

## Fish Passage Center

# Weekly Report #02 - 10

May 17, 2002

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#### SUMMARY OF EVENTS:

- Precipitation over the start of May has averaged between 15% and 71% of that recorded over the same period between 1971 and 2000.
- Grand Coulee is currently drafting reservoir water to supplement flows in the Columbia River.
- The Bureau of Reclamation has agreed (5-15-02 TMT meeting) to draft Grand Coulee to an elevation of 1237 feet AMSL to elevate flows at McNary to 220 Kcfs, in response to SOR #2002-3. Although this operation was discussed at the 5-15-02 TMT meeting, the BOR will not begin meeting the 220 Kcfs flows at McNary until next week.
- In response to SOR #2002-3, USACE has agreed to operate Dworshak to an average outflow of 10.0 Kcfs.
- The NWRFC released the May Mid-Month water supply forecast; many sites reported decreasing forecasts between the May Final and May Mid-Month forecasts.
- Flows at Lower Granite have averaged 71.4 Kcfs between April 3rd and May 16th and 61.0 Kcfs over the week from May 10th to May 16th (BiOp target = 97 Kcfs).
- Flows at McNary have averaged 229.0 Kcfs between April 10th and May 16th and 199.7 Kcfs over the week May 10th to May 16th (BiOp target = 246 Kcfs).
- Flows at Priest Rapids have averaged 152.9 Kcfs between April 10th and May 16th and 141.0 Kcfs over the week from May 10th to May 16th (BiOp target = 135 Kcfs).
- Combined storage in the Upper Snake River System is at 60% of capacity, down 2% from last week.

Water Supply: Precipitation continues to be minimal over the start of May, ranging from 15% to 71% of average. May precipitation appears to be especially low in the Snake River Basin, Central Washington, and the Willamette Valley. WY 2002 is currently slightly below average in terms of cumulative precipitation.

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

	May 20	002	Cumulative 10/1/01 – 5/14/02				
Location	Observed (inches)	% Avg	Observed (inches)	% Avg			
Columbia Above Coulee	0.66	65	16.33	97			
Snake R. Above Ice Harbor	0.26	31	11.48	91			
Columbia Above The Dalles	0.48	54	16.22	96			
Kootenai	0.69	69	14.65	84			
Clark Fork	0.50	54	11.36	102			
Flathead	0.73	67	15.19	102			
Pend Oreille/Spokane	0.83	71	27.07	115			
Central Washington	0.05	15	6.16	89			
Snake R. Plain	0.11	16	5.79	74			
Clearwater	0.78	57	23.97	106			
SW Washington Cascades/Cowlitz	0.85	49	66.46	110			
Willamette Valley	0.51	32	52.89	102			

According to the Northwest River Forecast Center (NWRFC), cooler conditions are expected to exist throughout the Pacific Northwest (PNW) over the over the next several days, accompanied also with some precipitation. In general, snowmelt over the next few days is expected to be minor.

The NWRFC released the May Mid-Month water supply forecast on May 16, 2002. Table 2 displays the 2002 May Final runoff volume forecast along with the May Mid-Month forecast for multiple reservoirs. Of the ten locations displayed in Table 2, eight reported decreasing forecasts between the May Final and May Mid-Month water supply forecasts, two reported no change, and none showed increasing forecasts.

**Table 2.** May Final and May Mid-Month Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins during WY 2002.

	Ma Fin		May Mid-	Month
Site	Runoff Volume (Kaf)	% of Avg	Runoff Volume (Kaf)	% of Avg
Mica (April-Sept)	11700	94	11600	93
Hungry Horse (April-Sept)	2180	103	2170	102
Libby (April-Sept)	6750	102	6750	102
Grand Coulee (Jan-July)	62300	99	61600	98
The Dalles (Jan-July)	98200	92	97300	91
Brownlee (April-July)	3580	57	3500	55
Dworshak (April-July)	3050	115	3030	115
Lower Granite (Jan- July)	24200	81	23800	79
Heise (ID) (April-July)	2870	81	2800	79
Weiser (ID) (April-July)	3130	54	3070	53

Operations have varied at storage reservoirs along the Columbia and Snake Rivers.

Over the past week, the Grand Coulee Reservoir has been drafting reservoir water to supplement flows in the Columbia River; beginning the week at 1242.0 feet AMSL (5-10-02) and ending the week at 1240.3 feet AMSL (5-16-02). At the 5-15-02 TMT meeting the Bureau of Reclamation (BOR) agreed to draft Grand Coulee down to an elevation of 1237 feet AMSL to assist Columbia River flows before the onset of the spring freshet and meet a minimum flow of at least 220 Kcfs at McNary. The BOR also agreed that they would not fill Grand Coulee above 1240 feet if lower river flow objectives were not being met. However, as of midnight on 5-16-02, the 220 Kcfs McNary target was not being met (Outflows = 202.3 Kcfs). Moreover, it has been discovered that it is the Action Agencies' intention to begin meeting the 220 Kcfs flows at McNary next week, which is in contrast to the overall understanding at the 5-15-02 TMT meeting.

Libby has been refilling over the past 5 1/2 weeks. Over the last two days, outflows have increased from a 4.0 Kcfs minimum to 8.0 Kcfs on 5-16-02. Libby is currently (midnight, 5-16-02) at an elevation of 2385.6 feet AMSL; 73.4 feet from the full pool elevation of 2459 feet AMSL.

From 5-10-02 to 5-12-02, the Dworshak reservoir was drafted 1.4 feet and outflows averaged approximately 14.3 Kcfs. From 5-13-02 to 5-16-02, Dworshak has refilled 1.3 feet and outflows have decreased from 14.1 to 10.0 Kcfs on 5-16-02. In response to SOR #2002-3, USACE agreed to operate Dworshak to an outflow of 10.0 Kcfs until at least next weeks' TMT meeting. Currently (midnight, 5-16-02), Dworshak is at an elevation of 1512.5 feet AMSL; 87.5 feet below the full pool elevation of 1600 feet AMSL.

Over the past week, the Brownlee reservoir continued to refill, increasing 2.8 feet from 5-10-02 to 5-16-02. Currently (midnight, 5-16-02), Brownlee is at an elevation of 2070.2 feet AMSL; 6.8 feet below its full pool elevation of 2077 feet AMSL. Over the last two days, if Brownlee would have simply passed inflows, the Columbia and Snake Rivers would have seen an additional 4.9 Kcfs in discharge.

From 5-10-02 to 5-13-02, the Hungry Horse Reservoir drafted 0.98 feet of water. From 5-14-02 to 5-16-02, inflows have increased to approximately 8.0 Kcfs and the Hungry Horse reservoir has refilled 0.2 feet. Over the last week, outflows have remained relatively steady at 7.3 Kcfs. Currently (midnight, 5-16-02), Hungry Horse is at an elevation of 3513.6 feet AMSL; 46.4 feet below its full pool elevation of 3560 feet AMSL.

Flows along the Columbia River are projected to continue to be low over the upcoming week, influencing the Biological Opinion flow targets at McNary, Priest Rapids, and Lower Granite.

Based upon the April final forecasts, flow objectives are 97 kcfs at Lower Granite between 4/ 3/02 and 6/20/02, 246 kcfs at McNary between 4/ 10/02 and 6/30/02, and 135 kcfs at Priest Rapids from 4/10/02 and 6/30/02. The flow objectives are intended to represent averages over the designated time periods. From April 3rd to May 16th, 2002, outflows at Lower Granite have averaged 71.4 Kcfs; from April 10th to May 16th, 2002, outflows at McNary have averaged 229.0 Kcfs; from April 10th to May 16th, 2002, outflows at Priest Rapids have averaged 152.9 Kcfs. Therefore, to date, flow objectives are only being met at Priest Rapids. Over the week from May 10th to 16th, 2002 flows have averaged 61.0 Kcfs at Lower Granite, 199.7 Kcfs at McNary, and 141.0 Kcfs at Priest Rapids. On a weekly basis, BiOp flow objectives are again only being met at Priest Rapids. It is important to note that without significant supplemental water from storage reservoirs, each of the projects will likely continue to struggle to meet the BiOp flow objectives until the spring freshet begins.

Over the last week (5-10-02 to 5-16-02), many of the reservoirs on the Upper Snake River have been drafting slightly. Currently, as of May 16th, 2002, the entire Upper Snake River System is at 60% of capacity (62% last week). Individually, American Falls is at 78% of capacity (82% last week), Palisades is at 46% of capacity (49% last week), Jackson Lake is at 35% of capacity (30% last week) Island Park is at 97% of capacity (98% last week), Lake Walcott is at 98% of capacity (101% last week), Milner is at 94% of capacity

(95% last week), and Grassy Lake is at 74% of capacity (71% last week).

**Spill.** Spill ended at Dworshak Dam on May 15th as outflow was decreased to powerhouse capacity. Testing of the RSW at Lower Granite Dam continues with alternating spill levels. Spill has averaged 36% of daily flows this past week. At Little Goose Dam the 12-hour spill levels approach the TDG waiver levels and have averaged 39% of average daily flow. Lower Monumental Dam continues to operate in alternating blocks of transportation for two days followed by one day of primary bypass. At Ice Harbor Dam spill is being implemented up to the daytime cap during daylight hours and 100 % of instantaneous flow during nighttime hours, and has averaged 80% of daily flows over the past week.

Spill for fish passage is also being implemented in the lower Columbia River. Spill over the past week averaged 33% 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 51% of average daily flow at Bonneville Dam. Daytime spill tests continue at John Day and Bonneville dams. All Mid Columbia River projects are spilling at this time. The total dissolved gas levels at all federal and Mid Columbia hydroprojects remain below the water quality waiver standards. A few fish with minor signs of GBT were observed at Rock Island and Lower Monumental dams this past week.

Smolt Monitoring: The yearling chinook numbers collected at Snake River basin Traps were down again this week with a total of 312 collected at all SMP traps versus over 1,397 last week. The average daily collection for all traps combined declined from 54 to 16. Steelhead numbers were down compared to the previous week with the average daily collection at all sites combined at 429 this week compared to 527 the previous week, with the largest numbers collected at the Imnaha Trap this past week. The Lewiston Trap on the Snake River showed a decrease in steelhead captured with the average daily catch down 25% from last week.

It appears that the juvenile migration is later than historic average in the Snake River this year, with the late run-off in the Snake River basin, the numbers of juvenile chinook appear to be about two weeks behind and steelhead approximately a week behind historic averages.

The passage index for migrant yearling chinook at Lower Granite decreased over the past week averaging 41,000 per day this week versus 114,000 average last week. On 5/4 there was a large spike of 245,000 chinook, which coincided with the return to service of 3 turbines that were brought back on line after a full load rejection on 5/ 2. All but turbine 6 were off line, and a full powerhouse shutdown occurred on the 3rd for 8 hours while repairs were made. On the evening of the 3 May three units came back on line. Steelhead indices also spiked on 5/4 when 88,000 were estimated to have passed the project. Those operations appear to have caused a spike in passage. Sockeye numbers are increasing at Lower Granite. Based on PIT-tag detections of sockeye tagged at Red Fish Lake, those fish are contributing a large portion of the sockeye index at Lower Granite at this time.

At Little Goose the average daily index for chinook decreased from 145,000 last week to 60,000 this week. The steelhead index decreased from 60,000 daily average last week to 11,000 this week.

At Lower Monumental the project began sampling on 5/1 and samples two days and then sends fish through primary bypass on the third day. Consequently, indices are only available on those days when fish are being collected for transportation. Based on this sampling regime the daily average index for yearling chinook remained relatively steady, with the index up about 1% from last week at 123,000 fish per day, while steelhead indices were down about 13%, to about 40,000 fish per day.

Rock Island Dam yearling chinook index was up 30% over the past week with the average daily index increasing from 660 to 950. Steelhead numbers decreased from an average of 464 to 422 comparing this week to last. The sockeye numbers have decreased about 25% at Rock Island Dam

with 579 average daily index last week versus 429 this week.

In the lower Columbia, McNary saw a large decrease with an average daily index this week of 52,000 versus 81,000 last week. Steelhead numbers rose to 19,700 per day versus 19,300 per day for last week. An estimated 275,000 subyearling chinook passed the project on 5/3, after that date the index continually decreased to near 7,000 on 5/9. This week the subyearling chinook index averaged 2,700. Coho indices nearly doubled over the last week with an average index of 81,000 versus 43,000 last week. The sockeye index increased this week with daily average index of 19,000 versus 4,600 last week.

Adult Fish Passage: At Bonneville Dam, passage of adult spring chinook had higher counts earlier in the week with about 8,800 tallied on 5/10 and reduced to near 2,000 later in the week. The season total of 240,362 adult spring chinook for 2002 compares to 358,925 in 2001 and 95,523 for the 10-year average through May 16 with this year's total about 67% of the 2001 count and 252% of the 10-year average. At The Dalles Dam, 150,908 adult spring chinook have been counted, about 55.2% and 250.3% of the respective 2001 count and the ten-year average. The percentage of spring chinook adults tallied at Bonneville and then passing The Dalles Dam is 62.8% so far this season. A total of 94,061 adult spring chinook have been counted at McNary Dam with about 57,100 turning off into the Snake River (count at Ice Harbor Dam) and 35,700 counted at Lower Granite Dam. Adult spring chinook at Priest Rapids Dam totaled 26,285 through May 16 with daily counts ranging from 230 to 4,100 per day. The 2002 counts are 59.3% and 247.2% of the respective 2001 and 10-year average. Through May 14, the number of adult hatchery and wild spring chinook tallied at Prosser Dam (Yakama River) was 5,144. About 88,500 adult spring chinook of the 94,000 counted at McNary have been counted at upstream dams so far (near 94% of the McNary count). The count of jack spring chinook salmon at Bonneville Dam surpassed the 10-year average this week and is encouraging given the low number of juvenile spring chinook migrants as well as the drought conditions that were present in 2001.

At Bonneville Dam, most steelhead passing the project should still be destined for the lower river tributaries such as the Wind, Hood, White Salmon, and Klickitat. Counts ranged between 50 and 70 steelhead per day during the week.

New Item - Adult shad began arriving at Bonneville Dam this week, hardly worthy of mention except that counts of these fish normally surpass totals of all other fish counted at the project combined.

New Item - PIT tag detections of adult fish are possible from Bonneville and McNary dams in the lower Columbia River and at Wells Dam in the upper Columbia River. The adult salmon can be detected at Lower Granite Dam on the Snake River. All PIT tag detections are centered at the PIT Tag Operations Center where they can be accessed on a database Web Site.

Hatchery Releases: For the past two weeks, approximately 7.9 million juvenile chinook, coho and sockeye salmon and steelhead were directly or volitionally released from State, Federal or Tribal facilities in the Columbia River basin. For the upcoming two weeks, about 5.9 million chinook, sockeye, coho, and steelhead are scheduled for release from hatcheries in the Columbia River basins.

Snake River - Releases of yearling spring, summer and fall chinook are completed for the season. Overall, greater than 12 million yearling chinook were released from hatcheries last fall (2001) and this spring in the Snake River basin for this 2002 migration season. The final group of yearling coho was r released from Kooskia NFH this past week. About 9.5 million steelhead will be released in the Snake R basin during April/May and hatchery releases are nearing completion for this season's migration. Subvearling fall chinook will be released from the same acclimation ponds as the yearling fall chinook, i.e., CPT Johns, Pittsburg Landing and Big Canyon (Clearwater) with a direct release from Lyons Ferry H also scheduled mainly for June.

Mid-Columbia [above McNary Dam] -Releases of yearling spring chinook from acclimation ponds, outplants or direct stream releases from hatcheries are essentially completed for the 2002 migration season. Sockeve in the Mid-Columbia were released into Lake Wenatchee (direct releases) and the Okanogan River basin during the fall prior to their migration in April through May. Steelhead were released from Ringold H in mid-April with the Methow, Okanogan, and Wenatchee River basins nearing completion this next week. Coho were released in the Yakama, Wenatchee, and Methow River basins from mid- to late-April and will be completed by late May from the Yakama R basin. Subvearling summer and fall chinook will be liberated from hatcheries from late May through early July. The subvearling summer and fall chinook release groups comprise almost 50% of the total hatchery production released in this River Zone.

Lower Columbia [Bonneville Dam to McNary Dam] - Yearling spring chinook were released in the Wind, Little White Salmon, Hood, Deschutes, and Umatilla rivers in April with the Umatilla, Klickitat and Hood rivers also releasing fish in March. The remaining release of spring chinook in the Klickitat River will be subyearling spring chinook scheduled for release in the upper Klickitat in late May. The final release of yearling "bright" fall chinook was completed in the Umatilla River (Thornhollow Pd) in April.

Subyearling "tule" fall chinook from Spring Creek NFH was completed on April 30.
Subyearling "bright" fall chinook will be released from mid-May through late June in the Umatilla, Klickitat, and Little White Salmon rivers. Releases of yearling coho salmon are completed in this Zone for the season as of May 10. Steelhead releases were scheduled from mid-April through early May in the Umatilla, Klickitat, Deschutes, Hood, and White Salmon rivers. A small number of these released steelhead will be Winter-Run fish.

	Gr	and	Chi	ef			Rocky Rock				Pr	iest		
	Co	ulee	Jose	ph	We	ells	Re	ach	Island		Wan	apum	Rapids	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/03/02	109.9	0.0	117.5	0.0	128.5	8.5	133.0	32.4	135.6	25.4	144.9	50.0	154.1	94.7
05/04/02	114.6	0.0	111.6	0.0	120.4	7.7	123.9	28.8	129.1	25.8	142.4	49.8	154.4	94.2
05/05/02	101.8	0.0	103.4	0.0	111.3	7.8	109.9	26.4	114.0	24.1	113.1	39.7	103.3	63.0
05/06/02	143.7	0.0	147.1	0.0	157.6	9.4	159.8	39.2	157.0	32.9	166.9	30.7	171.9	103.9
05/07/02	133.9	0.0	142.7	0.0	155.7	9.4	159.6	38.7	157.8	32.3	168.8	12.5	173.4	105.6
05/08/02	124.8	0.0	121.9	0.0	128.0	9.5	128.5	39.9	128.7	32.1	136.3	11.7	147.9	77.4
05/09/02	128.1	0.0	135.3	0.0	144.7	9.2	148.0	34.8	151.7	28.1	150.2	12.3	148.6	60.9
05/10/02	118.2	0.0	122.0	0.0	130.5	9.1	134.6	34.5	138.5	29.0	144.0	33.6	154.8	61.2
05/11/02	91.4	0.0	98.0	0.0	106.6	7.8	112.0	32.7	114.4	27.2	128.7	49.0	129.2	61.2
05/12/02	91.6	0.0	91.6	0.0	101.2	7.3	103.0	26.9	104.8	23.2	115.2	43.9	121.4	61.2
05/13/02	134.0	0.0	132.8	0.0	136.7	8.0	136.5	32.5	141.6	31.1	169.9	64.9	166.4	63.3
05/14/02	125.4	0.0	125.6	0.0	134.4	9.2	136.8	34.4	140.2	31.2	124.5	38.4	145.0	60.7
05/15/02	115.5	0.0	121.6	0.0	131.3	10.0	131.5	33.5	134.4	29.0	132.8	34.6	127.6	71.9
05/16/02	128.4	0.0	129.1	0.0	140.5	9.0	142.3	27.9	146.3	27.2	144.5	34.5	142.9	86.9

<b>Daily Average</b>	Flow and S	pill (in kcfs	) at Snake Basin Projects

				Hells	Lov	Lower		Little		/er	Ice	
	Dwo	rshak	Brownlee	Canyon	Gra	Granite		ose	Monumental		Harbor	
Date	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/03/02	14.1	3.5	15.1	16.1	71.9	56.8	67.4	14.6	70.9	0.0	73.2	60.2
05/04/02	14.4	3.6	12.7	9.4	86.7	27.2	83.5	17.5	87.5	0.0	88.0	65.1
05/05/02	14.4	3.6	15.3	9.4	76.1	23.6	73.3	21.4	75.3	0.0	79.0	60.3
05/06/02	14.5	3.6	15.1	14.5	69.6	17.0	67.7	22.8	72.8	0.0	76.8	58.2
05/07/02	14.4	3.6	13.1	13.1	73.0	22.7	70.6	23.0	75.1	0.0	76.6	54.8
05/08/02	14.4	3.6	14.4	12.2	68.5	24.6	64.2	23.2	66.8	0.0	71.6	55.7
05/09/02	14.6	3.8	12.7	11.4	63.8	24.8	55.3	22.2	59.3	0.0	60.5	50.7
05/10/02	14.5	3.7	12.8	11.9	60.9	24.9	54.8	22.5	57.7	0.0	60.4	50.5
05/11/02	14.3	3.5	12.5	10.3	56.3	17.9	54.9	23.8	59.1	0.0	61.4	50.6
05/12/02	14.3	3.5	12.2	9.3	56.4	22.1	52.3	21.1	55.4	0.0	57.9	46.3
05/13/02	14.1	3.4	13.1	14.2	55.7	22.4	51.1	22.1	52.8	0.0	55.2	45.6
05/14/02	14.0	3.2	13.4	11.9	64.2	17.0	63.6	21.8	65.3	0.0	70.1	54.7
05/15/02	12.5	2.0	13.0	10.3	68.6	22.7	65.9	22.6	69.1	0.0	70.3	54.0
05/16/02	10.0	0.0			65.0	24.6	63.5	22.8	66.7	0.0	71.4	55.2

Daily Average Flow and	Spill (in kcfs) at Lowe	r Columbia Projects
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	Mcl	Nary	John [	Day	The Da	alles		В	Bonneville		
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2	
05/03/02	224.7	59.0	247.9	57.6	246.0	91.2	251.2	116.4	13.5	118.0	
05/04/02	239.4	68.3	236.4	88.0	229.1	89.7	245.0	95.2	21.6	121.4	
05/05/02	217.5	56.9	219.5	65.0	213.8	84.5	248.0	99.6	24.2	117.9	
05/06/02	212.4	65.0	216.2	51.3	215.9	84.8	210.1	149.5	0.6	53.2	
05/07/02	241.4	88.0	241.2	71.3	234.7	93.8	240.0	152.6	0.0	80.7	
05/08/02	247.3	78.4	257.6	74.9	252.3	97.3	265.5	146.7	3.8	108.4	
05/09/02	201.8	73.2	204.1	60.0	209.0	79.0	212.7	144.0	0.0	62.1	
05/10/02	196.3	72.0	199.2	68.4	187.8	70.8	198.2	99.4	3.1	90.6	
05/11/02	208.0	67.2	212.2	63.0	206.9	81.2	223.2	92.5	14.5	109.6	
05/12/02	156.3	50.8	170.8	50.9	174.5	68.7	198.3	93.1	9.3	89.5	
05/13/02	213.6	77.7	209.7	60.4	206.0	80.2	220.8	91.6	26.8	95.6	
05/14/02	210.0	67.4	205.9	46.1	201.4	79.3	205.8	134.7	0.0	64.4	
05/15/02	211.6	62.1	219.1	61.7	211.2	82.0	215.9	124.4	1.3	83.5	
05/16/02	201.8	60.0	194.3	60.2	186.6	73.7	208.1	118.9	0.0	82.5	

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

										sh with I Highest	Fin GBT Rank
			Number of	Number w	Number w	% Fin	% Severe	Rank		Rank	Rank
Site	Date	Species	Fish	GBT signs	Fin Signs	GBT	Fin GBT	1	2	3	4
Low	er Granit	e Dam									
		Yearling Chinook	44	0	0	0.00%	0.00%	0	0	0	0
		Steelhead	56		0	0.00%	0.00%	0	0	0	0
	05/14/02	Yearling Chinook	39	0	0	0.00%	0.00%	0	0	0	0
	05/14/02	Steelhead	60	0	0	0.00%	0.00%	0	0	0	0
Little	e Goose	Dam									
	05/08/02	Yearling Chinook	56	0	0	0.00%	0.00%	0	0	0	0
	05/08/02	Steelhead	43	2	2	4.65%	0.00%	2	0	0	0
	05/15/02	Yearling Chinook	80	0	0	0.00%	0.00%	0	0	0	0
_		Steelhead	20	0	0	0.00%	0.00%	0	0	0	0
Low		mental Dam									
		Yearling Chinook	67		1	1.49%	0.00%	1	0	0	0
	05/13/02	Steelhead	33	1	1	3.03%	0.00%	1	0	0	0
McN	ary Dam										
	05/09/02	Yearling Chinook	93	0	0	0.00%	0.00%	0	0	0	0
	05/09/02	Steelhead	7	0	0	0.00%	0.00%	0	0	0	0
		Yearling Chinook	90		0	0.00%	0.00%	0	0	0	0
	05/13/02	Steelhead	10	0	0	0.00%	0.00%	0	0	0	0
Bon	neville Da	am									
	05/09/02	Yearling Chinook	4	0	0	0.00%	0.00%	0	0	0	0
	05/09/02	Steelhead	4	0	0	0.00%	0.00%	0	0	0	0
	05/13/02	Yearling Chinook	89	0	0	0.00%	0.00%	0	0	0	0
	05/13/02	Steelhead	4	0	0	0.00%	0.00%	0	0	0	0
		Yearling Chinook	3		0	0.00%	0.00%	0	0	0	0
		Steelhead	2	0	0	0.00%	0.00%	0	0	0	0
Roc	k Island [	Dam									
	05/09/02	Yearling Chinook	50	0	0	0.00%	0.00%	0	0	0	0
	05/09/02	Steelhead	50	0	0	0.00%	0.00%	0	0	0	0
	05/13/02	Yearling Chinook	50	3	3	6.00%	0.00%	3	0	0	0
	05/13/02	Steelhead	50	2	2	4.00%	0.00%	2	0	0	0
	05/16/02	Yearling Chinook	50	0	0	0.00%	0.00%	0	0	0	0
		Steelhead	50	0	0	0.00%	0.00%	0	0	0	0

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

Total	Dissolvad	Gas Saturation	Data at Unner	Columbia River Sites	
TOTAL	Dissolved	Gas Saturation	Data at Ubber	Columbia River Sites	

	Hung	ry H. I	Dnst		Boun	dary			Grane	d Cou	ee		Gran	d C. T	<u>wr</u>		Chief	Jose	<u>ph</u>	
	<u>24 h</u>	<u>12 h</u>		#	<u>24 h</u>	<u>12 h</u>		#	<u>24 h</u>	<u>12 h</u>		<u>#</u>	24 h	<u>12 h</u>		#	<u>24 h</u>	<u>12 h</u>		#
<u>Date</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>
5/3	98	99	100	24	114	115	117	24	109	109	110	24	107	107	108	23	109	109	109	23
5/4	98	98	99	24	112	114	117	24	108	109	109	24	107	107	108	23	108	109	109	23
5/5	99	99	99	24	114	115	118	24	109	109	110	24	108	108	109	23	108	109	109	23
5/6	98	99	99	24	113	114	114	24	108	108	108	24	107	107	107	24	107	108	108	23
5/7	96	97	100	21	113	114	114	24	108	108	108	24	106	107	108	24	107	107	108	23
5/8	95	95	96	10	113	114	115	24	108	109	110	21	107	107	107	24	106	107	107	23
5/9	97	97	98	24	115	117	120	24	109	110	111	24	107	108	108	19	107	107	108	23
5/10	97	97	97	10	114	114	116	9	109	109	110	5	107	107	107	6	107	107	107	7
5/11	96	96	97	24	114	117	119	24	110	110	110	24				0	108	109	109	24
5/12	96	96	96	24	114	115	116	24	110	110	111	24				0	108	109	110	23
5/13	97	97	98	24	114	115	116	24	112	112	114	24				0	110	110	110	23
5/14	97	98	98	24	113	115	115	24	111	111	111	24				0	110	110	111	23
5/15	97	97	97	24	111	114	115	24	111	111	111	24				0	110	110	111	23
5/16	97	97	98	24	111	114	115	24	110	111	112	24				0	109	110	110	23

	Chief J. Dnst Wells 24 h 12 h # 24 h 12							Wells	Dwns	strm		Rock	y Read	c <u>h</u>		Rock	y R. T	wr		
	<u>24 h</u>	<u>12 h</u>		#	<u>24 h</u>	<u>12 h</u>		#	<u>24 h</u>	<u>12 h</u>		#	24 h	<u>12 h</u>		#	<u>24 h</u>	<u>12 h</u>		#
<u>Date</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>
5/3	109	110	111	23	105	105	106	23	108	109	109	23	108	108	109	24	110	111	113	24
5/4	109	109	110	23	105	105	105	24	108	109	110	24	107	107	107	23	109	110	111	23
5/5	109	110	110	23	106	106	106	23	109	109	109	23	107	107	107	23	109	110	111	23
5/6	107	108	109	23	105	105	105	24	108	108	108	24	106	106	107	24	109	110	111	24
5/7	107	108	109	23	105	105	105	24	107	107	108	24	106	106	106	24	109	110	113	24
5/8	107	108	108	23	105	106	106	24	107	108	108	24	106	106	107	23	110	111	112	23
5/9	107	108	108	23	106	106	107	22	108	108	108	22	107	107	107	23	110	111	112	23
5/10	108	108	109	7	106	106	106	9	107	107	108	9	106	106	107	10	108	108	111	10
5/11	109	109	110	24	107	108	108	24	108	109	109	24	107	107	107	24	110	111	114	24
5/12	109	109	110	23	108	109	110	24	109	109	110	24	107	107	108	24	109	110	113	24
5/13	110	110	111	23	108	109	109	24	110	111	111	24	108	109	109	23	111	111	112	23
5/14	110	111	112	23	108	108	108	24	109	109	110	24	108	108	108	24	111	111	112	24
5/15	111	111	111	23	109	109	109	24	110	110	110	24	108	108	109	24	111	112	114	24
5/16	110	110	111	23	109	109	110	24	110	111	111	24	109	109	110	24	110	111	112	24

Total Dissolved Gas Saturation at Mid Columbia River Sites

d Rock I. Tlwr Wanapum Wanap

	Rock Island Rock I. Tiwr 24 h 12 h # 24 h 12 h					<u>r</u>		<u>Wana</u>	<u>pum</u>			<u>Wana</u>	<u>ipum</u>	<u> Ilwr</u>		<u>Pries</u>	t Rapi	<u>ds</u>		
	24 h	<u>12 h</u>		#	24 h	<u>12 h</u>		#	24 h	<u>12 h</u>		#	24 h	<u>12 h</u>		#	<u>24 h</u>	<u>12 h</u>		#
<u>Date</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>
5/3	110	111	112	24	119	122	125	24	113	114	115	24	115	115	116	24	111	112	113	24
5/4	110	110	111	23	116	118	121	23	113	113	114	24	114	115	116	24	113	113	115	24
5/5	110	110	111	23	117	118	123	23	113	113	114	24	113	113	115	24	112	112	113	24
5/6	109	110	110	24	120	121	125	23	112	112	113	24	113	114	115	24	111	113	114	24
5/7	110	111	111	23	121	122	125	23	112	112	113	24	111	112	112	24	110	111	112	24
5/8	110	111	111	23	118	121	125	23	115	116	118	24	113	114	115	24	111	112	113	24
5/9	111	112	112	23	116	117	118	23	116	117	117	24	115	116	118	24	115	115	116	24
5/10	111	111	111	10	116	116	117	10	117	117	120	24	116	116	118	24	115	117	119	24
5/11	111	111	112	24	116	116	117	24	116	117	120	24	115	115	117	24	115	117	120	24
5/12	111	111	112	24	115	116	116	24	116	117	118	24	114	115	119	24	116	118	121	24
5/13	111	111	111	23	115	116	117	23	115	116	117	24	116	118	120	24	116	117	119	24
5/14	110	111	111	24	115	115	116	24	111	112	112	24	114	115	117	24	115	116	118	24
5/15	111	111	112	24	115	116	116	23	111	113	114	24	114	115	115	24	113	114	116	24
5/16	111	111	112	24	115	116	117	24	112	113	113	24	114	114	116	24	113	113	114	24

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

			Total	Diss	olved	Gas S	Satura <sup>.</sup>	tion	Data	at Lov	ver Co	luml	oia an	d Sna	ke Riv	er Si	tes			
	<b>Pries</b>	t R. D	nst		Pasco	2			Dwor	shak			Clrwt	r-Pecl	2		Anato	ne		
	<u>24 h</u>	<u>12 h</u>		#	<u>24 h</u>	<u>12 h</u>		#	<u>24 h</u>	<u>12 h</u>		#	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>
Date	Ava	Ava	High	<u>hr</u>	Ava	Ava	High	<u>hr</u>	Ava	Ava	<u>High</u>	<u>hr</u>	Ava	Ava	<u>Hiah</u>	hr	Ava	Ava	High	hr
5/3	119	119	120	24	111	112	113	24	107	108	109	24	103	104	104	24	101	102	103	24
5/4	119	119	119	24	112	113	113	24	109	109	109	24	104	104	105	24	102	103	104	24
5/5	116	118	119	24	110	112	113	24	109	109	109	24	104	104	104	24	102	102	103	24
5/6	118	119	119	24	108	110	110	24	108	109	109	24	103	104	104	24	102	102	103	24
5/7	118	119	120	24	111	112	113	21	108	108	109	24	103	103	104	24	101	102	102	24
5/8	116	118	119	24	112	114	115	24	107	108	108	24	103	104	105	24	102	103	104	24
5/9	115	116	116	24	113	113	114	24	108	109	109	24	104	105	106	23	102	103	104	24
5/10	116	116	117	24	110	110	111	9	108	108	108	9	104	104	104	9	101	101	102	9
5/11	115	115	116	24	112	113	113	24	108	108	109	24	999	999	999	99	103	104	105	23
5/12	115	115	116	24	111	112	113	24	108	108	109	24	105	106	106	24	103	104	105	24
5/13	116	117	118	24	111	112	113	24	109	109	109	24	105	105	106	24	103	104	105	24
5/14	116	117	117	24	111	113	114	24	108	108	109	24	104	104	105	24	102	103	104	24
5/15	115	117	119	24	113	114	114	24	106	108	109	24	103	104	105	24	102	103	104	24
5/16	118	119	119	24	112	114	115	24	102	103	103	24	102	103	104	24	103	104	105	24

			Total	Diss	olved	Gas S	<u>Satura</u>	tion	Data	at Sna	ike Riv	er S	ites							
	<b>Clrwt</b>	r-Lew	<u>iston</u>		Lowe	r Grar	<u>nite</u>		L. Gra	anite <sup>-</sup>	Γlwr		Little	Goos	<u>e</u>		L. Go	ose T	<u>lwr</u>	
	24 h	<u>12 h</u>		#	24 h	<u>12 h</u>		#	24 h	<u>12 h</u>		#	24 h	<u>12 h</u>		#	<u>24 h</u>	12 h		#
<u>Date</u>	Avq	Ava	<u>Hiah</u>	<u>hr</u>	Ava	Ava	<u>Hiah</u>	<u>hr</u>	Ava	Ava	<u>Hiah</u>	<u>hr</u>	Avq	Ava	<u>Hiah</u>	hr	Ava	Avq	<u>Hiah</u>	hr
5/3	102	103	104	24	103	103	104	24	119	120	120	23	108	108	110	24	110	113	114	24
5/4	102	103	104	24	102	102	103	24	113	117	121	24	110	110	110	24	112	115	118	24
5/5	103	103	104	24	102	102	102	24	111	115	121	24	111	111	111	24	115	118	119	24
5/6	102	103	105	24	101	101	102	24	108	108	109	24	111	111	111	24	115	119	120	24
5/7	102	103	104	24	101	101	102	24	110	111	112	24	107	108	110	24	113	119	120	24
5/8	103	104	106	24	102	103	105	24	111	111	112	24	106	106	107	24	113	119	120	24
5/9	103	105	106	24	103	103	104	24	112	112	113	24	105	106	107	24	113	119	120	24
5/10	102	102	102	9	102	102	102	9	112	112	113	9	105	105	105	9	116	116	120	9
5/11	104	106	107	24	104	104	106	24	110	116	121	24	109	109	110	24	115	120	120	24
5/12	104	106	107	24	105	106	107	24	113	120	122	24	111	112	113	24	115	119	120	24
5/13	104	105	107	24	105	105	106	24	113	114	120	18	112	112	113	24	116	119	120	24
5/14	103	104	105	24	104	104	105	24	109	109	110	24	110	110	111	24	115	118	120	24
5/15	103	104	106	24	104	104	105	24	111	112	112	24	109	110	110	24	115	119	120	24
5/16	102	104	105	24	105	106	108	24	111	112	112	23	111	111	113	24	115	119	120	24

			Total	Diss	olved	Gas	Satura	tion	Data	at Sna	ake and	d Lo	wer C	olumi	oia Riv	er Si	tes			
	Lowe	r Mor	<u>).</u>		L. Mo	n. Tlv	<u>/r</u>		Ice H	<u>arbor</u>			Ice H	arbor	Tlwr		McNa	ary-Ore	<u>egon</u>	
	24 h	12 h		#	24 h	12 h		#	24 h	<u>12 h</u>		#	24 h	12 h		#	24 h	12 h		#
<u>Date</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	Avg	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	Avg	Avg	<u>High</u>	<u>hr</u>
5/3	111	112	113	24	111	112	113	24	112	112	112	24	114	115	117	24	110	111	112	24
5/4	109	110	111	24	109	110	110	24	110	111	111	24	115	116	119	24	108	108	109	24
5/5	110	110	111	24	109	110	110	24	109	110	110	24	114	115	119	24	108	109	109	24
5/6	109	110	112	23	109	110	111	23	107	107	107	24	114	114	115	24	108	108	108	24
5/7	111	112	113	24	110	111	113	24	106	106	107	24	113	115	118	24	107	107	108	24
5/8	113	114	115	24	112	112	113	24	107	108	111	24	114	115	118	24	109	111	112	24
5/9	113	114	114	24	112	113	113	24	109	109	111	24	113	114	115	24	111	112	113	24
5/10	112	112	113	9	111	111	111	9	109	109	110	9	112	112	115	9	110	110	112	9
5/11	113	114	114	24	112	113	114	24	111	112	112	24	113	113	114	24	114	116	119	24
5/12	112	114	115	24	112	113	114	24	112	112	113	24	112	113	114	24	112	114	115	24
5/13	114	115	115	24	113	115	115	24	112	113	113	24	112	113	114	24	112	112	114	24
5/14	113	114	116	24	113	114	115	24	111	111	111	24	114	114	116	24	111	113	115	24
5/15	113	114	115	24	113	113	115	24	111	111	113	24	113	114	115	24	111	111	113	24
5/16	113	114	114	24	113	114	114	24	112	113	115	24	113	114	115	21	110	112	118	22

# 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

			TOtal	פפוע	oliveu	Gas v	<u>Satura</u>	uon	Data	al LUV	vei Co	lullli	JIA NI	vei Sii	162					
	<u>McNa</u>	<u>iry-Wa</u>	<u>ash</u>		<u>McNa</u>	ry Tlw	<u>/r</u>		<u>John</u>	<u>Day</u>			<u>John</u>	Day T	<u>lwr</u>		The I	<u>Dalles</u>		
	24 h	<u>12 h</u>		#	24 h	<u>12 h</u>		#	24h	<u>12h</u>		#	24h	<u>12h</u>		#	24h	<u>12h</u>		#
<u>Date</u>	Avg	Avg	<u>High</u>	<u>hr</u>	Avg	Avg	<u>High</u>	<u>hr</u>	Avg	Avg	<u>High</u>	<u>hr</u>	Avg	Avg	<u>High</u>	<u>hr</u>	Avg	<u>AVG</u>	<u>High</u>	<u>hr</u>
5/3	110	111	113	24	115	118	118	24	112	112	113	23	115	119	120	24	109	110	111	23
5/4	109	109	110	24	115	118	118	24	109	109	110	23	118	118	119	24	111	113	114	23
5/5	109	109	110	24	113	117	118	24	108	108	108	23	117	119	119	24	110	110	112	23
5/6	107	108	108	24	113	117	118	24	105	105	106	23	111	117	119	24	107	108	108	23
5/7	106	107	107	24	114	118	118	24	104	104	104	23	110	115	119	21	108	111	112	23
5/8	108	110	113	24	114	118	120	24	105	106	107	23	112	119	120	24	110	113	115	23
5/9	112	113	113	24	116	119	120	24	105	105	106	23	111	117	119	24	110	113	114	21
5/10	112	112	113	9	119	119	121	9	104	104	105	7	117	117	118	9	108	108	111	7
5/11	114	115	115	24	117	120	121	23	107	108	111	24	116	118	119	24	108	109	111	23
5/12	114	115	117	24	115	118	121	24	111	112	114	23	115	116	118	24	110	110	111	22
5/13	113	113	114	24	117	120	121	24	111	112	113	23	116	118	119	24	110	110	111	23
5/14	111	112	113	23	116	120	121	24	110	110	111	23	113	116	118	24	108	109	109	23
5/15	111	112	113	24	115	120	121	24	111	111	112	23	114	118	119	24	110	113	114	23
5/16	112	114	115	24	115	118	119	24	112	113	115	23	114	117	118	21	112	114	116	20

	Total	Disso	olved G	as	Satura	ation [	Data at	Lov	wer Co	olumb	ia Rive	r Si	tes			
	The D	alles	<u>Dnst</u>		Bonn	eville			Warre	endale	<u>.</u>		Cama	ıs\Wa	shugal	
	24 h	<u>12 h</u>		#	24 h	<u>12 h</u>		#	24h	<u>12h</u>		#	<u>24h</u>	<u>12h</u>		#
<u>Date</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
5/3	115	116	116	24	109	109	110	23	113	114	115	23	111	112	112	24
5/4	116	117	119	24	110	110	110	23	112	113	115	23	112	113	114	24
5/5	116	117	118	24	111	111	111	23	113	114	116	23	110	111	112	24
5/6	115	115	115	24	111	111	111	23	118	119	120	23	112	115	117	24
5/7	115	116	117	24	110	110	111	23	118	119	119	23	116	116	117	24
5/8	116	118	119	24	111	111	114	23	118	118	118	22	115	116	117	24
5/9	116	117	118	23	114	115	116	23	119	119	119	23	115	116	116	24
5/10	116	116	118	8	113	113	113	7	118	118	119	7	116	116	116	8
5/11	116	116	117	20	111	113	114	24	114	115	116	24	113	115	117	24
5/12	117	117	118	24	112	113	114	23	114	115	117	23	112	113	113	24
5/13	116	117	117	24	113	114	115	23	114	115	117	23	112	113	114	24
5/14	115	116	116	24	110	111	111	23	117	118	119	23	113	116	117	24
5/15	117	118	119	24	111	111	111	23	117	117	117	23	114	115	117	24
5/16	117	118	119	24	112	113	113	23	117	117	118	23	114	116	117	24

# Hatchery Release Summary 5/3/02 to 5/16/02

From:

	From:	5/3/02		το	5/16/02				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
IDFG	Magic Valley	ST	SU	2002	115,223	05-03-02	05-07-02	Lemhi R	Salmon River
IDFG	Magic Valley	ST	SU	2002	143,363	05-03-02	05-07-02	Lemhi R	Salmon River
IDFG	Niagara Springs	ST	SU	2002	474,272	04-06-02	05-09-02	Little Salmon R	Salmon River
IDFG	Niagara Springs	ST	SU	2002	836,713	04-14-02	05-04-02	Pahsimeroi H	Pahsimeroi River
IDFG Total					1,569,571				
Nez Perce Tribe	Dworshak	CO	UN	2002	280,000	05-15-02	05-15-02	Kooskia H	Clearwater Rvr M F
Nez Perce Tribe	Hagerman	ST	SU	2002	100,000	05-01-02	05-06-02	American R	S Fk Clearwater River
Nez Perce Tribe	Hagerman	ST	SU	2002	•			Newsome Cr	S Fk Clearwater River
Nez Perce Tribe	Hagerman	ST	SU	2002		05-14-02	05-17-02	Yankee Fk (Salmon R)	Salmon River
Nez Perce Tribe To					620,000				
ODFW	Irrigon	ST	SU	2002				L Sheep Acclim Pd	Imnaha River
ODFW	Irrigon	ST	SU	2002	•	05-08-02		Big Canyon Acclim.Pd	Grande Ronde River
ODFW	Wallowa	ST	SU	2002	•	05-01-02	05-16-02	Wallowa Acclim Pd	Wallowa River
ODFW Total					419,000				
Warm Spgs Tribe	Oak Springs	ST	SU	2002				Blackberry Acclim Pd	Hood River
Warm Spgs Tribe	Oak Springs	ST	WI	2002				E Fk Irrig Dist Sand Trap	Hood River
Warm Spgs Tribe	Oak Springs	ST	WI	2002	•	05-01-02	05-17-02	Parkdale Acclim Pd	Hood River
Warm Spgs Tribe		0114	011		102,000	04.00.00	05.40.00		M: 1 O 1 1: D:
WDFW	East Bank	CH1	SU	2002				Bel. Rocky Reach Dam	Mid-Columbia River
WDFW	East Bank	CH1	SU	2002	•			Dryden Acclim Pd	Wenatchee River
WDFW	East Bank	ST	SU	2002	•		05-03-02		Wenatchee River
WDFW	East Bank	ST	SU	2002			05-03-02		Wenatchee River
WDFW WDFW	East Bank	ST ST	SU SU	2002		04-29-02		Chiwawa H Chiwawa H	Wenatchee River Wenatchee River
WDFW	East Bank Klickitat	CO	SO	2002 2002	•	04-29-02 05-01-02	05-15-02	Klickitat H	Klickitat River
WDFW	Skamania	ST	SU	2002		05-01-02		Drano L	Little White Salmon Rive
WDFW	Skamania	ST	SU	2002	•	05-01-02		Klickitat R	Klickitat River
WDFW	Wells	ST	SU	2002					Methow River
WDFW	Wells	ST	SU	2002	•	04-29-02		Methow R	Methow River
WDFW	Wells	ST	SU	2002	•	04-29-02	05-10-02	Twisp R	Methow River
WDFW	Wells	ST	SU	2002				Okanogan R	Okanogan River
WDFW Total		•			2,800,430	0 . 20 02	00 .0 02	- Citaliogail I	o namo gam mino.
Yakima Tribe	Cle Elum	CH1	SP	2002		03-15-02	06-07-02	Easton Pd	Yakama River
Yakima Tribe	Cle Elum	CH1	SP	2002					Yakama River
Yakima Tribe	Cle Elum	CH1	SP	2002				Clark Flat Acclim Pd	Yakama River
Yakima Tribe	Cle Elum	CO	UN	2002	185,000	05-06-02	05-20-02	Cle Elem Slough	Yakama River
Yakima Tribe	Easton Pond	CO	UN	2002				Easton Pd	Yakama River
Yakima Tribe	Klickitat	CH0	SP	2002	230,000	05-07-02	05-07-02	Upper Klickitat R	Klickitat River
Yakima Tribe	Leavenworth	CO	UN	2002	298,500	04-25-02	05-06-02	Nason Cr	Wenatchee River
Yakima Tribe	Lost Creek	СО	UN	2002	185,000	05-06-02	05-20-02	Lost Creek Acclim Pd	Yakama River
Yakima Tribe	Prosser	CH0	FA	2002	80,000	04-22-02	05-22-02	Prosser Acclim Pd	Yakama River
Yakima Tribe	Stiles Pond	CO	UN	2002	209,000	05-06-02	05-20-02	Naches R	Yakama River
Yakima Tribe	Winthrop	CO	UN	2002	150,000	04-25-02	05-10-02	Winthrop H	Methow River
Yakima Tribe Total					2,384,674				
Grand Total					7,895,675				

## HATCHERY RELEASE SUMMARY NEXT TWO WEEKS

# Hatchery Release Summary to 5/30/02

			пац	nery Ke	lease Sullill	ıaı y			
	From:	5/17/02		to	5/30/02				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Nez Perce Tribe	Hagerman	ST	SU	2002	140,000	05-14-02	05-17-02	Yankee Fk (Salmon R)	Salmon River
Nez Perce Tribe	Lyons Ferry	CH0	FA	2002	400,000	05-27-02	06-04-02	Pittsburg Landing	Snake River
Nez Perce Tribe	Lyons Ferry	CH0	FA	2002	500,000	05-27-02	06-04-02	Big Canyon (Clearwater R)	Clearwater Rvr M F
Nez Perce Tribe	Lyons Ferry	CH0	FA	2002	500,000	05-27-02	06-04-02	Cpt John Acclim Pd	Snake River
Nez Perce Tribe To	tal				1,540,000	)			
ODFW	Irrigon	ST	SU	2002	125,000	05-08-02	05-23-02	Big Canyon Acclim.Pd	Grande Ronde River
ODFW Total					125,000				
Umatilla Tribe	Umatilla	CH0	FA	2002	300,000	05-20-02	05-31-02	Thornhollow Acclim Pd	Umatilla River
Umatilla Tribe	Umatilla	CH0	FA	2002	,	05-27-02	05-31-02	Umatilla R	Umatilla River
Umatilla Tribe Tota	ıl				600,000	1			
Warm Spgs Tribe	Oak Springs	ST	WI	2002	30,000	05-01-02	05-17-02	E Fk Irrig Dist Sand Trap	Hood River
Warm Spgs Tribe	Oak Springs	ST	WI	2002	30,000	05-01-02	05-17-02	Parkdale Acclim Pd	Hood River
Warm Spgs Tribe T	<b>Total</b>				60,000				
WDFW	Lyons Ferry	CH0	FA	2002	,		06-13-02	Lyons Ferry H	Snake River
WDFW Total					200,000				
Yakima Tribe	Cle Elum	CH1	SP	2002	,	03-15-02	06-07-02	Easton Pd	Yakama River
Yakima Tribe	Cle Elum	CH1	SP	2002	,	03-15-02	06-07-02	Jack Creek Acclim Pd	Yakama River
Yakima Tribe	Cle Elum	CH1	SP	2002		03-15-02	06-07-02	Clark Flat Acclim Pd	Yakama River
Yakima Tribe	Cle Elum	CO	UN	2002	,	05-06-02	05-20-02	Cle Elem Slough	Yakama River
Yakima Tribe	Easton Pond		UN	2002		05-06-02	05-20-02	Easton Pd	Yakama River
Yakima Tribe	Lost Creek	CO	UN	2002		05-06-02	05-20-02	Lost Creek Acclim Pd	Yakama River
Yakima Tribe	Prosser	CH0	FA	2002	•	04-22-02	05-22-02	Prosser Acclim Pd	Yakama River
Yakima Tribe	Prosser	CH0	FA	2002		05-20-02	06-01-02	Prosser Acclim Pd	Yakama River
Yakima Tribe	Stiles Pond	CO	UN	2002	•	05-06-02	05-20-02	Naches R	Yakama River
Yakima Tribe Total					3,406,174				
Grand Total					5,931,174	•			

\* 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.

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 - a memo will be posted shortly outlining the findings.

#### **COMBINED YEARLING CHINOOK**

	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/03/2002 *	38	21	453	4	66,345	108,916		456	56,142	40,623	86,700
05/04/2002 *					245,310	153,357	51,114	492	102,932	45,808	111,205
05/05/2002 *		15			151,779	171,621	149,137	494	98,634	45,182	79,511
05/06/2002 *	44	18	160	63	134,261	226,930		477	79,809	36,877	71,061
05/07/2002 *	98	36	143	1	82,680	146,754	64,191	840	90,179	45,292	90,166
05/08/2002 *	63	34	88	27	70,575	87,255	149,552	743	82,076	77,862	65,189
05/09/2002 *	51	2	28	10	52,304	96,177		1,120	85,508	80,922	63,415
05/10/2002 *	9	4	13	5	33,440	53,730	84,003	1,237	66,672	61,570	45,971
05/11/2002 *					35,130	51,833	177,468	585	87,692	27,947	49,747
05/12/2002 *		22			30,535	53,108		836	80,415	33,271	74,525
05/13/2002	3	89	9	3	32,672	47,563	165,902	1,534	95,799	23,054	34,589
05/14/2002 *	2	43	2	14	29,921	96,118	105,146	1,019	153,384	33,576	65,827
05/15/2002 *	2	17	10	3	62,468	65,586		869	134,652	77,556	54,707
05/16/2002 *	39	20	16	4	64,660	56,950	80,900	615	121,202	124,081	35,801
Total:	349	321	922	134	1,092,080	1,415,898	1,027,413	11,317	1,335,096	753,621	928,414
# Days:	10	12	10	10	14	14	9	14	14	14	14
Average:	35	27	92	13	78,006	101,136	114,157	808	95,364	53,830	66,315
YTD	38,195	28,455	7,442	6,818	1,865,635	1,906,013	1,334,954	15,553	1,740,041	998,950	1,589,602

#### COMBINED SUBYEARLING CHINOOK

-				OMBIN			, 01111100				
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/03/2002 *	0	0	0	0	0	0		11	64	50	274,763
05/04/2002 *					0	0	0	6	411	87	159,541
05/05/2002 *		0			0	0	0	1	285	107	60,871
05/06/2002 *	0	0	0	0	0	0		5	288	84	26,332
05/07/2002 *	0	0	1	0	0	0	0	4	144	109	14,939
05/08/2002 *	0	0	1	1	0	0	0	0	1,404	13	7,967
05/09/2002 *	0	0	2	0	0	0		0	1,088	0	6,112
05/10/2002 *	0	0	1	0	0	0	0	3	165	206	3,127
05/11/2002 *					84	0	0	5	614	143	3,058
05/12/2002 *		0			0	0		0	461	156	2,957
05/13/2002	0	0	1	0	80	0	0	1	435	144	1,774
05/14/2002 *	0	0	0	0	72	0	0	4	789	61	1,980
05/15/2002 *	0	0	0	0	0	0		1	1,472	72	2,222
05/16/2002 *	0	0	2	0	0	0	0	0	581	0	3,533
Total:	0	0	8	1	236	0	0	41	8,201	1,232	569,176
# Days:	10	12	10	10	14	14	9	14	14	14	14
Average:	0	0	1	0	17	0	0	3	586	88	40,655
YTD	0	4	15	27	2,435	0	0	473	68,588	5,561	1,819,456

<sup>\*</sup>The total, #days and average do not include the current day's data. \*See sampling comments. http://www.fpc.org/current daily/smpcomments.htm. This means that one or more of the sites on this date had an incomplete or biased sample.

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.

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.

# **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)						
05/03/2002 *	0	0	0	0	0	0		22	836	4,312	29,325
05/04/2002 *					1,067	0	0	26	959	4,102	30,960
05/05/2002 *		0			686	0	0	38	1,565	4,404	50,386
05/06/2002 *	0	0	0	1	195	0	-	57	1,729	2,829	40,039
05/07/2002 *	0	0	0	0	596	0	286	109	1,298	4,597	38,414
05/08/2002 *	0	0	0	0	227	253	0	143	1,248	9,129	45,030
05/09/2002 *	0	0	0	0	0	0		171	1,241	19,712	67,744
05/10/2002 *	0	0	0	0	251	0	143	107	496	9,523	30,648
05/11/2002 *					0	0	143	130	923	3,895	55,660
05/12/2002 *		0			501	0	-	166	1,230	9,250	114,350
05/13/2002	0	0	0	0	483	0	286	246	0	4,639	59,865
05/14/2002 *	0	0	0	0	718	0	0	573	473	4,897	138,089
05/15/2002 *	0	0	0	0	1,095	103	-	945	736	5,103	97,196
05/16/2002 *	0	0	0	0	1,881	0	143	971	726	9,337	71,838
Total:	0	0	0	1	7,700	356	1,001	3,704	13,460	95,729	869,544
# Days:	10	12	10	10	14	14	9	14	14	14	14
Average:	0	0	0	0	550	25	111	265	961	6,838	62,110
YTD	0	0	0	17	8,310	452	1,334	3,747	21,579	109,533	984,238

### **COMBINED STEELHEAD**

OGMBINED GIELLIEND												
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	
05/03/2002 *	110	500	49	27	23,686	31,860		65	11,986	15,481	18,488	
05/04/2002 *					88,525	82,020	27,566	79	22,671	13,598	16,112	
05/05/2002 *		496			44,116	101,505	56,141	131	18,076	13,535	21,844	
05/06/2002 *	138	363	155	288	91,657	89,865		249	11,676	9,496	29,218	
05/07/2002 *	426	393	13	260	66,383	44,236	31,765	1,868	16,025	8,954	26,676	
05/08/2002 *	255	390	29	627	38,751	41,429	70,871	426	9,677	7,366	9,126	
05/09/2002 *	343	2,529	2	854	32,150	36,328		430	14,437	11,126	14,262	
05/10/2002 *	152	1,305	7	473	17,852	21,398	47,412	553	5,812	8,710	12,196	
05/11/2002 *					24,037	22,524	47,410	304	6,297	4,566	23,650	
05/12/2002 *		1,174			25,446	10,093		277	6,622	7,553	33,714	
05/13/2002	67	1,324	1	326	18,991	4,495	43,029	473	8,419	7,813	8,869	
05/14/2002 *	76	2,154	1	359	15,140	5,354	18,918	340	13,910	8,905	33,161	
05/15/2002 *	74	2,644	3	540	31,699	7,607		536	9,418	5,719	14,163	
05/16/2002 *	77	1,834	6	187	33,310	7,493	46,063	470	6,977	4,436	12,483	
Total:	1,718	15,106	266	3,941	551,743	506,207	389,175	6,201	162,003	127,258	273,962	
# Days:	10	12	10	10	14	14	9	14	14	14	14	
Average:	172	1,259	27	394	39,410	36,158	43,242	443	11,572	9,090	19,569	
YTD	2,830	22,976	2,419	7,614	1,389,064	1,035,551	470,672	7,055	362,518	276,165	438,920	

### Two-Week Summary of Passage Indices

#### **COMBINED SOCKEYE**

	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)						
05/03/2002 *	0	0	0	0	594	0		1,016	27,535	8,091	956
05/04/2002 *					609	631	457	511	54,417	11,017	3,475
05/05/2002 *		0			1,371	352	920	548	49,677	9,689	4,369
05/06/2002 *	1	0	0	0	1,173	1,076		447	44,949	6,261	4,689
05/07/2002 *	2	0	0	0	596	768	151	522	62,656	10,174	5,335
05/08/2002 *	1	0	0	0	2,274	0	1,145	557	83,188	17,526	4,563
05/09/2002 *	6	0	0	0	2,879	398		453	71,580	24,148	9,168
05/10/2002 *	2	0	0	0	1,760	930	431	462	44,206	19,867	5,942
05/11/2002 *					1,345	933	1,001	352	62,068	16,761	10,194
05/12/2002 *		0			834	778		274	37,996	18,110	19,913
05/13/2002	1	0	0	6	885	499	1,309	301	38,047	19,153	12,638
05/14/2002 *	2	0	0	13	933	1,276	1,143	331	42,021	31,562	29,944
05/15/2002 *	0	0	0	9	2,601	2,181		860	46,365	45,348	26,382
05/16/2002 *	2	0	0	11	3,684	765	600	420	43,998	57,151	27,557
Total:	17	0	0	39	21,538	10,587	7,157	7,054	708,703	294,858	165,125
# Days:	10	12	10	10	14	14	9	14	14	14	14
Average:	2	0	0	4	1,538	756	795	504	50,622	21,061	11,795
YTD	18	0	0	44	30,234	18,294	10,957	12,948	802,278	318,850	172,014

<sup>\*</sup> 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.

#### **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)}

 ${\sf RIS}~({\sf Index}) = {\sf Rock}~{\sf Island}~{\sf Dam}~{\sf Second}~{\sf Powerhouse}~{\sf Bypass}~{\sf Trap}: {\sf Passage}~{\sf Index}~{\sf Counts}$ 

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: 05/16

	Spring Chinook							Summer Chinook							Fall Chinook				
	200	2	200	1	10-Yr	Avg.	20	02	20	001	10-Yr	· Avg.	20	02	2001	10-Y	r Avg.		
DAM	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Adult	Jack		
BON	240,362	4,596	358,925	10,199	95,495	4,398	0	0	0	0	0	0	0	0	0	0	0		
TDA	150,908	2,239	273,604	6,631	60,283	2,661	0	0	0	0	0	0	0	0	0	0	0		
JDA	113,634	1,202	231,512	3,800	49,096	1,891	0	0	0	0	0	0	0	0	0	0	0		
MCN	94,061	2,008	219,515	3,243	43,363	1,495	0	0	0	0	0	0	0	0	0	0	0		
IHR	57,107	630	138,874	1,447	24,383	814	0	0	0	0	0	0	0	0	0	0	0		
LMN	45,932	378	142,698	687	23,212	737	0	0	0	0	0	0	0	0	0	0	0		
LGS	41,560	316	134,204	1,265	21,213	704	0	0	0	0	0	0	0	0	0	0	0		
LWG	35,729	558	130,776	856	19,883	573	0	0	0	0	0	0	0	0	0	0	0		
PRD	26,285	28	44,363	269	10,622	77	0	0	0	0	0	0	0	0	0	0	0		
RIS	11,930	457	31,269	270	6,027	52	0	0	0	0	0	0	0	0	0	0	0		
RRH	3,949	5	12,643	60	1,838	12	0	0	0	0	0	0	0	0	0	0	0		
WEL	1,364	2	6,202	61	802	11	0	0	0	0	0	0	0	0	0	0	0		

			Col	10			Sockeye Steelhea					head	
	200	)2	20	01	10-Yı	Avg.			10-Yr			10-Yr	Wild
DAM	Adult	Jack	Adult	Jack	Adult	Jack	2002	2001	Avg.	2002	2001	Avg.	2002
BON	0	0	0	0	0	0	1	0	0	4,738	4,059	3,098	1,404
TDA	0	0	0	0	0	0	0	0	0	2,475	987	1,047	956
JDA	0	0	0	0	0	0	0	0	0	7,960	2,302	2,720	2,905
MCN	0	0	0	0	0	0	0	0	0	4,687	1,533	1,703	1,836
IHR	0	0	0	0	0	0	0	0	0	4,480	1,379	2,007	1,263
LMN	1	0	0	0	0	0	0	0	0	5,067	1,706	2,036	2,097
LGS	0	0	0	0	0	0	0	0	0	6,136	1,962	1,262	2,502
LWG	0	0	0	0	0	0	0	0	0	12,374	5,692	4,737	3,358
PRD	0	0	0	0	0	0	0	7	0	29	21	14	**
RIS	0	0	0	0	0	0	0	0	1	73	51	58	44
RRH	0	0	0	0	0	0	0	0	0	180	92	62	75
WEL	0	0	0	0	0	0	0	0	0	48	15	13	37

RIS, RRH numbers are from Chelan CO PUD and are through 05/15, except for Wild Steelhead numbers which are from the COE and through 05/13. WEL numbers are from Douglas CO PUD and are through 05/15. PRD numbers are from Grant CO PUD and are through 05/16. MCN missing 04/27.

These numbers were collected from the COE's Running Sums text files.

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.

Page last updated on: 5/17/02

<sup>\*\*</sup>PRD is not reporting Wild Steelhead numbers.

### **Two Week Transportation Summary**

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05/04/02 05/17/02 TO Species Site Data CH0 CH1 CO SO ST **Grand Total** Sum of NumberCollected 628,734 13.700 LGR 150 4.800 337.046 984.430 620,042 4,793 960.090 Sum of NumberBarged 149 13,451 321,655 Sum of NumberBypassed 0 6.998 5 15,172 22,179 Sum of Numbertrucked 0 0 0 Sum of TotalProiectMortalities 1.692 2 219 2.159 1 245 LGS Sum of NumberCollected 963,602 235 6.765 353.838 1.324.440 Sum of NumberBarged 963,038 234 6,703 353,423 1,323,398 Sum of NumberBypassed 0 0 0 0 0 Sum of Numbertrucked 0 0 0 0 0 Sum of TotalProjectMortalities 564 62 415 1,042 1 LMN Sum of NumberCollected 1,027,413 1,001 7,157 389,175 1,424,746 Sum of NumberBarged 1,013,732 1,006 387,873 1,409,666 7,055 Sum of NumberBypassed 13,075 0 0 33 13,108 Sum of Numbertrucked 0 0 0 0 0 Sum of TotalProjectMortalities 606 97 1,269 1,972 0 MCN Sum of NumberCollected 5,451 901,630 9,151 476,638 111,026 1,503,896 Sum of NumberBarged 0 40 40 0 0 Sum of NumberBypassed 901,318 1,503,051 5.449 9,150 476,223 110,911 Sum of Numbertrucked 0 0 0 0 0 Sum of TotalProjectMortalities 2 312 415 75 805 Total Sum of NumberCollected 5,601 3,521,379 15,187 504,260 1,191,085 5,237,512 Total Sum of NumberBarged 2.596.812 1.062.991 3.693.194 6.033 27.209 149 Total Sum of NumberBypassed 1,538,338 5.449 921,391 9,155 476,227 126,116 Total Sum of Numbertrucked 0 0 0 0 0 0

### **YTD Transportation Summary**

3

3.174

4

819

1,978

5,978

Total Sum of TotalProjectMortalities

TO: 05/17/02

		TO:		05/17/02					
		Spec	ies						
Site	Data	CH0		CH1	CO		SO	ST	<b>Grand Total</b>
LGR	Sum of NumberCollected		1,583	1,127,213		5,220	19,625	892,631	2,046,272
	Sum of NumberBarged		1,526	1,094,291		5,193	18,785	856,198	1,975,993
	Sum of NumberBypassed		1	20,472		5	6	32,669	53,153
	Sum of NumberTrucked		29	9,847		20	343	3,383	13,622
	Sum of TotalProjectMortalities		27	2,601		2	491	381	3,502
LGS	Sum of NumberCollected			1,215,901		290	10,749	623,470	1,850,410
	Sum of NumberBarged			1,214,086		284	10,554	621,963	1,846,887
	Sum of NumberBypassed			0		0	C	0	0
	Sum of NumberTrucked			1,034		4	74	1,024	2,136
	Sum of TotalProjectMortalities			781		2	121	483	1,387
LMN	Sum of NumberCollected			1,334,954		1,334	10,957	470,672	1,817,917
	Sum of NumberBarged			1,261,993		1,338	10,735	685,927	1,959,993
	Sum of NumberBypassed			52,056		1	95	3,097	55,249
	Sum of NumberTrucked			20,104		0	13	356	20,473
	Sum of TotalProjectMortalities			801		0	109	1,292	2,202
MCN	Sum of NumberCollected	;	37,445	1,130,588		13,761	529,172	221,628	1,932,594
	Sum of NumberBarged		0	0		0	C	40	40
	Sum of NumberBypassed	;	37,417	1,130,158		13,758	528,713	221,489	1,931,535
	Sum of NumberTrucked		0	0		0	C	0	0
	Sum of TotalProjectMortalities		28	430		3	459	99	1,019
Total	Sum of NumberCollected	;	39,028	4,808,656		20,605	570,503	2,208,401	7,647,193
Total	Sum of NumberBarged		1,526	3,570,370		6,815	40,074	2,164,128	5,782,913
Total Sum of NumberBypassed			37,418	1,202,686		13,764	528,814	257,255	2,039,937
Total	Sum of NumberTrucked		29	30,985		24	430	4,763	36,231
Total	Sum of TotalProjectMortalities		55	4,613		7	1,180	2,255	8,110