



Fish Passage Center

Weekly Report #01 - 22

August 10, 2001

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SIGNIFICANT POINTS

- **Mainstem migration flows continue to be far below the NMFS Biological Opinion targets for summer migrants both in the Snake River and in the Columbia River.**

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. Dworshak reservoir continues to draft for water temperature control and flow enhancement for the main stem Snake River. The Dworshak outflow continues at an average of just over 10.

Reservoir	Elevations (feet) August 3 – August 9
Libby	2436.56 – 2436.48
Hungry Horse	3542.86 – 3542.47
Grand Coulee	1282.10 – 1280.90
Dworshak	1555.36 – 1547.82
Brownlee	2066.45 – 2063.73*

* through August 8

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 36 % of capacity compared to 39 % a week ago. The Payette River system comprised of Cascade and Deadwood reservoirs is at 52% of capacity compared to 55% 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 28% of capacity compared to 32% last week.

Flows: Main stem flows for the summer downstream migrants continue to be far below the NMFS Biological Opinion targets for summer migrants. Flows at McNary averaged 95.5 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, 26.6 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 68.6 kcfs.

Spill: Summer spill for fish passage occurred over the past week at The Dalles and Bonneville dams. At Bonneville Dam spill occurred for 5 hours from 9 pm to 1 am until August 8 when the duration of spill was increased to 24 hours (except during the time period when there is research being conducted that requires no spill). Average hourly spill ranged between 43 and 50 Kcfs. At The Dalles spill averaged 28.3 Kcfs (29.3% of total discharge) 24 hours per day over the past week, with total discharge averaging 92.9 Kcfs.

In the Mid-Columbia spill continued at Wells, Wanapum and Priest Rapids dams. Spill at Wells averaged 5.2 Kcfs over the past week. At Wanapum and Priest Rapids spill averaged 1.9 Kcfs and 1.5 Kcfs, respectively.

Total dissolved gas readings are less than the waiver limits. One fish with bubbles in the unpaired fins was observed this past week at Rock Island Dam.

Smolt Monitoring Program. This week's collections of subyearling chinook dropped 22% at Lower Granite Dam, 8% at Little Goose Dam, and 18% at Lower Monumental Dam. Subyearling chinook passage indices at Rock Island Dam dropped 51%. Daily collections of subyearling chinook were near 50,000 this week at McNary Dam (down 34%). Subyearling chinook collections at John Day Dam dropped 28%. Passage indices of subyearling chinook dropped 22% at Bonneville Dam.

Adult Fish Passage: Summer chinook salmon counts are complete through McNary Dam. The cumulative adult summer chinook salmon count at McNary Dam was 67,915, with about 15,100 tallied at Ice Harbor (Snake River) and nearly 51,500 at Priest Rapids Dam (Mid-Columbia River). Numbers of adult chinook entering the Snake River continued to decline (adult counts were 20 or less per day) while the Priest Rapids counts ranged between 200-800 fish per day through the week. This year's summer chinook count at Priest Rapids Dam will be at least double any previous count total back to 1960, the year when Priest Rapids Dam was completed.

At Bonneville Dam, numbers of adult fall chinook have been between 400-600 per day through the week with the cumulative count now 5,166. This compares with 4,725 for year 2000 and 2,845 for the 10-year average. The adult fall chinook appear to be moving upstream at a fairly consistent rate in contrast to the steelhead that are turning off and holding in the cooler tributaries in the Bonneville and The Dalles pools.

Steelhead passage at Bonneville Dam averaged nearly 11,600 per day through the week ending August 9 with the steelhead count at 329,557, which is about 2.6 and 3.8 times greater than the respective year 2000 and the 10-year average counts. Based on numbers to date, 2001 has already surpassed the previous record-setting run of adult steelhead for the 1986 A-Run group. Returns of unclipped (mostly wild) steelhead have exceeded 104,000 to date. About 25% of the fish counted at Bonneville have arrived at McNary Dam (78,414). The steelhead passage at Ice Harbor Dam averaged about 1,460 per day for the week

with the season total now at 34,412, about 2.9 times more than the 2000 and 3.7 times greater than the 10-year average. Steelhead counts at Mid-Columbia projects were increasing with about 330 per day passing Priest Rapids Dam and totaling 7,960 for the season, about 2.6 times greater than 2000 and 4.6 times the 10-year average. Both the Snake River and upper Columbia River should have record or near record returns based on early passage of adult steelhead into both Reaches to date and the continued high numbers of steelhead still passing Bonneville Dam.

Adult sockeye passage at Priest Rapids Dam through August 8 has exceeded 110,000 with most of these sockeye continuing up into Lake Wenatchee or Lake Osoyoos basins. Sockeye passage is rapidly declining at the upper Mid-Columbia projects. About 104,200 have been counted at Rock Island Dam with about 70% of these fish passing Rocky Reach and Wells dams and destined for Lake Osoyoos. The Snake River sockeye run is 34 adult sockeye counted through August 9 at Lower Granite Dam (does not include video or night counts).

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. Numbers of coho passing Bonneville Dam increased through this week and totaled 118 by week's end. About 75% of the adult coho that pass Bonneville Dam do so in September, so this season's coho count is starting out to be excellent for the upriver returns when compared with year 2000 and the 10-year average (Year 2001 is presently 4.1-4.7 times greater through August 9).

Hatchery Releases: Snake River – Releases of yearling and subyearling chinook, sockeye, and coho salmon and steelhead are completed for the 2001 migration season. About 12,000 sockeye (brood year 2000) were released into Alturas and Pettit Lakes during the past week. Most are expected to migrate from the lakes in 2002.

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. A release of about 300,000 subyearling spring chinook will take place in the Big White Salmon River in the upcoming two weeks. It is anticipated that these fish will migrate during this fall and in spring 2002 (listed as 2001 Migration Year).

8/10/01

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

Date	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
07/27/01	47.0	0.1	49.4	0.0	49.8	3.9	47.1	0.0	46.4	0.0	64.5	19.9	68.0	16.1
07/28/01	39.3	0.1	40.4	0.0	40.4	2.8	41.3	0.0	42.8	0.0	41.0	12.7	45.0	11.3
07/29/01	31.3	0.1	32.4	0.0	31.2	2.8	28.9	0.0	29.7	0.0	48.1	14.9	40.2	9.7
07/30/01	47.2	0.1	45.6	0.0	51.2	5.3	50.9	0.0	49.3	0.0	43.5	13.6	45.5	11.1
07/31/01	45.2	0.1	49.2	0.0	52.7	5.3	52.1	0.0	54.9	0.0	54.4	15.5	55.2	11.6
08/01/01	62.7	0.1	64.6	0.0	62.4	4.6	54.4	0.0	53.4	0.0	58.7	2.0	58.6	1.0
08/02/01	51.5	0.1	53.2	0.0	57.4	4.2	61.8	0.0	62.9	0.0	64.5	2.0	67.6	1.0
08/03/01	48.3	0.1	52.4	0.0	51.3	4.2	51.3	0.0	52.2	0.0	54.5	1.9	55.2	1.0
08/04/01	33.6	0.1	38.3	0.0	40.3	3.2	38.5	0.0	38.9	0.0	47.8	1.9	53.1	0.9
08/05/01	49.7	0.1	46.0	0.0	44.2	3.6	43.5	0.0	45.0	0.0	47.4	1.7	46.3	0.9
08/06/01	82.1	0.1	81.5	0.0	83.5	6.4	83.7	0.0	81.9	0.0	65.2	2.0	59.9	0.9
08/07/01	92.0	0.1	96.6	0.0	95.4	7.3	92.0	0.0	93.4	0.0	102.0	2.4	107.0	4.7
08/08/01	67.0	0.1	72.1	0.0	76.3	6.3	72.6	0.0	73.1	0.0	83.3	1.8	91.4	1.1
08/09/01	68.7	0.1	64.1	0.0	63.6	5.4	62.9	0.0	62.8	0.0	66.9	1.6	67.6	1.0

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

Date	Dworshak		Hells Brownl Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
07/27/01	9.9	0.0	7.1	14.4	29.6	0.0	29.6	0.0	29.7	0.0	30.2	0.0
07/28/01	9.9	0.0	7.0	8.2	27.2	0.0	26.6	0.0	27.0	0.0	24.9	0.0
07/29/01	9.9	0.0	6.1	7.8	23.3	0.0	24.2	0.0	26.0	0.0	26.2	0.0
07/30/01	9.9	0.0	7.3	7.8	23.4	0.0	23.5	0.0	23.9	0.0	23.4	0.0
07/31/01	10.0	0.0	7.6	7.7	23.4	0.0	24.3	0.0	24.5	0.0	23.4	0.0
08/01/01	10.0	0.0	8.1	10.5	24.1	0.0	25.6	0.0	26.0	0.0	25.9	0.0
08/02/01	10.0	0.0	8.0	11.3	26.4	0.0	26.4	0.0	27.9	0.0	27.0	0.0
08/03/01	10.3	0.0	7.6	10.3	27.5	0.0	27.3	0.0	28.6	0.0	28.5	0.0
08/04/01	10.4	0.0	6.7	7.6	27.1	0.0	28.3	0.0	28.9	0.0	27.6	0.0
08/05/01	10.4	0.0	7.7	8.7	24.2	0.0	25.0	0.0	25.2	0.0	24.0	0.0
08/06/01	10.5	0.0	7.8	13.3	24.9	0.0	24.6	0.0	25.8	0.0	25.9	0.0
08/07/01	10.5	0.0	7.0	13.7	27.5	0.0	28.3	0.0	28.2	0.0	26.6	0.0
08/08/01	10.5	0.0	8.4	13.9	26.9	0.0	27.8	0.0	28.5	0.0	26.6	0.0
08/09/01	10.5	0.0	---	---	27.8	0.0	29.0	0.0	---	---	31.2	0.0

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

Date	McNary		John Day		The Dalles		Bonneville			
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
07/27/01	89.1	0.0	89.9	0.0	88.8	21.8	96.7	9.8	0.5	77.9
07/28/01	79.9	0.0	77.8	0.0	79.9	17.3	92.6	9.1	0.5	74.6
07/29/01	69.6	0.0	71.9	0.0	72.5	15.0	79.3	9.0	0.6	61.5
07/30/01	68.6	0.0	70.5	0.0	72.0	15.0	78.0	9.0	0.6	60.2
07/31/01	72.2	0.0	75.2	0.0	76.8	16.7	80.4	9.0	0.5	62.6
08/01/01	72.7	0.0	72.9	0.0	73.6	15.0	80.3	9.3	0.6	62.1
08/02/01	82.0	0.0	69.5	0.0	73.3	15.0	78.1	9.3	0.6	59.9
08/03/01	87.6	0.0	76.1	0.0	74.6	17.8	82.4	8.8	0.5	64.8
08/04/01	85.8	0.0	73.4	0.0	73.2	15.0	80.8	9.5	0.6	62.5
08/05/01	79.3	0.0	83.3	0.0	84.5	21.8	83.0	9.2	0.6	65.0
08/06/01	81.6	0.0	91.5	0.0	89.7	27.0	97.6	9.1	0.6	79.7
08/07/01	98.2	0.0	91.3	0.0	93.5	28.5	100.3	9.1	0.5	82.4
08/08/01	120.5	0.0	117.3	0.0	118.7	41.8	123.2	18.7	6.8	89.9
08/09/01	115.5	0.0	116.2	0.0	116.4	45.9	126.2	33.0	3.2	82.5

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													
	08/02/01	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/06/01	Subyearling Chinook	99	1	0	0.00%	0.00%	0	0	0	0	1	1
	08/06/01	Steelhead	1	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/09/01	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
Bonneville Dam													
	08/03/01	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/06/01	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/09/01	Subyearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
Rock Island Dam													
	08/02/01	Subyearling Chinook	59	1	1	1.69%	0.00%	1	0	0	0	0	0
	08/06/01	Subyearling Chinook	26	2	1	3.84%	0.00%	1	0	0	0	1	1
	08/09/01	Subyearling Chinook	100	1	0	0.00%	0.00%	0	0	0	0	1	1

HATCHERY RELEASE SUMMARY NEXT TWO WEEKS

Hatchery Release Summary									
		From: 7/27/01		to 8/9/01					
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
IDFG	Sawtooth	SO	UN	2002	6,057	7/27/01	7/31/01	Pettit Lake	Salmon River
IDFG	Sawtooth	SO	UN	2002	6,123	7/27/01	7/31/01	Alturas Lake	Salmon River
IDFG Total					12,180				
GRAND TOTAL					12,180				

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. Dnst				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	
7/27	108	109	110	24	105	106	106	24	107	108	108	24	106	107	108	24	109	109	110	23
7/28	108	108	109	24	104	104	105	24	107	107	108	24	106	106	108	20	107	108	108	23
7/29	108	109	110	24	104	105	105	24	107	107	107	24	106	107	109	21	108	109	110	23
7/30	108	109	109	24	105	106	106	24	107	107	107	24	106	107	108	20	108	109	110	23
7/31	106	107	108	24	105	106	106	24	107	107	107	24	105	106	108	24	108	108	109	23
8/1	105	106	107	24	105	106	106	24	106	107	107	24	105	105	107	24	107	108	109	23
8/2	109	110	110	23	106	107	109	23	107	107	110	23	105	106	108	22	107	107	110	23
8/3	109	110	110	24	107	108	109	24	107	107	107	24	106	107	108	24	108	108	108	24
8/4	109	110	110	24	106	106	107	24	107	107	107	24	106	107	109	24	108	108	109	24
8/5	110	110	110	24	106	106	107	24	106	106	106	24	105	106	108	23	107	108	109	23
8/6	109	110	110	24	106	107	108	24	106	106	106	24	104	105	106	24	107	107	107	23
8/7	109	110	110	24	106	107	107	24	106	106	106	24	104	105	107	24	107	107	107	23
8/8	107	109	110	23	105	106	106	24	106	106	106	21	104	105	107	24	106	106	107	23
8/9	103	104	104	24	105	106	107	24	106	106	106	24	104	105	108	24	105	106	106	23

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	Chief J. Dnst				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	
7/27	109	110	111	23	110	111	111	23	109	111	111	23	111	112	112	20	110	111	111	20
7/28	107	108	109	23	109	109	110	23	108	109	109	23	111	111	111	22	110	110	111	22
7/29	107	108	108	23	109	110	112	23	108	109	110	23	110	110	111	23	110	110	110	22
7/30	107	108	109	23	110	110	111	23	109	110	111	23	110	110	110	19	109	110	110	19
7/31	107	108	108	23	109	109	110	24	109	110	110	24	108	108	109	19	108	108	109	19
8/1	107	107	108	23	108	109	111	23	108	109	110	23	107	108	108	21	107	107	107	21
8/2	108	109	112	23	108	109	109	22	108	109	109	22	108	109	109	22	108	109	109	20
8/3	108	108	109	24	108	109	109	24	108	109	110	24	109	109	109	21	109	109	109	21
8/4	108	109	109	24	108	109	109	23	107	108	109	23	109	109	109	20	108	109	109	20
8/5	107	108	109	23	108	109	110	24	107	108	109	24	108	108	109	20	108	108	109	18
8/6	106	107	108	23	108	109	109	22	108	110	110	22	107	108	108	20	107	107	108	20
8/7	106	107	108	23	108	109	109	24	109	110	110	24	108	108	108	21	107	108	108	19
8/8	107	108	109	23	107	107	107	24	108	108	109	24	108	108	109	20	108	108	109	20
8/9	106	106	107	23	108	109	110	23	108	109	109	23	109	109	110	18	109	109	110	17

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	
7/27	109	110	111	22	110	110	111	22	106	107	108	24	110	110	111	24	107	107	108	24
7/28	109	109	109	22	109	110	110	22	106	106	106	24	109	109	111	24	106	107	107	24
7/29	107	109	109	23	108	109	109	23	104	105	105	24	108	109	109	24	106	106	106	24
7/30	108	109	110	24	109	110	110	24	106	106	107	5	109	109	110	24	107	108	109	24
7/31	107	108	109	24	108	109	109	23	105	105	106	21	109	109	110	24	107	107	108	24
8/1	107	107	108	24	108	108	108	24	106	107	108	24	105	106	107	24	108	108	109	24
8/2	107	107	108	23	107	108	108	23	106	107	107	24	106	107	107	24	108	108	109	24
8/3	108	109	109	22	109	109	110	21	107	107	107	24	107	107	108	24	106	107	108	24
8/4	108	108	109	23	109	109	109	22	105	106	107	24	107	107	108	24	106	106	107	24
8/5	107	108	108	23	108	108	109	23	104	105	106	24	106	106	107	24	105	106	108	24
8/6	107	108	109	18	108	108	109	18	106	107	108	19	106	106	107	23	106	106	108	24
8/7	108	108	108	22	108	108	109	22	107	108	109	24	106	107	109	24	106	106	108	24
8/8	107	108	108	22	108	108	109	21	---	---	---	0	---	---	---	0	---	---	---	0
8/9	108	109	110	22	110	111	111	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 Snake River Sites

Date	Priest R. Dnst				Pasco				Dworshak				Clrwtr-Peck				Anatone			
	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	
7/27	107	108	109	24	106	106	108	21	99	100	100	24	102	104	106	24	103	105	108	24
7/28	107	107	108	14	103	104	106	24	99	100	100	24	102	103	104	24	102	104	106	24
7/29	104	104	105	4	102	103	103	24	99	99	100	24	101	102	103	24	101	102	103	24
7/30	107	108	109	17	102	103	103	24	99	100	100	24	101	102	102	24	101	102	103	24
7/31	107	108	109	24	103	104	105	24	99	100	100	24	102	103	104	24	102	104	107	24
8/1	107	108	108	24	103	104	105	21	99	100	100	24	102	103	104	24	102	105	107	24
8/2	107	108	109	24	104	105	106	24	99	100	100	24	102	103	105	24	102	105	107	23
8/3	106	107	108	24	105	106	107	24	100	100	101	24	---	---	---	0	102	104	107	24
8/4	106	106	107	24	103	104	104	24	99	100	100	24	---	---	---	0	101	103	105	24
8/5	105	106	107	24	102	102	103	24	99	100	100	24	101	103	105	24	102	104	106	24
8/6	106	106	107	24	103	104	105	24	99	99	99	24	101	103	104	24	102	104	106	24
8/7	106	107	110	24	104	105	105	21	99	99	100	24	101	103	105	24	102	104	106	24
8/8	---	---	---	0	104	104	104	21	99	99	100	23	101	103	104	23	102	104	107	24
8/9	---	---	---	0	104	104	105	24	99	100	106	24	101	103	106	23	103	105	107	24

Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clrwtr-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		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
7/27	103	105	106	24	103	104	106	24	101	101	102	24	101	101	103	24	98	99	99	24
7/28	101	103	104	24	101	102	102	24	100	100	102	24	99	99	99	24	98	98	99	24
7/29	101	102	103	24	100	101	101	24	100	100	101	24	99	100	100	24	98	99	99	24
7/30	101	102	102	24	101	102	102	24	100	101	107	24	100	100	100	24	99	100	100	24
7/31	102	104	106	24	101	102	103	24	100	100	100	24	99	99	100	24	98	99	99	24
8/1	102	104	105	24	102	103	103	24	99	99	100	24	99	100	101	24	98	99	99	24
8/2	103	105	106	24	104	104	106	24	98	99	100	24	99	99	100	23	98	99	100	23
8/3	103	105	106	24	102	103	105	24	99	100	100	23	100	100	100	24	99	100	100	24
8/4	102	103	104	24	100	101	103	24	100	100	100	24	99	100	101	23	98	98	99	23
8/5	102	105	106	24	107	110	111	24	100	101	101	23	102	103	105	22	99	100	101	22
8/6	103	105	106	24	107	108	108	24	100	101	101	22	106	108	113	24	99	100	100	24
8/7	103	105	107	24	106	106	107	24	100	100	101	24	102	106	114	24	97	98	98	24
8/8	103	105	106	23	106	107	109	23	100	100	101	22	100	102	105	23	98	99	99	24
8/9	103	105	106	24	111	116	117	24	100	101	102	24	108	111	115	23	100	101	102	23

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		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
7/27	100	101	102	23	99	100	101	23	99	100	103	24	100	101	102	24	107	108	108	24
7/28	99	99	100	24	99	99	101	24	97	97	98	24	99	100	101	24	103	104	105	24
7/29	99	100	100	24	99	100	101	24	98	99	99	24	100	101	102	24	102	102	102	24
7/30	100	100	101	24	99	100	102	24	98	98	99	24	100	101	102	24	101	101	102	24
7/31	99	99	100	23	99	100	100	23	97	98	98	24	100	100	101	24	100	100	101	24
8/1	99	100	101	24	99	99	100	24	98	99	100	24	100	100	101	24	99	99	100	24
8/2	99	99	100	24	99	99	100	24	98	99	100	24	100	100	102	24	100	100	101	24
8/3	100	100	102	23	99	100	101	23	99	100	101	24	100	101	101	24	101	102	104	24
8/4	101	101	103	24	99	99	100	24	99	100	101	24	100	100	101	24	102	102	104	24
8/5	101	101	103	24	100	101	101	24	100	101	103	24	100	101	101	24	103	104	105	24
8/6	100	101	103	21	99	100	102	21	100	101	103	24	100	101	101	24	103	104	106	24
8/7	99	100	101	24	99	99	100	24	101	104	107	24	100	100	101	24	103	106	108	23
8/8	102	106	111	24	99	100	102	24	103	105	107	24	100	101	103	24	107	109	111	24
8/9	109	109	110	24	100	101	102	24	104	106	107	24	101	102	102	24	108	109	110	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				
7/27	105	106	107	24	104	104	105	24	98	98	99	23	99	99	99	24	99	99	100	23
7/28	103	104	104	24	102	102	103	24	97	97	98	23	98	99	99	24	99	99	99	23
7/29	102	102	102	24	102	102	103	24	96	96	97	17	99	99	99	24	99	99	99	23
7/30	101	102	102	24	102	102	103	24	97	98	99	23	99	99	99	24	99	99	99	23
7/31	100	100	101	24	101	101	102	24	98	98	98	23	98	99	99	24	99	99	100	23
8/1	99	99	100	24	100	101	101	24	97	98	98	23	99	100	100	24	99	99	99	23
8/2	99	100	102	24	100	101	101	20	97	97	97	23	98	99	99	24	99	99	100	23
8/3	100	100	101	24	101	102	102	24	97	97	98	24	99	99	99	24	99	99	100	24
8/4	101	102	103	24	101	101	102	24	97	97	97	24	99	99	99	24	99	99	99	23
8/5	103	104	105	24	102	102	103	24	97	97	98	23	98	99	99	24	98	98	99	23
8/6	103	103	105	24	102	103	103	24	97	98	98	23	98	98	99	23	98	99	100	23
8/7	104	105	107	24	102	103	103	24	98	98	104	13	98	98	99	23	99	99	99	23
8/8	107	108	111	24	103	104	104	24	101	101	103	13	98	99	99	24	99	99	99	23
8/9	108	109	110	24	104	104	105	24	103	105	107	23	99	100	100	24	98	99	99	18

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	The Dalles Dnst			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				
7/27	106	108	109	24	99	99	100	23	103	105	109	23	101	103	108	23	102	104	106	24
7/28	106	107	108	24	99	100	100	23	102	104	110	23	101	103	108	23	102	103	105	24
7/29	106	107	107	24	100	100	101	23	104	107	110	23	103	104	109	23	101	102	104	24
7/30	107	107	107	24	101	101	101	23	104	106	110	23	103	105	110	23	102	103	104	24
7/31	107	108	108	22	100	100	101	23	104	106	111	23	103	104	110	23	103	103	105	24
8/1	108	109	109	24	101	101	101	23	104	105	109	22	103	105	109	23	103	104	106	24
8/2	108	108	109	24	101	101	101	23	105	107	112	23	104	105	110	23	104	105	107	24
8/3	108	108	109	24	101	101	102	24	105	106	110	24	104	105	109	24	104	106	108	24
8/4	108	108	109	24	101	102	102	24	105	107	111	24	104	106	109	24	103	104	106	24
8/5	108	108	109	24	101	102	102	23	105	106	110	23	104	105	109	23	104	104	106	24
8/6	109	110	111	24	102	102	103	23	104	106	110	23	104	105	108	23	105	106	107	24
8/7	109	109	110	24	102	102	103	23	104	105	110	23	104	105	108	23	104	105	107	24
8/8	109	110	111	24	103	103	104	23	106	108	112	23	105	106	108	23	104	106	108	24
8/9	110	110	110	18	104	105	105	23	110	113	113	23	107	108	109	23	105	107	109	23

Two-Week Summary of Passage Indices

COMBINED YEARLING CHINOOK

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/27/2001	---	---	---	---	0	20	78	0	390	0	0
07/28/2001	---	---	---	---	0	36	18	1	200	0	56
07/29/2001	---	---	---	---	0	40	54	1	600	150	0
07/30/2001	---	---	---	---	0	8	30	0	800	900	35
07/31/2001 *	---	---	---	---	0	20	18	0	100	900	58
08/01/2001 *	---	---	---	---	10	9	12	1	0	1,050	58
08/02/2001	---	---	---	---	10	0	32	0	30	0	58
08/03/2001	---	---	---	---	0	4	16	0	30	0	94
08/04/2001	---	---	---	---	0	0	16	0	200	0	0
08/05/2001	---	---	---	---	0	4	32	0	200	150	0
08/06/2001	---	---	---	---	4	4	28	0	150	150	57
08/07/2001	---	---	---	---	0	0	40	0	0	150	0
08/08/2001	---	---	---	---	0	0	20	0	200	150	56
08/09/2001	---	---	---	---	0	10	16	0	0	300	142
08/10/2001	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	24	155	410	3	2,900	3,900	614
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	2	11	29	0	207	279	44
YTD	12,660	26,732	9,049	527	1,957,830	749,425	553,295	6,575	2,298,834	1,001,581	1,686,995

COMBINED SUBYEARLING CHINOOK

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/27/2001	---	---	---	---	1,835	961	1,212	399	150,520	65,850	11,229
07/28/2001	---	---	---	---	2,095	857	516	211	140,600	72,600	14,413
07/29/2001	---	---	---	---	1,345	1,132	324	166	92,900	62,100	28,850
07/30/2001	---	---	---	---	1,035	1,449	324	176	64,400	73,350	38,384
07/31/2001 *	---	---	---	---	1,610	1,647	276	170	35,100	79,500	26,648
08/01/2001 *	---	---	---	---	1,865	787	156	153	18,300	48,600	17,276
08/02/2001	---	---	---	---	1,120	598	268	98	8,910	38,400	24,465
08/03/2001	---	---	---	---	1,356	1,439	672	74	36,655	26,400	15,278
08/04/2001	---	---	---	---	816	1,379	712	72	50,650	37,350	18,748
08/05/2001	---	---	---	---	1,000	1,219	512	41	47,250	21,600	16,034
08/06/2001	---	---	---	---	1,388	999	672	48	55,800	70,050	11,360
08/07/2001	---	---	---	---	1,272	863	448	143	48,024	60,450	14,999
08/08/2001	---	---	---	---	1,348	427	344	140	46,100	37,200	17,573
08/09/2001	---	---	---	---	1,380	489	280	159	50,650	63,300	31,658
08/10/2001	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	19,465	14,246	6,716	2,050	845,859	756,750	286,915
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	1,390	1,018	480	146	60,419	54,054	20,494
YTD	1	1	13	31	664,330	156,746	47,512	21,752	10,322,151	1,973,554	2,576,407

*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)
07/27/2001	---	---	---	---	90	216	54	17	180	450	0
07/28/2001	---	---	---	---	50	208	12	13	300	600	63
07/29/2001	---	---	---	---	55	68	0	10	0	150	0
07/30/2001	---	---	---	---	65	117	6	11	0	150	0
07/31/2001 *	---	---	---	---	40	72	12	0	100	150	58
08/01/2001 *	---	---	---	---	45	24	12	3	0	150	0
08/02/2001	---	---	---	---	30	72	20	3	0	150	58
08/03/2001	---	---	---	---	40	44	32	3	30	300	0
08/04/2001	---	---	---	---	20	36	24	6	50	300	172
08/05/2001	---	---	---	---	20	32	56	4	100	0	174
08/06/2001	---	---	---	---	48	48	40	1	50	300	0
08/07/2001	---	---	---	---	20	52	40	1	0	300	0
08/08/2001	---	---	---	---	32	52	44	10	50	900	112
08/09/2001	---	---	---	---	28	60	28	5	150	1,200	0
08/10/2001	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	583	1,101	380	87	1,010	5,100	637
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	42	79	27	6	72	364	46
YTD	0	0	0	6	56,703	20,577	2,166	45,385	146,853	65,363	2,162,834

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)
07/27/2001	---	---	---	---	1,655	156	744	5	120	0	29
07/28/2001	---	---	---	---	1,505	142	468	3	0	0	13
07/29/2001	---	---	---	---	1,175	200	444	2	0	0	29
07/30/2001	---	---	---	---	675	98	144	1	0	0	138
07/31/2001 *	---	---	---	---	395	48	90	1	0	0	0
08/01/2001 *	---	---	---	---	295	45	24	0	0	0	115
08/02/2001	---	---	---	---	200	20	40	1	60	0	0
08/03/2001	---	---	---	---	228	28	104	2	30	0	0
08/04/2001	---	---	---	---	204	28	112	3	100	0	0
08/05/2001	---	---	---	---	348	44	100	4	0	0	0
08/06/2001	---	---	---	---	596	40	204	1	0	0	0
08/07/2001	---	---	---	---	700	169	180	3	76	0	0
08/08/2001	---	---	---	---	456	246	320	2	100	0	0
08/09/2001	---	---	---	---	384	194	616	0	50	0	71
08/10/2001	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	8,816	1,458	3,590	28	536	0	395
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	630	104	256	2	38	0	28
YTD	4,567	34,103	4,357	5,399	5,544,372	830,077	348,705	17,832	561,299	189,289	488,647

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)
07/27/2001	---	---	---	---	0	0	12	2	90	0	0
07/28/2001	---	---	---	---	0	4	0	0	100	150	0
07/29/2001	---	---	---	---	0	4	0	2	100	0	0
07/30/2001	---	---	---	---	0	0	0	1	100	0	0
07/31/2001 *	---	---	---	---	0	0	0	4	0	0	0
08/01/2001 *	---	---	---	---	5	0	0	2	0	0	115
08/02/2001	---	---	---	---	5	4	4	0	0	0	0
08/03/2001	---	---	---	---	4	0	4	0	0	0	0
08/04/2001	---	---	---	---	0	0	0	0	100	0	86
08/05/2001	---	---	---	---	4	4	0	0	0	0	0
08/06/2001	---	---	---	---	4	0	0	0	100	0	0
08/07/2001	---	---	---	---	0	0	0	1	0	300	0
08/08/2001	---	---	---	---	0	4	0	1	50	150	0
08/09/2001	---	---	---	---	8	0	4	0	0	0	0
08/10/2001	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	30	20	24	13	640	600	201
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	2	1	2	1	46	43	14
YTD	24	0	0	0	4,545	9,740	1,000	3,003	284,172	103,034	106,296

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: 08/09

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	14,724	30,616	13,554	21,085	3,689	5,166	1,592	4,725	1,266	2,845	433
TDA	302,372	9,953	102,953	14,796	41,161	3,200	71,664	10,902	25,147	10,433	16,934	2,708	2,914	833	1,752	630	995	206
JDA	262,221	6,181	86,553	12,157	33,812	2,643	64,079	9,949	23,023	8,113	15,922	2,287	1,496	476	751	428	403	110
MCN	258,689	6,683	64,647	10,836	30,645	2,566	67,915	9,607	20,544	7,152	16,193	2,237	536	80	183	48	96	20
IHR	171,173	3,026	38,807	9,489	16,921	1,647	15,133	2,377	4,226	3,177	4,316	761	0	0	0	0	0	0
LMN	180,787	1,784	35,520	10,336	15,613	1,755	19,225	1,538	4,652	3,268	4,087	773	0	0	0	0	0	0
LGS	174,823	2,990	34,330	10,152	14,769	1,744	15,879	2,741	4,169	3,773	3,917	843	0	0	0	0	0	0
LWG	171,958	3,136	33,822	10,318	13,830	1,676	13,651	3,802	3,892	3,730	4,070	850	0	0	0	0	0	0
PRD	50,379	987	20,098	1,092	9,843	292	51,622	2,917	21,404	2,284	14,172	737	0	0	0	0	0	0
RIS	39,785	1,761	14,850	1,558	7,292	362	44,373	11,079	18,645	10,991	11,452	1,826	0	0	0	0	0	0
RRH	15,895	543	5,336	392	1,847	90	32,539	4,310	12,577	3,417	12,577	3,417	0	0	0	0	0	0
WEL	9,994	887	2,130	457	869	97	26,514	3,045	5,278	2,287	2,710	455	0	0	0	0	0	0

DAM	Coho						Sockeye			Steelhead			
	2001		2000		10-Yr Avg.		2001	2000	10-Yr Avg.	10-Yr			Wild 2001
	Adult	Jack	Adult	Jack	Adult	Jack				2001	2000	Avg.	
BON	118	9	25	0	29	8	115,011	93,384	46,450	329,557	124,454	85,923	104,638
TDA	0	0	0	0	1	0	102,548	73,348	36,150	158,593	51,236	33,672	62,970
JDA	69	3	2	0	0	0	108,032	88,331	38,850	85,760	36,171	23,405	33,575
MCN	2	0	0	0	0	0	97,205	60,235	37,098	78,414	24,938	17,829	30,239
IHR	0	0	0	0	0	0	26	214	28	34,412	11,821	9,178	9,167
LMN	0	0	0	0	0	0	32	291	36	32,468	9,524	7,664	9,680
LGS	0	0	0	0	0	0	71	292	36	19,460	5,900	4,259	7,153
LWG	0	0	0	0	0	0	34	289	34	17,199	6,301	7,008	6,065
PRD	14	25	37	5	8	0	110,384	89,318	44,528	7,960	3,090	1,730	**
RIS	30	0	12	0	3	0	104,236	76,403	38,439	4,952	2,147	1,198	2,240
RRH	28	0	8	0	0	0	65,756	57,166	22,761	2,955	1,212	713	1,136
WEL	0	0	0	0	0	0	73,660	59,395	21,483	1,591	588	452	736

RIS, RRH are through 8/7 and are from Chelan CO PUD.

WEL is through 8/8 and is from Douglas CO PUD. PRD is through 8/8 and is from Grant CO PUD.

*As Chelan CO PUD does not report wild, these numbers are from the COE.

**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

07/28/01 TO 08/10/01

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	19,465	24	583	30	8,816	28,918
	Sum of NumberBarged	9,789	15	350	0	6,627	16,781
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	9,944	23	254	21	3,005	13,247
	Sum of TotalProjectMortalities	419	1	25	1	90	536
LGS	Sum of NumberCollected	14,246	155	1,101	20	1,458	16,980
	Sum of NumberBarged	7,114	71	770	12	773	8,740
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	7,492	3	346	10	609	8,460
	Sum of TotalProjectMortalities	742	83	33	2	57	917
LMN	Sum of NumberCollected	6,716	410	380	24	3,590	11,120
	Sum of NumberBarged	3,314	192	269	12	2,387	6,174
	Sum of NumberBypassed	0	0	0	0	302	302
	Sum of Numbertrucked	3,706	166	267	8	919	5,066
	Sum of TotalProjectMortalities	206	100	4	1	110	421
MCN	Sum of NumberCollected	845,859	2,900	1,010	640	536	850,945
	Sum of NumberBarged	826,988	2,820	901	629	512	831,850
	Sum of NumberBypassed	2,561	0	0	0	0	2,561
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	16,310	80	109	11	24	16,534
Total Sum of NumberCollected		886,286	3,489	3,074	714	14,400	907,963
Total Sum of NumberBarged		847,205	3,098	2,290	653	10,299	863,545
Total Sum of NumberBypassed		2,561	0	0	0	302	2,863
Total Sum of Numbertrucked		21,142	192	867	39	4,533	26,773
Total Sum of TotalProjectMortalities		17,677	264	171	15	281	18,408

YTD Transportation Summary

TO: 08/10/01

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	664,330	1,957,830	56,703	4,545	5,544,372	8,227,780
	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	265,274	345,670
	Sum of NumberTrucked	9,944	6,456	284	188	6,391	23,263
	Sum of TotalProjectMortalities	1,985	4,397	126	13	2,115	8,636
LGS	Sum of NumberCollected	157,471	751,584	20,586	9,746	831,558	1,770,945
	Sum of NumberBarged	144,995	745,094	19,896	9,648	820,895	1,740,528
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of NumberTrucked	7,492	901	346	38	945	9,722
	Sum of TotalProjectMortalities	4,515	3,659	134	50	5,064	13,422
LMN	Sum of NumberCollected	47,512	553,295	2,166	1,000	348,705	952,678
	Sum of NumberBarged	42,822	529,615	1,868	983	343,630	918,918
	Sum of NumberBypassed	0	16,478	0	0	813	17,291
	Sum of NumberTrucked	3,706	5,685	267	8	1,238	10,904
	Sum of TotalProjectMortalities	710	1,502	5	6	2,565	4,788
MCN	Sum of NumberCollected	10,274,948	2,225,605	141,196	268,704	551,777	13,462,230
	Sum of NumberBarged	9,423,002	1,022,297	76,783	127,046	232,540	10,881,668
	Sum of NumberBypassed	458,819	1,162,074	57,288	136,862	303,005	2,118,048
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	74,859	6,327	872	548	4,065	86,671
Total Sum of NumberCollected		11,144,261	5,488,314	220,651	283,995	7,276,412	24,413,633
Total Sum of NumberBarged		10,261,864	4,164,784	153,836	141,792	6,667,274	21,389,550
Total Sum of NumberBypassed		458,820	1,257,750	58,264	137,083	569,092	2,481,009
Total Sum of NumberTrucked		21,142	13,042	897	234	8,574	43,889
Total Sum of TotalProjectMortalities		82,069	15,885	1,137	617	13,809	113,517

