



*Fish Passage Center*

# Weekly Report #02 - 20

July 26, 2002

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**SUMMARY OF EVENTS:**

- COE has agreed to release 45°F water from the Dworshak Reservoir over the next several weeks to help mitigate increasing water temperatures in the Lower Snake River.
- TMT agreed on a summer reservoir operation for Hungry Horse: outflows of 4 Kcfs through August 4th, outflows of 6 Kcfs from August 5th to 25th, and outflows 4 Kcfs from August 26-31st.
- The BiOp summer flow objectives are 51 Kcfs at Lower Granite and 200 Kcfs at McNary. To date, summer flows have averaged 53.3 Kcfs at Lower Granite and 245.8 Kcfs at McNary; therefore, flow objectives are being met on a seasonal basis at both projects. Weekly average flows between 7-19-02 and 7-25-02 at Lower Granite and McNary were 31.6 and 212.4 Kcfs; therefore, flow objectives are not being met on a weekly basis at Lower Granite.
- Combined storage in the Upper Snake River System is at 41% of capacity.

**Water:** Water Year 2002 continues to be approximately average in terms of cumulative precipitation. Weekly precipitation totals have been updated through the 16th of July (Table 1). Precipitation throughout the beginning of July has ranged between 24% and 107% of average within the Columbia Basin.

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

Location	July 2002		Cumulative 10/1/01 – 7/9/02	
	Observed (inches)	% Avg	Observed (inches)	% Avg
Columbia Above Coulee	0.96	105	21.87	102
Snake R. Above Ice Harbor	0.15	31	13.59	87
Columbia Above The Dalles	0.52	82	19.77	97
Kootenai	1.05	107	20.59	94
Clark Fork	0.46	75	15.43	104
Flathead	0.67	82	20.76	106
Pend Oreille/Spokane	0.69	97	31.65	113
Central Washington	0.15	78	7.39	91
Snake R. Plain	0.07	24	6.90	70
Clearwater	0.39	52	29.07	106
SW Washington Cascades/Cowlitz	0.29	40	71.65	108
Willamette Valley	0.11	26	56.06	100

Flows within the Columbia Basin have been decreasing. Storage reservoirs along the Columbia and Snake Rivers are generally at or near full and operators are either passing inflows or beginning to draft.

The Grand Coulee Reservoir has drafted 1.1 feet over last week; beginning the week at 1288.4 feet (7-19-02) and ending at 1287.3 feet (7-25-02). Total outflows have averaged 155 Kcfs over the past week (7-19-02 to 7-25-02).

The Libby reservoir has drafted 1.1 feet over the past week (7-19-02 to 7-25-02); reservoir elevations have ranged from 2458.5 to 2457.4 feet. Outflows have been constant at 22.0 Kcfs over the week. Over the last week, inflows to Libby have been decreasing, beginning the week at 20.6 Kcfs and ending at 15.5 Kcfs. Operators at Libby did not spill any water over the week from 7-19-02 to 7-25-02. Currently (7-25-02), Libby is at an elevation of 2457.4 feet.

The Dworshak reservoir continues to draft. Over the last week, total outflows at Dworshak have fluctuated between 13.6 and 13.9 Kcfs (7-19-02 to 7-25-02) to supplement flows and temperatures at Lower Granite. Operations at Dworshak continue to involve spilling between 3.9 and 4.1 Kcfs of reservoir water. At the request of FPAC, COE will release 45°F water from Dworshak over the next several weeks. Currently (midnight, 7-25-02) Dworshak is at an elevation of 1584.9 feet.

Over the past week, the Brownlee reservoir has remained relatively steady, refilling 0.2 feet. Brownlee began the last week at 2071.7 feet (7-19-02) and ended at 2071.9 feet (7-25-02). During the week, outflows have varied between 4.8 and 11.8 Kcfs.

The Hungry Horse Reservoir has begun to draft over the past week; beginning the week at an elevation of 3559.4 feet and ending the week at 3558.8 feet. Total outflows at Hungry Horse have averaged 4.2 Kcfs over the last week (7-19-02 to 7-25-02). At the July 24, 2002 TMT meeting, the salmon managers agreed that operations at Hungry Horse would include outflows of approximately 4 Kcfs through the 4th of August, 6Kcfs from the 5th through 25th of August, and back to 4 Kcfs through the end of August.

The BiOp summer flow objective season began at Lower Granite on 6-21-02 and at McNary on 7-1-02. The summer objectives are 51 Kcfs at Lower Granite and 200 Kcfs at McNary. To date, summer flows have averaged 53.3 Kcfs at Lower Granite and 245.8 Kcfs at McNary. Summer BiOp flow objectives are being met at both Lower Granite and McNary on a seasonal basis. Over the past week (7-19-02 to 7-25-02), flows have averaged 31.6 Kcfs at Lower Granite and 212.4 Kcfs at McNary. Therefore, on a weekly basis, flow objectives are not being met at Lower Granite.

Currently, as of July 25th, 2002, the entire Upper Snake River System is at 41% of capacity. Most reservoirs on the Upper Snake River have been drafting. Individually, American Falls is at 26% of capacity, Palisades is at 32% of capacity, Jackson Lake is at 72% of capacity, Island Park is at 54% of capacity, Lake Walcott is at 99% of capacity, Milner is at 96% of capacity, and Grassy Lake is at 87% of capacity.

**Spill:** Dworshak Reservoir continues to draft water for flow augmentation and temperature regulation. Spill levels have averaged 4 Kcfs over the past week. Tailwater total dissolved gas levels have remained below 108%. No spill has occurred at the Snake River transportation collector projects this past week. At Ice Harbor Dam spill averaged 78% of daily flows over the past week.

Lower River spill as part of the Biological Opinion spill program is being provided at John Day, The Dalles and Bonneville dams. Spill at McNary Dam is water in excess of hydraulic capacity at that project. Spill averaged 22% of average daily flow at McNary Dam, 27% of average daily flow at John Day Dam, 39% of average daily flow at The Dalles Dam and 59% of average daily flow at Bonneville Dam.

The total dissolved gas levels have at times exceeded the water quality waivers by small percentages. Fish are currently being monitored for signs of GBT at Rock Island, McNary and Bonneville dams. Some fish have been observed with minor signs of GBT this past week at Rock Island Dam this past week.

**Smolt Monitoring:** The subyearling chinook outmigration appears to be either late or the numbers are below NMFS preseason projections (or both) in the Snake River and in the Lower Columbia based on passage index data collected to date.

At Lower Granite Dam this past week the, number of subyearling chinook increased compared to last week with the average daily index at 19,200 this week compared to 13,200 last week. At Rock Island Dam the subyearling chinook index increased compared to last week, with 460 average daily index this week compared to 370 daily last week. In the lower Columbia, passage of subyearlings at McNary dropped off considerably, with an average daily index of 69,000, compared to 151,000 per day last week. At John Day Dam passage index for subyearling chinook was down sharply also, with the index averaging 22,800 this week versus 83,000 last week. And at Bonneville Dam subyearling chinook numbers decreased as well with an average daily index this week of 39,400 versus 117,000 last week.

**Adult Fish Passage:** As is somewhat normal for this time of summer, water temperatures are increasing throughout the Columbia River basin. Counts of steelhead at Bonneville Dam and The Dalles Dam are beginning to show a large differential and would indicate that about 50% of the fish are likely entering tributaries such as the Big White Salmon and Drano Lake in the Bonneville pool to seek cooler water temperatures than presently found in the mainstem Columbia River. Upstream at Lower Granite Dam, passage of steelhead and chinook has fallen rapidly in the past 4-days due to the warm water temperatures that are above 70°F (surface water temps.).

At Bonneville Dam, the summer chinook counts averaged 944 per day for the week with the cumulative count through July 25 at 123,371. This year's count of adult summer chinook is about 1.7 and 4.9 times greater than the respective year 2001 and 10-year average through July 25. At McNary Dam, the adult summer chinook count averaged 989 per day through the week with a total count of 100,633 through July 25. The Snake River count of adult summer chinook at Ice Harbor Dam

totaled 26,168 through the July 25 with daily counts averaging less than 100 per day at the remaining Snake River dams. In the Mid-Columbia, the cumulative count of adult summer chinook at Priest Rapids Dam was 76,973 through July 24, about 2.0 times and 5.4 times greater than the respective 2001 and 10-year average. At Wells Dam about 38,400 have been counted through the 24th of July with 59,200 above Rocky Reach Dam through July 22nd.

At Bonneville Dam, sockeye salmon counts for the week ending July 25 ranged from near 100 early in the week to about 50 per day by the end of the week with the season total at 49,364. The 2002 sockeye count is about 43% of the 2001 count and about 99% of the 10-year average count. Most sockeye are destined for two lake systems (Lake Wenatchee and Lake Osoyoos) in the Mid-Columbia Zone. About 43,900 sockeye have passed Priest Rapids Dam to date. The number of sockeye counted at Rocky Reach Dam (13,328 through July 22) will be destined for the Lake Osoyoos. This year's return would indicate that the majority of sockeye would be Lake Wenatchee stock. In the Snake River, at least 47 adult sockeye have been counted at Lower Granite Dam through July 25. These sockeye should be destined for the upper Salmon River area (Redfish L, Alturas L, or Pettit L).

Steelhead passage at Bonneville Dam averaged 5,293 per day through the past week with a total of 114,445 counted through July 25. This total is 74.8% and 216.7% of the respective 2001 and 10-year average counts to date. Estimated wild steelhead in the passage total was 48,130 (based on visual missing adipose fin on the steelhead). Adult steelhead are moving upstream into the Snake River projects with about 600-700 per day passing Ice Harbor Dam through the reporting week. As noted above, warm water temperatures in the Snake River caused fish to slow their migration with only 50 steelhead per day counted at Lower Granite during the past four days. In the Mid-Columbia, the counts of steelhead at Priest Rapids Dam ranged from 101-225 per day and total 2,036 through June 24. The passage of steelhead into the Snake and Mid-Columbia Rivers remains about double the 10-year average to date.

**Hatchery Releases:** All subyearling fish, fall and summer chinook, are in-river. Preliminary hatchery release totals are listed in the Table below the Snake, Mid-Columbia, and Lower Columbia River Zones.

*Snake River* - All subyearling fall chinook in the Snake River basin have been released for the 2002 Migration Year.

*Mid-Columbia [above McNary Dam]* - The final releases of subyearling summer and fall chinook have been completed for the season.

*Lower Columbia [Bonneville Dam to McNary Dam]*- About four million subyearling fall chinook will be released into the Klickitat River beginning June 3 and lasting through about July 17. Three separate releases are scheduled with the initial release planted on June 3, the second release on July 1-5, and the final release from July 17. All other subyearling fall chinook have been released earlier this spring/summer.

**Hatchery Release Totals by River Zone for 2002 Migration Season**

	<b>Spr Chin</b>	<b>SumChin</b>	<b>F Chin</b>	<b>Steelhd</b>	<b>Coho</b>	<b>Sockeye</b>	<b>Total</b>
<b>Snake</b>	10,184,960	1,677,497	3,669,782	9,481,688	840,000	182,835	26,036,762
<b>MidCol</b>	3,926,275	3,527,243	11,633,427	1,311,704	2,065,550	308,042	22,772,241
<b>LowCol</b>	5,759,463		26,299,935	621,855	6,120,857		38,802,110
<b>Total</b>	19,870,698	5,204,740	41,603,144	11,415,247	9,026,407	490,877	87,611,113

**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
07/12/02	199.4	23.2	201.3	16.0	217.9	37.3	212.9	51.8	210.5	33.7	217.6	82.8	205.5	111.8
07/13/02	177.7	9.1	181.5	2.1	199.9	31.5	203.8	46.9	204.7	35.7	224.4	95.2	225.1	132.3
07/14/02	123.4	0.2	122.9	0.0	142.4	11.3	160.8	28.8	167.7	33.5	201.5	75.9	208.7	112.1
07/15/02	187.3	9.8	170.6	12.2	175.2	32.7	162.1	28.4	160.6	38.3	160.4	56.8	158.9	84.5
07/16/02	183.7	0.1	192.4	1.6	208.0	57.8	211.0	44.8	210.3	39.7	213.4	76.5	208.2	111.4
07/17/02	168.4	0.1	168.0	0.0	184.9	30.4	184.4	30.0	185.2	36.3	217.9	76.6	227.6	122.2
07/18/02	173.7	0.1	174.2	12.8	182.9	10.5	179.1	27.6	178.9	38.3	174.4	61.3	173.0	93.0
07/19/02	182.5	0.2	184.9	0.7	199.1	12.5	200.3	36.9	200.3	40.5	208.0	73.0	204.3	109.6
07/20/02	158.4	0.2	164.3	0.0	180.3	14.1	181.3	28.6	181.7	38.2	193.2	68.5	194.4	105.3
07/21/02	140.2	0.2	146.0	0.0	156.2	9.7	160.2	22.0	164.1	34.6	187.3	65.9	193.8	96.8
07/22/02	174.5	0.2	171.4	0.0	175.5	10.0	169.4	28.3	168.6	38.5	164.8	58.1	158.3	85.2
07/23/02	156.0	0.1	162.5	0.0	173.2	10.0	169.6	26.2	169.8	37.5	182.1	63.9	187.0	100.2
07/24/02	142.2	0.3	143.7	0.0	153.8	10.0	155.9	24.0	156.1	36.5	169.7	59.3	163.3	87.7
07/25/02	131.4	0.3	131.5	0.0	138.6	10.0	144.9	24.5	145.2	36.6	162.8	57.2	163.5	86.8

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

Date	Dworshak		Brownlee Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
07/12/02	13.7	4.2	7.4	10.6	43.8	27.5	42.8	23.6	42.6	0.0	46.5	35.5
07/13/02	13.7	4.2	8.6	12.7	42.1	9.7	41.2	9.4	42.0	0.0	43.8	35.9
07/14/02	13.7	4.1	7.2	8.0	38.0	0.0	37.0	0.0	37.3	0.0	39.9	31.9
07/15/02	13.7	4.1	8.8	9.2	37.1	13.8	35.1	11.2	36.4	0.0	39.7	33.6
07/16/02	13.7	4.1	8.7	10.5	37.2	5.4	36.1	5.1	36.4	0.0	39.0	30.7
07/17/02	13.7	4.1	---	11.9	36.4	0.0	38.0	0.0	38.0	0.0	40.8	33.2
07/18/02	13.7	4.1	7.9	8.1	36.5	0.0	36.4	0.0	37.1	0.0	40.7	34.4
07/19/02	13.7	4.0	7.4	7.3	32.2	0.0	32.4	0.0	32.8	0.0	34.9	27.1
07/20/02	13.6	4.0	8.1	7.6	30.9	0.0	31.2	0.0	32.1	0.0	35.9	28.7
07/21/02	13.6	4.0	8.6	7.3	33.2	0.0	33.2	0.0	32.2	0.0	32.7	27.0
07/22/02	13.7	4.1	8.2	7.5	30.4	0.0	32.5	0.0	34.5	0.0	35.3	21.6
07/23/02	13.9	4.2	8.7	10.4	31.4	0.0	30.6	0.0	30.3	0.0	31.6	25.0
07/24/02	13.6	3.9	9.2	10.8	31.5	0.0	31.7	0.0	33.7	0.0	37.1	30.6
07/25/02	13.6	3.9	---	---	31.4	0.0	32.2	0.0	31.7	0.0	34.7	28.5

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
07/12/02	248.1	77.1	257.7	62.8	250.9	89.4	260.8	120.2	29.8	104.1
07/13/02	267.8	97.3	255.1	90.6	247.3	97.1	251.4	84.7	54.5	105.9
07/14/02	263.6	94.3	245.8	73.1	237.0	94.3	249.3	85.6	55.8	101.2
07/15/02	219.6	55.1	240.2	59.1	243.9	98.8	252.0	121.7	35.9	87.7
07/16/02	215.4	49.9	190.6	50.5	187.6	72.2	216.7	127.9	7.3	74.8
07/17/02	258.7	85.4	257.3	89.9	249.8	97.3	236.0	91.0	47.1	91.2
07/18/02	242.6	71.7	245.0	72.5	240.7	95.2	257.4	93.3	61.6	95.7
07/19/02	205.3	36.0	212.4	61.4	216.7	86.2	223.3	95.0	34.3	87.3
07/20/02	232.3	60.7	221.8	65.6	211.6	79.7	222.5	98.2	23.0	94.6
07/21/02	225.9	56.2	225.5	46.6	222.3	87.2	---	---	---	---
07/22/02	226.6	66.4	230.1	58.5	233.5	93.1	232.2	151.6	0.2	73.7
07/23/02	209.8	53.3	202.7	54.3	191.4	76.3	187.9	143.4	0.3	37.5
07/24/02	195.7	36.7	199.9	50.1	199.9	79.6	205.7	134.2	3.5	61.3
07/25/02	201.8	26.5	183.4	65.3	182.6	71.9	202.3	91.5	6.1	98.0

--- means data not available

## 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>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>				
	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>hr</u>	
7/12	106	106	107	19	127	127	128	24	119	119	120	21	117	118	118	24	117	117	118	23
7/13	107	107	108	20	127	128	129	24	120	120	120	24	118	118	119	24	117	118	118	23
7/14	107	108	108	22	127	128	128	24	120	120	120	24	118	118	119	24	117	117	118	23
7/15	107	107	108	24	127	128	129	24	119	120	120	24	117	117	118	24	117	117	117	23
7/16	107	107	107	24	127	128	128	24	119	119	120	24	117	117	117	24	118	118	118	23
7/17	107	107	107	24	127	128	128	24	119	120	120	24	117	118	118	24	116	117	117	23
7/18	107	107	108	24	127	128	128	24	120	120	120	24	117	118	118	24	116	117	117	23
7/19	107	108	108	24	126	127	127	24	120	120	120	24	117	117	117	24	117	117	118	24
7/20	107	107	108	24	124	125	127	24	120	120	120	24	117	117	118	24	116	116	117	24
7/21	106	106	106	23	123	123	124	24	120	120	121	24	117	118	118	24	116	116	116	23
7/22	106	107	107	24	121	121	123	11	120	121	121	21	117	117	118	24	117	117	118	23
7/23	106	107	107	24	---	---	---	0	121	121	122	21	117	118	118	24	118	118	118	23
7/24	106	106	107	24	---	---	---	0	121	121	121	24	118	118	119	24	117	117	118	23
7/25	107	107	108	24	---	---	---	0	121	121	122	24	118	119	119	24	117	118	118	23

### 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>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>				
	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>hr</u>	
7/12	117	118	118	23	116	117	117	24	119	121	124	24	118	119	121	24	120	121	122	24
7/13	116	117	117	23	117	117	117	24	120	122	126	24	117	118	121	24	119	120	122	24
7/14	117	117	118	23	116	116	117	23	117	117	120	23	117	119	121	23	118	120	123	23
7/15	116	117	118	23	116	116	116	24	118	121	122	24	115	116	117	24	116	117	118	24
7/16	117	117	117	23	116	117	118	24	123	126	131	24	115	117	119	24	117	118	120	24
7/17	116	117	117	23	116	117	118	24	119	121	123	24	120	122	123	24	121	123	124	24
7/18	118	120	121	23	116	116	117	24	116	116	117	24	116	117	118	24	118	119	119	24
7/19	116	117	117	24	116	116	117	24	117	117	119	24	114	115	117	24	116	117	118	24
7/20	116	116	117	24	115	115	116	24	116	117	121	24	113	113	114	24	115	115	117	24
7/21	116	116	117	23	115	115	116	24	116	116	116	24	114	114	115	23	115	116	116	23
7/22	117	117	118	23	116	116	117	23	116	117	117	23	114	114	114	22	115	116	116	22
7/23	118	118	119	23	117	117	117	24	117	117	118	24	114	114	115	24	116	116	116	24
7/24	117	117	118	23	117	117	117	20	117	117	117	20	115	115	116	20	116	116	117	20
7/25	117	118	119	23	117	117	117	24	117	117	118	24	115	116	116	24	116	116	117	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>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>				
	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>hr</u>	
7/12	118	119	120	24	121	121	122	24	119	122	124	24	119	121	125	24	117	119	120	24
7/13	118	119	120	24	120	121	122	24	120	121	124	24	122	125	129	24	121	124	126	24
7/14	117	118	119	22	120	121	121	22	116	117	118	24	119	121	127	24	117	118	122	24
7/15	114	116	118	24	119	120	121	24	116	119	121	24	117	118	118	24	114	116	117	24
7/16	116	117	118	24	119	120	121	24	117	118	119	24	118	119	126	24	117	118	122	24
7/17	119	121	122	24	121	122	123	24	116	117	117	24	118	119	120	24	116	117	118	24
7/18	117	117	119	24	120	120	121	24	116	116	118	24	118	118	119	24	116	117	118	24
7/19	115	116	117	24	119	120	120	24	116	116	117	24	118	118	119	24	115	116	117	24
7/20	114	115	115	24	118	119	120	23	115	115	119	11	118	118	118	11	115	116	118	24
7/21	114	115	116	23	118	119	119	23	116	117	119	24	118	118	118	24	117	117	118	24
7/22	114	114	115	22	118	119	120	22	118	119	119	24	117	119	119	24	118	118	119	24
7/23	114	115	116	24	119	119	120	24	118	119	120	24	118	118	119	24	118	118	119	24
7/24	115	115	116	20	119	119	120	20	117	118	119	24	118	118	119	24	116	117	118	24
7/25	115	115	116	24	118	119	120	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>Clwrtr-Peck</u>			<u>Anatone</u>			#				
	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>					
	<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
7/12	121	121	122	24	114	115	117	21	108	108	108	21	106	107	108	21	102	103	104	21
7/13	123	124	125	24	114	115	115	24	108	108	109	24	107	108	108	24	102	103	105	24
7/14	121	121	122	24	114	114	115	24	108	108	108	24	107	107	108	24	101	103	104	24
7/15	118	120	121	24	112	113	113	24	108	108	108	24	106	107	108	24	101	102	104	24
7/16	121	122	123	24	112	113	114	24	107	108	108	24	106	107	108	24	101	102	103	24
7/17	121	122	123	24	112	113	114	24	107	108	108	24	107	108	109	24	102	104	105	23
7/18	120	121	121	24	112	112	113	24	107	107	108	23	107	107	108	23	102	103	105	24
7/19	120	120	121	24	110	111	112	24	107	107	108	24	---	---	---	0	102	103	104	24
7/20	120	120	121	24	110	111	112	24	107	107	108	24	---	---	---	0	102	103	105	24
7/21	120	121	121	24	110	112	112	24	107	107	108	24	106	108	108	24	102	104	105	24
7/22	121	122	122	24	112	113	114	23	107	108	108	20	107	108	109	20	102	104	105	24
7/23	121	122	123	24	110	111	111	24	108	108	109	24	107	108	110	24	102	103	105	24
7/24	120	120	121	24	110	111	112	24	107	107	108	24	107	108	109	24	101	102	103	24
7/25	---	---	---	0	110	111	111	24	107	107	108	24	107	108	109	24	102	102	103	24

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

Date	<u>Clwrtr-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>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>					
	<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
7/12	101	103	104	21	108	110	113	21	114	114	116	21	108	110	115	21	112	113	113	21
7/13	102	103	105	24	113	115	117	24	108	112	115	24	113	114	115	24	109	112	113	24
7/14	102	103	105	24	108	109	111	24	103	104	104	24	107	108	112	24	105	105	106	24
7/15	102	103	105	24	108	109	110	24	108	113	117	24	108	109	111	24	109	112	114	23
7/16	102	104	105	24	108	109	110	24	105	107	112	24	109	110	112	24	108	109	112	24
7/17	101	103	105	23	108	110	111	24	103	103	105	24	108	109	110	24	108	108	109	24
7/18	101	103	104	24	106	106	107	24	102	102	102	24	106	107	109	24	105	105	106	24
7/19	101	102	103	24	106	107	108	24	102	102	102	24	106	106	107	24	105	105	105	24
7/20	102	104	105	24	106	107	107	24	102	102	103	24	106	107	107	24	105	105	106	24
7/21	102	104	106	24	108	109	110	24	102	103	103	24	107	108	110	24	104	105	105	24
7/22	102	104	106	20	109	110	111	18	102	103	103	18	108	109	112	21	104	104	104	21
7/23	103	104	106	24	109	109	110	24	101	102	102	24	110	111	112	24	102	103	103	23
7/24	102	104	106	24	107	108	109	24	101	102	103	24	107	110	111	24	102	102	103	24
7/25	102	103	105	24	107	108	109	23	102	102	102	24	103	104	106	24	101	102	102	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>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>					
	<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
7/12	113	114	117	20	110	111	113	21	112	113	114	21	112	114	114	21	117	118	121	21
7/13	115	116	117	24	112	112	113	24	112	113	114	24	112	114	116	24	117	118	121	24
7/14	110	111	113	24	109	110	110	24	110	110	111	24	111	113	115	24	116	117	118	24
7/15	110	111	112	24	110	111	112	24	109	110	111	24	111	113	114	24	114	114	117	20
7/16	111	111	113	24	110	111	111	24	109	110	111	24	111	112	113	24	115	118	121	24
7/17	109	110	112	24	107	108	111	24	109	110	111	24	111	113	114	24	115	117	118	24
7/18	109	110	112	24	108	108	110	24	109	110	110	24	111	113	114	24	113	115	116	24
7/19	108	108	109	24	107	107	107	24	109	109	110	24	111	113	113	24	113	114	116	24
7/20	108	108	110	24	106	107	109	24	108	109	110	24	110	112	113	24	113	115	117	20
7/21	108	109	111	24	106	107	108	24	107	108	109	24	110	111	112	24	112	113	116	24
7/22	110	111	112	24	106	107	109	24	108	109	111	21	110	111	112	21	113	114	115	24
7/23	110	110	111	24	106	107	108	24	107	108	109	24	110	111	112	24	115	116	118	24
7/24	108	110	112	24	106	106	107	24	107	108	109	24	110	112	113	23	115	116	119	24
7/25	106	106	108	24	105	105	105	24	107	107	108	24	110	112	113	24	116	117	118	24

## 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>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>	
7/12	117	118	121	21	116	117	118	21	112	113	114	23	114	116	121	21	112	114	116	23
7/13	118	119	120	24	117	118	119	24	114	114	115	23	118	119	120	24	112	113	114	23
7/14	116	116	118	24	117	118	119	24	112	112	113	23	118	119	120	24	109	109	110	23
7/15	114	115	117	24	115	115	116	21	110	110	112	23	115	119	120	24	109	110	111	23
7/16	115	116	118	24	115	115	116	23	109	109	109	23	113	117	118	24	110	111	113	23
7/17	115	116	117	24	117	117	118	24	107	107	108	23	118	119	120	24	109	111	113	22
7/18	113	114	115	24	116	116	117	21	106	107	107	23	118	119	119	24	108	109	109	23
7/19	112	113	113	24	114	114	115	24	107	107	107	24	117	118	119	24	107	107	108	24
7/20	113	114	115	24	115	116	118	24	106	106	108	24	117	118	119	24	107	108	109	23
7/21	113	114	115	24	114	115	115	23	107	108	110	23	110	113	117	21	109	109	110	23
7/22	114	115	116	24	115	116	116	24	109	110	110	23	112	115	118	21	110	114	116	23
7/23	115	116	118	24	116	117	118	16	108	108	109	23	112	116	117	24	109	111	112	23
7/24	115	116	117	24	115	115	118	21	109	110	111	23	113	117	118	24	109	112	114	23
7/25	114	115	116	24	114	115	118	24	110	110	111	23	116	118	119	24	108	109	111	21

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

Date	<u>The Dalles Dnst</u>			#	<u>Bonneville</u>			#	<u>Warrendale</u>			#	<u>Camas\Washugal</u>			#
	<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24 h</u>	<u>12 h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>		<u>24h</u>	<u>12h</u>	<u>High</u>	
7/12	117	118	119	24	113	113	114	23	116	117	118	23	115	116	117	24
7/13	117	118	119	24	112	113	114	23	113	114	116	23	114	114	115	24
7/14	116	116	117	24	109	110	111	23	111	112	114	23	110	111	113	24
7/15	117	117	118	24	109	110	110	23	114	115	115	23	110	113	114	24
7/16	116	116	117	24	110	110	111	23	116	117	117	23	113	114	115	24
7/17	116	117	118	24	110	110	110	23	113	115	117	23	113	114	116	24
7/18	116	116	117	24	110	110	111	19	112	113	116	23	111	113	115	24
7/19	115	115	115	24	110	110	111	24	113	115	118	24	110	112	115	24
7/20	114	115	115	24	108	109	109	24	113	116	120	24	111	114	117	24
7/21	115	116	116	24	110	111	112	23	121	122	123	23	113	118	119	24
7/22	116	118	119	24	114	115	115	23	121	121	122	23	119	120	122	24
7/23	115	116	118	20	113	114	114	22	119	120	120	23	117	118	119	24
7/24	116	117	117	24	110	111	111	23	117	118	119	23	116	116	117	24
7/25	115	116	118	24	108	108	109	23	113	115	116	23	113	113	114	24



## 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>McNary Dam</b>											
	07/18/02	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0
	07/22/02	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0
	07/25/02	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0
<b>Bonneville Dam</b>											
	07/18/02	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0
	07/25/02	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0
<b>Rock Island Dam</b>											
	07/18/02	Subyearling Chinook	100	3	3	3.00%	0.00%	3	0	0	0
	07/22/02	Subyearling Chinook	100	2	2	2.00%	0.00%	2	0	0	0
	07/25/02	Subyearling Chinook	100	1	1	1.00%	0.00%	1	0	0	0

### Hatchery Release Summary Last Two Weeks

From: **7/12/02** to **7/25/02**

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
WDFW	Klickitat	CH0	FA	2002	3,968,900	06-03-02	07-17-02	Klickitat H	Klickitat River
<b>WDFW Total</b>					<b>3,968,900</b>				
<b>Grand Total</b>					<b>3,968,900</b>				

### Hatchery Release Summary Next Two Weeks

From: **7/26/02** to **8/8/02**

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
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**No releases for next two weeks**

## Two-Week Summary of Passage Indices

\* See sampling comments

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

this means that one or more of the sites on this date had an incomplete or biased sample.

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>

NOTE for 2002 Lower Monumental Data: Due to the non-standard operation of Lower Monumental this year, the passage index reliability is in question and is being looked into.

<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)	
07/12/2002	*	---	---	---	---	54	16	210	0	310	34	718
07/13/2002	*	---	---	---	---	57	0	320	3	0	764	0
07/14/2002	*	---	---	---	---	11	26	121	5	0	142	0
07/15/2002	*	---	---	---	---	50	65	242	1	116	145	0
07/16/2002	*	---	---	---	---	14	28	0	2	103	44	0
07/17/2002	*	---	---	---	---	46	0	20	0	86	28	274
07/18/2002	*	---	---	---	---	0	0	20	3	40	3	264
07/19/2002		---	---	---	---	20	17	60	2	1	35	0
07/20/2002	*	---	---	---	---	0	0	240	3	0	3	0
07/21/2002	*	---	---	---	---	0	100	120	0	135	3	0
07/22/2002		---	---	---	---	0	0	29	0	78	3	0
07/23/2002	*	---	---	---	---	0	220	20	0	0	3	0
07/24/2002		---	---	---	---	0	0	80	1	11	3	0
07/25/2002	*	---	---	---	---	0	14	250	4	0	0	29
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>252</b>	<b>486</b>	<b>1,732</b>	<b>24</b>	<b>880</b>	<b>1,210</b>	<b>1,285</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>14</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>18</b>	<b>35</b>	<b>124</b>	<b>2</b>	<b>63</b>	<b>86</b>	<b>92</b>
<b>YTD</b>		<b>38,199</b>	<b>29,095</b>	<b>8,013</b>	<b>7,847</b>	<b>2,459,121</b>	<b>2,843,777</b>	<b>2,221,428</b>	<b>28,972</b>	<b>3,519,083</b>	<b>2,104,888</b>	<b>3,328,037</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)	
07/12/2002	*	---	---	---	---	2,880	2,334	4,870	322	247,113	104,055	89,971
07/13/2002	*	---	---	---	---	4,801	1,623	14,980	246	198,531	196,020	52,472
07/14/2002	*	---	---	---	---	2,923	7,230	11,061	477	140,777	70,635	121,693
07/15/2002	*	---	---	---	---	10,128	19,734	11,848	261	127,525	46,640	218,348
07/16/2002	*	---	---	---	---	6,828	2,851	5,212	395	124,112	100,662	114,386
07/17/2002	*	---	---	---	---	42,239	8,557	5,420	533	95,954	31,346	99,413
07/18/2002	*	---	---	---	---	22,440	5,115	3,980	348	122,021	32,615	122,135
07/19/2002		---	---	---	---	8,660	10,628	7,040	400	111,108	27,896	86,036
07/20/2002	*	---	---	---	---	11,120	10,568	8,160	560	62,852	22,477	52,683
07/21/2002	*	---	---	---	---	59,457	7,931	3,160	367	95,844	22,738	71,126
07/22/2002		---	---	---	---	16,300	4,814	2,657	462	87,807	22,535	23,519
07/23/2002	*	---	---	---	---	16,300	9,653	5,810	571	43,604	30,099	17,985
07/24/2002		---	---	---	---	10,400	4,231	13,600	493	44,805	13,504	6,341
07/25/2002	*	---	---	---	---	12,300	4,150	9,400	381	36,127	20,590	17,936
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>226,776</b>	<b>99,419</b>	<b>107,198</b>	<b>5,816</b>	<b>1,538,180</b>	<b>741,812</b>	<b>1,094,044</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>14</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>16,198</b>	<b>7,101</b>	<b>7,657</b>	<b>415</b>	<b>109,870</b>	<b>52,987</b>	<b>78,146</b>
<b>YTD</b>		<b>0</b>	<b>4</b>	<b>26</b>	<b>3,488</b>	<b>644,371</b>	<b>304,663</b>	<b>265,922</b>	<b>17,998</b>	<b>7,323,296</b>	<b>3,223,387</b>	<b>6,675,479</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)	
07/12/2002	*	---	---	---	---	0	47	40	15	310	79	479
07/13/2002	*	---	---	---	---	28	0	110	39	449	136	246
07/14/2002	*	---	---	---	---	33	61	121	23	161	0	0
07/15/2002	*	---	---	---	---	37	112	30	16	193	3	731
07/16/2002	*	---	---	---	---	0	0	0	19	282	35	0
07/17/2002	*	---	---	---	---	15	24	0	52	174	0	0
07/18/2002	*	---	---	---	---	0	0	20	35	38	3	264
07/19/2002		---	---	---	---	0	8	0	14	0	0	0
07/20/2002	*	---	---	---	---	0	0	20	36	250	3	242
07/21/2002	*	---	---	---	---	82	0	40	14	0	0	0
07/22/2002		---	---	---	---	0	0	29	22	195	216	0
07/23/2002	*	---	---	---	---	0	40	60	15	83	190	0
07/24/2002		---	---	---	---	50	14	160	25	28	3	0
07/25/2002	*	---	---	---	---	0	29	150	22	113	0	29
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>245</b>	<b>335</b>	<b>780</b>	<b>347</b>	<b>2,276</b>	<b>668</b>	<b>1,991</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>14</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>18</b>	<b>24</b>	<b>56</b>	<b>25</b>	<b>163</b>	<b>48</b>	<b>142</b>
<b>YTD</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>101</b>	<b>124,013</b>	<b>104,119</b>	<b>65,944</b>	<b>86,133</b>	<b>201,448</b>	<b>314,906</b>	<b>2,331,447</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)	
07/12/2002	*	---	---	---	---	109	269	1,900	3	310	13	239
07/13/2002	*	---	---	---	---	142	69	2,360	2	0	0	0
07/14/2002	*	---	---	---	---	109	311	1,939	3	0	0	0
07/15/2002	*	---	---	---	---	137	240	485	0	116	0	0
07/16/2002	*	---	---	---	---	43	0	182	3	128	0	0
07/17/2002	*	---	---	---	---	122	56	360	11	131	0	0
07/18/2002	*	---	---	---	---	60	16	280	0	2	0	0
07/19/2002		---	---	---	---	80	8	140	2	0	18	0
07/20/2002	*	---	---	---	---	160	21	160	7	125	0	0
07/21/2002	*	---	---	---	---	164	20	40	1	134	0	0
07/22/2002		---	---	---	---	100	40	342	1	19	22	0
07/23/2002	*	---	---	---	---	50	50	350	3	20	0	0
07/24/2002		---	---	---	---	50	32	480	7	35	0	0
07/25/2002	*	---	---	---	---	160	85	300	1	19	67	0
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,486</b>	<b>1,217</b>	<b>9,318</b>	<b>44</b>	<b>1,039</b>	<b>120</b>	<b>239</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>14</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>106</b>	<b>87</b>	<b>666</b>	<b>3</b>	<b>74</b>	<b>9</b>	<b>17</b>
<b>YTD</b>		<b>2,833</b>	<b>32,043</b>	<b>3,494</b>	<b>11,810</b>	<b>2,602,278</b>	<b>2,273,049</b>	<b>1,791,140</b>	<b>28,671</b>	<b>794,298</b>	<b>545,763</b>	<b>1,454,950</b>

\* See sampling comments

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

These data are preliminary and have been derived from various sources. For verification and/or origin of these data, contact the operators of the Fish Passage Data System at (503) 230-4099.

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.

## Two-Week Summary of Passage Indices

<b>COMBINED SOCKEYE</b>												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
07/12/2002	*	---	---	---	---	136	21	10	19	466	257	239
07/13/2002	*	---	---	---	---	57	49	130	20	449	0	0
07/14/2002	*	---	---	---	---	44	61	30	22	322	0	695
07/15/2002	*	---	---	---	---	12	64	0	1	193	41	487
07/16/2002	*	---	---	---	---	14	113	0	30	257	237	0
07/17/2002	*	---	---	---	---	169	40	0	17	43	56	0
07/18/2002	*	---	---	---	---	0	32	0	3	229	63	0
07/19/2002		---	---	---	---	40	80	0	17	402	0	0
07/20/2002	*	---	---	---	---	0	41	0	16	375	205	1,208
07/21/2002	*	---	---	---	---	0	0	0	10	535	45	244
07/22/2002		---	---	---	---	0	26	0	11	311	120	0
07/23/2002	*	---	---	---	---	0	30	20	12	208	3	102
07/24/2002		---	---	---	---	0	71	20	8	163	203	0
07/25/2002	*	---	---	---	---	120	107	100	14	245	67	0
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>592</b>	<b>735</b>	<b>310</b>	<b>200</b>	<b>4,198</b>	<b>1,297</b>	<b>2,975</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>14</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>42</b>	<b>53</b>	<b>22</b>	<b>14</b>	<b>300</b>	<b>93</b>	<b>213</b>
<b>YTD</b>		<b>18</b>	<b>0</b>	<b>0</b>	<b>261</b>	<b>77,336</b>	<b>66,477</b>	<b>38,906</b>	<b>20,457</b>	<b>1,406,679</b>	<b>933,196</b>	<b>847,693</b>

**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)}

BO1 (Index) = Bonneville Dam First Powerhouse Bypass Collection System : Passage Index Counts

Passage Index = Collection Counts / {Powerhouse 1 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.

**Cumulative Adult Passage at Mainstem Dams Through: 07/25**

DAM	Spring Chinook						Summer Chinook						Fall Chinook					
	2002		2001		10-Yr Avg.		2002		2001		10-Yr Avg.		2002		2001		10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	268,813	6,477	391,367	14,172	104,143	5,654	123,371	7,600	71,856	13,604	25,169	4,439	0	0	0	0	0	0
TDA	181,176	3,870	303,912	9,953	68,558	3,895	107,256	5,255	65,462	9,627	20,619	3,054	0	0	0	0	0	0
JDA	139,887	2,403	264,177	6,208	58,196	3,052	98,965	4,923	58,512	8,546	19,192	2,548	0	0	0	0	0	0
MCN	129,357	3,872	258,689	6,683	54,462	2,970	100,633	6,029	58,737	7,525	18,931	2,349	0	0	0	0	0	0
IHR	85,207	1,826	171,173	3,026	32,988	1,807	26,168	2,384	14,905	2,327	5,234	848	0	0	0	0	0	0
LMN	76,304	1,537	180,787	1,784	32,792	1,811	23,244	1,546	18,649	1,424	5,433	759	0	0	0	0	0	0
LGS	77,232	1,815	174,823	2,990	31,528	1,921	20,390	2,181	15,299	2,635	4,970	960	0	0	0	0	0	0
LWG	75,025	2,132	171,958	3,135	30,329	1,865	21,507	1,826	13,166	3,513	4,888	1,048	0	0	0	0	0	0
PRD	34,083	196	50,379	987	14,107	363	76,973	994	39,385	1,921	14,153	657	0	0	0	0	0	0
RIS	24,734	892	39,785	1,761	10,725	505	49,354	1,375	27,913	6,284	9,110	1,558	0	0	0	0	0	0
RRH	11,204	215	15,895	543	3,314	135	62,468	1,643	23,550	2,726	5,828	661	0	0	0	0	0	0
WEL	7,587	39	9,989	892	1,799	176	38,392	174	16,111	1,554	3,213	408	0	0	0	0	0	0

DAM	Coho						Sockeye			Steelhead			
	2002		2001		10-Yr Avg.		2002	2001	10-Yr Avg.	2002	2001	10-Yr Avg.	Wild 2002
	Adult	Jack	Adult	Jack	Adult	Jack							
BON	1	0	3	0	3	0	49,364	114,696	49,948	114,445	153,039	52,753	48,130
TDA	0	0	0	0	0	0	40,299	102,315	39,720	60,137	83,794	24,521	28,423
JDA	0	0	46	3	1	0	41,631	107,327	42,782	46,033	51,498	18,068	20,264
MCN	0	0	0	0	0	0	38,738	96,213	39,242	27,640	38,171	12,855	11,091
IHR	0	0	0	0	0	0	56	35	13	14,524	17,742	6,890	4,770
LMN	0	0	0	0	0	0	41	32	21	13,047	18,164	6,222	4,949
LGS	0	0	0	0	0	0	27	69	24	10,362	10,227	3,489	4,326
LWG	0	0	0	0	0	0	47	34	23	15,159	11,540	6,355	4,591
PRD	0	0	6	9	4	1	43,905	107,847	46,416	2,036	3,327	1,033	***
RIS	4	0	29	0	5	0	27,137	97,841	34,602	455	1,298	507	154
RRH	14	0	0	0	3	0	14,131	63,745	23,973	1,047	1,308	450	287
WEL	0	0	0	0	0	0	7,337	69,211	22,245	559	591	243	406

RIS is through 07/17; RRH, PRD and WEL are through 07/24.

IHR is missing 07/22, RIS has no chinook jack counts for 7/9 & 7/13, RRH none for 7/22.

RIS, RRH, PRD and WEL data for the last week is from the PUDs.

\*\*PRD is not reporting Wild Steelhead numbers.

These numbers were collected from the COE's Running Sums text files, except where otherwise noted.

Wild steelhead numbers are included in the total.

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.

## Two Week Transportation Summary

07/13/02 TO 07/26/02

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
<b>LGR</b>	Sum of NumberCollected	218,560	186	217	509	1,316	220,788
	Sum of NumberBarged	215,749	181	213	478	1,294	217,915
	Sum of NumberBypassed	38	0	0	0	0	38
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	2,773	5	4	31	22	2,835
<b>LGS</b>	Sum of NumberCollected	92,894	459	294	650	1,012	95,309
	Sum of NumberBarged	92,411	449	293	562	990	94,705
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	483	10	1	88	22	604
<b>LMN</b>	Sum of NumberCollected	107,198	1,732	780	310	9,318	119,338
	Sum of NumberBarged	106,108	1,702	763	283	8,927	117,783
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	1,090	30	17	27	391	1,555
<b>MCN</b>	Sum of NumberCollected	1,075,034	614	1,620	3,008	746	1,081,022
	Sum of NumberBarged	1,036,527	629	1,491	2,620	721	1,041,988
	Sum of NumberBypassed	71,750	6	75	259	38	72,128
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	22,696	31	11	27	25	22,790
Total Sum of NumberCollected		1,493,686	2,991	2,911	4,477	12,392	1,516,457
Total Sum of NumberBarged		1,450,795	2,961	2,760	3,943	11,932	1,472,391
Total Sum of NumberBypassed		71,788	6	75	259	38	72,166
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of TotalProjectMortalities		27,042	76	33	173	460	27,784

### YTD Transportation Summary

TO: 07/26/02

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
<b>LGR</b>	Sum of NumberCollected	523,217	1,535,600	80,723	51,243	1,698,141	3,888,924
	Sum of NumberBarged	516,356	1,483,743	80,573	49,360	1,627,395	3,757,427
	Sum of NumberBypassed	132	38,152	5	7	65,895	104,191
	Sum of NumberTrucked	29	9,847	20	343	3,383	13,622
	Sum of TotalProjectMortalities	6,700	3,858	125	1,533	1,248	13,464
<b>LGS</b>	Sum of NumberCollected	261,142	1,907,343	79,592	48,066	1,562,491	3,858,634
	Sum of NumberBarged	260,435	1,904,671	79,026	47,326	1,559,368	3,850,826
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of NumberTrucked	0	1,034	4	74	1,024	2,136
	Sum of TotalProjectMortalities	707	1,638	562	666	2,102	5,675
<b>LMN</b>	Sum of NumberCollected	265,877	2,214,215	62,839	38,508	1,750,263	4,331,702
	Sum of NumberBarged	235,251	2,121,650	60,792	37,404	1,712,566	4,167,663
	Sum of NumberBypassed	29,272	68,125	1,994	208	31,958	131,557
	Sum of NumberTrucked	0	20,104	0	13	356	20,473
	Sum of TotalProjectMortalities	1,354	4,336	53	883	5,383	12,009
<b>MCN</b>	Sum of NumberCollected	4,358,679	2,204,860	111,387	906,382	464,452	8,045,760
	Sum of NumberBarged	1,049,086	629	1,491	2,620	830	1,054,656
	Sum of NumberBypassed	3,254,083	2,203,242	109,765	902,697	463,311	6,933,098
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	25,077	989	35	859	298	27,258
Total Sum of NumberCollected		5,408,915	7,862,018	334,541	1,044,199	5,475,347	20,125,020
Total Sum of NumberBarged		2,061,128	5,510,693	221,882	136,710	4,900,159	12,830,572
Total Sum of NumberBypassed		3,283,487	2,309,519	111,764	902,912	561,164	7,168,846
Total Sum of NumberTrucked		29	30,985	24	430	4,763	36,231
Total Sum of TotalProjectMortalities		33,838	10,821	775	3,941	9,031	58,406