



Fish Passage Center

Weekly Report #02 - 19

July 19, 2002

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SUMMARY OF EVENTS:

- Storage reservoirs are currently at or near full.
- The Dworshak reservoir has begun to draft to augment flows in the lower Snake River, releasing a daily average of 13.7 Kcfs over the last week.
- The BiOp summer flow objectives are 51 Kcfs at Lower Granite and 200 Kcfs at McNary. To date, summer flows have averaged 58.7 Kcfs at Lower Granite and 258.7 Kcfs at McNary; therefore, flow objectives are being met on a seasonal basis at both projects. Weekly average flows between 7-12-02 and 7-18-02 at Lower Granite and McNary were 38.7 and 245.1 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 46% of capacity.

Water: Water Year 2002 continues to be approximately average in terms of cumulative precipitation. Weekly precipitation totals have been updated through the 9th of July (Table 1). Precipitation throughout the beginning of July has ranged between 13% and 169% 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	0.84	163	21.75	103
Snake R. Above Ice Harbor	0.07	27	13.52	88
Columbia Above The Dalles	0.45	124	19.69	98
Kootenai	0.93	169	20.48	95
Clark Fork	0.34	98	15.31	105
Flathead	0.62	135	20.72	107
Pend Oreille/Spokane	0.66	166	31.63	114
Central Washington	0.13	118	7.37	91
Snake R. Plain	0.02	13	6.85	70
Clearwater	0.30	71	28.98	106
SW Washington Cascades/Cowlitz	0.28	70	71.65	109
Willamette Valley	0.08	34	56.03	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 passing inflows.

Operations at the Grand Coulee Reservoir have remained steady over the past week; reservoir elevations throughout the week have ranged between 1288.2 and 1289.2 feet. Total outflows have been approximately equivalent to inflows at Grand Coulee over the last week (7-12-02 to 7-18-02) and have averaged approximately 173.4 Kcfs.

The Libby reservoir has also remained steady over the past week (7-12-02 to 7-18-02); reservoir elevations have ranged from 2458.1 to 2458.6 feet. Outflows have varied between 28.6 and 22.0 Kcfs over the week. Over the last week, inflows to Libby have been decreasing, beginning the week at 31.9 Kcfs and ending at 22.5 Kcfs. Throughout most of the week, inflows were high enough to force operators to spill between 1.3 and 4.8 Kcfs. Currently (7-18-02), Libby is not spilling reservoir water.

The Dworshak reservoir has begun to draft. Over the last week, total outflows at Dworshak have increased to 13.7 Kcfs (7-12-02 to 7-18-02) to supplement flows and temperatures at Lower Granite. Operations at Dworshak have included spilling 4.1 Kcfs of reservoir water to achieve the 13.7 Kcfs total outflow. Currently (midnight, 7-18-02) Dworshak is at an elevation of 1592.2 feet.

Over the past week, the Brownlee reservoir has drafted 1.5 feet of reservoir space, beginning the week at 2073.2 (7-12-02) and ending the week at 2071.7 feet (7-17-02). During the week, outflows have varied between 7.3 and 11.7 Kcfs.

Operations at the Hungry Horse Reservoir have generally remained steady over the past week; reservoir elevations throughout the week have ranged between 3559.6 and 3560.0 feet. Total outflows have been approximately equivalent to inflows at Hungry Horse over the last week (7-12-02 to 7-18-02) and have averaged approximately 4.8 Kcfs.

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 58.7 Kcfs at Lower Granite and 258.7 Kcfs at McNary. Summer BiOp flow objectives are being met at both Lower Granite and McNary on a seasonal basis. Over the past week (7-12-02 to 7-18-02), flows have averaged 38.7 Kcfs at Lower Granite and 245.1 Kcfs at McNary. Therefore, on a weekly basis, flow objectives are not being met at Lower Granite.

Currently, as of July 18th, 2002, the entire Upper Snake River System is at 46% of capacity. Most reservoirs on the Upper Snake River have been drafting. Individually, American Falls is at 31% of capacity, Palisades is at 39% of capacity, Jackson Lake is at 76% of capacity, Island Park is at 63% of capacity, Lake Walcott is at 101% of capacity, Milner is at 99% of capacity, and Grassy Lake is at 91% of capacity.

Spill: Dworshak Reservoir continues to draft water for flow augmentation and temperature regulation. Spill levels have averaged 4.1 Kcfs over the past week. Tailwater total dissolved gas levels have remained below 108%. Spill has occurred at both Lower Granite and Little Goose dams over the past week averaging 20% and 18% of daily flow, respectively. At Ice Harbor Dam spill averaged 81% 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 31% of average daily flow at McNary Dam, 29% of average daily flow at John Day Dam, 39% of average daily flow at The Dalles Dam and 42% of average daily flow at Bonneville Dam.

Libby Dam has stopped spilling as inflows decreased, but did spill earlier this past week. Grand Coulee has stopped spilling and Chief Joseph Dams has spilled intermittently. 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.

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. Based on NMFS projected collection of 2 million we would have expected a cumulative passage index of 1.5 million at this time of the season (using 0.54 collection efficiency and 20% spill). To date the cumulative index at Lower Granite is only 506,000 fish. Typically, about 60% of the run has passed by July 18 whereas this year the Lower Granite passage index is only about 33% of preseason estimates. At McNary, typically over 80% of the run has passed by July 18, but this year's cumulative index of 6,709,718 is only 48% of our preseason projected cumulative index of 13.87 million (again based on NMFS estimated collection of 10.4 million and an FGE of 0.475 with 25% spill). This past week at Lower Granite Dam, the number of subyearling chinook decreased from last week with the average daily index dropping to 13,200 this week compared to 15,900 last week. At Rock Island Dam the subyearling chinook index decreased compared to last week, with 370 average daily index this week compared to 520 daily last week. In the lower Columbia, McNary continues to have large numbers of subyearling chinook pass with an average daily index of 151,000, a small increase from 143,000 per day last week. At John Day Dam passage index for subyearling chinook was up to 83,000 this week versus 33,600 last week. And at Bonneville Dam subyearling chinook numbers increased with an average daily index this week of 117,000 versus 105,000 last week.

Adult Fish Passage: At Bonneville Dam, the summer chinook counts averaged 1,440 per day for the week with the cumulative count through July 18 at 116,766. This year's count of adult summer chinook is about 1.8 and 5.0 times greater than the respective year 2001 and 10-year average through July 18. At McNary Dam, the counts of adult summer chinook averaged 1,978 per day through the week with a total count of 92,273 through July 18. The Snake River count of adult summer chinook at Ice Harbor Dam totaled 25,816 through the July 18

with daily counts averaging between 100 and 200 per day at Snake River dams. In the Mid-Columbia, the total count of adult summer chinook at Priest Rapids Dam was 66,597 through July 18, about 1.9 and 4.6 times greater than the respective 2001 and 10-year average. Daily counts of these adult summer fish continue to increase at Rock Island, Rocky Reach and Wells dams with about 26,400 now past Wells Dam.

At Bonneville Dam, sockeye salmon counts for the week ending July 18 ranged from near 600 early in the week to less than 200 per day by the end of the week with the season total at 48,939. The 2002 sockeye count is about 43% of the 2001 count and close to equal the 10-year average count. Most sockeye are destined for two lake systems (Lake Wenatchee and Lake Osoyoos) in the Mid-Columbia Zone. About 40,400 sockeye have passed Priest Rapids Dam through July 18. Small numbers of sockeye were again counted at the Snake River projects during the week with at least 43 adult sockeye now past Lower Granite Dam through July 18. These sockeye should be destined for the upper Salmon River area (Redfish L, Alturas L, or Pettit L).

Steelhead passage at Bonneville Dam averaged 4,027 per day through the past week with a total of 77,397 counted through July 18. This total is 79% and 215% of the respective 2001 and 10-year average counts to date. Estimated wild steelhead in the passage total was 33,500 (based on visual missing adipose fin on the steelhead). Adult steelhead are moving upstream into the Snake River projects with about 500 per day passing Ice Harbor Dam by the end of the reporting week. In the Mid-Columbia, the counts of steelhead at Priest Rapids Dam ranged from 60-112 per day and total 1,966 through June 18.

Hatchery Releases: Only one hatchery release group remains for the 2002 fish migration season. All other subyearling fish, fall and summer chinook are in-river. Preliminary hatchery release totals are listed in the Table below for 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 26. 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 19-26. All other subyearling fall chinook have been released earlier this spring/summer.

Hatchery Release Totals by River Zone for 2002 Migration Season

	Spr Chin	SumChin	F Chin	Steelhd	Coho	Sockeye	Total
Snake	10,184,960	1,677,497	3,669,782	9,481,688	840,000	182,835	26,036,762
MidCol	3,926,275	3,527,243	11,633,427	1,311,704	2,065,550	308,042	22,772,241
LowCol	5,759,463		26,299,935	621,855	6,120,857		38,802,110
Total	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
07/05/02	177.0	0.1	174.1	0.0	186.8	22.3	188.5	42.2	191.2	25.5	201.5	79.9	200.2	111.3
07/06/02	171.4	0.1	173.6	0.0	190.4	20.7	189.1	39.0	188.1	37.2	204.6	81.3	203.2	113.0
07/07/02	111.2	0.2	116.2	0.0	143.2	10.9	159.5	26.3	162.8	32.6	207.4	72.4	211.7	112.7
07/08/02	148.1	0.1	148.1	0.0	151.9	10.0	142.6	21.6	144.0	44.0	180.8	62.7	189.6	101.5
07/09/02	189.1	12.4	178.1	15.6	184.4	16.9	174.8	26.3	176.7	35.9	137.3	48.1	137.4	73.3
07/10/02	188.9	16.2	189.8	6.8	206.7	29.8	205.6	44.0	206.5	36.8	208.6	83.4	193.2	108.4
07/11/02	186.4	14.5	187.7	3.4	203.8	25.1	204.3	42.3	205.0	40.0	224.4	88.0	235.9	128.0
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

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

Date	Dworshak		Hells Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
07/05/02	8.5	0.0	8.1	7.9	46.1	0.0	46.6	0.0	48.8	0.0	50.8	40.6
07/06/02	7.4	0.0	7.3	8.3	40.1	0.0	42.6	0.0	43.6	0.0	47.6	39.5
07/07/02	7.4	0.0	8.4	8.6	39.1	0.0	39.0	0.0	40.1	0.0	43.6	33.3
07/08/02	8.1	0.0	7.8	7.5	38.2	0.0	38.3	0.0	38.3	0.0	39.7	30.2
07/09/02	11.1	1.6	7.9	7.4	43.0	13.8	42.4	13.6	42.9	0.0	48.0	37.4
07/10/02	13.0	3.5	8.2	10.1	40.6	7.6	41.0	13.1	39.8	0.0	39.6	31.2
07/11/02	13.5	4.0	8.6	10.9	42.9	10.9	41.9	14.5	43.8	0.0	48.6	41.3
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	---	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	7.2	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	---	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	8.8	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	---	---	36.5	0.0	36.4	0.0	37.1	0.0	40.7	34.4

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
07/05/02	248.8	76.7	268.8	97.4	259.7	101.1	285.1	87.6	79.7	111.1
07/06/02	259.9	86.9	262.4	73.9	259.7	98.9	258.2	87.3	61.5	102.7
07/07/02	249.0	75.6	245.0	70.0	234.6	86.3	252.5	89.5	56.6	99.7
07/08/02	239.8	66.9	230.0	67.1	226.0	86.3	248.6	86.3	58.3	97.4
07/09/02	204.0	36.5	214.7	62.1	212.5	81.3	228.2	109.7	18.5	93.4
07/10/02	204.5	36.7	209.5	60.9	206.9	80.2	216.7	115.4	8.0	86.7
07/11/02	259.7	90.1	244.0	56.1	232.9	85.0	236.3	122.8	12.1	94.6
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	201.8	71.7	244.2	72.5	240.7	95.2	257.4	93.3	61.6	95.7

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>		
	<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>
7/5	104	105	105	22	131	132	133	24	120	121	121	21	118	118	119	24	117	117	118	23
7/6	105	105	105	19	131	132	132	24	120	120	121	24	118	118	118	24	117	118	118	23
7/7	105	105	106	21	131	131	132	24	119	120	120	24	118	118	119	24	118	118	119	23
7/8	105	105	105	20	125	130	131	24	119	119	120	24	116	117	118	24	116	117	117	23
7/9	104	104	105	20	127	128	128	24	118	118	119	24	117	117	117	24	116	116	117	23
7/10	105	105	106	21	128	129	130	24	118	119	119	24	117	117	117	24	117	118	118	23
7/11	106	106	106	21	127	128	129	24	119	119	120	24	117	118	118	24	117	117	118	23
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

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>		
	<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>
7/5	116	117	117	23	115	116	116	24	117	118	121	24	118	121	123	24	119	121	125	24
7/6	117	118	118	23	116	116	117	23	116	117	117	23	116	117	118	24	118	119	121	24
7/7	118	119	119	23	117	117	118	24	117	117	117	24	117	118	119	24	118	119	120	24
7/8	116	116	117	23	115	116	117	24	116	116	117	24	114	115	115	24	115	116	116	24
7/9	116	118	123	23	114	115	116	23	116	116	119	23	113	113	113	24	114	114	115	24
7/10	116	116	119	23	116	117	118	24	119	120	125	24	114	115	118	24	116	117	119	24
7/11	115	116	117	23	117	117	117	24	119	120	125	24	118	119	120	23	119	120	121	23
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

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>		
	<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>
7/5	120	121	122	24	121	123	123	24	123	125	127	24	121	123	128	24	120	122	124	24
7/6	117	118	119	24	120	120	121	24	124	125	127	24	122	123	128	24	121	123	126	24
7/7	117	118	118	24	119	120	120	24	121	122	124	24	119	120	120	24	120	120	121	24
7/8	114	114	115	24	118	118	120	24	115	117	118	24	116	118	119	24	115	116	117	24
7/9	113	114	115	24	117	118	118	24	115	118	120	24	116	117	117	24	114	115	117	24
7/10	116	117	118	24	118	119	120	24	117	118	120	24	119	121	129	24	118	121	126	24
7/11	118	120	120	23	121	122	122	23	118	120	122	24	120	121	126	24	119	121	124	24
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	---	---	---	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>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High		#			
	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg			hr	Avg	Avg	hr
7/5	122	123	124	24	116	117	118	21	104	104	105	21	103	103	104	21	102	104	105	20
7/6	122	123	124	24	117	118	118	24	103	104	104	24	103	104	105	24	102	104	105	24
7/7	122	123	124	24	117	118	119	24	104	104	104	24	102	103	104	24	102	103	105	24
7/8	119	120	120	24	113	114	116	23	103	103	104	24	102	102	103	24	101	102	104	23
7/9	117	119	120	24	112	113	115	24	103	104	105	24	103	104	105	24	102	104	105	24
7/10	120	122	124	24	111	113	115	24	106	107	108	24	104	106	107	24	102	104	105	24
7/11	122	123	124	24	114	115	116	24	107	108	108	24	106	107	107	24	102	104	105	24
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	---	---	---	0	112	112	113	24	107	107	108	23	107	107	108	23	102	103	105	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>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High		#			
	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg			hr	Avg	Avg	hr
7/5	99	101	102	21	105	106	109	21	104	104	104	21	111	112	115	21	110	111	111	21
7/6	99	101	102	24	105	107	108	24	103	103	103	24	113	115	118	24	109	110	110	24
7/7	99	101	102	24	107	109	111	24	102	103	108	24	114	115	116	24	108	108	108	24
7/8	98	100	100	24	103	103	105	24	101	101	102	24	108	109	112	24	106	107	107	24
7/9	99	101	102	24	106	109	111	24	107	110	111	24	108	111	113	24	109	111	111	24
7/10	100	102	104	24	106	107	108	24	106	109	112	24	108	109	111	24	110	111	111	24
7/11	101	103	104	24	107	108	110	24	107	111	112	22	108	110	111	24	109	110	111	24
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

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>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High		#			
	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg			hr	Avg	Avg	hr
7/5	113	114	116	21	112	112	113	21	109	110	111	21	112	114	114	21	113	114	115	21
7/6	115	117	119	24	111	111	112	24	111	112	113	24	112	113	114	24	114	115	117	24
7/7	115	117	118	24	112	113	115	24	112	114	114	24	111	114	114	24	116	118	119	24
7/8	110	111	113	24	110	110	111	24	111	112	113	24	111	113	114	24	114	114	116	24
7/9	111	113	117	24	109	110	111	21	110	111	114	24	112	114	115	24	113	114	115	24
7/10	111	112	113	24	109	109	110	22	110	111	112	24	111	113	114	23	113	114	118	24
7/11	112	114	116	24	108	109	109	24	110	111	112	24	112	113	115	24	115	116	118	24
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

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>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr				
7/5	113	113	114	21	117	118	118	21	112	113	115	23	118	119	119	21	115	116	118	23
7/6	115	117	119	24	117	118	119	24	111	113	115	23	117	119	119	24	112	113	114	22
7/7	117	118	121	24	119	120	120	24	111	112	115	23	118	119	119	24	111	112	112	23
7/8	114	115	116	24	117	118	118	24	110	110	111	23	117	118	118	24	109	109	110	23
7/9	113	113	114	23	116	117	117	24	111	111	112	23	115	117	118	24	111	111	112	23
7/10	113	115	116	23	115	116	117	21	112	114	116	23	115	118	119	24	113	115	117	23
7/11	117	119	122	24	118	119	120	21	112	113	115	23	115	118	119	24	112	114	115	23
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

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>#</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>				
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
7/5	119	120	121	24	113	114	116	23	112	113	114	23	113	114	115	24
7/6	118	118	119	24	118	118	119	22	116	116	117	23	114	117	118	24
7/7	117	118	118	24	116	118	118	23	116	117	119	23	115	116	117	24
7/8	115	115	116	24	111	111	113	23	112	113	115	23	112	113	115	24
7/9	116	117	118	24	111	112	113	23	115	116	116	23	111	111	112	24
7/10	118	119	120	24	113	114	116	23	116	117	118	23	112	114	115	24
7/11	118	118	120	24	115	116	116	23	117	118	118	23	115	117	118	24
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

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
McNary Dam											
	07/12/02	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0
	07/15/02	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0
	07/18/02	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	07/11/02	Subyearling Chinook	17	0	0	0.00%	0.00%	0	0	0	0
	07/15/02	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0
	07/18/02	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	07/11/02	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0
	07/15/02	Subyearling Chinook	100	2	2	2.00%	0.00%	2	0	0	0
	07/18/02	Subyearling Chinook	100	3	3	3.00%	0.00%	3	0	0	0

HATCHERY RELEASE SUMMARY

Hatchery Release Summary

From: **7/5/02** to **7/18/02**

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
WDFW	Klickitat	CHO	FA	2002	4,000,000	06-03-02	07-26-02	Klickitat H	Klickitat River
WDFW Total					4,000,000				
Grand Total					4,000,000				

Hatchery Release Summary

From: **7/19/02** to **8/1/02**

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
WDFW	Klickitat	CHO	FA	2002	4,000,000	06-03-02	07-26-02	Klickitat H	Klickitat River
WDFW Total					4,000,000				
Grand Total					4,000,000				

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

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: [Daily Catch Report](#)

For sockeye and yearling chinook (Snake only) race information see: [Current Passage Index Query](#)

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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.

COMBINED YEARLING CHINOOK

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/05/2002 *	---	---	---	---	93	37	51	3	2,342	12	0
07/06/2002 *	---	---	---	---	100	32	17	2	288	30	721
07/07/2002 *	---	---	---	---	250	30	57	0	0	28	696
07/08/2002	---	---	---	---	50	30	8	0	253	112	352
07/09/2002	---	---	---	---	50	40	5	1	164	139	339
07/10/2002	---	---	---	---	0	29	10	3	75	285	695
07/11/2002 *	---	---	---	---	0	19	20	0	81	98	1,066
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	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	775	352	1,101	23	3,858	1,864	5,125
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	55	25	79	2	276	133	366
YTD	38,199	29,095	8,013	7,847	2,459,101	2,843,426	2,220,629	28,962	3,518,858	2,104,838	3,328,008

COMBINED SUBYEARLING CHINOOK

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/05/2002 *	---	---	---	---	8,567	6,011	6,635	617	87,335	30,293	148,609
07/06/2002 *	---	---	---	---	32,180	7,089	11,893	706	95,204	33,149	138,676
07/07/2002 *	---	---	---	---	28,850	4,108	14,899	527	185,366	36,689	122,340
07/08/2002	---	---	---	---	7,300	1,820	3,364	281	116,384	33,748	99,977
07/09/2002	---	---	---	---	15,850	3,360	1,725	237	142,607	30,378	62,036
07/10/2002	---	---	---	---	13,988	2,126	3,300	511	237,459	43,252	99,565
07/11/2002 *	---	---	---	---	4,720	1,767	1,340	744	135,209	27,355	62,807
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	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	203,694	73,725	100,527	6,205	2,055,597	816,837	1,552,428
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	14,550	5,266	7,181	443	146,828	58,346	110,888
YTD	0	4	26	3,488	509,834	252,688	216,095	14,764	6,841,147	3,063,548	6,399,853

Two-Week Summary of Passage Indices

COMBINED COHO

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/05/2002 *	---	---	---	---	93	103	38	66	521	0	0
07/06/2002 *	---	---	---	---	110	128	157	43	577	192	0
07/07/2002 *	---	---	---	---	100	61	29	36	307	372	0
07/08/2002	---	---	---	---	50	0	20	19	434	482	705
07/09/2002	---	---	---	---	150	0	14	80	491	163	1,018
07/10/2002	---	---	---	---	0	59	20	102	125	34	695
07/11/2002 *	---	---	---	---	0	19	80	54	82	98	1,066
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	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	616	614	679	599	4,144	1,597	5,204
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	44	44	49	43	296	114	372
YTD	0	0	0	101	123,881	104,028	65,485	85,985	200,779	314,494	2,331,176

COMBINED STEELHEAD

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/05/2002 *	---	---	---	---	476	885	381	8	5	45	398
07/06/2002 *	---	---	---	---	710	250	2,134	5	0	80	721
07/07/2002 *	---	---	---	---	450	200	510	4	461	65	1,044
07/08/2002	---	---	---	---	100	60	531	1	289	0	352
07/09/2002	---	---	---	---	550	64	179	6	131	10	0
07/10/2002	---	---	---	---	371	102	510	5	249	236	0
07/11/2002 *	---	---	---	---	123	226	460	14	81	0	0
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	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	3,502	2,748	12,211	65	1,903	449	2,754
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	250	196	872	5	136	32	197
YTD	2,833	32,043	3,494	11,810	2,601,514	2,272,792	1,789,328	28,649	793,946	545,656	1,454,950

* 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

COMBINED SOCKEYE

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/05/2002 *	---	---	---	---	23	262	39	26	9	31	796
07/06/2002 *	---	---	---	---	40	26	95	14	288	50	721
07/07/2002 *	---	---	---	---	0	20	52	7	0	301	0
07/08/2002	---	---	---	---	0	70	10	10	289	34	352
07/09/2002	---	---	---	---	0	77	17	12	164	151	339
07/10/2002	---	---	---	---	37	61	20	13	149	22	695
07/11/2002 *	---	---	---	---	0	61	0	17	163	56	0
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	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	532	957	403	211	3,021	1,299	4,324
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	38	68	29	15	216	93	309
YTD	18	0	0	261	77,176	66,122	38,766	20,369	1,404,440	932,553	846,139

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: 07/18

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	116,766	7,132	65,660	12,089	23,202	3,926	0	0	0	0	0	0
TDA	181,176	3,870	303,912	9,953	68,558	3,895	100,921	4,796	59,383	8,388	18,935	2,677	0	0	0	0	0	0
JDA	139,887	2,403	264,177	6,208	58,196	3,052	93,783	4,261	53,276	7,518	17,712	2,229	0	0	0	0	0	0
MCN	128,890	3,806	258,689	6,683	54,462	2,970	92,273	5,380	53,855	6,757	17,222	2,020	0	0	0	0	0	0
IHR	85,207	1,825	171,173	3,026	32,988	1,807	25,816	2,335	14,580	2,241	5,127	823	0	0	0	0	0	0
LMN	76,304	1,531	180,787	1,784	32,792	1,811	22,831	1,467	18,137	1,360	5,291	734	0	0	0	0	0	0
LGS	77,232	1,815	174,823	2,990	31,528	1,921	19,980	2,125	14,538	2,438	4,796	916	0	0	0	0	0	0
LWG	75,025	2,132	171,958	3,135	30,329	1,865	21,102	1,773	12,503	3,126	4,705	974	0	0	0	0	0	0
PRD	34,083	196	50,379	987	14,082	343	66,597	836	33,767	1,534	12,010	515	0	0	0	0	0	0
RIS	24,734	892	39,785	1,761	10,725	505	39,815	1,011	16,304	2,887	4,956	844	0	0	0	0	0	0
RRH	11,204	215	15,895	543	3,314	135	26,481	699	8,369	904	1,844	200	0	0	0	0	0	0
WEL	7,587	39	9,989	892	1,799	176	25,641	128	6,592	572	1,175	140	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	0	0	2	0	1	0	48,939	113,800	49,029	77,397	97,490	35,920	33,460
TDA	0	0	0	0	0	0	39,749	101,382	38,891	41,702	54,427	16,470	20,113
JDA	0	0	35	2	1	0	40,741	106,349	41,695	33,182	37,518	13,412	15,304
MCN	0	0	0	0	0	0	36,949	95,050	37,796	19,000	29,377	9,576	7,084
IHR	0	0	0	0	0	0	48	32	13	10,526	14,593	5,472	3,300
LMN	0	0	0	0	0	0	38	30	21	9,894	14,240	4,921	3,776
LGS	0	0	0	0	0	0	25	66	22	8,901	7,641	2,769	3,671
LWG	0	0	0	0	0	0	43	31	22	14,390	9,625	5,801	4,225
PRD	0	0	6	9	1	0	40,397	105,608	43,377	1,170	1,966	660	***
RIS	2	0	29	0	4	0	16,775	71,846	19,498	309	527	267	107
RRH	14	0	25	0	3	0	2,885	41,454	10,377	404	333	169	114
WEL	0	0	0	0	0	0	3,646	47,382	11,113	308	200	96	112

RIS and RRH counts are through 7/12; WEL counts are through 7/17.

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

07/06/02 TO 07/19/02

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	186,963	696	575	429	3,072	191,735
	Sum of NumberBarged	165,477	740	600	420	2,978	170,215
	Sum of NumberBypassed	5	0	0	0	0	5
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	2,027	6	5	26	24	2,088
LGS	Sum of NumberCollected	64,840	301	526	788	2,300	68,755
	Sum of NumberBarged	62,373	318	542	751	2,382	66,366
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	199	13	4	61	17	294
LMN	Sum of NumberCollected	100,527	1,101	679	403	12,211	114,921
	Sum of NumberBarged	90,689	1,060	665	398	12,259	105,071
	Sum of NumberBypassed	12,088	0	0	0	0	12,088
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	500	35	17	25	466	1,043
MCN	Sum of NumberCollected	1,439,996	2,440	2,849	2,091	1,345	1,448,721
	Sum of NumberBarged	779,555	480	1,152	1,398	514	783,099
	Sum of NumberBypassed	644,273	1,941	1,693	678	814	649,399
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	16,150	19	4	15	17	16,205
Total Sum of NumberCollected		1,792,326	4,538	4,629	3,711	18,928	1,824,132
Total Sum of NumberBarged		1,098,094	2,598	2,959	2,967	18,133	1,124,751
Total Sum of NumberBypassed		656,366	1,941	1,693	678	814	661,492
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of TotalProjectMortalities		18,876	73	30	127	524	19,630

YTD Transportation Summary

TO: 07/19/02

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	388,680	1,535,580	80,591	51,083	1,697,377	3,753,311
	Sum of NumberBarged	361,723	1,483,723	80,441	49,218	1,626,578	3,601,683
	Sum of NumberBypassed	94	38,152	5	7	65,895	104,153
	Sum of NumberTrucked	29	9,847	20	343	3,383	13,622
	Sum of TotalProjectMortalities	4,802	3,858	125	1,515	1,241	11,541
LGS	Sum of NumberCollected	209,167	1,906,992	79,501	47,711	1,562,234	3,805,605
	Sum of NumberBarged	203,742	1,904,317	78,936	47,011	1,559,109	3,793,115
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of NumberTrucked	0	1,034	4	74	1,024	2,136
	Sum of TotalProjectMortalities	363	1,641	561	607	2,090	5,262
LMN	Sum of NumberCollected	216,050	2,213,416	62,380	38,368	1,748,451	4,278,665
	Sum of NumberBarged	182,179	2,120,845	60,324	37,273	1,710,577	4,111,198
	Sum of NumberBypassed	29,272	68,125	1,994	213	31,953	131,557
	Sum of NumberTrucked	0	20,104	0	13	356	20,473
	Sum of TotalProjectMortalities	660	4,322	42	874	5,292	11,190
MCN	Sum of NumberCollected	3,995,570	2,204,693	110,870	904,682	464,182	7,679,997
	Sum of NumberBarged	790,057	480	1,152	1,398	623	793,710
	Sum of NumberBypassed	3,188,366	2,203,236	109,690	902,438	463,273	6,867,003
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	17,130	977	28	846	286	19,267
Total Sum of NumberCollected		4,809,467	7,860,681	333,342	1,041,844	5,472,244	19,517,578
Total Sum of NumberBarged		1,537,701	5,509,365	220,853	134,900	4,896,887	12,299,706
Total Sum of NumberBypassed		3,217,732	2,309,513	111,689	902,658	561,121	7,102,713
Total Sum of NumberTrucked		29	30,985	24	430	4,763	36,231
Total Sum of TotalProjectMortalities		22,955	10,798	756	3,842	8,909	47,260

