

Fish Passage Center

Weekly Report #03 - 9

May 16, 2003

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Summary of Events:

Water Supply: Columbia Basin snowpack is currently (May 1, 2003) at 89% of average. At specific Columbia River Sub-basins snowpacks are: 87% at Columbia above Castlegar, 88% above Grand Coulee, and 98% above Ice Harbor. Additionally, the NRCS reports significant snowpack improvements in April over the Columbia mainstem in Canada, the Kettle River, the Snake River Plain, much of eastern Oregon, and the Salmon River.

Most Columbia Basin watersheds have received average precipitation over the first half of May (Table 1). For the water year (October 1, 2002 to May 12, 2003), precipitation in most basins has been near average, with the Central Washington and Clearwater locations receiving the highest yearly totals at 118% and 110% of average, respectively.

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

			Cumulative					
	May 1-12	2, 2003	October, 1	2002 to				
			May 12.	, 2003				
Location	Observed	%	Observed	%				
	(inches)	Average	(inches)	Average				
Columbia Above	0.87	100	15.53	93				
Coulee	0.07	100	13.33	73				
Snake River	1.18	161	12.94	104				
Above Ice Harbor	1.10	101	1 4.74	104				
Columbia Above	0.87	114	16.29	98				
The Dalles	0.07	114	10.27	90				
Kootenai	0.74	86	14.85	86				
Clark Fork	1.00	126	11.28	102				
Flathead	0.93	99	12.91	88				
Pend	0.93	92	23.23	99				
Oreille/Spokane	0.93	72	23.23	73				
Central	0.09	30	8.11	118				
Washington								
Snake River Plain	1.13	198	6.58	85				
Salmon/Boise/	1.30	188	15.99	106				
Payette	1.30	100	13.77	100				
Clearwater	1.25	107	24.80	110				
SW Washington	1.08	73	54.71	91				
Cascades/Cowlitz	1.00	13	34.71	71				
Willamette	1.40	102	49.79	97				
Valley	1.40	102	49.13	91				

Table 2 displays the March Final, April, and May Final runoff volume forecasts for multiple reservoirs. Generally, runoff volume forecasts have been steadily rising over the spring. Most basins have increased in excess of 10% of average between the March and May Forecasts. Six of the seven locations presented in the following table had increased water supply forecasts in May relative to that forecasted in April.

Table 2. March Final, April Final and May Final Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.

	March	n Final	April	Final	May Final			
	%	Probable	%	Probable	%	Probable		
	Average	Runoff	Average	Runoff	Average	Runoff		
	(1971-	Volume	(1971-	Volume	(1971-	Volume		
Location	2000)	(Kaf)	2000)	(Kaf)	2000)	(Kaf)		
The Dalles	70	74900	79	85300	84	90200		
(Jan-July)	70	74500	19	03300	0+	90200		
Grand Coulee	74	46300	84	52900	88	55500		
(Jan-July)	/4	40300	04	32,000	00	33300		
Libby Res.								
Inflow, MT	70	4440	79	4960	82	5200		
(Jan-July)								
Hungry Horse								
Res. Inflow,	66	1470	81	1800	85	1900		
MT (Jan-July)								
Lower Granite								
Res. Inflow	68	14700	79	17100	86	18500		
(Apr- July)								
Brownlee Res.								
Inflow	49	3100	53	3370	56	3520		
(Apr-July)								
Dworshak Res.								
Inflow	70	1860	90	2390	88	2330		
(Apr-July)								

Based on the April Final Forecasts, the following Biological Opinion actions will be targeted in the spring of 2003:

- ♦ Lower Granite: The Spring Flow Objective will be 89.1 Kcfs between April 3rd and June 20th. To date, the average flow at Lower Granite between April 3rd and May 15th, 2003 has been 70.8 Kcfs.
- ♦ McNary: The Spring Flow Objective will be 220 Kcfs between April 10th and June 30th. To date, the average flow at McNary between April 10th and May 15th, 2003 has been 206.5 Kcfs.
- ◆ Priest Rapids: The Spring Flow Objective will be 135 Kcfs between April 10th and June 30th. To date, the average flow at Priest Rapids between April 10th and May 15th, 2003 has been 132.2 Kcfs.

On April 17th, SOR 2003-7 was submitted to the Action Agencies and asked for the Biological Opinion flow objective of 135 Kcfs to be met at Priest Rapids from April 24th through the end of June. This SOR was accepted by the Action Agencies. Outflows at Priest Rapids averaged 139.3 Kcfs April 24-30, 141.5 Kcfs May 1-7, and 142.5 Kcfs May 8-14. At the 5-14-03 TMT meeting, the Fishery Managers asked the Action Agencies to keep weekly averages as close to 135 Kcfs as possible, to ensure that Grand Coulee will refill and the flow objective of 135 Kcfs could be met through June. The Action Agencies agreed to tighten up the flows at Priest Rapids to average very close to 135 kcfs.

Also on the 17th of April, SOR 2003-8 was submitted to the Action Agencies based upon survey reports indicating increased stranding and entrapment of juvenile fall chinook below Priest Rapids Dam. The SOR asks for flow fluctuations to be limited relative to the previous days flow average. The action agencies maintain that Grant County PUD is the responsible party and Grant County has maintained that federal flow control is responsible. No indication of compromise between Grant County PUD and the Action Agencies on the implementation of SOR 2003-8 has been indicated to date. However, since the submittal of SOR 2003-8, flow fluctuations have been moni-

tored and compared to the flow bands indicated in the SOR. The following table displays the actual daily average flow (determines flow band), actual daily flow fluctuations, and the flow band suggested by SOR 2003-8 at Priest Rapids Dam from April 17th to May 14th.

Table 3. Actual daily average flow (determines flow band), actual daily flow fluctuation, and the flow band suggested by SOR 2003-8 at Priest Rapids Dam from April 17th to May 14th.

	Daily		Flow Band
	Average	Daily Flow	According
Date	Flow	Fluctuation	to SOR
	(Kcfs)	(Kcfs)	2003-8
4-17-2003	148.3	14.9	20
4-18-2003	112.6	40.4	20
4-19-2003	117.6	29.4	20
4-20-2003	98.9	42.2	10
4-21-2003	114.6	76.8	20
4-22-2003	158.4	18.9	20
4-23-2003	149.1	42.6	20
4-24-2003	143.2	70.2	20
4-25-2003	160.8	39.6	20
4-26-2003	129.1	28.1	20
4-27-2003	111.8	17.0	20
4-28-2003	128.3	28.9	20
4-29-2003	151.9	55.3	20
4-30-2003	149.9	60.4	20
5-1-2003	128.6	35.8	20
5-2-2003	125.3	50.1	20
5-3-2003	131.4	39.0	20
5-4-2003	143.1	44.1	20
5-5-2003	154.8	45.4	20
5-6-2003	161.8	41.3	20
5-7-2003	145.5	40.9	20
5-8-2003	163.0	72.3	20
5-9-2003	140.1	28.3	20
5-10-2003	120.1	11.0	20
5-11-2003	108.1	46.4	20
5-12-2003	130.7	43.5	20
5-13-2003	187.5	63.0	20
5-14-2003	148.3	60.3	20

From Table 3, the flow bands recommended by SOR 2003-8 at Priest Rapids Dam were met in four of the twenty-eight days since April 17th, 2003.

The Libby Reservoir is currently at an elevation of 2417.5 feet and has been operating to a minimum discharge of 4.0 Kcfs. Inflows to Libby are currently 12.4 Kcfs (5-15-03); over the last week Libby has filled 2.1 feet.

The Hungry Horse Reservoir is currently at an elevation of 3526.3 feet, and has drafted 0.3 feet in the last week.

The Dworshak Reservoir is currently at an elevation of 1562.0 feet and has been releasing approximately 14.7 kcfs of water (9.4 Kcfs through the powerhouse and the rest spill). On April 29, SOR 2003-9 was submitted to the action agencies and requested that Dworshak outflows remain at their current levels (Approximately 14.5-15.5 Kcfs) unless the 89.1 Kcfs flow objective is met at Lower Granite. At the 5-14-03 TMT meeting, the action agencies agreed to implement the SOR for one more week based on the current Water Supply Forecast at Dworshak. TMT will revisit water supply and refill forecasts at Dworshak next week. To date (5-15-03) spring flows at Lower Granite have not reached the objective of 89.1 Kcfs; flows are currently 79.2 Kcfs and rising.

The Grand Coulee Reservoir ended May 15th at an elevation of 1271.4 feet and has drafted 3.4 feet in the last week.

The Brownlee Reservoir was at an elevation of 2073.6 on May 15th, 2003.

The USBR reservoir systems along the Payette and Upper Snake Basins are currently 73% and 61% of capacity.

Spill: Dworshak Dam continued operating at full powerhouse and spilling to the 110% TDG gas cap. Spill at Lower Granite, Little Goose, Lower Monumental and Ice Harbor dams over the past week averaged slightly lower, with levels of spill at 30%, 27%, 46% and 62% of average daily flow, respectively.

Spill over the past week at McNary, John Day, The Dalles and Bonneville dams decreased over the past week averaging 36%, 28%, 39%, and 54% of average daily flow, respectively.

A few fish have been sampled at Rock Island, Little Goose, and Lower Monumental dams with signs of GBT in their fins. Total dissolved gas levels remain at, or very near, the gas waiver limits.

Smolt Monitoring: At the Snake River tributary traps the numbers of yearling chinook continued to decline over the past week, while steelhead numbers remained steady or increased. The passage indices of yearling chinook at Lower Snake dams remained high this past week, but lower than the previous week. Steelhead passage in the Lower Snake also remains high. In the mid-Columbia the collection of all Spring migrants continued to increase despite diminished trapping at the project due to mechanical problems with the bypass. In the Lower Columbia the numbers of yearling chinook, steelhead, sockeye and coho have again remained relatively high this past week at all SMP sites.

The White Bird Trap collected an average of 25 yearling chinook per day in the seven days from April 25 to May 1 compared to 53 per day the previous week. Steelhead numbers were down this week, with the average daily collection this week at 110 compared to 130 per day last week. At the Imnaha Trap the average daily catch of yearling chinook this week was 66 compared to 80 last week. The numbers of steelhead were very high this week with 1,900 per day average collection compared to 1,300 per day last week. Numbers of yearling chinook captured at the Grande Ronde Trap decreased again this week with a daily average of 16 chinook compared to 44 last week. Steelhead collection remained low as well, at 31 per day this week compared to 14 per day last week. At the Lewiston Trap the collection of yearling chinook was down to 16 per day average, compared to 46 last week, while steelhead collection remained relatively steady at 200 per day this week compared to 217 per day last.

At Lower Granite Dam the average daily passage index for yearling chinook decreased to 77,000 this past week while steelhead increased to 59,000. The yearling chinook index averaged 127,000 last week while steelhead rose from 46,000 last week. Small numbers of sockeye, coho, and subyearling chinook were also captured

this past week. Little Goose and Lower Monumental dams both continued to have relatively large numbers of yearling chinook and steelhead at the projects. At Little Goose the index for yearling chinook averaged 53,000 this week compared to 85,000 last week, while at Lower Monumental the index averaged 15,000 this week compared to 18,000 last. The index for steelhead at Little Goose averaged approximately 19,000 compared to 50,000 last week and at Lower Monumental the index was relatively unchanged at 26,000 compared to 22,700 last week.

The bypass at Rock Island was shut down on May 14 this week while repairs were being made to the seals and guides in slide gates that feed water into the bypass. The system is scheduled to be up and operating next week. Despite operating only a portion of the week, Rock Island Dam has reported a relative increase in yearling chinook, steelhead, sockeye and coho indices this week. The average daily index this week for yearling chinook was 550, for steelhead 330, coho 82 and sockeye was at 740 compared to last week when the indices were at 450, 250, 12 and 200 respectively.

In the Lower Columbia, at McNary, where sampling is carried out every other day, in conjunction with NMFS transportation study that began April 20, the passage index for yearling chinook increased from 95.000 last week to 107.000 this week. Steelhead also indices increased from 4,700 last week to 5,300 this week. The daily average index for subyearling chinook increased from 600 per day last week to 2,300 this week. Sockeye indices remained high but were down to 53,000 this week compared to 71,000 the previous week. At John Day Dam the average daily index for yearling chinook continued to increase rapidly to 50,000 this week compared to 38,500 last week. Steelhead indices were down slightly, with an average of 6,100 this week versus 6,700 last week. Coho indices decreased this week averaging 2,500 this week compared to 2,800 last week. Sockeye numbers increased last week to an average of nearly 12,000 per day compared to just under 8,000 per day last week.

At Bonneville Dam, the average daily index for yearling chinook was at 86,000 this week

compared to 75,000 last week. The steelhead index averaged 20,000 this week compared to 17,600 last week. The indices for coho were up down this week with an average index of 46,000 compared to 57,000 per day last week. Subyearling chinook daily indices spiked at 255,000 on May 11 after the release of 3.4 million subs, on May 8, from Spring Creek Hatchery. The daily numbers have steadily declined through the week to 18,500 for the sample ending yesterday. Sockeye indices increased rapidly over the past 10 days with the weekly average index this week reaching 23,700.

Below Bonneville Dam, on May 11, approximately 1,400 juvenile salmonids were entrapped in shallow water near Ives Island in an area approximately 675 ft. in length with a maximum width of about 120 ft and a maximum depth of 4 ft. According to PSMFC researchers, a change in the surface level of the Columbia River caused the entrapment of well over 1,400 young salmon. The problem apparently occurs when Bonneville Dam's tailwater level is somewhere between 16.4 and 17 feet. The fish were retrieved on Monday, May 12, and consisted of juvenile chinook, juvenile coho, and coho smolts. On May 14, an additional 600 fish consisting of chinook, coho and threatened chum were retrieved. There was no known fish mortality reported. However, the maximum water measured was at 68°F in the area.

Hatchery Releases - The preliminary hatchery total of juvenile salmonids released above Bonneville Dam for the 2003 migration season will approximate 86.6 million from Columbia River Basin hatcheries. The FPC hatchery release numbers can be obtained from the FPC website. Approximately 8.6 million juvenile salmonids were released or releases were initiated during the past two weeks, with 2.8 million fish scheduled for release in the upcoming two weeks.

Snake River - About 27.5 million smolts will be released in the Snake River Basin from State, Federal, and Tribal hatcheries and acclimation ponds for the 2003 migration year. All yearling spring, summer, and fall chinook have been released from hatcheries, acclimation facilities, or

directly released river systems in Idaho, SE Washington, and NE Oregon.

During fall 2002, approximately 140,000 sockeye were released in the upper Salmon R basin lakes.

About 1.2 million yearling coho salmon were released in the Clearwater River basin for the 2003 migration season.

Releases of juvenile steelhead (9.5 million scheduled) should be completed by the end of next week. Releases occurred throughout the Snake, Salmon, Clearwater, Imnaha, Grande Ronde, and Tucannon River basins for the 2003 migration.

Mid-Columbia River - About 22.1 million yearling and subyearling salmon species will be released in the Mid-Columbia River and its tributaries during the 2003 migration year. The scheduled yearling spring chinook from the acclimation ponds in the Yakima River basin; releases of yearling spring chinook from the upper mid-Columbia are now completed for the spring season.

Yearling summer chinook released from Wells and Eastbank Complex hatcheries have been completed for the season with only the research release groups remaining. Yearling summer chinook were released into the Methow, Wenatchee, and mainstem Mid-Columbia rivers for the 2003 migration.

Subyearling fall and summer chinook are scheduled for release from late May through June. These fish comprise the highest percentage and numbers of juvenile salmon released in the Mid-Columbia River (about 12.5 million scheduled). About 209,000 sockeye were released last fall into Lake Wenatchee; there will be no sockeye releases made into the Okanogan R basin this year. About 1.9 million yearling coho were released in the Yakama River basin, the Wenatchee River basin and the Methow River basin this migration season.

Approximately 1.3 million juvenile steelhead are scheduled for release from mid-April through mid-May. These releases should be completed by next week from the Wells Hatchery complex. Steelhead were released in the Okanogan, Methow, Entiat, Wenatchee, and mainstem Mid-Columbia rivers for the 2003 migration.

Lower Columbia River - The Lower Columbia River Zone is scheduled to release about 36.9 million salmon and steelhead for the 2003 migration. Fish remaining to be released are the upriver bright fall chinook.

Release of yearling spring chinook from State, Tribal and Federal hatcheries is completed for the year. Fish were released in the Klickitat, Umatilla, Deschutes, Hood, Wind, and Little White Salmon rivers with yearling fall chinook released in the Umatilla River basin.

Yearling coho salmon have been released in the Klickitat, Little White Salmon, and Umatilla rivers to date. Klickitat Hatchery should complete volitional release of about 1.0 million yearling coho this week.

Summer steelhead were released in the Klickitat, possibly Little White Salmon (Drano L), Big White Salmon, Umatilla, Deschutes, and Hood rivers this year. Releases should be completed at all the sites. Winter steelhead were released in the Hood River and Big White Salmon River for the 2003 season.

Adult Fish Passage - Most COE projects began counting adult fish on April 1 with the PUD facilities initiating counts on April 15. Counts officially started at Lower Granite Dam on March 1st with Bonneville Dam counts beginning March 15. Adult fish counts at Bonneville Dam recorded by video prior to March 14 are summarized below the Cumulative Adult Table, with adult chinook and steelhead counts exceeding 3,700 and 3,400, respectively.

During the past week, daily counts of adult spring chinook at Bonneville Dam ranged from a high count of 2,378 to a low of 1,219. Through May 15, the cumulative count of adult spring chinook was 166,936, about 70.3% of the 2002 count, and 151% of the 10-year average count. No updates were posted for sampling of adult fish at Bonneville Dam for the week. A couple points of interest at Bonneville Dam: jack counts of spring chinook are now double the year 2002 and 10-year average count through May 15 and, based on PIT tag observations, summer chinook from S. Fork Salmon River and spring/summer chinook from the Imnaha

River basins have been passing the dam in increasing numbers.

Counts of adult spring chinook at The Dalles ranged from 1,100 to 1,800 with the average passage for the week of 1,446 per day, about 400 less per day than the previous week. The cumulative count was 109,144 about 65.4% of the Bonneville count through May 15th. At McNary Dam, 74,495 were counted through May 15 with about 52,500 counted into the Snake River (missing 4/23 and 4/26 counts at Ice Harbor). At Priest Rapids Dam, close to 14,600 adult spring chinook have been tallied through May 14. For the Yakama River, about 2,900 adult chinook have been counted at Prosser Dam through May 12. These three counting sites account for about 70,000 of the 74,500 spring chinook past McNary Dam.

Daily Average Flow and Spill (in kcfs) at Mid-Columbia Pr	oiects
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	Gr	and	Chi	ef			Ro	cky	Ro	ck			Pr	iest
	Co	ulee	Jose	ph	We	ells	Re	ach	Isla	nd	Wanapum		Rapids	
Date	Flow	Spill	Flow	Spill	Flow	Spill								
05/02/03	128.7	0.0	123.8	0.0	132.8	8.7	130.3	20.7	134.3	28.7	130.2	11.9	125.3	77.1
05/03/03	113.0	0.0	110.8	0.0	115.8	8.1	114.3	17.7	120.5	24.9	125.9	12.2	131.4	74.1
05/04/03	95.7	0.0	107.5	0.0	117.7	8.5	118.6	15.4	125.8	21.2	136.0	40.6	143.1	65.9
05/05/03	144.6	0.0	137.9	0.0	145.7	9.2	143.1	18.5	147.2	29.2	153.4	62.3	154.8	64.2
05/06/03	125.1	0.0	127.1	0.0	137.2	8.4	133.7	17.8	140.4	27.9	157.1	59.7	161.7	84.0
05/07/03	127.7	0.0	133.7	0.0	140.2	8.2	136.6	18.9	139.8	29.2	143.4	54.6	145.5	89.8
05/08/03	137.1	0.0	135.0	0.0	145.7	8.3	143.1	17.6	146.3	28.6	161.6	61.3	162.9	91.6
05/09/03	108.8	0.0	117.3	0.0	128.7	8.3	127.0	33.9	129.1	28.1	135.8	51.7	140.1	72.1
05/10/03	107.2	0.2	105.3	0.0	110.7	7.7	111.1	28.7	114.8	23.8	116.7	26.2	120.1	62.9
05/11/03	95.6	0.0	94.2	0.0	101.9	7.5	101.2	24.2	107.1	20.2	103.4	12.2	108.1	64.2
05/12/03	140.5	0.0	136.4	0.0	139.2	14.0	133.7	35.8	133.9	29.1	134.0	13.9	130.7	53.0
05/13/03	143.7	0.0	145.5	0.0	158.8	12.6	161.0	32.0	163.7	26.7	180.9	51.7	187.5	114.6
05/14/03	119.8	0.0	131.4	0.0	142.6	8.6	141.1	32.5	145.8	27.8	149.5	56.9	148.3	67.1
05/15/03	136.1	0.0	135.2	0.0	141.8	9.1	140.6	35.2	144.3	29.0	158.9	59.9	163.6	70.8

	Daily Average	Flow and	Spill (in	kcfs) a	at Snake	Basin Pro	iects
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				Hells	Lower		Little		Lower		I	ce
	Dwo	rshak	Brownlee	Canyon	Gra	nite	Go	ose	Monum	ental	Ha	rbor
Date	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/02/03	15.6	5.7	14.6	12.3	67.5	15.8	65.2	19.6	64.4	30.8	66.7	48.9
05/03/03	12.8	5.0	13.6	10.3	65.8	20.7	65.5	19.0	63.5	30.9	67.3	54.8
05/04/03	12.6	4.9	15.2	8.8	63.4	25.5	62.2	17.8	58.7	29.1	66.6	40.9
05/05/03	14.0	5.3	18.6	14.3	65.7	20.5	63.3	17.7	62.6	29.4	65.8	32.3
05/06/03	15.8	5.8	18.0	14.9	73.3	15.2	75.2	18.4	72.8	32.9	78.8	48.1
05/07/03	15.7	5.8	19.0	16.5	69.7	20.3	68.9	19.0	66.4	30.4	72.0	49.7
05/08/03	15.5	5.5	17.9	17.5	70.4	20.4	68.9	20.5	67.5	31.6	74.1	44.1
05/09/03	15.3	5.3	18.2	17.0	68.0	20.5	68.9	20.3	66.4	30.8	69.9	34.0
05/10/03	14.9	5.3	17.5	16.2	66.1	25.6	63.5	19.2	62.9	30.2	67.9	44.5
05/11/03	14.4	5.1	16.7	15.2	64.0	20.5	63.5	18.5	59.9	30.0	68.1	49.2
05/12/03	14.6	5.1	20.3	19.3	65.2	15.7	65.7	19.7	62.4	29.6	66.7	42.3
05/13/03	14.7	5.2	19.7	20.9	72.4	20.8	70.5	18.7	69.5	32.5	73.7	36.2
05/14/03	14.7	5.2	20.5	20.5	78.2	25.5	75.9	18.1	74.5	32.4	79.2	48.4
05/15/03	14.8	5.2			79.2	20.5	79.9	18.3	77.5	32.5	83.1	61.3

Daily A	verage	Flow and	Spill (ir	n kcfs) a	at Lowe	er Colu	mbia l	Projects
McI	Nary	John l	Day	The D	alles			Bonneville
Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1

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Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
05/02/03	192.8	69.6	198.9	52.9	192.3	76.3	232.5	92.5	25.6	107.5
05/03/03	201.2	68.8	195.7	60.0	198.9	77.8	227.9	87.1	22.9	107.6
05/04/03	203.0	67.7	195.7	52.9	193.1	75.3	219.6	101.8	9.7	101.0
05/05/03	220.9	68.8	214.4	47.8	220.0	84.3	225.0	111.2	5.3	101.8
05/06/03	218.3	76.6	230.2	52.5	222.1	84.4	258.1	94.2	42.2	115.1
05/07/03	230.8	76.1	237.6	52.5	247.0	95.8	273.1	97.5	56.5	112.4
05/08/03	224.6	84.2	210.4	53.2	196.8	79.3	226.8	100.0	19.5	100.7
05/09/03	224.1	73.9	231.3	70.9	236.0	91.6	257.5	103.1	44.1	103.6
05/10/03	201.0	68.2	216.6	52.4	218.6	84.8	230.9	155.8	0.0	68.4
05/11/03	180.2	65.1	169.6	39.2	168.6	67.0	212.9	148.5	0.0	57.7
05/12/03	189.8	69.1	198.9	51.0	200.3	78.3	217.2	95.6	24.9	90.0
05/13/03	218.0	79.9	201.3	66.4	196.2	77.5	218.0	99.4	14.6	97.3
05/14/03	256.5	102.7	265.0	72.3	260.4	100.1	259.0	143.8	16.4	92.0
05/15/03	201.8	73.3	218.2	64.8	218.8	85.3	254.6	142.2	8.0	97.4

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

				Numb	er of Fi	sh with I	in GBT	Fish with				
								Lis	ted by I	Highest	Rank	L. Line GBT
			Number of	Number w	Number w	% Fin	% Severe	Rank	Rank	Rank	Rank	Num Avg.
Site	Date	Species	Fish	GBT signs	Fin Signs	GBT	Fin GBT	1	2	3	4	Fish Rank
Low	er Granit											_
		Chinook + Steelhead	100	0	0	0.00%		0	0	0	0	
	05/13/03	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	
Little	e Goose	Dam										
	05/07/03	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	
	05/14/03	Chinook + Steelhead	100	1	1	1.00%	0.00%	0	1	0	0	
Low	er Monu	mental Dam										
	05/12/03	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0	
McN	lary Dam											
		Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	
	05/12/03	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	
Bon	neville D	am										
	05/08/03	Chinook + Steelhead	102	0	0	0.00%	0.00%	0	0	0	0	
	05/12/03	Chinook + Steelhead	31	0	0	0.00%	0.00%	0	0	0	0	
	05/16/03	Chinook + Steelhead	91	1	0	1.10%	0.00%	0	0	0	0	
Roc	k Island	Dam										
		Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	
	05/12/03	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0	

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

Lotal Dissolved Gas	Saturation Data at Upper	Columbia River Sites

	Hungry H. Dnst Boundary					Grand	d Coul	ee		Grand C. Tlwr				Chief Joseph						
	<u>24 h</u>	12 h		#	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		<u>#</u>
<u>Date</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
5/2	100	101	101	24	122	125	130	24	110	110	111	24	106	107	108	24	106	107	108	23
5/3	101	101	102	24	127	130	131	24	110	110	111	24	107	108	109	24	107	108	108	23
5/4	101	101	101	24	123	127	129	24	110	110	110	24	107	107	107	24	107	107	107	23
5/5	99	100	100	24	127	130	131	24	108	109	110	24	106	106	107	24	106	106	107	23
5/6	99	99	99	24	127	129	130	24	108	108	108	24	106	106	107	24	106	106	107	23
5/7	99	99	99	24	126	128	128	24	108	108	109	24	106	107	107	24	106	106	107	22
5/8	99	99	100	24	121	125	130	24	108	108	109	24	106	107	107	24	106	106	107	23
5/9	99	99	99	24	117	120	121	24	108	108	108	24	106	106	107	24	106	106	107	23
5/10	98	98	98	24	117	120	121	24	107	108	108	24	106	106	107	24	106	107	107	23
5/11	98	99	99	24	117	121	121	24	108	108	108	24	107	107	108	24	106	107	107	23
5/12	98	99	99	24	118	121	121	24	108	108	109	24	107	107	108	24	107	107	108	23
5/13	98	98	99	24	117	121	122	24	109	110	111	24	107	107	108	24	107	107	108	23
5/14	98	99	100	24	119	122	122	24	111	111	111	24	108	109	109	24	107	108	108	23
5/15	98	99	99	24	119	121	121	24	109	109	110	24	107	108	109	24	107	107	108	23

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

	Chief	J. Dn	st		Wells				Wells	Dwns	strm		Rock	y Rea	<u>ch</u>		Rock	y R. T	lwr	
	<u>24 h</u>	12 h		#	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		#	<u>24 h</u>	12 h		<u>#</u>
<u>Date</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
5/2	106	107	107	23	107	108	108	22	109	110	110	22	109	110	110	23	110	111	112	21
5/3	107	107	108	23	108	108	108	24	109	110	110	24	110	110	110	23	111	111	112	23
5/4	106	107	107	23	107	107	108	23	109	109	109	23	109	109	109	22	110	110	111	21
5/5	106	106	106	23	106	106	107	24	108	108	109	24	107	108	108	22	109	109	109	21
5/6	105	106	106	23	106	107	107	22	108	108	109	22	108	108	108	23	109	109	110	22
5/7	106	106	107	22	107	107	107	24	108	109	109	24	108	108	108	22	109	110	110	19
5/8	106	106	106	23	106	107	107	22	108	108	109	22	108	108	108	23	109	109	110	22
5/9	106	106	106	23	106	106	107	24	108	108	108	24	107	108	108	23	109	109	111	23
5/10	105	106	107	23	106	107	108	24	108	108	109	24	107	107	107	22	109	109	109	22
5/11	106	106	107	23	107	108	110	23	109	109	110	23	107	107	107	23	109	109	109	23
5/12	106	107	107	23	107	107	108	24	110	111	122	24	108	109	109	23	111	112	113	22
5/13	106	107	107	23	107	107	107	19	111	113	125	19	109	109	110	24	111	112	113	23
5/14	107	107	108	23	108	108	108	24	109	110	110	24	112	113	115	23	114	115	116	22
5/15	107	107	107	23	106	107	107	24	108	108	109	24	108	109	109	23	111	112	113	23

Total Dissolved Gas Saturation at Mid Columbia River Sites

	Rock	<u>Islan</u>	<u>d</u>		Rock	I. TIW	<u>r</u>		Wana	<u>ıpum</u>			<u>Wana</u>	pum	Tlwr		<u>Pries</u>	t Rapi	<u>ds</u>	
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>
<u>Date</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
5/2	110	111	111	24	118	120	123	24	112	114	115	24	115	116	116	24	114	115	116	24
5/3	111	111	111	23	117	119	121	23	113	113	115	24	116	116	117	24	115	116	116	24
5/4				0	115	116	119	21	112	112	113	24	117	119	120	24	115	116	116	24
5/5	108	109	109	21	117	120	124	21				0				0				0
5/6	109	109	110	23	117	119	123	23	110	111	111	24	117	117	118	24	116	117	117	22
5/7	109	109	110	21	117	119	124	21	110	110	111	18	117	117	118	24	113	114	115	24
5/8	109	109	110	22	117	119	123	21	111	112	113	24	116	117	118	24	115	115	116	11
5/9	109	109	109	24	115	116	123	22	110	111	114	24	116	116	117	24	112	112	115	12
5/10	109	109	109	22	113	113	113	21	111	113	116	24	115	116	126	24				0
5/11	109	109	109	24	113	113	113	24	112	113	114	24	114	115	115	24				0
5/12	110	111	111	24	117	120	123	24	112	112	113	24	115	115	115	9				0
5/13	111	112	112	23	117	119	124	23	111	112	112	24	117	118	119	24				0
5/14	113	114	115	22	120	121	125	21	113	113	114	24	119	119	120	24	117	117	118	8
5/15	111	112	113	22	118	119	122	22				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	d Snake River Sites

	Pries	t R. Dı	nst_		Pasco	<u>2</u>			<u>Dwor</u>	<u>shak</u>			<u>Clrwt</u>	r-Pecl	<u> </u>		Anato	<u>one</u>		
	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	12 h		#	<u>24 h</u>	12 h		<u>#</u>
<u>Date</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	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>
5/2	119	119	120	24	116	117	118	24	109	109	109	24	104	105	105	24	103	104	105	24
5/3	118	120	120	24	113	114	115	24	109	109	109	24	104	104	105	24	102	102	102	24
5/4	116	117	117	24	110	111	111	24	108	109	109	24	103	103	104	24	102	102	103	24
5/5				0	110	111	114	21	108	109	109	24	103	104	105	24	102	103	103	24
5/6	117	117	117	10	113	114	114	24	109	109	109	24	104	104	105	24	102	103	103	24
5/7				0	114	116	116	24	109	109	110	24	104	105	106	24	102	103	104	24
5/8	120	120	121	10	115	116	116	24	109	109	110	24	104	105	106	24	103	104	104	24
5/9	118	119	120	24	114	115	116	21	108	108	108	24	104	104	105	24	102	103	103	23
5/10	117	117	117	24	113	114	114	24	107	107	108	23	104	105	105	23	103	104	104	24
5/11	117	117	118	24	113	114	114	24	108	108	109	24	104	104	105	24	102	103	104	24
5/12	115	116	117	17	112	113	113	24	108	108	108	24	103	104	104	24	102	102	103	24
5/13	117	117	117	15	113	115	116	24	108	109	109	24	104	105	106	24	103	104	105	24
5/14	116	116	117	24	115	116	116	24	109	109	109	24	104	105	106	24	103	104	105	24
5/15				0	113	113	114	24	108	108	109	24	103	103	104	24	102	102	103	24

Total Dissolved Gas Saturation Data at Snake River Sites

•	Clrwt	r-Lew	<u>iston</u>		Lowe	r Grar	<u>nite</u>		L. Gra	anite 7	<u> Iwr</u>		Little	Goos	<u>e</u>		L. Go	ose T	<u>lwr</u>	
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>
<u>Date</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
5/2	103	105	105	24	105	106	108	24	110	115	120	24	110	110	111	24	114	117	118	24
5/3	102	103	103	24	104	104	105	24	112	119	121	24	110	111	111	24	113	116	117	24
5/4	102	103	105	24	103	104	104	24	113	115	119	24	109	110	110	24	113	116	116	24
5/5	102	103	104	24	102	102	103	24	110	110	112	24	107	107	108	24	111	115	116	24
5/6	103	104	104	24	101	102	102	24	108	113	119	24	107	107	108	24	111	115	116	24
5/7	103	105	106	24	102	103	103	24	111	118	119	24	108	108	108	24	112	116	117	24
5/8	104	105	106	24	103	103	105	24	111	118	119	24	108	109	109	24	113	117	117	24
5/9	103	104	105	24	103	103	104	23	111	118	119	24	107	108	110	23	112	116	118	23
5/10	103	105	106	23	103	103	104	24	112	115	119	24	108	109	109	24	112	116	117	24
5/11	103	104	105	24	104	104	106	24	110	111	112	24	109	110	110	24	112	115	117	24
5/12	102	103	104	24	103	104	104	24	109	114	120	24	109	110	110	24	113	116	117	24
5/13	103	105	107	24	104	105	107	24	111	119	120	24	111	112	113	24	113	116	117	24
5/14	104	105	107	24	104	104	105	24	112	114	119	24	111	112	112	24	113	116	116	24
5/15	102	103	103	24	103	103	104	24	109	110	110	24	109	109	109	24	112	115	116	24

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

1. L. Mon. Tlwr Ice Harbor Ice Harbor Tlwr McNa

	Lowe	<u>r Mon</u>	<u>.</u>		<u>L. Mo</u>	<u>n. Tlw</u>	<u>/r</u>		Ice Ha	<u>arbor</u>			Ice H	<u>arbor</u>	<u>Tlwr</u>		<u>McNa</u>	ry-Or	<u>egon</u>	
	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>
<u>Date</u>	Avg	Avg	<u>High</u>	<u>hr</u>	Avg	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	Avg	Avg	<u>High</u>	hr
5/2	112	113	114	24	118	120	121	24	115	116	116	24	113	114	117	24	115	117	119	24
5/3	114	115	116	24	118	118	120	24	116	116	116	24	114	114	117	24	114	114	115	24
5/4	113	114	115	24	117	118	118	24	114	115	115	24	112	113	115	24	113	113	114	24
5/5	110	111	112	24	117	117	118	24	110	111	112	24	111	112	113	24	108	109	110	24
5/6	110	111	111	24	118	118	120	24	110	111	111	24	113	114	114	24	108	108	109	24
5/7	110	111	112	24	117	118	118	24	113	114	114	24	114	114	116	24	109	111	112	24
5/8	111	112	113	24	118	119	119	24	115	116	117	24	113	114	114	24	111	113	115	24
5/9	112	113	114	24	118	119	120	24	115	116	118	24	112	113	114	24	112	113	115	24
5/10	111	112	113	24	118	119	120	24	114	115	117	24	113	114	114	24	112	113	115	24
5/11	112	114	115	24	118	119	121	24	115	115	115	24	113	114	114	24	113	114	115	24
5/12	113	114	115	24	117	118	119	24	115	115	116	24	113	114	115	24	113	114	116	24
5/13	112	113	114	24	118	119	120	24	116	118	121	24	112	113	115	24	113	115	118	24
5/14	114	115	116	24	119	120	120	24	116	116	117	24	114	114	115	24	112	112	113	24
5/15	114	114	116	24	118	119	120	24	115	115	116	24	114	115	118	24	111	111	112	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

	McNa	ıry-Wa	ish_		McNa	ry Tlw	<u>/r</u>		John	Day			John	Day 1	lwr		The [Dalles		
	<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>
Date	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>	<u>Avg</u>	<u>AVG</u>	High	<u>hr</u>
5/2	115	116	116	24	117	119	120	24	114	115	116	23	116	118	119	24	112	114	115	23
5/3	116	116	116	24	117	119	119	24	114	114	115	23	116	118	119	24	113	113	114	23
5/4	113	114	115	24	116	119	119	24	112	113	113	23	115	117	118	24	112	113	114	23
5/5	108	109	110	24	114	118	119	22	110	110	111	23	114	118	119	24	110	111	113	23
5/6	107	108	108	24	114	119	120	24	110	110	110	23	114	118	119	24	110	112	113	23
5/7	109	110	111	24	114	120	120	24	109	109	109	23	113	118	119	24	110	111	112	23
5/8	112	113	114	24	116	120	121	24	108	108	109	23	113	118	119	24	108	110	111	23
5/9	113	114	114	24	116	120	120	24	107	107	107	23	113	118	119	24	109	111	113	23
5/10	114	115	116	24	115	119	120	24	108	109	110	23	113	117	118	24	109	113	114	23
5/11	114	114	115	24	116	118	119	24	109	109	110	23	113	117	119	24	109	110	112	23
5/12	114	115	116	24	116	119	120	24	109	110	110	23	113	118	119	24	110	111	112	23
5/13	113	115	118	24	116	120	121	24	112	114	116	23	114	117	118	24	111	113	116	23
5/14	113	113	115	24	118	121	121	24	113	113	114	23	115	119	120	24	113	115	116	23
5/15	111	111	112	24	115	120	120	24	112	113	113	23	115	118	120	24	111	112	113	23

Total Dissolved Gas	Saturation	Data at Lower	Columbia Ri	ver Sites
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	The D	alles	Dnst		Bonn	<u>eville</u>			Warre	endale	<u>) </u>		Cama	s\Wa	shugal	
	<u>24 h</u>	12 h		<u>#</u>	<u>24 h</u>	<u>12 h</u>		<u>#</u>	<u>24h</u>	<u>12h</u>		#	<u>24h</u>	<u>12h</u>		<u>#</u>
<u>Date</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	Avg	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
5/2	117	118	118	24	116	116	116	23	116	116	117	23	116	117	118	24
5/3	117	117	118	24	114	115	115	20	114	115	116	23	113	114	115	24
5/4	116	116	117	24	111	112	112	23	113	114	114	23	111	111	112	24
5/5	115	116	117	24	111	111	111	23	114	115	115	23	111	112	113	24
5/6	116	117	117	24	112	113	114	23	114	114	115	23	113	114	115	24
5/7	116	117	117	24	112	113	113	22	113	115	117	23	112	114	114	24
5/8	115	115	116	24	111	112	113	22	114	115	117	23	112	113	115	24
5/9	115	116	117	24	108	109	109	16	112	115	117	23	110	112	113	24
5/10	115	117	119	24	109	109	110	23	117	118	118	23	111	115	116	24
5/11	115	116	118	24	111	112	112	23	118	119	119	23	115	117	117	24
5/12	115	116	116	24	111	112	113	23	114	115	117	23	114	115	116	24
5/13	116	117	119	24	111	112	113	23	114	116	118	23	114	116	118	24
5/14	118	118	119	24	113	113	114	23	117	118	118	23	113	115	116	24
5/15	116	117	117	24	111	111	112	23	116	117	118	23	112	113	113	24

HATCHERY RELEASE SUMMARY LAST TWO WEEKS

Hatchery Release Summary 5/2/03 to

	Hate	cnery Kei	ease 5	ummary	1				
	From:	5/2/03	}	to	5/15/03	1			
Agency	Hatchery	Species	Race	MiaYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Wildlife	Niagara Springs	ST	SU	2003				Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Wildlife Total					185,231				()
Nez Perce Tribe	Hagerman NFH	ST	SU	2003	•	05-05-03	05-09-03	Newsome Creek	S Fk Clearwater River
Nez Perce Tribe	Hagerman NFH	ST	SU	2003	102,040	04-30-03	05-05-03	American River	S Fk Clearwater River
Nez Perce Tribe Total	-				190,133				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2003	3,000	05-03-03	05-04-03	Deer Creek	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2003	76,500	05-07-03	05-08-03	L Sheep Acclim Pond	Imnaha River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2003	130,500	05-08-03	05-23-03	Big Canyon Acclim.Pd (G.R.)	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2003	217,000	05-07-03	05-22-03	Wallowa Acclim Pond	Wallowa River
Oregon Dept. of Fish and Wildlife Tot	tal				427,000				
Shoshone-Bannock Tribe	Hagerman NFH	ST	SU	2003	131,659	05-12-03	05-14-03	Yankee Fk Pond	Salmon River (ID)
Shoshone-Bannock Tribe Total					131,659				
U.S. Fish and Wildlife Service	Spring Creek NFH	CH0	FA	2003	3,370,867	05-08-03	05-08-03	Spring Creek Hatchery	L Col R(D/s McN Dam)
U.S. Fish and Wildlife Service Total					3,370,867				
Washington Dept. of Fish and Wildlife	Klickitat Hatchery	CO	NO	2003	1,000,000	05-12-03	05-23-03	Klickitat Hatchery	Klickitat River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2003	15,000	05-01-03	05-10-03	Drano Lake	Little White Salmon R
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2003	100,000	05-01-03	05-10-03	Klickitat River	Klickitat River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	CH1	SU	2003				Above Rocky Reach Dam	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2003				Bel. Priest Rapids Dam	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003				Okanogan River	Okanogan River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003				Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003				Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003	107,055	04-21-03	05-16-03	Chewuch River	Methow River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003	- ,		05-16-03	Methow River	Methow River
Washington Dept. of Fish and Wildlif					1,790,190				
Yakama Tribe	Cascade Hatchery	CO	UN	2003	,			Wenatchee River	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2003				Nason Creek	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2003	,			Icicle Creek	Wenatchee River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2003				Clark Flat Acclim Pond	Yakama River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2003	•			Jack Creek Acclim Pond	Yakama River
Yakama Tribe	Cle Elem Hatchery	CO	UN	2003				Yakama River	Yakama River
Yakama Tribe	Cle Elem Hatchery	CO	UN	2003	•			Lost Creek Acclim Pond	Yakama River
Yakama Tribe	Cle Elem Hatchery	CO	UN	2003	- ,			Easton Pond	Yakama River
Yakama Tribe	Klickitat Hatchery	CH0	SP	2003	,			Klickitat River	Klickitat River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2003	,			Prosser Acclim Pond	Yakama River
Yakama Tribe	Stiles Pond	CO	UN	2003				Yakama River	Yakama River
Yakama Tribe	Willard Hatchery	CO	UN	2003				Wenatchee River	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2003	•		05-02-03	Little Wenatchee River	Wenatchee River
Yakama Tribe Total					2,586,083				
Grand Total					8,681,163				

HATCHERY RELEASE SUMMARY NEXT TWO WEEKS

Hatchery Release Summary

	From:	5/16/03		to	5/29/03				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Wildlife	Oxbow-Idaho		FA	2003	500,000	05-16-03	05-20-03	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Wildlife Total					500,000				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2003	130,500	05-08-03	05-23-03	Big Canyon Acclim.Pd (G.R.)	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2003	217,000	05-07-03	05-22-03	Wallowa Acclim Pond	Wallowa River
Oregon Dept. of Fish and Wildlife To	tal				347,500				
Washington Dept. of Fish and Wildlife	Klickitat Hatchery	CO	NO	2003	1,000,000	05-12-03	05-23-03	Klickitat Hatchery	Klickitat River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	CH1	SU	2003	120,000	04-13-03	05-23-03	Above Rocky Reach Dam	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2003	121,000	04-07-03	05-30-03	Bel. Priest Rapids Dam	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003	57,095	04-21-03	05-16-03	Okanogan River	Okanogan River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003	57,095	04-21-03	05-16-03	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003	105,890	04-15-03	05-16-03	Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003	107,055	04-21-03	05-16-03	Chewuch River	Methow River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003	107,055	04-21-03	05-16-03	Methow River	Methow River
Washington Dept. of Fish and Wildlif	e Total				1,675,190				
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2003	320,000	05-05-03	05-20-03	Prosser Acclim Pond	Yakama River
Yakama Tribe Total					320,000				
Grand Total					2,842,690				

Two-Week Summary of Passage Indices

					COMBI	NED YEA	RLING CH	IINOOK				
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/02/2003	*	108	119	36	27	69,084	251,130	13,851	264		24,497	71,222
05/03/2003	*		70			66,656	73,264	9,111	446	76,797	18,617	66,725
05/04/2003	*		209			105,782	37,046	16,762	283		27,459	68,431
05/05/2003	*	19	91	30	25	83,926	67,298	22,506	248	119,072	39,200	64,116
05/06/2003	*	65	41	84	121	246,906	57,671	21,538	514		48,106	77,285
05/07/2003	*	56	24	32	29	151,196	56,918	29,953	463	90,231	46,341	91,520
05/08/2003	*	17	21	39	27	167,373	48,750	15,278	941		65,231	85,948
05/09/2003	*	2	96	9	24	105,400	75,475	10,694	363	117,270	55,639	114,015
05/10/2003	*		62			49,333	27,132	29,840	319		46,452	98,908
05/11/2003	*		57			63,891	44,713	19,845	344	86,579	31,839	90,312
05/12/2003	*	14	56	5	8	51,799	22,138	10,840	511		24,512	59,469
05/13/2003	*	77	69	6	23	112,657	42,711	15,121	1,301	127,854	45,558	84,594
05/14/2003	*	17	84	22	7	99,335	86,339	9,877	450		26,328	53,834
05/15/2003	*	16	37	38	16	57,410	78,183	12,278		96,876	122,244	98,561
Total:		391	1,036	301	307	1,430,748	968,768	237,494	6,447	714,679	622,023	1,124,940
# Days:		10	14	10	10	14	14	14	13	7	14	14
Average:		39	74	30	31	102,196	69,198	16,964	496	102,097	44,430	80,353
YTD		31,927	33,398	10,702	1,312	2,786,340	1,502,132	513,190	11,580	966,202	787,913	2,126,577

				C	OMBINE	D SUBYE	ARLING	CHINOOK	(
	H	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	П	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)						
05/02/2003	*	0	0	0	2	0	0	0	9		0	1,191
05/03/2003	*		0			0	4	0	3	637	0	416
05/04/2003	*		0			0	0	0	3		0	394
05/05/2003	*	0	17	1	1	0	0	0	3	602	0	838
05/06/2003	*	0	12	0	1	0	0	0	13		0	1,474
05/07/2003	*	0	0	0	1	0	0	0	3	609	0	463
05/08/2003	*	0	0	0	0	0	1	0	4		0	240
05/09/2003	*	0	0	6	4	0	284	0	3	1,883	0	2,581
05/10/2003	*		0			0	4	0	3		0	132,591
05/11/2003	*		0			0	0	0	3	780	0	255,563
05/12/2003	*	0	0	1	9	216	0	0	3		0	106,010
05/13/2003	*	0	1	2	4	0	3	0	5	2,314	0	34,119
05/14/2003	*	0	0	1	7	420	0	0	4		0	19,226
05/15/2003	*	0	0	2	23	204	0	0		4,334	0	18,544
Total:		0	30	13	52	840	296	0	59	11,159	0	573,650
# Days:		10	14	10	10	14	14	14	13	7	14	14
Average:		0	2	1	5	60	21	0	5	1,594	0	40,975
YTD		1	44	22	135	5,146	360	202	1,382	33,669	874	1,676,048

^{*} See sampling comments http://www.fpc.org/currentDaily/smpcomments.htm

Smolt indices, clipped & unclipped or combined, are presented in the following order: yearling chinook (chinook 1's,) subyearling chinook (chinook 0's), steelhead, coho, and sockeye. Two classes of fish counts are shown in these tables: collection counts, which account for sample rates but are not adjusted for flow; and passage indices, which are collection counts divided by the proportion of water passing through the sampled powerhouse. Passage indices are not population estimates, but are used to adjust collection counts for daily fluctuations in the site's or project's operations. The classes of counts presented in the report are defined below for each site. Most samples occur over a 24-hr period that spans two calendar days. In this report, the date shown corresponds with the sample end date.

Two-Week Summary of Passage Indices

						COMBINI	ED COHO					
	Ħ	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)						
05/02/2003	*	0	0	0	0	207	0	148	4		1,160	38,350
05/03/2003	*		0			439	4	0	12	0	1,184	44,068
05/04/2003	*		0			220	0	244	13		3,218	59,951
05/05/2003	*	0	0	0	0	441	0	231	11	0	4,078	55,525
05/06/2003	*	0	0	0	0	418	0	75	13		2,789	61,281
05/07/2003	*	0	0	0	0	0	1,077	188	14	913	4,320	85,033
05/08/2003	*	0	0	0	0	212	293	376	14		3,091	56,898
05/09/2003	*	0	0	0	0	0	302	194	19	157	4,269	66,043
05/10/2003	*		0			438	9	306	46		2,711	55,603
05/11/2003	*		0			437	0	29	14	780	2,301	33,947
05/12/2003	*	0	0	0	0	651	0	30	64		1,488	33,613
05/13/2003	*	0	0	0	0	0	0	112	147	330	1,166	43,362
05/14/2003	*	0	0	0	0	209	20	92	203		838	45,629
05/15/2003	*	0	0	0	0	204	11	221		333	4,630	41,660
Total:		0	0	0	0	3,876	1,716	2,246	574	2,513	37,243	720,963
# Days:		10	14	10	10	14	14	14	13	7	14	14
Average:		0	0	0	0	277	123	160	44	359	2,660	51,497
YTD		0	0	0	10	5,207	2,043	2,412	600	3,117	42,838	1,031,226

	П				<u></u>	MRINED	STEELHE	۸D				
	H	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	H	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/02/2003	*	206	324	12	102	62,217	180,621	23,240	, ,	(INDLX)	5,231	12,863
05/03/2003	*		385		102	34,300	33,652	15,974		2,940		14,966
05/04/2003	*		2,804			33,347	33,117	27,472	167	2,540	6,103	17,551
05/05/2003	*	93	1,489	8	142	36,346	27,031	18,919		5,279	6,314	14,248
05/06/2003	*	147	605	13	534	62,875	24,300	14,123			7,896	21,269
05/07/2003	*	95	529	12	169	38,903	31,129	37,770		5,790	8,836	21,316
05/08/2003	*	128	3,267	26	136	54,730	21,562	21,571	471		7,760	21,127
05/09/2003	*	68	3,280	11	217	74,474	20,470	31,268	294	8,325	8,682	24,954
05/10/2003	*		3,011			42,098	26,975	58,426	309		7,064	23,524
05/11/2003	*		1,446			103,276	25,030	26,976	294	4,370	5,659	17,934
05/12/2003	*	86	989	34	129	53,749	8,450	12,409	307		5,077	13,574
05/13/2003	*	225	1,342	43	139	38,855	12,607	12,735	441	3,984	5,102	16,586
05/14/2003	*	74	1,765	46	284	44,540	20,970	25,200	327		5,280	21,533
05/15/2003	*	86	1,368	22	231	52,712	20,191	15,329		4,669	6,012	23,878
Total:		1,208	22,604	227	2,083	732,422	486,105	341,412	3,711	35,357	89,715	265,323
# Days:		10	14	10	10	14	14	14	13	7	14	14
Average:		121	1,615	23	208	52,316	34,722	24,387	285	5,051	6,408	18,952
YTD		2,248	40,330	1,476	4,057	1,638,278	1,015,387	566,517	4,303	66,642	143,320	364,320

Note 1: 4/27-5/1 Little Goose Dam coho -potential misidentification of species; sample correction pending further analysis

Note 2: May 1 Little Goose Dam sample partly estimated based on electronic counts.

^{*} See sampling comments http://www.fpc.org/currentDaily/smpcomments.htm

Two-Week Summary of Passage Indices

					С	OMBINED	SOCKEY	/E				
	П	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	П	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)						
05/02/2003	*	0	0	0	0	0	0	0	188		313	0
05/03/2003	*		0			0	291	0	229	113,261	674	0
05/04/2003	*		0			0	281	0	130		669	0
05/05/2003	*	0	0	0	0	0	0	0	169	55,705	1,842	419
05/06/2003	*	0	0	0	0	418	0	0	335		2,961	1,264
05/07/2003	*	0	0	0	0	0	0	0	96	43,978	19,047	4,171
05/08/2003	*	0	0	0	0	0	1	0	217		29,588	5,282
05/09/2003	*	0	0	0	0	0	0	0	578	35,940	11,432	29,472
05/10/2003	*		0			0	3	0	607		8,848	55,603
05/11/2003	*		0			0	0	0	741	24,034	5,597	21,137
05/12/2003	*	0	0	0	0	0	0	0	1,312		6,784	15,514
05/13/2003	*	0	0	0	0	0	0	0	876	37,331	7,071	16,112
05/14/2003	*	0	0	0	0	0	0	0	320		3,496	8,972
05/15/2003	*	0	0	0	0	204	0	37		115,697	39,596	19,560
Total:		0	0	0	0	622	576	37	5,798	425,946	137,918	177,506
# Days:		10	14	10	10	14	14	14	13	7	14	14
Average:		0	0	0	0	44	41	3	446	60,849	9,851	12,679
YTD		0	0	0	0	1,196	755	304	8,959	499,882	138,919	178,468

^{*} See sampling comments

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

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: 05/15

			Spring Cl	hinook				,	Summer	Chinoo	k				Fall Chi	nook		
	20	03	200)2	10-Yr	Avg.	20	03	20	02	10-Yı	r Avg.	20	03	200)2	10-Yr	Avg.
DAM	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	166,936	9,300	237,515	4,477	110,285	4,512	0	0	0	0	0	0	0	0	0	0	0	0
TDA	109,144	6,435	148,571	2,069	69,222	2,607	0	0	0	0	0	0	0	0	0	0	0	0
JDA	81,249	5,256	111,717	1,109	55,635	1,730	0	0	0	0	0	0	0	0	0	0	0	0
MCN	74,495	4,287	94,078	1,868	47,890	1,438	0	0	0	0	0	0	0	0	0	0	0	0
IHR	52,500	2,602	53,467	516	27,428	774	0	0	0	0	0	0	0	0	0	0	0	0
LMN	44,990	1,769	43,872	343	25,277	673	0	0	0	0	0	0	0	0	0	0	0	0
LGS	41,106	1,607	40,377	295	23,431	650	0	0	0	0	0	0	0	0	0	0	0	0
LWG	44,254	1,322	33,281	501	21,362	554	0	0	0	0	0	0	0	0	0	0	0	0
PRD	14,614	53	25,646	22	11,041	44	0	0	0	0	0	0	0	0	0	0	0	0
RIS	12,793	143	10,411	426	5,623	74	0	0	0	0	0	0	0	0	0	0	0	0
RRH	3,011	9	3,185	1	1,910	4	0	0	0	0	0	0	0	0	0	0	0	0
WEL	773	0	901	2	792	5	0	0	0	0	0	0	0	0	0	0	0	0

			Coh	0			,	0 1 0 3,163 4,668 3,104 76 0 0 0 880 2,489 1,138 47 0 0 0 1,421 7,909 3,337 83 0 0 0 1,399 4,793 1,990 83 0 0 0 1,464 4,605 2,301 72					
	200)3	200)2	10-Yı	Avg.			10-Yr			10-Yr	Wild
DAM	Adult	Jack	Adult	Jack	Adult	Jack	2003	2002	Avg.	2003	2002	Avg.	2003
BON	0	0	0	0	0	0	0	1	0	3,163	4,668	3,104	763
TDA	0	0	0	0	0	0	0	0	0	880	2,489	1,138	472
JDA	0	0	0	0	0	0	0	0	0	1,421	7,909	3,337	831
MCN	0	0	0	0	0	0	0	0	0	1,399	4,793	1,990	831
IHR	0	0	0	0	0	0	0	0	0	1,464	4,605	2,301	725
LMN	0	0	0	0	0	0	0	0	0	1,812	5,051	2,381	1,094
LGS	0	0	0	0	0	0	1	0	0	2,015	6,124	1,808	1,243
LWG	0	0	0	0	0	0	0	0	0	15,721	12,405	5,486	3,685
PRD	0	0	0	0	0	0	1	0	0	8	26	4	0
RIS	0	0	0	0	0	0	1	1	0	25	64	37	19
RRH	0	0	0	0	0	0	0	1	0	45	169	54	34
WEL	1	0	0	0	0	0	0	0	0	19	47	11	10

PRD, RIS, RRH, WEL are through 5/14. IHR is missing 4/6, 4/23, 4/26. LMN is missing 4/23, identical counts for 4/1 & 4/2. LGS are missing 4/17 & 4/23. LGR is missing data for 3/6 and 5/12.

Although WEL began their counts early on 4/15, they won't have data posted until later in the season.

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.

Page last updated on: 5/16/03

BON counts from January 1, 2003 to March 14, 2003 (our counts begin March 15)

ı	Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
	3,758	0	3,443	408

^{**}PRD is not reporting Wild Steelhead numbers.

Two Week Transportation Summary

05/03/03 TO 05/16/03

		03/03/03	10	03/10/03			
-	<u></u>	Species					
Site	Data		CH1	СО	SO	ST	Grand Total
LGR	Sum of NumberCollected	597	1,003,862	2,686	448	512,505	1,520,098
	Sum of NumberBarged	595	992,594	2,683	446	499,363	1,495,681
	Sum of NumberBypassed	0	10,231	0	0	13,010	23,241
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	2	1,037	3	2	132	1,176
LGS	Sum of NumberCollected	209	697,416	1,251	407	348,723	1,048,006
	Sum of NumberBarged	207	671,158	1,249	406	348,562	1,021,582
	Sum of NumberBypassed	0	5	0	0	1	6
	Sum of Numbertrucked	0	27,715	0	0	0	27,715
	Sum of TotalProjectMortalities	2	499	2	1	160	664
LMN	Sum of NumberCollected		124,357	1,180	20	178,440	303,997
	Sum of NumberBarged		122,872	1,178	20	178,080	302,150
	Sum of NumberBypassed		1,349	0	0	100	1,449
	Sum of Numbertrucked		0	0	0	0	0
	Sum of TotalProjectMortalities		136	2	0	260	398
MCN	Sum of NumberCollected	6,901	452,412	1,600	267,348	22,480	750,741
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	6,900	452,021	1,600	267,249	22,394	750,164
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	1	298	0	103	43	445
Total S	um of NumberCollected	7,707	2,278,047	6,717	268,223	1,062,148	3,622,842
Total S	um of NumberBarged	802	1,786,624	5,110	872	1,026,005	2,819,413
Total S	um of NumberBypassed	6,900	463,606	1,600	267,249	35,505	774,860
	um of Numbertrucked	0	27,715	0	0	0	
Total S	um of TotalProjectMortalities	5	1,970	7	106	595	2,683

YTD Transportation Summary

TO: 05/16/03

		Species						
Site	Data	CH0	CH1	СО	S	0	ST	Grand Total
LGR	Sum of NumberCollected	3,802	1,992,603	3,0	681	886	1,170,937	3,171,909
	Sum of NumberBarged	2,977	1,933,176	3,	738	894	1,148,276	3,089,061
	Sum of NumberBypassed	0	27,031		0	0	23,599	50,630
	Sum of NumberTrucked	816	54,208		40	78	15,402	70,544
	Sum of TotalProjectMortalities	9	3,519		3	11	337	3,879
LGS	Sum of NumberCollected	256	1,099,562	1,4	490	534	743,747	1,845,589
	Sum of NumberBarged	247	1,062,229	1,4	486	525	742,648	1,807,135
	Sum of NumberBypassed	0	9		0	0	1	10
	Sum of NumberTrucked	5	38,253		0	5	850	39,113
	Sum of TotalProjectMortalities	4	1,010		3	4	248	1,269
LMN	Sum of NumberCollected	165	285,414	1,2	270	200	302,184	589,233
	Sum of NumberBarged	105	267,674	1,2	264	160	299,980	569,183
	Sum of NumberBypassed	0	2,086		0	0	232	2,318
	Sum of NumberTrucked	60	15,149		0	40	1,637	16,886
	Sum of TotalProjectMortalities	0	505		6	0	335	846
MCN	Sum of NumberCollected	25,224	616,754	2,0	006	316,876	43,430	1,004,290
	Sum of NumberBarged	0	0		0	0	0	0
	Sum of NumberBypassed	25,189	616,304	2,0	006	316,770	43,335	1,003,604
	Sum of NumberTrucked	0	0		0	0	0	0
	Sum of TotalProjectMortalities	35	357		0	110	52	554
Total Su	m of NumberCollected	29,447	3,994,333	8,4	447	318,496	2,260,298	6,611,021
Total Su	m of NumberBarged	3,329	3,263,079	6,4	488	1,579	2,190,904	5,465,379
Total Su	m of NumberBypassed	25,189	645,430	2,0	006	316,770	67,167	1,056,562
Total Su	m of NumberTrucked	881	107,610		40	123	17,889	126,543
Total Su	m of TotalProjectMortalities	48	5,391		12	125	972	6,548