



# Fish Passage Center

## Weekly Report #08 - 22

August 1, 2008

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### Summary of Events:

**Water Supply:** Precipitation throughout the Columbia Basin has varied between 2% and 73% of average at individual sub-basins over the first four weeks of July. Precipitation above The Dalles has been 42% of average over July. Over the entire water year, precipitation has generally been near average.

**Table 1. Summary of July 1-28 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 2008 July 1-28		Water Year 2008 October 1, 2007 to July 28, 2008	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	0.91	56	21.06	95
SNAKE RIVER Above Ice Harbor	0.22	27	15.34	96
Columbia Above The Dalles	0.48	42	20.03	96
Kootenai	0.96	56	19.70	87
Clark Fork	0.42	39	15.52	102
Flathead	1.05	73	20.03	99
Pend Oreille/ Spokane	0.23	18	27.76	97
Central Washington	0.07	21	5.82	70
SNAKE RIVER Plain	0.23	42	7.94	78
Salmon/Boise/ Payette	0.38	53	18.28	100
Clearwater	0.16	12	27.61	98
SW Washington Cascades/Cowlitz	0.45	36	60.98	91
Willamette Valley	0.02	2	57.14	101

Table 2 displays the June Final and July Final runoff volume forecasts for multiple reservoirs. Water Supply Forecasts increased at all but two locations (Libby and Brownlee) between the June Final and July Final forecasts with Dworshak showing the biggest change by increasing 18% from the June Final to July Final forecast. The current forecast (July Final) at The Dalles between January and July is 101000 Kaf (94% 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)	92	98200	94	101000
Grand Coulee (Jan-July)	95	59800	97	61300
Libby Res. Inflow, MT (Jan-July)	93	5840	90	5700
Hungry Horse Res. Inflow, MT (Jan-July)	99	2200	108	2410
Lower Granite Res. Inflow (Apr- July)	102	21900	106	22900
Brownlee Res. Inflow (Apr-July)	76	4780	68	4270
Dworshak Res. Inflow (Apr-July)	109	2880	127	3370

The summer Biological Opinion flow at Lower Granite Dam is determined by the June Final Water Supply Forecast and is 52.5 Kcfs this year. Flows at Lower Granite Dam averaged 72.0 Kcfs between June 21<sup>st</sup>, 2008 and July 31<sup>st</sup>, 2008. Flows at Lower Granite averaged 43.3 Kcfs last week.

The summer Biological Opinion flow at McNary Dam is 200 Kcfs and began on July 1, 2008. Flows at McNary Dam have averaged 212.5 Kcfs over the summer flow period (July 1-31) and have averaged 171.1 Kcfs last week.

Grand Coulee Reservoir is at 1285.0 feet (7-31-08) and has drafted 2.1 feet over the last week. Outflows at Grand Coulee have ranged between 74.4 and 132.0 Kcfs over the last week. Inflows last week have ranged between 89.5 Kcfs and 104.5 Kcfs. The end of August draft elevation will be 1280 feet at Grand Coulee this year.

The Libby Reservoir is currently at elevation 2444.0 feet (7-31-08) and drafted 0.3 feet last week. Outflows at Libby have been 13 Kcfs for most of the last week with the exception of July 27, 2008 when outflows were reduced to the 4 Kcfs minimum for most of the day to help facilitate the search for a missing person. Inflows at Libby have ranged between 9.9 Kcfs and 12.3 Kcfs over the last week. At the August 1<sup>st</sup>, 2008 TMT Meeting, a Libby/Canadian Storage Exchange was discussed which would leave more water in Libby reservoir over August and release more water from Canadian projects over the same period. This operation has been agreed upon by all TMT parties as long as the flows in the lower Columbia are not reduced. Currently, the agreement is not finalized, but likely will be in the next several days, after which time Libby outflows will be reduced to approximately 8 Kcfs.

Hungry Horse is currently at an elevation of 3554.4 ft (7-31-08) and has drafted 2.1 feet last week. Outflows are currently 6.5 Kcfs; inflows ranged between 1.3 Kcfs and 3.4 Kcfs last week.

Dworshak is currently at an elevation of 1581.2 feet (7-31-08) and has drafted 7.6 feet last week. Outflows at Dworshak are currently 14.2 Kcfs; inflows have ranged between 2.5 and 3.3 Kcfs last week.

The Brownlee Reservoir is at an elevation of 2065.9 feet (July 31<sup>st</sup>, 2008), and has drafted 2.8 feet last week. Outflows at Brownlee Dam have been 12.0 to 14.4 Kcfs over the last week. Inflows at Brownlee Dam have been 12.7 to 20.6 Kcfs over the last week.

**Spill:** The summer spill season was initiated on June 21, 2008 in the Snake River. The Court Order calls for the following spill levels at the Federal Snake River Projects:

Project	Day/Night Spill
Lower Granite	18 Kcfs/18 Kcfs
Little Goose	30%/30%
Lower Monumental	17 Kcfs/17 Kcfs
Ice Harbor	30%/30% vs 45 Kcfs/Gas Cap Study

Dworshak Dam outflows increased to about 14.0 Kcfs over the past week, which is above hydraulic capacity, resulting in about 4.5 Kcfs spill. Lower Granite, Little Goose and Lower Monumental dams have all spilled to the Court Order over the past week. Ice Harbor Dam has generally met the court ordered levels of 45 Kcfs daytime spill and gas cap nighttime spill (study was concluded on July 17<sup>th</sup>) except when daytime spill is below 45 Kcfs due to low flows and powerhouse minimum flows. Ice Harbor Dam has minimum spill of 15.2 Kcfs.

Summer spill in the Lower Columbia River was initiated on July 1, 2008. The Court Order calls for the following summer spill levels at the Federal Lower Columbia River Projects:

Project	Day/Night Spill
McNary	60%/60% vs 40%/40%
John Day	30%/30% vs 40%/40% test days
The Dalles	40%/40%
Bonneville	75 Kcfs/Gas Cap (after completion of 85 Kcfs Test)

Summer spill at McNary was initiated on June 21, 2008 to facilitate the conduct of a research study comparing spill levels of 40%/40% versus 60%/60%. Although the study has been completed, spill at McNary Dam is to continue alternating between 40%/40% versus 60%/60% spill through the end of August, in 2-day blocks. Spill at McNary, John Day, and The Dalles dams has generally met the Court Ordered levels over the past week. The summer spill levels at Bonneville Dam are now 75 Kcfs during daytime hours

and gas cap spill at night. The spill cap, and thus night-time spill at Bonneville Dam has ranged from 130 to 135 Kcfs.

Total dissolved gas did not exceed the 120% tailrace or 115% forebay limits this past week, except for the Camas Washougal monitor. The 12-hour average TDG at the Camas Washougal monitor was 115.6% on July 28<sup>th</sup>, in which case the spill cap was reduced to about 130 Kcfs. Bonneville Dam has been spilling approximately 130 Kcfs at night since July 28<sup>th</sup>. However, the 12-hr average TDG at Camas Washougal was 115.2% on July 31<sup>st</sup>. However, given current weather conditions, it is expected that the spill cap at Bonneville Dam will remain 130 Kcfs.

Gas bubble trauma (GBT) monitoring at Lower Granite Dam has concluded for the year. Sampling occurred at all other Snake River monitoring sites, Rock Island Dam in the Mid Columbia, and at McNary and Bonneville dams in the lower Columbia. Lower Monumental found one fish (out of 61 sampled) with minor signs of GBT in the non paired fins. Little Goose Dam detected one fish (out of 39 sampled) with minor signs of GBT in the non-paired fins in their July 29<sup>th</sup> sample. These were the only fish with GBT detections this week.

**Smolt Monitoring:** Subyearling Chinook numbers decreased over the past week at Lower Granite Dam and the Rock Island Dam to Bonneville Dam reach also.

At Lower Granite Dam in the Snake River the daily passage indices for subyearling Chinook averaged about 3,000 per day this past week compared to about 5,000 per day the previous week. PIT-tag data suggest that hatchery origin fish predominate, and that those fish are arriving from releases in the Snake River as well from several points in the Clearwater River basin. The average daily passage index at Little Goose increased slightly to about 4,700 per day, compared to about 4,400 per day the previous week. The daily average passage index at Lower Monumental dam decreased the week.

At Rock Island Dam indices for subyearling Chinook dropped slightly from 250 per day two weeks ago to about 160 per day this past week. At the lower Columbia River dams indices for subyearling Chinook were down as well. At McNary the subyearling Chinook index averaged nearly 19,000 per day this week compared to nearly 50,000 per day the previous week. The daily average passage index at John Day remained fairly constant this week, compared to the previous week. Finally, at Bonneville Dam the subyearling Chinook passage indices averaged 9,500 per day over

the past week, compared to nearly 17,000 per day the previous 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 scheduled releases of juvenile salmonids to this zone this week and no releases are scheduled 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 to the Mid-Columbia river zone this week. Furthermore, no releases are 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 scheduled releases of juvenile salmonids to this zone this week and no releases are scheduled over the next two weeks.

#### **Adult Fish Passage:**

Summer Chinook pass Bonneville Dam from June 1<sup>st</sup> through July 31<sup>st</sup>. Adult summer Chinook daily passage numbers at Bonneville Dam have ranged between 292 and 388 in the last week. The 2008 summer Chinook count of 78,271 is about 1.66 times greater than the 2007 and 1.09 times greater than the 10 year average. The summer Chinook jack count of 11,621 was 86.5% of the 2007 count and was 1.27 times greater than the 10 year average to date. The adult summer Chinook count total at The Dalles Dam was 64,326, about 82.1% of the Bonneville passage total to date. A total of 53,195 summer Chinook have passed McNary Dam. The adult summer Chinook count total at Lower Granite Dam in the Snake River was 22,090 as of July 31<sup>st</sup>. The 2008 adult summer Chinook count at Rock Island Dam in the upper Columbia was 33,636 with daily totals ranging from 338 to 846.

As of July 24<sup>th</sup>, 139,153 steelhead had passed Bonneville Dam. The 2008 count was 2.02 times greater than the 2007 count of 68,662 and 1.41 times greater than the 10 year average. The 2008 wild steelhead count at Bonneville Dam was 54,737 fish. The daily steelhead counts at The Dalles Dam ranged between 1,638 and 3,262 for the week with a cumulative count of 76,085. About 54.6% of the steelhead counted at Bonneville Dam had passed The

Dalles Dam. The majority of the 29,716 steelhead at McNary Dam have moved up into the Snake River with the cumulative count at Ice Harbor now at 17,125 for the season. The cumulative count at Priest Rapids Dam was at 3,531 steelhead for the season. As of July 31<sup>st</sup> at Bonneville Dam, the adult Shad count was 2,140,993 which was about 83.2% of the 2007 count of 2,571,839 and only 69.2% the 10 year average count of 3,090,482.

The 2008 Bonneville Dam sockeye count of 213,544 increased about 8.80 times compared to the 2007 count and increased approximately 3.65 times compared to the 10 year average. A total of 191,537 adult sockeye have been counted at Priest Rapids Dam so far this season. Two of the major spawning sites for sockeye in the upper Columbia river zone are Lake Wenatchee and Lake Osoyoos (Okanogan basin). As of July 25<sup>th</sup> at Wells Dam, the 2008 sockeye count of 160,889 was 8.21 times greater than the 2007 count and 4.83 times greater than the 10 year average. Fish counting at Wells Dam is lagging behind this year due to the large numbers of fish passing the dam. To date, 849 sockeye have been counted at Lower Granite. The 2008 Lower Granite Dam adult sockeye is 16 times greater than the 2007 count of 53 and is approximately 20.2 times greater than the 10 year average of 42.

**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
07/18/2008	120.2	0.1	118.1	0.0	124.9	9.7	128.0	12.6	131.1	27.7	126.5	19.9	120.7	23.0
07/19/2008	114.1	0.1	116.8	0.0	122.7	9.2	121.2	10.7	125.6	25.5	133.0	19.5	129.4	22.2
07/20/2008	80.3	0.1	80.9	0.0	95.1	8.5	97.9	9.4	104.7	21.5	123.7	19.5	121.8	22.5
07/21/2008	122.5	0.1	116.9	0.0	106.5	9.1	103.6	11.2	104.4	26.1	102.6	18.4	104.3	20.2
07/22/2008	90.4	0.1	98.4	0.0	104.8	8.6	106.0	10.8	109.1	22.2	110.0	19.6	99.9	22.2
07/23/2008	113.1	0.1	103.6	0.0	104.0	8.8	106.4	9.2	106.1	20.5	109.0	19.3	103.1	21.8
07/24/2008	127.8	0.1	127.4	0.0	126.5	13.1	120.8	15.2	119.7	20.8	125.5	20.1	128.6	20.1
07/25/2008	121.3	0.2	130.6	0.0	136.7	10.2	139.5	9.9	141.8	22.9	152.2	21.2	146.3	21.8
07/26/2008	91.9	0.1	92.6	0.0	102.4	9.1	106.2	9.4	110.3	20.7	132.1	19.6	134.7	20.3
07/27/2008	74.4	0.1	70.8	0.0	72.1	7.7	76.7	7.4	78.5	16.9	92.1	18.4	92.1	19.5
07/28/2008	132.0	0.1	128.8	0.0	125.0	9.9	114.0	10.5	111.0	22.4	108.8	17.7	105.1	19.1
07/29/2008	105.9	0.1	117.6	0.0	121.3	10.0	123.2	9.7	124.2	21.7	120.0	19.7	112.5	21.9
07/30/2008	107.3	0.1	104.0	0.0	111.1	9.4	115.3	9.5	118.4	21.3	127.6	19.3	127.2	20.6
07/31/2008	109.5	0.1	111.5	0.0	111.7	9.4	112.6	9.4	113.8	21.0	119.2	18.8	113.5	22.2

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

Date	Dworshak		Hells Brownlee Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
07/18/2008	12.0	2.5	11.9	14.5	47.3	18.5	47.0	14.3	45.1	17.0	48.6	38.2
07/19/2008	12.0	2.5	13.1	17.3	47.0	18.3	45.7	13.8	43.8	17.4	46.2	35.5
07/20/2008	12.0	2.5	12.7	14.1	47.3	18.5	45.2	13.7	43.8	16.9	45.8	35.0
07/21/2008	12.0	2.5	12.7	14.5	44.3	18.4	44.0	13.1	41.8	17.4	45.4	34.7
07/22/2008	12.1	2.5	14.0	13.8	43.1	18.6	41.6	12.5	40.4	17.1	42.8	32.2
07/23/2008	12.0	2.5	13.3	13.8	42.2	18.5	41.3	12.3	39.6	17.4	44.2	34.1
07/24/2008	12.5	3.0	13.7	14.1	44.7	18.4	44.6	13.3	41.8	16.8	45.5	35.0
07/25/2008	12.8	3.9	14.4	15.0	45.4	18.4	43.3	13.0	40.7	17.4	44.2	33.5
07/26/2008	13.6	4.0	13.9	12.6	42.7	18.3	45.0	13.4	39.9	17.0	41.2	30.6
07/27/2008	13.6	4.0	13.0	14.2	41.1	18.3	40.5	12.1	37.9	17.3	41.7	31.1
07/28/2008	13.9	4.3	13.2	18.0	42.5	18.5	41.4	12.4	39.2	16.8	42.4	31.7
07/29/2008	14.1	4.4	13.1	14.9	45.3	18.6	45.7	13.5	42.7	17.3	45.3	34.8
07/30/2008	14.0	4.3	12.6	17.1	40.8	18.5	40.1	11.9	39.6	16.9	42.3	31.7
07/31/2008	14.2	4.5	---	---	45.7	18.6	42.9	12.9	41.5	17.3	44.8	34.2

**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
07/18/2008	178.6	71.6	170.7	51.2	161.0	64.2	160.4	90.1	0.0	58.4
07/19/2008	180.0	99.1	172.5	51.8	165.2	66.1	171.5	91.7	1.4	66.5
07/20/2008	171.7	103.2	151.4	45.8	141.7	56.8	164.7	93.5	0.0	59.3
07/21/2008	161.0	69.7	173.6	52.2	173.7	69.3	181.4	86.5	0.0	83.0
07/22/2008	152.0	61.1	140.5	42.0	132.5	52.9	155.7	88.3	0.0	55.4
07/23/2008	162.6	88.0	147.2	44.4	143.3	57.0	157.7	89.1	0.0	56.7
07/24/2008	140.3	84.4	147.3	44.2	146.2	58.2	160.1	86.0	0.5	61.8
07/25/2008	191.6	114.0	173.3	52.2	172.6	69.1	167.7	90.8	0.1	65.0
07/26/2008	193.4	116.2	174.6	52.2	166.9	66.5	174.8	91.1	0.0	71.8
07/27/2008	153.5	68.5	143.5	43.2	142.7	56.9	165.0	91.7	0.0	61.5
07/28/2008	159.2	64.0	163.1	49.2	154.6	61.8	166.3	91.5	0.9	62.0
07/29/2008	150.3	81.3	141.6	42.4	135.9	54.2	157.2	90.7	6.6	48.0
07/30/2008	181.0	108.9	164.2	49.4	154.8	61.7	160.9	90.5	9.5	49.0
07/31/2008	168.5	75.3	162.3	48.5	158.3	63.4	177.2	90.3	9.3	65.7

## 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>											
	07/22/08	Chinook + Steelhead	50	0	0	0.00%	0.00%	0	0	0	0
	07/29/08	Chinook + Steelhead	39	1	1	2.56%	0.00%	1	0	0	0
<b>Lower Monumental Dam</b>											
	07/28/08	Chinook + Steelhead	61	1	1	1.64%	0.00%	0	1	0	0
<b>McNary Dam</b>											
	07/28/08	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Bonneville Dam</b>											
	07/22/08	Chinook + Steelhead	104	0	0	0.00%	0.00%	0	0	0	0
	07/26/08	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/29/08	Chinook + Steelhead	61	0	0	0.00%	0.00%	0	0	0	0
<b>Rock Island Dam</b>											
	07/24/08	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	07/31/08	Chinook + Steelhead	50	0	0	0.00%	0.00%	0	0	0	0

**Hatchery Releases Last Two Weeks**

**Hatchery Release Summary**

**From: 7/18/2008 to 07/31/08**

**Agency Hatchery Species Race MigYr NumRel RelStart RelEnd RelSite RelRiver**

**Hatchery Releases Next Two Weeks**

**Hatchery Release Summary**

**From: 8/1/2008 to 8/14/2008**

**Agency Hatchery Species Race MigYr NumRel RelStart RelEnd RelSite RelRiver**

## 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>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#
	<u>Avg</u>	<u>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>	
7/18	106	106	107	24	111	112	112	23	116	117	117	24	116	117	120	23	115	116	116	24
7/19	105	106	106	24	110	111	111	22	115	116	116	24	116	116	120	22	115	116	116	24
7/20	106	106	107	24	109	110	111	22	115	115	116	24	115	116	118	22	115	116	117	24
7/21	106	107	107	24	109	110	111	21	116	116	117	24	115	116	116	21	115	116	117	24
7/22	107	107	107	24	109	109	109	24	115	116	116	24	114	115	116	24	115	115	116	24
7/23	106	106	106	24	108	108	109	23	115	115	115	24	114	115	121	23	114	115	115	24
7/24	106	106	106	24	108	108	109	23	114	115	115	24	114	115	119	23	113	114	115	24
7/25	106	107	107	24	108	109	110	17	115	116	116	24	114	115	120	17	113	114	114	24
7/26	107	107	107	24	109	109	110	24	115	115	116	24	115	116	120	24	113	114	114	24
7/27	107	107	108	24	108	108	109	23	115	116	116	24	116	117	121	23	112	113	113	24
7/28	107	107	107	24	107	108	108	24	115	115	115	24	115	116	120	24	113	113	114	24
7/29	107	108	108	24	107	107	108	22	114	115	115	24	115	115	119	22	113	114	114	24
7/30	107	108	108	24	106	107	108	23	114	115	115	24	114	115	117	23	113	113	114	24
7/31	107	107	107	24	106	107	108	21	115	115	115	24	114	115	119	21	112	112	113	17

### 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>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#
	<u>Avg</u>	<u>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>	
7/18	115	115	116	24	115	116	116	24	117	118	118	24	115	115	116	24	115	116	116	24
7/19	114	115	115	24	115	117	118	24	117	118	119	24	115	115	115	24	115	116	116	24
7/20	115	116	117	24	116	117	118	24	117	118	119	24	115	116	116	24	115	116	116	24
7/21	114	115	116	24	116	117	117	24	117	119	119	24	116	116	117	24	116	117	117	24
7/22	115	115	116	24	115	116	117	24	117	118	119	24	116	116	116	24	116	116	117	24
7/23	113	115	115	24	113	114	116	21	116	116	118	21	114	115	115	24	114	115	115	24
7/24	112	113	114	24	114	115	116	24	116	118	118	24	114	114	115	24	114	115	117	24
7/25	113	113	114	24	114	115	115	24	117	117	119	24	116	117	120	24	116	117	120	24
7/26	114	114	115	24	114	115	115	24	116	116	117	24	116	116	117	24	116	117	117	24
7/27	113	114	115	24	113	113	114	24	115	115	116	24	115	115	115	24	115	115	116	24
7/28	112	113	113	24	112	113	113	24	114	115	116	24	113	113	114	24	113	114	115	24
7/29	113	114	114	24	113	113	114	24	115	115	115	24	113	113	113	24	113	113	114	19
7/30	113	113	114	24	111	112	112	24	113	114	114	24	112	113	113	24	113	113	114	24
7/31	112	112	113	17	113	114	115	22	115	116	117	22	112	112	113	24	111	112	112	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>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#
	<u>Avg</u>	<u>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>	
7/18	115	115	116	24	119	119	120	24	112	112	113	24	115	115	116	24	112	113	114	24
7/19	114	115	116	24	119	119	120	24	112	114	115	24	114	115	116	24	112	113	115	24
7/20	115	116	116	24	119	119	120	24	113	114	115	24	116	117	117	24	114	115	116	24
7/21	115	116	116	24	119	120	120	24	113	114	115	24	116	116	116	24	114	115	115	24
7/22	115	115	116	24	118	119	121	24	112	113	114	24	115	115	117	24	112	113	113	24
7/23	113	114	114	24	116	118	120	23	110	111	112	24	114	115	115	24	110	111	111	24
7/24	113	115	116	24	118	118	119	24	111	112	113	24	114	115	116	24	111	113	115	24
7/25	115	116	116	24	118	119	119	24	112	113	114	24	115	116	116	24	114	115	116	24
7/26	114	115	116	24	118	118	119	24	111	112	112	24	114	114	115	24	112	113	114	24
7/27	114	114	115	24	118	120	121	24	110	111	112	24	114	115	115	24	110	111	112	24
7/28	112	113	114	24	116	117	119	24	108	108	109	24	112	113	113	24	109	110	111	24
7/29	112	113	113	23	116	116	117	21	109	109	110	24	114	115	116	24	110	110	111	24
7/30	112	112	113	24	115	116	117	24	109	110	110	24	113	114	115	24	110	111	111	24
7/31	112	112	113	24	115	116	118	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	<u>Priest R. Dnst</u>				<u>Pasco</u>				<u>Dworshak</u>				<u>Clrwtr-Peck</u>				<u>Anatone</u>			
	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#
	<u>Avg</u>	<u>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>	
7/18	113	113	114	10	110	111	111	24	104	104	105	24	104	104	105	24	102	103	104	24
7/19	---	---	---	0	109	110	111	24	104	105	105	24	104	105	106	24	102	103	104	24
7/20	---	---	---	0	110	110	111	24	104	105	105	24	104	105	106	24	102	103	104	24
7/21	114	115	115	15	110	111	112	24	104	105	105	24	104	105	106	24	102	103	104	24
7/22	113	113	114	24	109	109	110	24	106	107	108	24	104	105	105	24	101	101	102	24
7/23	112	112	113	24	106	108	109	24	107	107	109	24	105	106	107	24	102	103	104	24
7/24	112	113	114	24	108	108	109	24	108	109	110	24	106	107	108	24	102	103	104	24
7/25	115	115	116	24	109	110	110	24	108	109	110	24	106	107	108	24	102	103	103	24
7/26	113	114	115	24	109	110	111	24	108	108	108	24	106	107	108	24	102	102	103	24
7/27	112	113	113	24	108	108	109	24	108	108	108	24	106	107	108	24	101	102	103	24
7/28	111	111	111	24	106	107	108	24	108	109	109	24	106	107	108	24	101	102	103	24
7/29	112	112	113	24	105	106	107	24	109	109	109	24	107	108	109	24	102	102	103	24
7/30	112	113	113	24	105	107	108	24	108	108	109	24	107	108	108	24	101	102	103	24
7/31	---	---	---	0	---	---	---	0	109	109	110	24	107	108	109	24	102	103	104	24

### Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwtr-Lewiston</u>				<u>Lower Granite</u>				<u>L. Granite Tlwr</u>				<u>Little Goose</u>				<u>L. Goose Tlwr</u>			
	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#
	<u>Avg</u>	<u>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>	
7/18	104	106	107	24	100	101	101	24	110	110	111	24	109	109	109	24	112	113	114	24
7/19	104	106	108	24	100	101	101	24	110	110	111	24	109	109	109	24	111	112	112	24
7/20	104	106	108	24	101	101	101	24	110	110	111	24	109	109	109	24	114	114	115	24
7/21	104	106	107	24	101	101	101	24	110	110	111	24	108	108	108	24	114	114	115	24
7/22	102	103	103	24	101	101	101	24	110	111	112	24	108	108	108	24	111	111	112	24
7/23	104	106	108	24	101	102	102	24	110	111	111	24	107	107	109	24	111	111	112	24
7/24	105	107	109	24	101	102	102	24	110	111	111	24	107	107	108	24	109	110	110	24
7/25	106	108	109	24	101	101	101	24	110	110	112	24	107	107	107	24	108	108	109	24
7/26	105	108	109	24	101	101	102	24	110	110	111	24	106	107	107	24	108	108	109	24
7/27	105	108	110	24	102	103	103	24	110	111	112	24	107	107	107	24	108	108	108	24
7/28	105	107	109	24	103	104	104	24	110	111	111	24	107	107	107	24	110	111	112	24
7/29	105	107	108	24	103	103	104	24	110	110	111	24	107	107	107	24	110	111	111	24
7/30	105	107	109	24	101	101	102	24	111	111	111	24	106	106	106	24	112	113	113	24
7/31	105	108	110	24	102	103	103	24	110	110	111	24	106	107	107	24	113	113	114	24

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

Date	<u>Lower Mon.</u>				<u>L. Mon. Tlwr</u>				<u>Ice Harbor</u>				<u>Ice Harbor Tlwr</u>				<u>McNary-Oregon</u>			
	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#	<u>24 h</u>		<u>12 h</u>		#
	<u>Avg</u>	<u>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>	
7/18	110	110	111	24	114	115	115	24	114	115	115	24	113	113	113	24	---	---	---	0
7/19	111	111	112	24	115	115	116	24	114	114	115	24	113	114	114	24	---	---	---	0
7/20	111	112	112	24	115	116	116	24	114	114	115	24	113	114	114	24	---	---	---	0
7/21	111	112	112	24	116	116	117	24	114	114	115	24	113	114	115	24	---	---	---	0
7/22	111	111	111	24	115	116	116	24	113	113	113	24	114	114	114	24	---	---	---	0
7/23	110	110	110	24	115	116	116	24	111	111	111	24	114	114	115	24	---	---	---	0
7/24	109	110	110	24	115	116	116	24	111	111	111	24	114	115	116	24	---	---	---	0
7/25	110	110	110	24	115	115	116	24	111	111	112	24	114	115	115	24	---	---	---	0
7/26	109	110	110	24	115	116	116	24	111	111	112	24	114	115	115	24	---	---	---	0
7/27	109	109	110	24	116	116	117	24	112	112	112	24	114	115	115	24	---	---	---	0
7/28	108	108	109	24	115	116	116	24	111	111	112	24	114	114	115	24	---	---	---	0
7/29	106	107	108	24	114	115	115	24	111	111	111	24	113	113	114	24	---	---	---	0
7/30	105	106	106	24	115	115	116	24	109	109	110	24	113	114	114	24	---	---	---	0
7/31	106	107	107	24	115	116	116	24	109	110	111	24	114	115	115	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>#</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>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>				
7/18	111	112	112	24	115	115	116	24	110	111	111	24	114	114	115	24	108	109	110	24
7/19	111	111	113	24	115	116	117	24	110	110	110	24	114	115	115	24	108	108	109	24
7/20	110	111	111	24	115	116	117	24	109	109	110	24	113	114	115	24	110	110	110	24
7/21	110	110	111	24	115	116	116	24	108	108	109	24	114	114	114	24	109	109	109	24
7/22	109	109	110	24	116	116	117	24	106	106	107	24	113	114	115	24	106	107	108	24
7/23	107	108	109	24	114	115	116	24	104	104	105	24	114	114	115	24	104	104	104	24
7/24	106	107	107	24	114	114	115	24	103	103	103	11	114	114	115	11	105	106	107	24
7/25	107	108	108	24	115	116	117	24	104	104	105	24	116	117	119	24	108	108	108	24
7/26	108	109	109	24	115	116	116	24	104	104	105	24	115	116	118	24	107	107	107	24
7/27	108	109	109	24	115	116	117	24	103	103	103	24	114	114	116	24	107	107	107	24
7/28	107	108	109	24	116	117	117	24	102	103	103	24	115	116	118	24	105	106	106	24
7/29	108	108	110	24	114	115	116	24	103	103	103	24	114	115	115	24	106	107	107	24
7/30	106	106	107	24	114	115	116	24	103	104	104	24	115	117	118	24	105	105	106	24
7/31	106	106	107	23	115	116	116	23	104	105	105	24	115	116	116	24	107	108	109	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			<u>Bonneville</u>			<u>Warrendale</u>			<u>CamasWashougal</u>			<u>Cascade Island</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	<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>				
7/18	114	114	114	24	107	107	108	24	---	---	---	0	111	113	114	24	116	117	118	24
7/19	114	115	115	24	106	107	107	24	---	---	---	0	112	114	116	24	116	116	118	24
7/20	115	116	116	24	107	108	108	24	---	---	---	0	112	114	115	24	116	117	118	24
7/21	115	115	115	24	107	108	108	24	---	---	---	0	113	114	116	24	115	116	118	24
7/22	113	113	114	24	106	106	107	24	---	---	---	0	109	111	112	24	115	117	119	24
7/23	111	111	112	24	104	104	105	24	---	---	---	0	110	112	114	24	115	116	119	24
7/24	112	113	113	24	104	105	106	24	---	---	---	0	112	114	116	24	115	116	119	24
7/25	113	114	114	24	107	107	108	24	---	---	---	0	112	114	116	24	116	117	120	24
7/26	113	113	113	24	107	107	107	24	---	---	---	0	112	114	116	24	116	117	120	24
7/27	112	113	113	24	107	107	107	24	---	---	---	0	111	113	115	24	115	117	120	24
7/28	113	113	114	24	107	108	108	24	---	---	---	0	113	116	118	24	116	117	120	24
7/29	112	113	114	24	107	107	108	24	---	---	---	0	112	114	115	24	115	117	120	24
7/30	112	112	113	24	107	107	108	24	---	---	---	0	112	115	117	24	115	117	119	24
7/31	114	114	115	23	108	108	109	24	---	---	---	0	114	115	117	24	115	117	119	24

## Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 8/1/2008 11:25

### 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>

<b>COMBINED YEARLING CHINOOK</b>											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/18/2008	---	---	---	---	0	0	10	1	0	0	0
07/19/2008	---	---	---	---	8	7	29	3	85	0	0
07/20/2008	---	---	---	---	0	43	10	4	0	0	47
07/21/2008	---	---	---	---	8	0	13	3	0	0	0
07/22/2008	---	---	---	---	9	10	0	2	34	0	55
07/23/2008	---	---	---	---	9	1	0	1	0	0	0
07/24/2008	---	---	---	---	9	0	11	0	0	0	0
07/25/2008	---	---	---	---	25	0	3	1	0	0	0
07/26/2008	---	---	---	---	0	0	7	0	0	64	0
07/27/2008	---	---	---	---	0	0	4	0	0	64	0
07/28/2008	---	---	---	---	0	0	7	0	0	0	0
07/29/2008	---	---	---	---	0	0	0	0	17	57	0
07/30/2008	---	---	---	---	0	0	0	2	0	0	0
07/31/2008	---	---	---	---	0	0	0	---	0	0	0
08/01/2008	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>68</b>	<b>61</b>	<b>94</b>	<b>17</b>	<b>136</b>	<b>185</b>	<b>102</b>
<b># Days:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>4</b>	<b>7</b>	<b>1</b>	<b>10</b>	<b>13</b>	<b>7</b>
<b>YTD</b>	<b>56,037</b>	<b>78,597</b>	<b>19,672</b>	<b>13,632</b>	<b>3,584,853</b>	<b>2,743,410</b>	<b>1,971,487</b>	<b>22,431</b>	<b>1,360,558</b>	<b>1,693,942</b>	<b>1,291,078</b>

<b>COMBINED SUBYEARLING CHINOOK</b>											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/18/2008	---	---	---	---	4,386	3,376	545	254	52,591	24,052	27,653
07/19/2008	---	---	---	---	3,559	3,618	543	174	65,649	28,395	18,079
07/20/2008	---	---	---	---	4,136	5,375	213	349	43,889	17,378	25,387
07/21/2008	---	---	---	---	4,836	5,167	774	313	41,746	17,243	11,307
07/22/2008	---	---	---	---	7,009	2,969	457	260	60,332	18,047	19,482
07/23/2008	---	---	---	---	5,008	3,549	891	217	47,902	25,595	8,465
07/24/2008	---	---	---	---	7,015	7,061	151	194	26,188	14,275	8,504
07/25/2008	---	---	---	---	5,296	6,689	377	206	13,420	21,138	11,532
07/26/2008	---	---	---	---	3,393	9,719	283	178	27,159	19,145	13,868
07/27/2008	---	---	---	---	2,430	6,992	624	156	25,189	23,293	13,685
07/28/2008	---	---	---	---	2,077	3,255	454	105	14,216	14,864	6,874
07/29/2008	---	---	---	---	2,872	2,660	350	164	24,969	26,503	8,240
07/30/2008	---	---	---	---	3,081	2,500	387	174	16,938	19,559	4,343
07/31/2008	---	---	---	---	2,161	1,317	178	---	12,834	17,169	8,157
08/01/2008	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>57,259</b>	<b>64,247</b>	<b>6,227</b>	<b>2,744</b>	<b>473,022</b>	<b>286,656</b>	<b>185,576</b>
<b># Days:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,090</b>	<b>4,589</b>	<b>445</b>	<b>211</b>	<b>33,787</b>	<b>20,475</b>	<b>13,255</b>
<b>YTD</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>119</b>	<b>697,641</b>	<b>1,075,045</b>	<b>321,551</b>	<b>14,308</b>	<b>2,118,851</b>	<b>1,633,559</b>	<b>3,672,156</b>

Two-Week Summary of Passage Indices

COMBINED COHO											
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
07/18/2008	---	---	---	---	0	0	0	12	0	0	0
07/19/2008	---	---	---	---	0	0	0	4	0	0	0
07/20/2008	---	---	---	---	0	0	0	9	0	0	0
07/21/2008	---	---	---	---	0	0	0	6	0	0	54
07/22/2008	---	---	---	---	0	0	0	10	0	0	0
07/23/2008	---	---	---	---	0	0	0	6	0	0	0
07/24/2008	---	---	---	---	0	0	0	7	0	0	0
07/25/2008	---	---	---	---	0	14	0	4	0	0	0
07/26/2008	---	---	---	---	0	0	0	2	26	0	0
07/27/2008	---	---	---	---	0	0	0	3	25	0	46
07/28/2008	---	---	---	---	0	0	0	5	0	0	0
07/29/2008	---	---	---	---	0	0	0	0	0	0	0
07/30/2008	---	---	---	---	0	0	0	5	0	0	0
07/31/2008	---	---	---	---	0	0	0	---	0	0	0
08/01/2008	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>73</b>	<b>51</b>	<b>0</b>	<b>100</b>
<b># Days:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>6</b>	<b>4</b>	<b>0</b>	<b>7</b>
<b>YTD</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>326</b>	<b>108,963</b>	<b>166,074</b>	<b>142,692</b>	<b>52,256</b>	<b>169,410</b>	<b>362,537</b>	<b>358,623</b>

COMBINED STEELHEAD											
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
07/18/2008	---	---	---	---	0	7	0	1	0	0	122
07/19/2008	---	---	---	---	0	14	0	4	0	0	0
07/20/2008	---	---	---	---	0	9	0	0	0	0	47
07/21/2008	---	---	---	---	0	22	3	2	0	0	0
07/22/2008	---	---	---	---	0	10	0	5	34	0	0
07/23/2008	---	---	---	---	0	39	0	0	0	0	0
07/24/2008	---	---	---	---	0	0	0	1	0	0	45
07/25/2008	---	---	---	---	0	43	0	1	26	0	0
07/26/2008	---	---	---	---	9	29	4	2	26	0	0
07/27/2008	---	---	---	---	0	0	0	0	25	0	0
07/28/2008	---	---	---	---	0	29	0	2	0	0	0
07/29/2008	---	---	---	---	0	14	0	3	0	0	0
07/30/2008	---	---	---	---	0	0	0	0	0	0	0
07/31/2008	---	---	---	---	7	0	0	---	0	0	0
08/01/2008	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>216</b>	<b>7</b>	<b>21</b>	<b>111</b>	<b>0</b>	<b>214</b>
<b># Days:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>8</b>	<b>0</b>	<b>15</b>
<b>YTD</b>	<b>4,565</b>	<b>22,292</b>	<b>5,891</b>	<b>10,708</b>	<b>3,444,053</b>	<b>3,694,209</b>	<b>1,546,161</b>	<b>22,774</b>	<b>507,313</b>	<b>1,132,932</b>	<b>450,237</b>

## Two-Week Summary of Passage Indices

Date	<b>COMBINED SOCKEYE</b>										
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/18/2008	---	---	---	---	0	0	0	1	0	0	731
07/19/2008	---	---	---	---	8	0	0	0	0	0	272
07/20/2008	---	---	---	---	0	1	0	0	130	0	93
07/21/2008	---	---	---	---	0	0	0	0	63	0	270
07/22/2008	---	---	---	---	0	3	0	0	0	0	166
07/23/2008	---	---	---	---	0	0	0	0	34	0	27
07/24/2008	---	---	---	---	0	0	0	1	0	0	45
07/25/2008	---	---	---	---	0	0	0	0	0	0	82
07/26/2008	---	---	---	---	17	0	0	0	26	0	42
07/27/2008	---	---	---	---	0	0	0	2	0	0	102
07/28/2008	---	---	---	---	7	0	0	3	0	0	52
07/29/2008	---	---	---	---	0	0	0	0	17	0	0
07/30/2008	---	---	---	---	0	7	0	2	0	0	139
07/31/2008	---	---	---	---	7	7	0	---	0	0	0
08/01/2008	---	---	---	---	---	---	---	---	---	---	---
<hr/>											
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>39</b>	<b>18</b>	<b>0</b>	<b>9</b>	<b>270</b>	<b>0</b>	<b>2,021</b>
<b># Days:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>19</b>	<b>0</b>	<b>144</b>
<b>YTD</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>111</b>	<b>27,376</b>	<b>36,558</b>	<b>45,480</b>	<b>38,952</b>	<b>222,917</b>	<b>331,815</b>	<b>145,326</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  
 $\text{Passage Index} = \text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$
- LGS (Index) = Little Goose Bypass Collection System : Passage Index Counts  
 $\text{Passage Index} = \text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$
- LMN (Index) = Lower Monumental Dam Bypass Collection System : Passage Index Counts  
 $\text{Passage Index} = \text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$
- RIS (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts  
 $\text{Passage Index} = \text{Collection Counts} / \{ \text{Powerhouse 2 Flow} / (\text{Powerhouse 1 \& 2 Flow} + \text{Spill}) \}$
- MCN (Index) = McNary Dam Bypass Collection System : Passage Index Counts  
 $\text{Passage Index} = \text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$
- JDA (Index) = John Day Dam Bypass Collection System : Passage Index Counts  
 $\text{Passage Index} = \text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$
- BO2 (Index) = Bonneville Dam Second Powerhouse Bypass Collection System : Passage Index Counts  
 $\text{Passage Index} = \text{Collection Counts} / \{ \text{Powerhouse 2 Flow} / (\text{Powerhouse 1 \& 2 Flow} + \text{Spill}) \}$

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:

8/1/08 11:27 AM

07/18/08 TO 08/01/08

		Species						
Site	Data	CH0	CH1	CO	SO	ST	Grand Total	
<b>LGR</b>	Sum of NumberCollected	33,233	40			23	9	33,305
	Sum of NumberBarged	33,904	39			19	4	33,966
	Sum of NumberBypassed	0	0			0	0	0
	Sum of Numbertrucked	0	0			0	0	0
	Sum of SampleMorts	105	1			0	1	107
	Sum of FacilityMorts	176	0			0	1	177
	Sum of ResearchMorts	348	0			0	0	348
	Sum of TotalProjectMorts	629	1			0	2	632
<b>LGS</b>	Sum of NumberCollected	44,719	43	10		13	150	44,935
	Sum of NumberBarged	45,753	50	10		3	148	45,964
	Sum of NumberBypassed	6	0	0		0	0	6
	Sum of Numbertrucked	0	0	0		0	0	0
	Sum of SampleMorts	31	0	0		1	1	33
	Sum of FacilityMorts	119	0	0		5	1	125
	Sum of ResearchMorts	0	0	0		0	0	0
	Sum of TotalProjectMorts	150	0	0		6	2	158
<b>LMN</b>	Sum of NumberCollected	3,622	56				4	3,682
	Sum of NumberBarged	3,655	64				4	3,723
	Sum of NumberBypassed	152	0				0	152
	Sum of Numbertrucked	0	0				0	0
	Sum of SampleMorts	5	0				0	5
	Sum of FacilityMorts	25	0				0	25
	Sum of ResearchMorts	0	0				0	0
	Sum of TotalProjectMorts	30	0				0	30
<b>MCN</b>	Sum of NumberCollected	236,300	80	20		115	50	236,565
	Sum of NumberBarged	230,288	79	20		110	46	230,543
	Sum of NumberBypassed	0	0	0		0	0	0
	Sum of Numbertrucked	0	0	0		0	0	0
	Sum of SampleMorts	131	0	0		1	0	132
	Sum of FacilityMorts	5,834	1	0		4	4	5,843
	Sum of ResearchMorts	47	0	0		0	0	47
	Sum of TotalProjectMorts	6,012	1	0		5	4	6,022
Total Sum of NumberCollected		317,874	219	30		151	213	318,487
Total Sum of NumberBarged		313,600	232	30		132	202	314,196
Total Sum of NumberBypassed		158	0	0		0	0	158
Total Sum of Numbertrucked		0	0	0		0	0	0
Total Sum of SampleMorts		272	1	0		2	2	277
Total Sum of FacilityMorts		6,154	1	0		9	6	6,170
Total Sum of ResearchMorts		395	0	0		0	0	395
Total Sum of TotalProjectMorts		6,821	2	0		11	8	6,842

### YTD Transportation Summary

Source: Fish Passage Center

Updated:

8/1/08 11:27 AM

TO: 08/01/08

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
<b>LGR</b>	Sum of NumberCollected	396,646	2,398,630	68,794	13,272	2,165,395	5,042,737
	Sum of NumberBarged	385,786	1,966,897	66,900	12,806	1,786,595	4,218,984
	Sum of NumberBypassed	2,580	425,949	1,848	424	377,930	808,731
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	315	154	2	3	50	524
	Sum of FacilityMorts	1,624	2,841	44	35	817	5,361
	Sum of ResearchMorts	5,130	2,789	0	0	0	7,919
	Sum of TotalProjectMorts	7,069	5,784	46	38	867	13,804
<b>LGS</b>	Sum of NumberCollected	706,380	1,706,944	95,850	21,797	2,309,355	4,840,326
	Sum of NumberBarged	698,229	1,314,157	93,080	21,698	1,590,143	3,717,307
	Sum of NumberBypassed	5,424	389,296	2,765	67	718,741	1,116,293
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	130	40	1	4	14	189
	Sum of FacilityMorts	1,680	3,451	4	24	457	5,616
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1,810	3,491	5	28	471	5,805
<b>LMN</b>	Sum of NumberCollected	236,152	1,216,506	83,198	28,104	957,121	2,521,081
	Sum of NumberBarged	233,475	276,426	9,246	10,128	230,244	759,519
	Sum of NumberBypassed	2,174	940,234	73,949	17,975	726,648	1,760,980
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	45	39	0	0	22	106
	Sum of FacilityMorts	362	798	3	1	207	1,371
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	407	837	3	1	229	1,477
<b>MCN</b>	Sum of NumberCollected	1,031,577	752,345	78,640	102,263	276,925	2,241,750
	Sum of NumberBarged	274,462	139	20	110	46	274,777
	Sum of NumberBypassed	749,935	751,376	78,558	102,005	276,615	1,958,489
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	237	112	3	23	25	400
	Sum of FacilityMorts	6,856	654	56	114	217	7,897
	Sum of ResearchMorts	87	58	3	5	20	173
	Sum of TotalProjectMorts	7,180	824	62	142	262	8,470
Total Sum of NumberCollected		2,370,755	6,074,425	326,482	165,436	5,708,796	14,645,894
Total Sum of NumberBarged		1,591,952	3,557,619	169,246	44,742	3,607,028	8,970,587
Total Sum of NumberBypassed		760,113	2,506,855	157,120	120,471	2,099,934	5,644,493
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		727	345	6	30	111	1,219
Total Sum of FacilityMorts		10,522	7,744	107	174	1,698	20,245
Total Sum of ResearchMorts		5,217	2,847	3	5	20	8,092
Total Sum of TotalProjectMorts		16,466	10,936	116	209	1,829	29,556

**Cumulative Adult Passage at Mainstem Dams Through: 07/31**

DAM	EndDate	Spring Chinook						Summer Chinook						Fall Chinook					
		2008		2007		10-Yr Avg.		2008		2007		10-Yr Avg.		2008		2007		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	07/31	125545	17552	67482	16860	151523	9831	78271	11621	47024	13432	71224	9117	0	0	0	0	0	0
TDA	07/31	95440	15801	53524	15567	106828	7522	64326	12027	39252	11057	60816	6660	0	0	0	0	0	0
JDA	07/31	81771	14925	44005	13864	89148	6122	62704	13407	34677	11090	55860	6589	0	0	0	0	0	0
MCN	07/29	68085	12133	39497	12393	82136	6227	53195	10959	30325	8669	52163	5685	0	0	0	0	0	0
IHR	07/30	53142	7757	28380	7371	54980	3897	23394	4934	7305	2440	11238	2077	0	0	0	0	0	0
LMN	07/31	54512	6885	28397	7102	52688	3599	26949	2800	10944	1344	11200	1603	0	0	0	0	0	0
LGS	07/30	50401	7805	23960	7227	50024	3685	21189	4760	7432	2798	9264	2030	0	0	0	0	0	0
LGR	07/31	50146	10946	22905	9085	50643	4197	22090	4999	6846	3127	9118	2223	0	0	0	0	0	0
PRD	07/28	12173	620	6708	489	17360	563	35535	1074	25914	785	44309	1595	0	0	0	0	0	0
RIS	07/30	12490	1119	5572	2066	13979	962	33636	2383	24061	4909	41081	4067	0	0	0	0	0	0
RRH	07/30	4065	371	2424	920	5404	397	24177	1573	16949	3761	28461	2594	0	0	0	0	0	0
WEL	07/25	2708	426	2041	752	3980	281	13554	555	7987	1590	16230	763	0	0	0	0	0	0
WFA	07/17	13701	332	22351	223	-	-	-	-	-	-	-	-	0	0	0	0	-	-

DAM	Coho						Sockeye			Steelhead			
	2008		2007		10-Yr Avg.		2008	2007	10-Yr Avg.	2008	2007	10-Yr Avg.	Wild
	Adult	Jack	Adult	Jack	Adult	Jack							2008
BON	1	1	6	0	1	0	213544	24265	58459	139153	68662	98621	54737
TDA	0	0	0	0	0	0	177939	19025	49390	76085	28451	43952	33142
JDA	-2	0	2	0	1	0	193254	24083	53942	54912	21180	32875	21939
MCN	0	0	0	0	0	0	146807	18030	44854	29716	15375	20923	10464
IHR	-1	0	0	0	0	0	535	55	34	17125	7627	10517	5367
LMN	0	0	0	0	0	0	716	42	33	17246	8966	9688	6253
LGS	0	0	0	0	0	0	584	34	37	8213	4627	5985	3036
LGR	0	0	0	0	0	0	849	53	42	12179	12357	10411	4338
PRD	1	0	0	1	3	0	191537	24163	55416	3531	1020	1892	0
RIS	0	0	0	0	1	0	192983	24650	51521	3135	848	1486	1387
RRH	0	0	0	0	1	0	160327	20059	35840	2551	682	1015	988
WEL	0	0	0	0	0	0	160889	19599	33256	907	209	295	534
WFA	0	0	2	0	-	-	-	-	-	17877	17535	-	-

BON and LGR have switched to video counts so the data is delayed.  
 \*PRD is not posting 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: 08/01/08

BON counts from January 1, 2008 to March 14, 2008 (our traditional counts begin March 15):

Year	Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
2008	42	0	578	278
2007	22	0	1,677	517