



Fish Passage Center

Weekly Report #01 - 25

August 31, 2001

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SIGNIFICANT POINTS

- **Mainstem migration flows were far below the NMFS Biological Opinion targets for summer migrants both in the Snake River and in the Columbia River during 2001.**

SUMMARY OF EVENTS:

Reservoir Operations: Reservoir elevation changes over the past week are illustrated in the following table. In general reservoir elevations changed only slightly over the past week with the exception of Dworshak Reservoir. During the early part of the week Dworshak reservoir continued to draft for water temperature control and flow enhancement for the main stem Snake River. Dworshak outflow was reduced beginning on August 28th and is expected to reach elevation 1520 feet by the end of the month.

Reservoir	Elevations (feet) August 24 – August 30
Libby	2435.58 – 2435.02
Hungry Horse	3540.59 – 3539.62
Grand Coulee	1278.90 – 1278.20
Dworshak	1526.32 – 1520.60
Brownlee	2056.37 – 2054.71

The Upper Snake River, Boise River and Payette River system of reservoirs continue to be drafted for irrigation purposes. The Boise system, Anderson Ranch, Arrowrock, Lucky Peak are presently at 24% of capacity compared to 28% a week ago. The Payette River system comprised of Cascade and Deadwood reservoirs is at 44% of capacity compared to 46% a week ago. The Upper Snake River system comprised of Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls and Lake Walcott is at 17% of capacity compared to 20% last week.

Flows: Main stem flows for the summer downstream migrants continue to be far below the NMFS Biological Opinion targets for summer migrants. Biological opinion flow targets end on August 31. Flows at McNary averaged 105.2 kcfs over the past week, while the Biological Opinion target for this time period at McNary is 200 kcfs. Flows at Lower Granite Dam averaged, 21.2 kcfs, compared to 50 kcfs target for this time period as established in the NMFS Biological Opinion. Weekly average flows at Priest Rapids Dam were 84.8 kcfs.

Spill: Summer spill for fish passage occurred over the past week at The Dalles and Bonneville dams and will end on August 31st. At Bonneville Dam spill occurred for 24 hours at 50 Kcfs. At The Dalles spill averaged 37.98 Kcfs (36% of total discharge) 24 hours per day over the past week, with total discharge averaging 105.4 Kcfs. Some spill occurred during daytime hours at Lower Granite Dam as a result of double tests that were conducted at the project.

In the Mid-Columbia spill continued at Wells, Wanapum and Priest Rapids dams. Spill at Wells averaged 6.9 Kcfs over the past week. At Wanapum and Priest Rapids spill averaged 1.9 Kcfs and 4.6 Kcfs, respectively.

Total dissolved gas readings are less than the waiver limits. No fish with bubbles in the unpaired fins were observed this past week.

Smolt Monitoring Program. This week's daily subyearling chinook collections averaged approximately 750 at Lower Granite Dam (down 61%), 235 at Little Goose Dam (down 67%), and 150 at Lower Monumental Dam (down 25%). Daily passage indices of subyearling chinook at Rock Island Dam averaged in the low 30's (down 42%). In the lower Columbia River, daily passage indices were down 38-53% from last week's level for subyearling chinook at McNary Dam (average near 12,000), John Day Dam (average above 19,000), and Bonneville Dam (average near 7,500). Daily steelhead collections at the Snake River dams have remained relatively high for this time of the season, averaging approximately 320 at Lower Granite Dam, 90 at Little Goose Dam, and 220 at Lower Monumental Dam. All sampled steelhead are being returned to the river.

Adult Fish Passage - Water temperatures increased to 70°F at most COE projects with the dry warm air temperatures encountered during the past week. Needed for fish...a cooling trend to reduce water temperatures to give more tolerable passage conditions for our salmon in the Columbia River and tributaries.

At Bonneville Dam, counts of adult fall chinook ranged between 2,000 and 13,500 per day through the week ending August 30, with the cumulative count now 84,407. This compares with 80,759 for year 2000 and 43,416 for the 10-year average. This year's fall chinook counts increased to a peak day of 13,500 on 8/28 then dropped back to 9,000 the final two days. The percentage and numbers of "tule" and "bright" fall chinook will be listed on the FPC website and updated throughout this fall season (data supplied by WDFW). The "tule" fall chinook are destined for Bonneville Pool tributaries and Spring Creek National Fish Hatchery while the "bright" component of the fall chinook run are destined for most larger tributaries and streams in the basin including the Hanford Reach area. About 33.5% of the adult fall chinook counted at Bonneville Dam had passed The Dalles Dam with 8,300 adult fall chinook over McNary Dam through August 30. The passage of fall chinook into the Snake River is nearly 700 while the mid-Columbia count at Priest Rapids is 3,500.

Steelhead counts at Bonneville Dam ranged between 5,000 and 9,000 for the week ending August 30 with the cumulative count at 469,373, which is about 2.4 and 3.1 times greater than the respective year 2000 and 10-year average counts. Now that the A-Run steelhead count surpassed the all-time record run of adult steelhead at Bonneville Dam, the next hurdle will be to see if the B-Run steelhead will also return in record numbers. The official count of B-Run steelhead started August 26 and will continue through the end of the count season. The B-Run steelhead are generally larger fish that spend 2-years in the ocean and return primarily to the Clearwater River in Idaho as well as some tributaries of the Salmon River in Idaho. Returns of unclipped (mostly wild) steelhead have exceeded 130,000 to date. About 22% of the fish counted at Bonneville have arrived at McNary Dam (105,700). The steelhead passage at Ice Harbor Dam averaged about 500 per day for the week with the season total now at 49,012, about 2.5 and 3.1 times greater than the respective 2000 and 10-year average. Steelhead counts at Priest Rapids Dam averaged 250 per day through the week with the season total nearly 14,000, about 2.6 and 4.0 times greater than the respective 2000 and 10-year average. Both the Snake River and upper Columbia River should have record or near record returns based on passage of adult steelhead into both Reaches to date and the continued high numbers of steelhead still passing Bonneville Dam.

The return of hatchery coho salmon is estimated at 1.1 million to the mouth of the Columbia River; note that this includes both the early and late stock coho. Daily counts of coho passing Bonneville Dam ranged from 840 to 6,248. The season total is now 29,449 and compares with 9,100 in year 2000 and the 10-year average of 1,449. Expectation of a record run above Bonneville Dam is certainly possible this year.

The Tribal gill-net fishery in Zone 6 was initiated this week and fishing will continue for a given number of days per week to achieve their catch/quota of salmon for the season.

Hatchery Releases.

Snake River – Releases of yearling and subyearling chinook, sockeye, and coho salmon and steelhead are completed for the 2001 migration season.

Mid-Columbia [above McNary Dam] – Releases of yearling and subyearling chinook, sockeye, and coho salmon and steelhead are completed for the 2001 migration season.

Lower Columbia [McNary Dam to Bonneville Dam]– Releases of yearling chinook and coho salmon, and steelhead are completed for the 2001 migration season. About 300,000 subyearling spring chinook have been released in the Big White Salmon River this month. It is anticipated that these fish will migrate during this fall and in spring 2002 (listed as 2001 Migration Year).

Daily Average Flow and Spill (in kcfs) at Mid-Columbia Projects

Date	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
08/17/01	82.4	0.1	80.5	0.0	82.9	6.6	82.6	0.0	82.9	0.0	71.4	1.4	76.1	1.0
08/18/01	57.9	0.1	63.3	0.0	61.4	5.2	59.6	0.0	62.9	0.0	76.8	2.0	73.9	1.1
08/19/01	41.7	0.1	46.3	0.0	51.6	4.6	53.9	0.0	55.9	0.0	60.8	1.8	61.0	1.0
08/20/01	69.7	0.1	66.6	0.0	65.2	5.6	64.1	0.0	64.6	0.0	61.8	1.7	64.0	0.9
08/21/01	63.1	0.1	63.6	0.0	61.9	5.3	58.5	0.0	57.5	0.0	59.2	1.8	65.6	1.1
08/22/01	59.4	0.1	60.5	0.0	60.3	6.1	59.7	0.0	62.0	0.0	67.5	1.8	69.2	1.0
08/23/01	67.3	0.1	68.0	0.0	68.4	7.1	67.4	0.0	68.6	0.0	70.8	1.8	74.0	0.9
08/24/01	78.3	0.1	80.9	0.0	81.2	6.8	76.8	0.0	75.6	0.0	68.5	1.8	69.7	1.0
08/25/01	70.7	0.1	69.8	0.0	68.7	5.5	69.4	0.0	70.9	0.0	74.7	1.8	76.6	1.0
08/26/01	63.6	0.1	68.6	0.0	66.2	5.8	62.0	0.0	61.4	0.0	64.5	1.9	66.9	0.9
08/27/01	103.2	0.1	96.3	0.0	97.9	7.7	97.6	0.0	96.5	0.0	98.1	2.0	100.6	1.2
08/28/01	84.8	0.1	89.9	0.0	93.8	8.7	94.7	0.0	98.8	0.0	104.4	2.1	108.6	11.9
08/29/01	71.6	0.1	77.9	0.0	78.5	7.1	83.5	0.0	84.8	0.0	88.5	2.0	88.9	10.9
08/30/01	90.0	0.1	89.6	0.0	83.0	6.8	79.1	0.0	80.7	0.0	80.4	1.9	82.5	5.5

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

Date	Dworshak		Brownlee Canyon		Hells Granite		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
08/17/01	10.5	0.0	7.2	12.4	26.5	0.0	26.8	0.0	27.3	0.0	27.5	0.0	27.5	0.0
08/18/01	10.3	0.0	7.1	8.9	25.7	0.0	25.9	0.0	25.8	0.0	23.8	0.0	23.8	0.0
08/19/01	10.4	0.0	7.0	7.2	23.6	0.0	23.7	0.0	25.8	0.0	23.9	0.0	23.9	0.0
08/20/01	10.2	0.0	7.4	8.9	20.8	0.0	21.4	0.0	20.4	2.9	21.0	0.0	21.0	0.0
08/21/01	10.5	0.0	7.7	9.3	22.8	0.0	22.0	0.0	21.2	3.0	20.5	0.0	20.5	0.0
08/22/01	10.5	0.0	6.7	8.3	23.3	0.0	23.5	0.0	24.0	3.3	21.9	0.0	21.9	0.0
08/23/01	10.6	0.0	7.4	9.7	23.0	0.0	24.1	0.0	23.8	0.0	26.2	0.0	26.2	0.0
08/24/01	10.7	0.0	7.6	8.4	23.3	0.0	23.0	0.0	23.5	0.0	23.3	0.0	23.3	0.0
08/25/01	10.7	0.0	7.6	7.7	21.9	0.0	22.9	0.0	24.2	0.0	23.7	0.0	23.7	0.0
08/26/01	10.8	0.0	8.1	8.8	21.7	0.0	21.7	0.0	21.9	0.0	21.7	0.0	21.7	0.0
08/27/01	10.5	0.0	8.2	12.9	22.7	5.7	20.9	0.0	20.0	0.0	18.2	0.0	18.2	0.0
08/28/01	4.9	0.0	8.1	10.4	25.3	7.3	25.3	0.0	26.7	0.0	25.7	0.0	25.7	0.0
08/29/01	2.6	0.0	8.1	11.2	17.2	1.3	18.1	0.0	19.1	0.0	19.2	0.0	19.2	0.0
08/30/01	1.6	0.0	---	---	99.6	416.7	16.3	0.0	17.0	0.0	17.3	0.0	17.3	0.0

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

Date	McNary		John Day		The Dalles			Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill			
08/17/01	106.1	0.0	104.6	0.0	102.9	39.8	111.1	49.7	0.5	54.2	
08/18/01	91.1	0.0	88.5	0.0	89.2	31.3	102.6	49.7	0.5	45.6	
08/19/01	88.5	0.0	87.3	0.0	86.4	26.5	98.3	49.7	0.5	41.4	
08/20/01	82.0	0.0	84.5	0.0	90.1	31.8	103.4	49.6	0.5	46.6	
08/21/01	90.6	0.0	86.7	0.0	83.0	28.4	94.0	49.4	0.6	37.3	
08/22/01	88.1	0.0	93.7	0.0	97.3	34.8	103.2	49.6	0.6	46.3	
08/23/01	93.2	0.0	89.2	0.0	83.4	26.4	96.8	49.7	0.6	39.8	
08/24/01	88.3	0.0	72.9	0.0	74.4	20.1	85.7	49.7	0.5	28.9	
08/25/01	105.3	0.0	105.9	0.0	106.8	38.2	107.9	49.8	0.6	50.9	
08/26/01	95.3	0.0	103.8	0.0	103.6	39.6	118.9	49.9	0.6	61.8	
08/27/01	93.7	0.0	113.7	0.0	113.4	41.0	123.8	49.6	0.6	67.0	
08/28/01	128.5	0.0	120.1	0.0	118.8	43.8	123.3	49.7	0.6	66.3	
08/29/01	113.7	0.0	112.4	0.0	113.0	43.1	124.1	49.7	0.6	67.1	
08/30/01	111.6	0.0	112.4	0.0	108.0	40.1	116.5	49.7	0.5	59.6	

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

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank				Fish with L. Line GBT	
								Rank 1	Rank 2	Rank 3	Rank 4	Num Fish	Avg. Rank
McNary Dam													
	08/23/01	Subyearling Chinook	100	2	0	0.00%	0.00%	0	0	0	0	2	1
	08/27/01	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/30/01	Subyearling Chinook	100	1	0	0.00%	0.00%	0	0	0	0	1	1
Bonneville Dam													
	08/21/01	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/23/01	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/27/01	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
Rock Island Dam													
	08/23/01	Subyearling Chinook	37	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/27/01	Subyearling Chinook	13	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/30/01	Subyearling Chinook	19	0	0	0.00%	0.00%	0	0	0	0	0	0

HATCHERY RELEASE SUMMARY NEXT TWO WEEKS

Hatchery Release Summary

From: **8/17/01** to **8/30/01**

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
USFWS	Spring Creek	CH0	SP	2001	350,000	08-17-01	08-24-01	White Salmon R	White Salmon River
USFWS TOTAL					350,000				
Grand Total					350,000				

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	Hungry H. Dnstr				Boundary				Grand Coulee				Grand C. Tlwr				Chief Joseph			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
8/17	103	104	105	24	105	106	107	24	103	103	103	24	103	104	106	24	105	106	106	24
8/18	104	104	105	23	105	106	107	23	103	103	103	23	103	104	107	23	104	105	105	23
8/19	104	104	105	24	105	105	106	24	102	103	103	24	103	104	107	20	104	105	105	23
8/20	103	104	105	24	105	106	107	24	103	103	104	24	103	104	106	21	105	105	105	23
8/21	103	103	104	23	106	106	107	17	103	103	108	24	103	104	107	24	104	105	107	23
8/22	103	103	104	24	---	---	---	0	103	103	103	24	103	103	107	24	104	104	104	23
8/23	102	103	103	23	---	---	---	0	102	102	102	24	102	102	102	20	104	104	104	23
8/24	102	103	104	24	---	---	---	0	101	101	102	24	101	102	105	24	103	103	104	23
8/25	101	102	102	24	108	108	108	1	101	102	102	24	102	102	105	20	103	104	104	23
8/26	101	102	103	23	115	115	115	1	102	102	102	24	102	103	106	22	103	104	104	23
8/27	102	102	103	24	121	121	124	10	102	102	102	24	102	102	104	24	103	103	104	23
8/28	102	102	102	25	119	119	124	6	102	102	102	25	102	102	105	25	103	103	104	24
8/29	102	102	104	24	114	119	124	23	102	102	102	24	102	103	105	24	103	104	104	23
8/30	102	102	103	24	106	107	107	24	102	102	102	24	102	103	106	24	103	104	104	21

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	Chief J. Dnstr				Wells				Wells Dwnstrm				Rocky Reach				Rocky R. Tlwr			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
8/17	105	105	106	24	107	108	109	23	108	108	109	23	106	107	108	15	108	108	108	13
8/18	104	105	106	23	105	105	105	23	106	107	107	23	106	106	106	15	108	108	108	14
8/19	103	104	104	23	104	104	105	23	105	106	107	23	106	106	106	16	108	108	108	13
8/20	103	104	105	23	104	104	105	23	106	107	107	23	106	106	107	16	109	109	109	13
8/21	104	104	107	23	104	104	105	24	106	107	107	24	106	106	107	15	109	109	109	14
8/22	103	104	105	23	103	104	104	21	105	106	107	21	106	106	107	14	109	109	109	13
8/23	102	104	104	23	103	103	104	21	105	106	107	21	106	106	107	12	108	108	109	10
8/24	104	104	105	23	102	103	103	24	104	105	106	24	106	106	106	13	108	108	108	12
8/25	102	104	107	21	103	103	104	20	105	105	107	20	106	106	106	12	108	108	108	12
8/26	103	104	105	20	104	105	106	24	105	106	106	24	106	106	106	14	108	108	108	13
8/27	103	103	105	23	104	104	104	24	106	106	107	24	106	106	106	12	108	108	108	11
8/28	103	103	105	24	104	104	105	25	106	106	107	25	106	106	106	14	108	108	109	10
8/29	103	104	105	22	103	104	105	22	106	107	107	22	106	106	106	11	108	108	108	10
8/30	103	104	105	20	104	104	105	22	106	106	107	22	107	107	107	7	---	---	---	0

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	Rock Island				Rock I. Tlwr				Wanapum				Wanapum Tlwr				Priest Rapids			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
8/17	108	108	108	14	110	110	111	14	107	108	109	24	107	108	109	24	110	110	111	24
8/18	108	108	108	13	110	110	110	13	105	105	106	24	105	106	106	24	107	107	108	24
8/19	108	108	108	18	110	110	110	18	104	105	105	24	104	104	105	24	105	106	106	24
8/20	108	108	109	17	110	110	111	17	106	107	108	24	105	106	106	24	106	107	109	24
8/21	108	108	109	20	110	111	111	19	106	106	107	24	105	105	106	24	105	106	107	24
8/22	108	108	108	17	110	110	111	17	106	106	106	24	105	105	106	24	105	106	106	24
8/23	108	108	108	15	110	110	110	14	---	---	---	0	---	---	---	0	---	---	---	0
8/24	107	107	108	18	109	110	110	17	---	---	---	0	---	---	---	0	---	---	---	0
8/25	108	108	108	16	110	110	110	15	---	---	---	0	---	---	---	0	---	---	---	0
8/26	108	108	108	16	110	110	110	16	---	---	---	0	---	---	---	0	---	---	---	0
8/27	108	108	108	16	110	110	110	15	---	---	---	0	---	---	---	0	---	---	---	0
8/28	108	108	108	18	110	110	110	18	---	---	---	0	---	---	---	0	---	---	---	0
8/29	108	108	108	17	109	109	110	17	---	---	---	0	---	---	---	0	---	---	---	0
8/30	106	107	107	15	107	107	107	14	---	---	---	0	---	---	---	0	---	---	---	0

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

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

Date	Priest R. Dnst			Pasco			Dworshak			Clrwr-Peck			Anatone			#				
	24 h	12 h		#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High		hr			
8/17	108	109	110	24	106	107	108	24	98	99	99	24	---	---	---	0	102	104	105	24
8/18	106	106	107	24	105	105	106	24	98	99	99	23	---	---	---	0	102	103	105	23
8/19	104	105	105	24	103	103	104	24	98	99	99	23	100	101	102	23	102	103	105	24
8/20	104	105	106	24	103	104	105	24	99	99	99	24	100	101	103	24	102	104	106	24
8/21	104	105	105	24	103	103	104	24	99	99	100	24	100	101	102	24	102	103	105	24
8/22	104	104	105	24	101	102	102	24	98	99	99	23	100	101	101	23	102	103	105	23
8/23	---	---	---	0	100	101	101	24	98	98	99	24	99	100	101	24	101	102	103	24
8/24	---	---	---	0	100	101	101	24	98	98	99	23	99	101	101	23	101	103	105	24
8/25	---	---	---	0	102	103	103	23	98	98	99	24	99	101	102	24	102	104	106	24
8/26	---	---	---	0	103	104	105	24	98	99	99	22	100	101	102	22	102	104	106	23
8/27	---	---	---	0	104	105	105	24	98	98	99	23	100	101	103	23	102	104	106	24
8/28	---	---	---	0	104	104	105	25	97	97	98	25	101	102	104	24	101	103	105	25
8/29	---	---	---	0	104	105	105	24	98	99	100	24	100	100	101	24	102	104	105	24
8/30	---	---	---	0	105	105	106	23	105	107	110	23	100	100	101	23	102	104	106	24

Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clrwr-Lewiston			Lower Granite			L. Granite Tlwr			Little Goose			L. Goose Tlwr			#				
	24 h	12 h		#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High		hr			
8/17	109	109	109	24	108	109	110	21	100	101	101	21	102	103	108	23	99	99	100	23
8/18	109	109	109	23	102	103	104	24	100	100	100	24	98	98	99	23	98	98	98	23
8/19	109	109	109	23	103	104	104	23	100	100	101	23	99	100	101	23	98	98	98	23
8/20	107	109	109	24	103	104	105	22	100	101	102	22	102	103	105	24	100	101	102	24
8/21	102	104	106	24	103	103	104	23	100	101	101	23	99	100	101	23	99	100	106	22
8/22	102	103	105	23	103	103	105	22	100	100	102	22	100	100	101	23	98	99	99	23
8/23	101	103	104	24	101	101	102	23	99	99	99	23	99	100	100	24	98	98	99	24
8/24	102	104	105	23	101	102	102	24	99	99	100	24	99	99	99	23	98	98	99	23
8/25	102	104	106	24	104	107	109	24	99	100	100	24	101	102	105	22	98	99	99	22
8/26	102	104	106	22	108	109	111	24	100	100	101	24	101	102	105	24	98	99	100	24
8/27	102	104	106	23	105	107	107	24	108	116	118	24	99	99	100	24	98	98	98	24
8/28	102	105	107	25	106	108	111	25	108	114	116	24	99	100	107	25	98	98	99	25
8/29	104	107	110	24	110	111	112	24	107	113	120	23	103	104	107	24	99	100	101	24
8/30	104	107	111	23	110	111	112	24	102	104	112	24	106	107	108	24	99	99	100	24

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

Date	Lower Mon.			L. Mon. Tlwr			Ice Harbor			Ice Harbor Tlwr			McNary-Oregon			#				
	24 h	12 h		#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High		hr			
8/17	100	100	101	24	99	100	101	24	98	99	101	24	99	100	101	24	107	108	109	24
8/18	100	101	102	24	99	100	100	24	99	100	101	23	99	101	101	23	104	105	105	24
8/19	101	102	104	24	99	100	100	24	101	102	103	23	100	101	102	23	104	104	106	24
8/20	104	105	106	24	107	114	117	24	102	103	105	23	102	103	105	23	104	104	107	24
8/21	100	101	104	24	106	112	116	24	100	101	102	24	101	102	103	24	104	105	106	24
8/22	101	102	103	24	110	117	124	24	102	103	105	24	101	102	103	24	103	104	104	24
8/23	101	101	102	22	111	121	127	22	101	102	104	24	100	101	102	24	103	103	104	24
8/24	100	100	101	22	98	99	100	22	101	101	104	23	100	101	102	23	103	104	106	24
8/25	103	105	107	24	99	100	101	24	103	104	106	24	103	105	114	24	103	105	106	23
8/26	103	104	105	24	99	100	102	24	102	104	105	23	102	102	103	22	102	104	106	24
8/27	99	100	101	24	98	99	100	24	100	101	102	23	102	102	103	23	105	106	109	23
8/28	99	100	106	25	98	99	100	25	102	104	108	25	103	104	104	25	106	109	112	25
8/29	104	106	106	24	99	101	102	24	107	108	109	24	104	105	108	24	107	110	111	24
8/30	102	103	106	24	100	101	102	24	107	108	110	24	104	104	105	24	107	109	111	24

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	McNary-Wash			McNary Tlwr			John Day			John Day Tlwr			The Dalles				#			
	24 h	12 h		24 h	12 h		24h	12h		24h	12h		24h	12h						
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr		AVG	High	hr
8/17	104	104	105	24	103	103	103	24	99	99	99	24	99	99	99	24	99	99	99	24
8/18	103	104	104	24	102	103	104	24	98	98	99	24	100	100	100	24	98	98	99	24
8/19	103	103	104	24	102	103	104	24	97	97	98	23	100	100	100	24	98	99	99	23
8/20	104	105	106	24	102	103	103	24	98	98	98	23	100	100	101	24	99	99	100	23
8/21	102	103	104	24	102	102	103	24	97	97	97	23	100	100	100	24	99	99	99	23
8/22	103	104	104	24	102	103	103	24	98	98	99	23	99	99	100	24	98	98	99	23
8/23	103	103	105	24	102	102	102	24	96	97	98	23	98	99	100	24	98	98	98	23
8/24	102	102	105	24	101	101	102	24	96	97	97	21	98	99	99	24	97	98	98	23
8/25	104	105	106	23	101	102	102	23	98	99	100	23	98	99	99	24	98	98	98	23
8/26	103	104	107	24	101	102	102	24	100	101	106	23	99	99	99	23	98	99	99	22
8/27	104	104	105	24	101	101	101	24	97	98	98	23	98	98	99	24	98	99	100	23
8/28	106	107	111	25	102	102	103	25	98	98	99	24	98	98	99	25	99	99	100	24
8/29	107	109	112	24	103	103	104	24	100	102	105	23	99	100	100	24	99	99	100	23
8/30	106	107	109	24	103	104	104	24	99	100	100	20	99	100	100	23	99	100	100	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	The Dalles Dnstr				Bonneville				Warrendale				Skamania				Camas\Washugal				#
	24 h	12 h			24 h	12 h			24h	12h			24h	12h			24h	12h			
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	
8/17	110	111	111	24	101	101	101	24	111	111	111	24	107	108	109	24	106	107	108	24	
8/18	109	110	110	24	100	101	101	24	111	111	111	24	107	108	108	24	106	106	107	24	
8/19	109	110	110	23	100	101	101	23	112	112	112	23	108	109	110	23	107	108	109	24	
8/20	109	110	110	24	101	101	102	23	111	112	112	23	107	108	108	23	108	108	109	24	
8/21	109	110	110	24	101	101	102	23	112	112	113	23	108	109	110	23	107	108	108	24	
8/22	110	110	110	24	102	102	103	23	112	113	113	23	108	109	109	23	107	108	108	23	
8/23	109	110	110	24	102	102	102	23	112	113	114	23	108	109	110	23	107	107	108	24	
8/24	107	108	109	23	103	103	104	23	113	114	115	23	110	111	111	23	108	109	109	24	
8/25	109	110	111	24	103	104	104	23	113	113	114	23	109	110	110	23	110	110	111	24	
8/26	110	110	111	24	104	104	105	23	112	113	114	23	109	109	110	23	109	109	110	24	
8/27	109	109	110	24	104	104	105	23	111	112	113	23	108	109	111	23	108	109	109	24	
8/28	110	111	111	24	103	103	104	24	112	113	113	24	109	110	112	24	108	109	110	25	
8/29	110	111	112	24	104	105	105	23	112	113	114	23	108	109	110	23	108	109	109	24	
8/30	111	111	111	24	104	105	105	23	113	113	113	22	109	110	111	23	108	109	109	20	

Two-Week Summary of Passage Indices

COMBINED YEARLING CHINOOK

Date	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
08/17/2001	---	---	---	---	20	0	5	0	0	0	0
08/18/2001	---	---	---	---	10	2	4	0	0	300	0
08/19/2001	---	---	---	---	10	12	4	0	0	150	0
08/20/2001	---	---	---	---	0	27	6	0	0	300	0
08/21/2001	---	---	---	---	0	3	2	0	22	300	0
08/22/2001	---	---	---	---	4	4	8	0	0	300	0
08/23/2001 *	---	---	---	---	0	0	4	0	10	150	52
08/24/2001	---	---	---	---	0	0	1	0	20	100	18
08/25/2001	---	---	---	---	0	0	6	0	30	150	0
08/26/2001	---	---	---	---	4	3	1	0	50	0	0
08/27/2001	---	---	---	---	0	1	1	0	40	100	38
08/28/2001	---	---	---	---	5	1	3	0	0	75	35
08/29/2001	---	---	---	---	6	0	0	0	30	150	0
08/30/2001	---	---	---	---	0	0	2	0	0	75	0
Total:	0	0	0	0	59	53	47	0	202	2,150	143
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	4	4	3	0	14	154	10
YTD	12,660	26,732	9,049	527	1,957,923	749,734	553,402	6,575	2,299,236	1,005,081	1,687,772

COMBINED SUBYEARLING CHINOOK

Date	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
08/17/2001	---	---	---	---	3,140	955	170	54	31,750	30,900	18,924
08/18/2001	---	---	---	---	2,670	779	171	107	33,650	24,900	18,252
08/19/2001	---	---	---	---	1,600	559	185	41	13,350	28,950	20,705
08/20/2001	---	---	---	---	1,080	575	245	30	8,160	15,600	11,965
08/21/2001	---	---	---	---	1,008	716	173	68	5,478	15,500	8,826
08/22/2001	---	---	---	---	752	547	207	28	4,395	28,100	7,767
08/23/2001 *	---	---	---	---	676	194	224	47	3,610	22,350	6,221
08/24/2001	---	---	---	---	688	199	149	36	4,060	29,200	6,138
08/25/2001	---	---	---	---	600	231	126	30	4,548	13,200	3,917
08/26/2001	---	---	---	---	556	244	100	31	17,170	18,550	9,559
08/27/2001	---	---	---	---	555	187	127	18	20,300	16,200	7,555
08/28/2001	---	---	---	---	1,021	226	146	37	16,480	16,275	13,458
08/29/2001	---	---	---	---	1,172	361	195	35	15,630	17,925	5,238
08/30/2001	---	---	---	---	500	318	178	25	9,750	16,125	3,946
Total:	0	0	0	0	16,018	6,091	2,396	587	188,331	293,775	142,471
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	1,144	435	171	42	13,452	20,984	10,177
YTD	1	1	13	31	720,583	170,634	51,552	22,627	10,655,782	2,729,029	2,892,109

*The total, #days and average do not include the current day's data. *See sampling comments. [http://www.fpc.org/current daily/smpcomments.htm](http://www.fpc.org/current%20daily/smpcomments.htm). This means that one or more of the sites on this date had an incomplete or biased sample.

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

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

Two-Week Summary of Passage Indices

COMBINED COHO

Date	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
08/17/2001	---	---	---	---	80	33	19	3	0	1,050	0
08/18/2001	---	---	---	---	40	23	22	5	0	300	0
08/19/2001	---	---	---	---	40	34	12	1	0	300	0
08/20/2001	---	---	---	---	60	46	21	0	0	300	106
08/21/2001	---	---	---	---	28	66	30	2	0	900	0
08/22/2001	---	---	---	---	32	60	54	9	0	100	0
08/23/2001 *	---	---	---	---	48	21	32	1	0	0	52
08/24/2001	---	---	---	---	28	48	32	2	0	0	0
08/25/2001	---	---	---	---	36	27	15	0	0	0	0
08/26/2001	---	---	---	---	8	35	12	0	0	200	0
08/27/2001	---	---	---	---	12	37	7	1	60	100	38
08/28/2001	---	---	---	---	37	37	5	0	0	75	35
08/29/2001	---	---	---	---	18	33	1	2	0	150	0
08/30/2001	---	---	---	---	26	43	1	2	0	0	0
Total:	0	0	0	0	493	543	263	28	60	3,475	231
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	35	39	19	2	4	248	17
YTD	0	0	0	6	58,045	21,446	2,637	45,428	146,993	80,538	2,163,652

COMBINED STEELHEAD

Date	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
08/17/2001	---	---	---	---	3,580	692	712	2	50	0	0
08/18/2001	---	---	---	---	2,510	418	558	0	0	150	0
08/19/2001	---	---	---	---	1,050	287	162	2	100	0	0
08/20/2001	---	---	---	---	680	147	193	0	0	0	106
08/21/2001	---	---	---	---	700	143	284	0	0	0	0
08/22/2001	---	---	---	---	532	199	358	1	0	0	0
08/23/2001 *	---	---	---	---	320	91	306	0	0	0	0
08/24/2001	---	---	---	---	308	150	431	1	0	0	0
08/25/2001	---	---	---	---	284	83	297	0	6	0	33
08/26/2001	---	---	---	---	152	50	281	1	10	150	0
08/27/2001	---	---	---	---	275	58	122	0	20	0	0
08/28/2001	---	---	---	---	481	84	95	0	0	100	0
08/29/2001	---	---	---	---	505	112	130	0	30	150	0
08/30/2001	---	---	---	---	243	86	195	2	30	0	36
Total:	0	0	0	0	11,620	2,600	4,124	9	246	550	175
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	830	186	295	1	18	39	13
YTD	4,567	34,103	4,357	5,399	5,575,647	835,847	358,097	17,846	561,790	190,739	489,238

Two-Week Summary of Passage Indices

COMBINED SOCKEYE

Date	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
08/17/2001	---	---	---	---	0	1	0	0	50	0	0
08/18/2001	---	---	---	---	0	0	3	1	0	0	0
08/19/2001	---	---	---	---	0	4	2	0	0	0	112
08/20/2001	---	---	---	---	0	1	0	0	0	0	0
08/21/2001	---	---	---	---	0	3	0	0	0	100	0
08/22/2001	---	---	---	---	0	11	0	0	0	0	0
08/23/2001 *	---	---	---	---	4	1	0	0	0	0	0
08/24/2001	---	---	---	---	4	4	1	0	30	0	0
08/25/2001	---	---	---	---	0	6	0	3	6	0	0
08/26/2001	---	---	---	---	4	5	0	2	20	0	0
08/27/2001	---	---	---	---	4	4	0	0	20	0	0
08/28/2001	---	---	---	---	0	10	1	2	30	0	0
08/29/2001	---	---	---	---	0	4	0	0	30	0	0
08/30/2001	---	---	---	---	4	3	1	0	0	75	0
Total:	0	0	0	0	20	57	8	8	186	175	112
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	1	4	1	1	13	13	8
YTD	24	0	0	0	4,590	9,806	1,012	3,012	284,453	103,509	106,653

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: 08/30

DAM	Spring Chinook						Summer Chinook						Fall Chinook					
	2001		2000		10-Yr Avg.		2001		2000		10-Yr Avg.		2001		2000		10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	391,367	14,172	178,302	21,259	70,775	4,654	76,156	14,723	30,616	13,554	21,085	3,689	84,407	13,898	80,759	9,905	43,416	3,554
TDA	302,372	9,953	102,953	14,796	41,161	3,200	71,462	10,926	25,147	10,433	16,934	2,708	28,264	4,973	47,779	5,014	19,656	1,785
JDA	262,221	6,181	86,553	12,157	33,812	2,643	64,186	10,049	23,023	8,113	15,922	2,287	12,397	2,988	35,237	4,365	12,207	1,154
MCN	258,689	6,683	64,647	10,836	30,645	2,566	67,894	9,600	20,544	7,152	16,193	2,237	8,284	2,117	21,584	1,962	8,315	767
IHR	171,173	3,026	38,807	9,489	16,921	1,647	15,278	2,397	4,241	3,179	4,326	762	836	173	1,427	202	390	39
LMN	180,787	1,784	35,520	10,336	15,613	1,755	19,287	1,612	4,680	3,277	4,108	777	621	274	865	206	238	38
LGS	174,823	2,990	34,330	10,152	14,769	1,744	15,927	2,785	4,204	3,788	3,944	847	439	121	391	96	122	18
LWG	171,958	3,136	33,822	10,318	13,830	1,676	13,737	3,804	3,939	3,756	4,106	857	245	101	247	104	84	18
PRD	50,379	987	20,098	1,092	9,843	292	53,170	3,207	22,306	2,504	14,742	806	3,835	896	9,052	692	2,963	264
RIS	39,785	1,761	14,850	1,558	7,292	362	48,844	13,086	20,251	12,056	12,475	2,102	1,907	1,407	1,693	744	886	247
RRH	15,895	543	5,336	392	1,847	90	39,174	5,548	14,633	4,198	6,239	868	1,979	617	1,059	402	559	214
WEL	9,994	887	2,130	457	869	97	32,888	4,814	6,447	3,709	3,571	703	58	51	40	37	30	13

DAM	Coho						Sockeye			Steelhead			Wild 2001
	2001		2000		10-Yr Avg.		10-Yr			10-Yr			
	Adult	Jack	Adult	Jack	Adult	Jack	2001	2000	Avg.	2001	2000	Avg.	
BON	29,449	1,773	9,136	1,105	1,449	201	114,932	93,398	46,484	469,373	198,264	150,595	130,638
TDA	952	127	1,548	333	189	39	102,709	73,379	36,184	206,098	90,905	59,058	74,022
JDA	265	66	733	107	91	17	107,814	88,364	38,888	110,549	66,946	39,873	39,992
MCN	40	15	230	5	26	2	97,162	60,241	37,145	105,744	40,483	29,941	37,905
IHR	39	7	2	0	0	0	27	215	29	49,012	19,854	15,572	12,346
LMN	3	0	0	0	0	0	32	291	37	49,971	15,562	12,823	13,950
LGS	2	1	0	0	0	0	71	296	38	30,321	9,485	7,463	10,407
LWG	0	0	0	0	0	0	36	298	36	24,720	10,178	9,567	8,455
PRD	27	34	40	6	10	1	111,249	89,541	44,802	14,197	5,436	3,545	**
RIS	31	0	13	0	3	0	104,760	76,505	39,106	11,964	4,152	2,652	7,181
RRH	38	0	9	0	0	0	66,173	57,409	23,318	8,200	2,628	1,701	4,101
WEL	0	0	0	0	0	0	74,408	59,912	22,318	5,635	1,581	1,128	2,541

RIS, RRH are through 8/28; PRD is through 8/29.

WEL is through 08/29 and is from Douglas CO. PUD.

**PRD is not reporting Wild Steelhead numbers.

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.

Two Week Transportation Summary

		08/18/01	TO	08/31/01			
		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	15,330	56	476	20	11,312	27,194
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	0	0	0	0	1,446	1,446
	Sum of Numbertrucked	14,888	56	472	18	9,814	25,248
	Sum of TotalProjectMortalities	442	0	4	2	52	500
LGS	Sum of NumberCollected	6,091	53	543	57	2,600	9,344
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	0	0	0	0	1,773	1,773
	Sum of Numbertrucked	6,539	46	511	48	1,107	8,251
	Sum of TotalProjectMortalities	441	8	44	10	69	572
LMN	Sum of NumberCollected	2,308	45	247	8	3,989	6,597
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	0	0	230	0	3,883	4,113
	Sum of Numbertrucked	2,249	42	15	5	88	2,399
	Sum of TotalProjectMortalities	59	3	2	1	18	83
MCN	Sum of NumberCollected	188,331	202	60	186	246	189,025
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	185,738	197	58	181	238	186,412
	Sum of TotalProjectMortalities	2,593	5	2	5	8	2,613
Total Sum of NumberCollected		212,060	356	1,326	271	18,147	232,160
Total Sum of NumberBarged		0	0	0	0	0	0
Total Sum of NumberBypassed		0	0	230	0	7,102	7,332
Total Sum of Numbertrucked		209,414	341	1,056	252	11,247	222,310
Total Sum of TotalProjectMortalities		3,535	16	52	18	147	3,768

YTD Transportation Summary

TO: **08/31/01**

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	719,895	1,957,920	58,028	4,590	5,575,339	8,315,772
	Sum of NumberBarged	651,045	1,867,778	55,289	4,115	5,270,209	7,848,436
	Sum of NumberBypassed	1	79,198	976	221	266,720	347,116
	Sum of NumberTrucked	65,460	6,546	1,631	237	36,154	110,028
	Sum of TotalProjectMortalities	3,389	4,397	132	17	2,255	10,190
LGS	Sum of NumberCollected	171,604	751,902	21,461	9,813	837,382	1,792,162
	Sum of NumberBarged	144,995	745,094	19,896	9,648	820,895	1,740,528
	Sum of NumberBypassed	2,253	53	44	1	2,371	4,722
	Sum of NumberTrucked	19,123	1,104	1,188	93	4,440	25,948
	Sum of TotalProjectMortalities	5,233	3,721	183	61	5,208	14,406
LMN	Sum of NumberCollected	51,464	553,400	2,621	1,012	357,962	966,459
	Sum of NumberBarged	42,822	529,615	1,868	983	343,630	918,918
	Sum of NumberBypassed	338	16,478	293	0	6,193	23,302
	Sum of NumberTrucked	7,499	5,788	453	20	5,529	19,289
	Sum of TotalProjectMortalities	805	1,519	7	7	2,610	4,948
MCN	Sum of NumberCollected	10,608,579	2,226,007	141,336	268,985	552,268	13,797,175
	Sum of NumberBarged	9,485,902	1,028,023	78,730	127,654	235,335	10,955,644
	Sum of NumberBypassed	470,343	1,172,788	57,784	137,954	304,703	2,143,572
	Sum of NumberTrucked	270,461	314	81	268	473	271,597
	Sum of TotalProjectMortalities	80,078	6,368	887	561	4,083	91,977
Total Sum of NumberCollected		11,551,542	5,489,229	223,446	284,400	7,322,951	24,871,568
Total Sum of NumberBarged		10,324,764	4,170,510	155,783	142,400	6,670,069	21,463,526
Total Sum of NumberBypassed		472,935	1,268,517	59,097	138,176	579,987	2,518,712
Total Sum of NumberTrucked		362,543	13,752	3,353	618	46,596	426,862
Total Sum of TotalProjectMortalities		89,505	16,005	1,209	646	14,156	121,521