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2			
07/29/2011	237.5	117.8	220.3	66.2	209.2	83.9	225.5	105.6	36.1	71.5			
07/30/2011	235.5	118.1	213.5	64.0	203.9	81.5	227.1	89.9	26.7	98.1			
07/31/2011	236.4	118.1	238.1	71.2	225.7	89.8	219.4	90.0	24.2	92.7			
08/01/2011	232.6	128.7	227.8	68.3	222.0	88.6	242.1	91.4	31.9	106.3			
08/02/2011	217.9	131.7	205.1	61.4	191.5	76.5	232.1	91.7	36.9	91.2			
08/03/2011	225.4	141.5	207.2	62.1	198.3	79.1	199.7	89.8	31.8	65.7			
08/04/2011	227.2	137.1	219.6	65.9	205.5	82.1	216.9	91.5	39.3	73.8			
08/05/2011	208.1	120.4	205.1	61.7	194.1	77.5	207.5	91.3	20.9	82.9			
08/06/2011	201.4	114.6	181.5	54.3	171.0	68.3	181.5	91.0	7.0	71.0			
08/07/2011	201.9	101.4	188.3	56.3	181.4	72.3	197.1	91.2	20.5	73.0			
08/08/2011	213.1	119.8	210.0	62.5	197.5	79.0	221.9	91.2	32.7	85.5			
08/09/2011	213.9	107.2	197.2	59.1	186.0	74.4	201.4	91.9	25.0	72.1			
08/10/2011	211.2	105.8	208.3	62.0	194.3	77.0	200.1	93.0	47.3	47.4			
08/11/2011	215.0	108.0	208.6	62.6	196.4	78.6	205.0	92.5	81.8	18.3			

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

			Number of	Number w				Number of Fish with Fin Listed by Highest Rar				
0:4-	Data	0	Number of	Number w	Number w	% Fin	% Severe	Rank		Rank	Rank	
Site	Date	Species	Fish	GBT signs	Fin Signs	GBT	Fin GBT	1	2	3	4	
Low	ver Grar	nite Dam										
Littl	le Goos	e Dam										
	08/01/1	1 Chinook + Steelhead	35	0	0	0.00%	0.00%	0	0	0	0	
	08/08/1	1 Chinook + Steelhead	17	0	0	0.00%	0.00%	0	0	0	0	
Low	ver Mon	umental Dam										
	08/03/1	1 Chinook + Steelhead	82	0	0	0.00%	0.00%	0	0	0	0	
	08/10/1	1 Chinook + Steelhead	14	0	0	0.00%	0.00%	0	0	0	0	
McN	Nary Da	m										
	08/01/1	1 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	
	08/04/1	1 Chinook + Steelhead	100	0	0	0.00%		0	0	0	0	
	08/08/1	1 Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0	
Bon	neville	Dam										
	07/30/1	1 Chinook + Steelhead	100	0	0	0.00%		0	0	0	0	
	08/02/1	1 Chinook + Steelhead	40	0	0	0.00%	0.00%	0	0	0	0	
	08/03/1	1 Chinook + Steelhead	60	0	0	0.00%	0.00%	0	0	0	0	
	08/06/1	1 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	
	08/09/1	1 Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	
Roc	k Island	I Dam										
	07/29/1	1 Chinook + Steelhead	100	2	2	2.00%	0.00%	1	1	0	0	
	08/02/1	1 Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0	
	08/04/1	1 Chinook + Steelhead	81	0	0	0.00%	0.00%	0	0	0	0	
	08/09/1	1 Chinook + Steelhead	57	1	1	1.75%	0.00%	1	0	0	0	
	08/11/1	1 Chinook + Steelhead	77	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

	Hungry H. Dnst Boundary					Grand Coulee				Grand C. Tlwr				Chief Joseph						
	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		<u>#</u>
<u>Date</u>	Avg	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	Avg	Avg	<u>High</u>	<u>hr</u>	Avg	Avg	<u>High</u>	<u>hr</u>
7/29	105.7	106.0	106.3	24	117.3	117.9	118.3	24	118.7	118.9	119.4	24	115.8	116.3	117.4	24	117.0	117.3	117.5	24
7/30	105.9	106.5	106.8	24	117.6	118.4	118.9	23	118.4	118.7	119.0	24	115.3	115.8	116.7	23	117.0	117.3	117.7	24
7/31	106.2	106.6	106.9	24	116.8	117.9	118.4	23	118.2	118.4	118.6	24	115.2	115.8	116.4	23	116.3	116.6	116.9	24
8/1	105.9	106.1	106.5	22	116.1	116.7	117.8	19	117.1	117.3	117.5	24	114.2	114.6	115.1	19	115.2	115.5	115.7	24
8/2	106.0	106.4	106.8	24	115.3	115.8	117.0	23	116.7	116.9	117.2	24	114.3	114.6	115.3	23	115.1	115.4	115.7	24
8/3	106.2	106.7	107.1	24	114.8	115.4	115.9	23	116.5	116.8	117.1	24	113.9	114.4	115.2	23	115.2	115.5	115.7	24
8/4	106.5	106.9	107.2	24	114.2	114.9	115.8	23	116.4	116.7	116.9	24	113.5	114.1	114.8	23	114.8	115.0	115.2	24
8/5	106.7	106.9	107.2	24	113.3	113.7	114.5	21	115.8	115.9	116.3	24	112.9	113.4	113.9	21	114.5	114.9	115.3	24
8/6	106.8	107.2	107.5	23	112.8	113.3	113.7	19	115.4	115.7	115.9	24	113.1	113.4	114.0	19	114.3	114.6	115.0	24
8/7	106.7	107.1	107.4	24	113.9	114.8	115.4	21	115.3	115.6	115.9	24	112.8	113.4	113.8	21	113.8	114.2	114.5	24
8/8	106.5	106.8	107.1	24	114.0	114.7	115.2	21	115.3	115.5	115.6	24	112.8	113.5	114.0	21	113.8	114.2	114.6	24
8/9	106.7	107.0	107.4	23	112.9	113.3	114.3	19	114.9	115.3	115.6	24	113.7	114.6	115.3	19	113.6	114.0	114.3	24
8/10	106.9	107.2	107.7	24	112.8	113.4	114.0	21	115.3	115.5	115.5	24	114.3	114.8	115.1	21	113.1	113.3	113.6	24
8/11	106.4	106.7	107.2	22	112.5	112.8	113.5	18	114.8	115.0	115.2	24	113.7	114.0	114.5	18	112.5	112.7	112.9	24

Total	Discolved	Gas Saturati	on Data at Mid	Columbia	Divor Sitos
ı otai	Dissolved	Gas Saturation	on Data at Iviio	Columbia	River Sites

	Chief J. Dnst Wells						Wells Dwnstrm					Rocky Reach				Rocky R. Tlwr				
	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		<u>#</u>
<u>Date</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>
7/29	116.0	116.6	117.7	24	115.7	116.0	116.4	23	117.1	119.1	119.8	23	114.6	115.1	115.4	24	118.2	119.8	121.1	24
7/30	116.0	116.4	117.6	24	116.3	116.8	117.1	24	117.8	118.2	118.6	24	117.2	118.6	119.5	24	116.8	118.3	119.9	24
7/31	115.6	116.2	117.4	24	115.4	116.1	116.6	24	115.9	116.3	116.6	24	115.4	115.8	116.1	24	115.2	115.9	117.0	24
8/1	114.2	115.2	115.7	24	114.1	114.4	114.9	24	113.5	114.4	115.6	24	114.0	114.5	114.9	24	114.9	115.8	117.4	24
8/2	111.5	112.0	113.3	24	114.4	115.0	115.3	24	112.5	113.1	113.9	24	114.5	115.2	115.6	24	114.2	115.1	115.4	24
8/3	114.2	114.6	115.0	24	114.2	114.8	115.2	24	113.5	115.0	115.5	24	114.0	114.7	115.1	24	114.2	115.0	115.6	24
8/4	114.2	114.6	115.4	24	115.0	115.5	116.0	24	114.7	115.9	117.0	24	114.3	115.1	115.8	24	113.9	114.8	115.6	24
8/5	113.8	114.5	116.0	24	114.2	114.7	115.0	23	115.3	115.9	116.4	23	114.0	114.5	114.9	24	113.8	114.5	115.0	24
8/6	113.4	113.8	114.0	24	113.9	114.5	115.1	24	116.7	118.1	125.0	24	113.6	113.9	114.2	24	114.2	114.8	114.9	24
8/7	113.3	113.8	114.0	24	113.6	114.1	114.7	23	114.7	115.4	116.0	23	113.8	114.6	114.8	24	114.0	114.5	114.8	24
8/8	113.4	113.9	114.6	24	113.5	114.0	114.5	24	114.6	115.4	115.8	24	113.5	113.8	114.2	24	113.3	113.9	114.3	24
8/9	113.4	113.9	115.0	24	113.6	114.1	114.7	23	114.7	115.4	116.2	23	112.5	113.1	113.3	24	113.1	113.4	114.0	24
8/10	112.5	113.1	113.9	24	113.4	114.0	114.6	24	114.6	115.3	116.1	24	112.4	112.9	113.2	24	113.1	113.5	113.7	24
8/11	112.0	112.6	113.3	24	112.0	112.3	112.6	23	113.3	113.8	114.3	23	112.1	112.5	112.9	24	112.9	113.1	113.4	24

Total Dissolved Gas Saturation at Mid Columbia River Sites

	Rock Is	sland			Rock	I. Tlwr			<u>Wana</u>	oum			Wana	pum T	lwr		Priest	Rapid	<u>ls</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>Date</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>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
7/29	115.9	118.0	119.1	24	119.0	120.9	121.6	24	114.3	115.0	115.6	24	115.3	115.9	116.6	24	113.7	114.4	115.0	24
7/30	115.7	118.2	119.8	24	118.9	121.0	122.1	24	115.1	116.0	116.5	24	115.4	116.0	116.8	24	114.3	114.8	115.1	24
7/31	114.7	115.3	117.1	24	118.8	119.4	120.2	24	114.5	115.3	116.0	24	115.3	115.5	115.9	24	113.6	114.0	114.7	24
8/1	114.2	114.5	115.0	24	118.3	118.9	119.1	24	115.5	117.5	118.3	24	115.1	115.7	116.0	24	113.3	113.9	114.7	24
8/2	113.7	114.8	115.7	24	117.9	118.9	119.5	24	115.7	116.4	117.1	24	115.5	115.7	115.7	24	114.6	115.2	116.2	24
8/3	113.4	114.2	114.7	24	117.9	118.8	119.2	24	116.0	117.0	118.3	24	115.4	115.6	116.0	24	113.9	115.1	115.8	24
8/4	113.4	114.2	114.8	24	118.1	119.0	119.4	24	116.0	117.4	119.3	24	115.4	115.4	115.9	9	114.4	115.7	117.7	24
8/5	113.3	113.8	114.2	24	117.2	117.7	119.1	24	113.7	114.3	114.9	24	120.8	121.6	122.0	24	112.9	113.7	114.8	24
8/6	113.0	113.4	113.9	24	117.0	117.4	117.8	24	113.3	114.0	115.4	24	126.6	128.9	129.8	24	112.4	113.1	114.2	24
8/7	112.8	113.8	114.8	24	116.8	117.8	118.6	24	113.7	114.3	115.0	24	129.8	130.0	130.2	24	112.7	113.6	114.7	24
8/8	112.8	113.3	113.9	24	116.7	117.3	117.7	24	113.5	113.8	114.2	24	113.9	114.1	114.6	17	112.4	112.9	113.7	24
8/9	112.1	112.4	112.8	24	116.5	116.9	117.3	24	112.7	113.1	113.4	24	113.4	113.7	113.9	24	112.1	112.8	113.8	24
8/10	111.5	111.9	112.4	24	115.6	116.2	116.6	24				0				0				0
8/11	111.6	112.0	112.4	24	115.8	116.4	116.7	24				0				0				0

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

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

	Priest	R. Dns	t		Pasco	<u>)</u>			Dwors	hak			Clrwtr	-Peck			Anato	ne		
	<u>24 h</u>	12 h		#	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		#	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		#
<u>Date</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>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>
7/29	116.1	116.6	117.0	24	112.5	113.4	114.0	24	107.8	108.2	108.5	24	106.1	107.0	107.7	24	102.9	104.1	105.2	24
7/30	116.4	117.0	117.3	24	113.0	113.9	114.6	24	108.2	108.5	108.8	24	106.2	107.1	107.8	24	102.8	104.0	105.1	24
7/31	115.1	115.4	115.9	24	112.6	113.4	114.1	24	108.1	108.4	108.7	24	106.4	107.3	108.1	24	102.7	104.0	105.3	24
8/1	115.3	116.0	117.7	24	111.5	112.4	112.8	24	108.0	108.3	108.5	24	106.4	107.3	108.1	24	102.6	103.9	105.2	24
8/2	118.0	118.4	118.6	24	112.0	113.0	113.7	24	108.2	108.6	108.8	24	106.9	107.8	108.5	24	102.9	104.2	105.5	24
8/3	115.8	116.6	117.4	24	113.1	113.8	114.4	24	108.7	109.0	109.6	24	107.0	108.2	109.1	24	102.6	103.9	105.4	24
8/4	115.6	116.1	117.1	24	112.3	113.6	114.5	24	109.3	109.6	110.6	24	107.3	108.5	109.5	24	102.1	103.2	104.1	24
8/5	114.4	114.9	115.9	24	111.5	112.4	113.0	24	108.8	109.1	109.4	24	107.8	108.6	109.5	24	101.2	102.2	103.3	24
8/6	114.4	114.9	115.4	24	110.3	111.1	111.7	24	108.1	108.6	109.0	24	107.5	108.4	109.3	24	102.1	103.5	104.8	24
8/7	114.9	115.1	115.4	24	110.4	111.5	112.2	24	108.0	108.3	108.6	24	107.2	108.1	108.8	24	102.3	104.1	105.7	24
8/8	114.2	114.5	114.7	24	110.6	111.3	112.0	24	108.9	109.5	111.2	24	107.6	108.9	110.4	24	102.3	104.0	105.4	24
8/9	113.8	114.1	114.4	24	109.7	110.5	111.4	24	108.7	109.1	110.1	24	107.7	108.6	109.3	24	102.6	104.3	106.0	24
8/10				0	109.3	110.4	111.2	24	108.3	108.8	109.2	24	107.3	108.1	108.9	24	102.6	104.4	106.1	24
8/11				0				0	108.7	108.9	109.6	24	106.7	107.7	108.6	24	102.1	103.3	104.6	24

Total Dissolved	Gas Saturation	Data at Snake	River Sites
I OLAI DISSUIVEU	Jas Jalulalivii	Data at Sliakt	INIVEL DILES

	Clrwtr-	Lewist	ton_		Lowe	r Gran	<u>ite</u>		L. Gra	nite T	wr		Little	Goose			L. God	se Ti	wr	
	<u>24 h</u>	12 h		#	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		#	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		#
<u>Date</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<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>	Avg	<u>High</u>	<u>hr</u>
7/29	104.6	106.7	108.2	24	102.2	102.6	103.0	24	115.0	115.2	115.9	24	109.9	110.1	110.2	24	111.6	111.7	112.0	24
7/30	104.7	106.8	108.2	24	102.6	102.9	103.0	24	115.8	116.3	116.8	24	111.4	111.9	112.3	24	112.3	112.6	112.8	24
7/31	104.9	107.0	108.4	24	102.6	102.9	103.4	24	115.3	115.6	116.5	24	112.0	112.4	112.7	24	112.5	112.8	113.4	24
8/1	104.6	106.8	108.3	24	102.6	102.9	103.2	24	118.4	119.5	120.6	24	112.5	112.7	112.8	24	115.6	118.6	119.6	24
8/2	104.8	107.0	108.7	24	103.3	103.5	103.7	24	119.8	120.3	120.5	24	112.6	112.9	113.2	24	116.3	119.9	120.8	24
8/3	104.6	106.8	108.3	24	103.2	103.5	103.6	24	119.7	120.3	120.7	24	112.7	112.9	113.0	24	112.4	112.7	113.1	24
8/4	104.4	106.3	107.4	24	103.3	103.7	104.0	24	119.4	119.8	120.3	24	113.2	113.7	114.6	24	112.4	112.6	112.9	24
8/5	105.4	107.5	108.9	24	102.9	103.1	103.4	24	119.6	120.0	120.6	24	114.7	115.5	116.2	24	113.0	113.4	113.6	24
8/6	105.3	107.5	109.1	24	102.2	102.5	103.0	24	119.2	119.6	120.7	24	115.4	115.6	116.0	24	113.2	113.5	113.7	24
8/7	105.1	107.3	108.9	24	101.5	101.7	102.3	24	119.6	119.9	120.4	24	114.7	114.9	115.5	24	112.9	113.1	113.4	24
8/8	105.1	107.4	109.0	24	101.4	101.7	101.9	24	119.4	119.7	120.3	24	114.4	114.7	115.2	24	112.6	112.9	113.3	24
8/9	105.3	107.5	109.2	24	102.5	102.9	103.3	24	118.1	119.1	119.6	24	114.5	115.0	115.4	24	113.1	113.6	114.6	24
8/10	105.1	107.4	109.3	24	102.9	103.1	103.3	24	118.2	119.3	119.6	24	114.0	114.5	115.0	24	113.5	114.4	115.9	24
8/11	104.9	107.1	108.8	24	102.6	102.7	102.9	24	116.8	117.1	117.8	24	112.2	112.9	114.7	24	112.8	113.1	113.6	24

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

	Lower	Mon.			L. Mo	n. Tlw	<u>r</u>		Ice Ha	rbor			Ice Ha	rbor T	lwr		<u>McNa</u>	ry-Ore	gon	
	<u>24 h</u>	<u>12 h</u>		#	<u>24 h</u>	<u>12 h</u>		#	<u>24 h</u>	<u>12 h</u>		#	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>
<u>Date</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>																
7/29	111.8	111.9	112.0	24	117.0	117.4	118.0	24	112.6	112.8	113.3	24	115.3	116.0	117.2	24				0
7/30	111.5	112.1	112.5	24	116.8	117.4	117.9	24	113.5	114.0	114.5	24	114.6	115.4	116.1	24				0
7/31	111.8	112.0	112.2	24	117.1	117.4	118.2	24	113.6	113.8	114.2	24	115.0	116.1	117.1	24				0
8/1	111.3	111.4	111.7	24	116.3	116.7	117.0	24	113.4	113.5	113.7	24	113.3	113.8	116.3	24				0
8/2	111.2	111.5	111.6	24	116.8	117.2	117.9	24	113.4	113.6	114.1	24	115.5	116.1	116.9	24				0
8/3	111.8	112.6	113.1	24	116.5	117.1	117.4	24	113.2	113.5	113.7	24	114.8	115.1	115.4	24				0
8/4	114.1	115.1	116.9	24	117.9	118.3	119.5	24	113.7	113.9	114.3	24	115.7	116.5	117.5	24				0
8/5	115.0	115.2	115.6	24	117.2	117.5	118.0	24	113.0	113.2	113.4	24	113.1	114.1	115.2	24				0
8/6	113.3	113.4	113.9	24	117.1	117.5	117.9	24	112.5	112.8	113.1	24	113.4	114.2	114.8	24				0
8/7	112.1	112.4	113.0	24	116.7	117.2	117.7	24	112.7	112.9	113.2	24	113.4	114.3	114.8	24				0
8/8	111.1	111.5	111.9	24	116.8	117.1	117.5	24	112.7	113.0	113.2	24	113.7	114.6	115.1	24				0
8/9	111.6	111.9	112.1	24	116.3	116.8	117.2	24	112.2	112.7	113.2	24	113.3	113.8	114.2	24				0
8/10	110.5	110.9	112.0	24	116.8	117.2	117.6	24	111.3	111.7	112.0	24	113.0	113.3	113.5	24				0
8/11	110.2	110.3	110.4	24	116.3	116.7	117.0	24	110.7	111.1	111.5	24	113.2	113.7	114.3	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

	<u>McNar</u>	y-Was	<u>h</u>		<u>McNa</u>	ry Tlw	<u>r</u>		John I	<u>Day</u>			<u>John</u>	Day TI	<u>wr</u>		The D	alles		
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24h</u>	<u>12h</u>		<u>#</u>	<u>24h</u>	<u>12h</u>		<u>#</u>	<u>24h</u>	<u>12h</u>		<u>#</u>
<u>Date</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	Avg	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<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>
7/29	113.2	113.9	114.7	24	119.1	120.5	120.9	24	109.2	109.4	109.6	24	113.8	114.6	115.9	24	110.2	110.5	111.0	24
7/30	114.1	114.5	115.1	24	138.8	151.5	152.8	24	109.5	110.0	110.4	24	114.1	114.7	115.3	24	109.7	110.1	110.5	24
7/31	113.7	114.0	114.4	24	151.1	152.2	152.9	24	109.6	110.0	110.3	24	114.0	114.8	115.2	24	109.1	109.5	109.8	24
8/1	112.8	113.7	114.4	24	132.2	147.3	154.7	24	109.8	110.4	110.9	24	114.1	115.0	115.9	24	109.9	110.6	111.3	24
8/2	112.5	112.9	113.6	24	117.7	118.1	118.5	24	110.5	110.8	111.1	24	113.5	114.1	114.8	24	110.5	110.9	111.3	24
8/3	111.8	112.1	112.4	24	117.8	118.2	118.4	24	109.8	110.1	110.4	24	112.6	114.0	115.3	24	109.5	110.0	110.6	24
8/4	112.1	112.6	113.3	24	117.9	118.4	118.5	24	109.0	109.3	109.5	24	112.6	113.2	114.1	24	109.8	110.1	110.8	24
8/5	112.5	112.9	113.8	24	117.5	117.9	118.3	24	108.1	108.4	108.7	24	112.2	112.8	113.1	24	107.6	108.1	109.1	24
8/6	111.2	111.5	111.9	24	117.5	117.8	118.1	24	107.6	107.8	108.1	24	112.9	113.5	114.6	24	106.7	107.1	107.4	24
8/7	110.0	110.5	110.8	24	117.1	117.4	118.0	24	107.0	107.3	107.6	24	113.0	113.5	114.2	24	106.9	107.3	107.8	24
8/8	109.4	109.7	109.9	24	117.4	117.6	117.8	24	106.6	106.9	107.2	24	112.2	113.5	114.3	24	106.9	107.3	107.7	24
8/9	109.1	109.4	109.6	24	116.6	116.9	117.3	24	105.3	105.6	106.3	24	111.8	112.7	113.2	24	106.0	106.3	107.4	24
8/10	108.1	108.6	109.1	24	116.4	116.8	117.1	24	103.9	104.1	104.4	24	111.7	112.9	113.5	24	105.4	105.7	106.1	24
8/11	107.1	107.3	107.5	24	116.7	117.3	118.1	24	103.4	103.7	104.0	24	112.1	113.3	114.8	24	105.9	106.3	107.1	24

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

	The Da	lles D	<u>nst</u>		Bonne	<u>eville</u>			Warre	ndale			<u>Cama</u>	s\Was	<u>hougal</u>		Casca	ade Isl	and	
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24h</u>	<u>12h</u>		<u>#</u>	<u>24h</u>	<u>12h</u>		<u>#</u>	<u>24h</u>	<u>12h</u>		<u>#</u>
<u>Date</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<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>
7/29	116.7	117.3	118.0	24	111.3	111.4	111.6	24	115.6	116.6	117.7	24	114.1	115.0	116.2	24				0
7/30	116.0	116.4	116.7	24	111.4	111.7	112.1	24	114.5	115.6	117.2	24	113.0	113.8	115.1	24				0
7/31	115.6	115.7	116.0	24	110.5	110.8	110.9	24	114.9	116.2	118.1	24	111.7	113.1	114.7	24				0
8/1	116.0	116.5	117.0	24	110.2	110.7	111.1	24	114.4	115.3	116.8	24	111.5	113.1	114.5	24				0
8/2	116.5	117.0	117.5	24	111.2	111.6	112.0	24	114.2	115.1	116.4	24	111.9	113.5	114.7	24				0
8/3	116.1	116.5	117.0	24	110.9	111.2	111.5	24	115.1	116.3	117.6	24	112.5	114.5	116.2	24				0
8/4	116.0	116.5	117.0	24	110.8	111.1	111.4	24	114.6	116.0	117.4	24	112.7	114.1	115.7	24				0
8/5	114.4	114.9	115.5	24	108.6	108.9	109.6	24	114.1	115.3	117.0	24	110.9	112.5	114.0	24				0
8/6	113.6	113.8	114.0	24	107.4	107.8	108.2	24	114.9	116.2	117.7	24	110.8	112.6	114.5	24				0
8/7	113.6	113.9	114.3	24	106.2	106.5	106.7	24	113.7	115.4	117.3	24	111.0	112.6	114.5	24				0
8/8	114.1	114.5	114.9	24	105.8	106.1	106.2	24	112.2	113.9	115.9	24	109.3	110.5	111.9	24				0
8/9	113.5	113.8	114.3	24	105.9	106.1	106.3	24	112.4	113.9	115.7	24	108.4	110.2	111.7	24				0
8/10	113.2	113.8	114.8	24	105.5	105.8	105.9	24	113.2	116.1	118.4	24	110.5	113.2	115.9	24				0
8/11	113.5	114.4	115.1	24	106.0	106.5	106.8	24	111.1	112.1	113.6	24	110.4	112.9	115.1	24				0

Source: Fish Passage Center Updated: 8/12/2011 10:59

Two-Week Summary of Passage Indices

* One or more of the sites on this date had an incomplete or biased sample.

See Sampling Comments: http://www.fpc.org/currentDaily/smpcomments.htm
For clip information see: http://www.fpc.org/CurrentDaily/catch.htm
For sockeye and yearling chinook (Snake only) race information see: http://www.fpc.org/smoltqueries/currentsmpsubmitdata.asp

					COMB	INED YEA	RLING CHI	NOOK				
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
07/29/2011						0	0	0	0	0	0	0
07/30/2011						0	0	0	0	0	0	0
07/31/2011						0	0	0	0	0	0	0
08/01/2011						0	0	18	2	0	0	0
08/02/2011						0	0	0	1	0	0	0
08/03/2011						0	0	22	0	0	0	0
08/04/2011	*					0	0	9	0	0	0	0
08/05/2011						0	0	20	0	0	0	0
08/06/2011						0	0	11	0	62	0	0
08/07/2011						0	0	0	3	0	0	0
08/08/2011						0	0	0	0	0	0	0
08/09/2011						0	0	20	0	0	0	0
08/10/2011						0	0	0	0	0	0	0
08/11/2011						5	0	0	0	0	0	0
08/12/2011						0	0			0		0
Total:	П	0	0	0	0	5	0	100	6	62	0	0
# Days:	Ħ	0	0	0	0	15	15	14	14	15	14	15
Average:	Ħ	0	0	0	0	0	0	7	0	4	0	0
YTD		31,090	30,210	12,492	18,836	3,831,084	2,528,593	1,236,809	26,463	1,979,476	2,936,420	1,322,276

					COMBIN	ED SUBYE	ARLING C	HINOOK				
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
07/29/2011						2,617	3,192	1,474	269	189,266	53,821	27,691
07/30/2011						2,068	4,377	1,067	344	167,052	44,656	37,169
07/31/2011						2,469	3,590	975	259	154,177	41,093	37,064
08/01/2011						2,744	3,628	889	279	92,702	34,468	28,447
08/02/2011						5,037	4,150	1,346	246	119,809	32,948	32,847
08/03/2011						1,349	2,823	1,071	211	111,939	30,057	33,537
08/04/2011	*					759	2,065	1,200	168	61,648	27,774	23,899
08/05/2011						294	2,759	2,829	125	74,719	31,739	13,986
08/06/2011						656	1,507	2,184	204	59,798	20,944	15,692
08/07/2011						411	1,678	932	193	45,549	20,240	17,662
08/08/2011						272	902	545	153	23,270	24,202	14,160
08/09/2011						362	785	643	95	37,457	20,866	11,167
08/10/2011						351	981	365	98	38,267	14,160	11,581
08/11/2011						675	450	320	127	25,012	12,697	6,822
08/12/2011						614	283			34,039		4,118
Total:		0	0	0	0	20,678	33,170	15,840	2,771	1,234,704	409,665	315,842
# Days:		0	0	0	0	15	15	14	14	15	14	15
Average:		0	0	0	0	1,379	2,211	1,131	198	82,314	29,262	21,056
YTD		9	38	12	163	1,150,154	1,353,326	363,225	29,743	5,350,890	3,169,906	5,150,804

						COMBINE	ED COHO					
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)						
07/29/2011						289	72	29	2	0	0	0
07/30/2011						215	43	30	2	0	0	0
07/31/2011						149	36	28	2	0	0	0
08/01/2011						268	59	9	2	0	0	0
08/02/2011						387	72	89	1	231	0	0
08/03/2011						150	38	72	0	0	96	247
08/04/2011	*					84	14	62	2	0	0	0
08/05/2011						92	40	129	0	0	0	0
08/06/2011						0	46	74	0	0	0	0
08/07/2011						16	57	30	0	59	96	0
08/08/2011						0	35	10	0	0	0	0
08/09/2011						0	20	46	4	117	0	63
08/10/2011						6	15	20	0	0	0	0
08/11/2011						5	14	21	1	0	0	0
08/12/2011						8	20			51		0
Total:	Ш	0	0	0	0	1,669	581	649	16	458	192	310
# Days:		0	0	0	0	15	15	14	14	15	14	15
Average:	Ш	0	0	0	0	111	39	46	1	31	14	21
YTD		0	0	0	218	83,643	81,526	19,772	46,399	188,118	476,851	439,874

					C	OMBINED :	STEELHEA	.D				
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
07/29/2011						15	0	0	0	0	0	0
07/30/2011						0	29	0	0	0	0	0
07/31/2011						8	21	0	2	0	0	0
08/01/2011						0	0	9	0	0	0	0
08/02/2011						0	0	0	0	0	0	0
08/03/2011						0	13	0	2	0	0	0
08/04/2011	*					0	0	0	0	0	0	0
08/05/2011						18	11	10	0	0	0	0
08/06/2011						0	17	0	0	0	0	0
08/07/2011						0	0	10	0	0	0	0
08/08/2011						0	0	0	0	0	0	0
08/09/2011						0	0	0	1	0	0	0
08/10/2011						6	0	0	1	0	72	0
08/11/2011						0	0	0	0	0	0	0
08/12/2011						0	0			0		0
										·		
Total:		0	0	0	0	47	91	29	6	0	72	0
# Days:		0	0	0	0	15	15	14	14	15	14	15
Average:		0	0	0	0	3	6	2	0	0	5	0
YTD		1,080	13,882	4,071	2,934	4,118,570	2,033,079	838,169	28,465	608,062	2,620,215	246,497

					(COMBINED	SOCKEYE					
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
07/29/2011						22	0	14	12	203	143	0
07/30/2011						8	29	0	14	407	0	0
07/31/2011						0	36	9	4	817	0	152
08/01/2011						16	15	0	5	206	0	0
08/02/2011						0	12	0	7	231	96	0
08/03/2011						0	25	0	6	279	190	0
08/04/2011	*					0	7	0	8	0	286	0
08/05/2011						18	11	0	3	128	0	0
08/06/2011						0	17	0	14	370	96	65
08/07/2011						0	0	0	6	177	96	120
08/08/2011						0	6	0	3	155	0	0
08/09/2011						0	9	0	4	234	0	0
08/10/2011						0	12	0	4	154	0	12
08/11/2011						0	6	0	3	103	0	0
08/12/2011						0	0			102		0
Total:		0	0	0	0	64	185	23	93	3,566	907	349
# Days:		0	0	0	0	15	15	14	14	15	14	15
Average:		0	0	0	0	4	12	2	7	238	65	23
YTD		0	0	1	0	119,319	44,408	31,313	18,699	324,530	363,484	113,908

					COMB	INED LAMP	REY JUVE	NILES				
		WTB	IMN	GRN	LEW	LGR [†]	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)
07/29/2011						5	20	0	0	0	100	0
07/30/2011						5	5	0	0	200	200	0
07/31/2011						30	10	0	0	200	200	4
08/01/2011						10	5	0	0	100	0	0
08/02/2011						0	10	0	0	100	200	0
08/03/2011						0	25	0	0	200	133	0
08/04/2011	*					0	1,743	0	0	100	200	0
08/05/2011						0	212	0	0	175	67	0
08/06/2011				-		0	40	0	0	50	267	0
08/07/2011						0	32	0	1	125	333	4
08/08/2011						0	6	0	0	225	267	0
08/09/2011				-		2	8	0	0	100	450	25
08/10/2011				-		4	6	0	1	175	50	50
08/11/2011						0	2	0	1	100	280	25
08/12/2011						0	8			25		0
Total:		0	0	0	0	56	2,132	0	3	1,875	2,747	108
# Days:		0	0	0	0	15	15	14	14	15	14	15
Average:		0	0	0	0	4	142	0	0	125	196	7
YTD		0	0	0	0	10.538	17.573	746	322	162.917	493.011	26.010

^{*} See sampling comments

http://www.fpc.org/currentDaily/smpcomments.htm

 $Smolt\ indices,\ clipped\ \&\ unclipped\ or\ combined,\ are\ presented\ in\ the\ following\ order:\ yearling\ chinook\ (chinook\ 1's,)$

subyearling chinook (chinook 0's), steelhead, coho, sockeye, and lamprey juveniles. Two classes of fish counts are shown in these tables: Two classes of fish counts are shown in these tables:

Collection counts (Coll), which account for sample rates but are not adjusted for flow;

Passage indices (INDEX), which are collection counts divided by the proportion of water passing through the sampled powerhouse.

Passage indices are not population estimates, but are used to adjust collection counts for daily fluctuations in the site's or project's operations.

The classes of counts presented in the report are defined below for each site. Most samples occur over a 24-hr period

that spans two calendar days. In this report, the date shown corresponds with the sample end date.

Combined lamprey juvenile collection counts are provided for all sites. Combined lamprey juveniles is a combination of pacific lamprey ammocoetes, brook lamprey ammocoetes, unknown lamprey ammocoetes, and pacific lamprey macropthalmia.

[†] Caution should be used with interpreting lamprey juvenile collection counts at LGR because of the possibility that lamprey may escape the sample tank before being sampled

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: 8/12/11 10:44 AM

07/29/11 08/12/11 TO Species Site Data CH0 CH1 CO ST SO **Grand Total** LGR Sum of NumberCollected 7,728 8,455 Sum of NumberBarged 7,627 8,349 Sum of NumberBypassed Sum of Numbertrucked Sum of SampleMorts Sum of FacilityMorts Sum of ResearchMorts Sum of TotalProjectMorts LGS Sum of NumberCollected 20,846 21,381 Sum of NumberBarged 20,592 21,126 Sum of NumberBypassed Sum of Numbertrucked Sum of SampleMorts Sum of FacilityMorts Sum of ResearchMorts Sum of TotalProjectMorts LMN Sum of NumberCollected 10,039 10,546 Sum of NumberBarged 9,778 10,281 Sum of NumberBypassed Sum of Numbertrucked Sum of SampleMorts Sum of FacilityMorts Sum of ResearchMorts Sum of TotalProjectMorts 541,400 543,175 MCN Sum of NumberCollected 1,575 Sum of NumberBarged 511,317 1,198 512,639 Sum of NumberBypassed Sum of Numbertrucked 114,873 115,321 Sum of SampleMorts Sum of FacilityMorts 7,645 7,649 Sum of ResearchMorts 7,782 Sum of TotalProjectMorts 7,777 Total Sum of NumberCollected 580,013 1,617 1,740 583,557 Total Sum of NumberBarged 549,314 1,538 1,362 552,395 Total Sum of NumberBypassed Total Sum of Numbertrucked 114,873 115,321 Total Sum of SampleMorts Total Sum of FacilityMorts 8,050 8,059 Total Sum of ResearchMorts Total Sum of TotalProjectMorts 8,310 8,322

YTD Transportation Summary

Source: Fish Passage Center Updated: 8/12/11 10:44 AM

TO: 08/12/11

		Species						
Site	Data	CH0	CH1	CO		SO	ST	Grand Total
LGR	Sum of NumberCollected	724,498	2,716,906	;	54,528	78,041	2,713,297	6,287,270
	Sum of NumberBarged	640,310	1,705,111	;	39,997	35,410	1,437,012	3,857,840
	Sum of NumberBypassed	81,888	1,009,672		14,509	42,055	1,275,909	2,424,033
	Sum of NumberTrucked	0	0		0	0	0	0
	Sum of SampleMorts	236	101		2	72	41	452
	Sum of FacilityMorts	2,049	1,781		20	504	272	4,626
	Sum of ResearchMorts	15	241		0	0	58	314
	Sum of TotalProjectMorts	2,300	2,123		22	576	371	5,392
LGS	Sum of NumberCollected	728,492	1,449,324	4	41,308	24,261	1,132,396	3,375,781
	Sum of NumberBarged	724,891	1,344,369	4	40,905	18,893	893,350	3,022,408
	Sum of NumberBypassed	92	103,168		401	5,227	238,633	347,521
	Sum of NumberTrucked	0	0		0	0	0	0
	Sum of SampleMorts	254	52		0	9	10	325
	Sum of FacilityMorts	3,255	1,735		2	132	403	5,527
	Sum of ResearchMorts	0	0		0	0	0	0
	Sum of TotalProjectMorts	3,509	1,787		2	141	413	5,852
LMN	Sum of NumberCollected	245,335	854,129		13,125	21,045	565,773	1,699,407
	Sum of NumberBarged	235,434	636,723		11,961	18,829	459,659	1,362,606
	Sum of NumberBypassed	8,523	215,901		1,254	1,964	103,437	331,079
	Sum of NumberTrucked	0	0		0	0	0	0
	Sum of SampleMorts	46	3		1	0	5	55
	Sum of FacilityMorts	1,332	1,499		11	252	872	3,966
	Sum of ResearchMorts	0	0		0	0		
	Sum of TotalProjectMorts	1,378	1,502		12	252	877	
MCN	Sum of NumberCollected	2,164,462	952,672		71,730	135,934	295,979	3,620,777
	Sum of NumberBarged	1,033,094	24		200	2,685		
	Sum of NumberBypassed	975,593	949,771	•	71,277	132,464	295,663	2,424,768
	Sum of NumberTrucked	114,873	0		75	373	0	115,321
	Sum of SampleMorts	755	187		8	41	13	
	Sum of FacilityMorts	40,147	2,690		170	371	203	43,581
	Sum of ResearchMorts	0	0		0	0	0	0
	Sum of TotalProjectMorts	40,902	2,877		178	412	216	
Total Sum	of NumberCollected	3,862,787	5,973,031	18	80,691	259,281	4,707,445	14,983,235
Total Sum	of NumberBarged	2,633,729	3,686,227	,	93,063	75,817	2,790,121	9,278,957
Total Sum	of NumberBypassed	1,066,096	2,278,512	(87,441	181,710	1,913,642	5,527,401
Total Sum	of NumberTrucked	114,873	0		75	373	0	,
Total Sum	of SampleMorts	1,291	343		11	122		
Total Sum	n of FacilityMorts	46,783	7,705		203	1,259	1,750	
Total Sum	of ResearchMorts	15	241		0	0		
Total Sum	of TotalProjectMorts	48,089	8,289		214	1,381	1,877	59,850

Cumulative Adult Passage at Mainstem Dams Through: 08/11

		Spring Chinook						Summer Chinook						Fall Chinook					
		201	1	201	0	10-Yr A	Avg.	20	11	20	010	10-Y	r Avg.	2	011	20	10	10-Yı	r Avg.
DAM	EndDate	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	08/10	167097	50945	244384	12612	174444	16431	108279	51451	97604	15603	89217	13568	4953	1666	3915	624	4635	785
TDA	08/10	124164	40146	189839	11546	130174	13470	81127	39844	81292	12528	78252	10628	3165	1013	2213	398	2342	476
JDA	08/10	103401	39823	179446	11794	110572	12004	74073	34571	70955	12475	71151	11642	1442	680	1186	256	1180	353
MCN	08/10	101245	31750	153500	9185	102003	11175	74621	28165	66526	8063	67398	9237	777	232	517	55	451	89
IHR	08/10	69306	18161	101188	6047	70295	6879	26662	12372	29528	3489	17748	3408	0	0	0	0	0	0
LMN	08/10	69832	18094	97334	5898	69566	5561	30938	13676	34964	4342	18687	3032	0	0	0	0	0	0
LGS	08/10	67321	23492	92985	5461	64800	6145	41732	18118	32147	3923	15663	3484	0	0	0	0	0	0
LGR	08/10	59342	22063	94203	6409	65342	7745	36248	16362	28619	5267	14663	4358	0	0	0	0	0	0
PRD	08/08	15246	6030	30539	932	20141	818	48345	3701	48287	1155	57388	2165	0	0	0	0	0	0
RIS	08/10	13089	8394	29684	1513	17327	1572	41671	13143	45826	3581	53382	4886	0	0	0	0	0	0
RRH	08/10	6989	3491	8660	523	6536	525	34856	7200	32163	1370	39598	3627	0	0	0	0	0	0
WEL	08/04	4153	3969	7596	661	5414	510	22023	5258	22515	997	25354	1298	0	0	0	0	0	0
WFA	08/07	43604	1382	65169	1705	51546	1070	-	-	-	-	-	-	0	0	0	0	13	0

	Coho							Sockeye			Steelhead				
	201	11	201	0	10-Yr	Avg.			10-Yr			10-Yr	Wild		
DAM	Adult	Jack	Adult	Jack	Adult	Jack	2011	2010	Avg.	2011	2010	Avg.	2011		
BON	41	24	49	9	42	5	185767	386495	123879	172295	255284	183193	75344		
TDA	6	7	3	0	0	0	138264	325104	105731	117126	134455	76255	53674		
JDA	43	11	8	3	3	0	143075	324098	110222	73290	96127	55147	34620		
MCN	0	0	1	0	0	0	113856	278770	91583	54066	78255	40117	23524		
IHR	0	0	0	0	0	0	1131	1300	280	28390	48842	21361	9561		
LMN	0	0	0	0	0	0	1388	1647	349	21614	40142	19464	8629		
LGS	0	0	0	0	0	0	1426	1646	335	15662	22552	11732	7276		
LGR	0	0	0	0	0	0	1480	2119	425	19332	25019	15771	8781		
PRD	0	0	0	2	1	0	144842	356909	115171	2460	11574	5141	0		
RIS	0	0	0	0	0	0	145739	338134	111497	2227	7824	3937	1343		
RRH	0	0	0	0	1	0	131613	295277	87931	1809	5085	2764	1145		
WEL	0	0	0	0	0	0	108664	290551	87410	462	1630	928	275		
WFA	5	0	4	1	0	0	0	0	0	27088	31657	27876			

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:

BON counts from January 1, 2011 to March 14, 2011 (historical counts begin March 15):

Year	Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
2011	49	1	1,419	600
2010	39	0	2,318	657