



Fish Passage Center

Weekly Report #98 - 4

April 10, 1998

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SUMMARY OF EVENTS:

Water Supply: Precipitation for the October-April period varied from 75% at Flathead to 118% for the Klamath basin. Most of precipitation in the basin fell in the 80-100% range. Precipitation distribution for April 1-7 shows high variations with the highest precipitation in Harney/Malheur basin of 287% and lowest for the Cascade/Cowlitz Basin of 19%.

The March Final Runoff Volume Forecast reflected the February weather conditions, showing a 2 to 8 % downturn. The exception to this trend was the area from southwest Oregon to southern Idaho where volumes increased by 2 to 15%. The April Final Runoff Volume Forecast shows a decrease for almost all major sites except Grand Coulee, which increased 1%. The biggest runoff volume decreases are at Snake River sites: Dworshak from 74% to 65% and Brownlee from 88% to 82%. The decreasing trend of the runoff volume forecast resulted in an increase in the flood control elevations for major reservoirs.

The summary of the Runoff Volume Forecasts shows that this year continues to be a below average water year with most sites' runoff in the range of 80-100%. The summary of the Runoff Volumes for different sites through the January-April period is given in the following Table.

Location	Period	January 98 Final		February 98 Final		March 98 Final		April 98 Final	
		MAF	%	MAF	%	MAF	%	MAF	%
Libby	Apr-Sep	5.88	87	6.01	89	5.37	79	5.52	82
Hungry Horse	Apr-Sep	1.66	76	1.79	82	1.62	74	1.62	74
Grand Coulee	Jan-Jul	54.7	86	57.7	91	54.8	87	55.6	88
The Dalles	Jan-Jul	86.4	82	95.2	90	91.7	87	90.8	86
Lower Granite	Jan-Jul	23.0	77	27.1	91	26.4	89	25.0	84
Dworshak	Apr-Jul	2.2	81	2.3	85	2.0	74	1.75	65
Brownlee	Apr-Jul	3.34	58	5.08	88	5.25	91	4.78	82

System Storage and Streamflow: The system continues to be operated for flood control purposes. Earlier in the season some of the major

reservoirs such as Grand Coulee and Dworshak were drafted below flood control elevations for purposes of maintenance work. These operations will result in failure to refill reservoirs by April 20 to the BiOp required flood control elevations and to meet BiOp requested spring flow targets. All system operational requests of Fishery Agencies to prevent this situation earlier in the season have been rejected by the Federal Operating Agencies. Most of the major reservoirs are refilling to their end of April flood control elevations and consequently flows in the system are low.

A summary of actual elevations and Required Flood Control elevations by the end of April is given in the following table:

Reservoir	Actual Elev. [ft] as of 4/9/98	Max. Reservoir Pool [ft]	End of April Flood Control Elev. [ft]
Libby	2392.2	2459.0	NA
Hungry Horse	3510.1	3560.0	3526.7
Grand Coulee	1266.4	1290.0	1281.2
Brownlee	2066.8	2077.0	2073.5
Dworshak	1553.02	1600.0	1595.4*

*required flood control elevation for April 15.

- Libby continues to be on minimum outflow of 4 kcfs through the end of April in order to refill to the end of April Flood Control Elevation.
- Hungry Horse is projected to be on minimum outflow of about 200 cfs and continues to refill to the end of April flood control elevation.
- Grand Coulee is projected to release minimum outflows for Vernita Bar Agreement at Priest Rapids during April and to refill to the end of April Flood Control elevation.
- Brownlee is projected to refill to the end of April Flood Control Elevation. Actual outflow is in the range of 30-32 kcfs.

- Dworshak is projected to remain on minimum outflow of 1.3-1.6 kcfs through April 20 in attempt to refill to the BiOp required April 20 Flood Control Elevation.

Upper Snake reservoirs:

Currently the system is already at the end of April required storage level. The reservoirs will continue to pass inflow through the end of April. The irrigation season may begin in the third week of April, depending on the weather conditions, which will decrease outflows from Milner and consequently flows at Lower Granite.

- Jackson Lake is projected to pass inflow of 0.6 kcfs through the end of April. Currently the reservoir is 76% full
- Palisades is projected to pass inflow through the end of next week. Currently the outflow is 2.6 kcfs and the reservoir is 62% full.
- American Falls is projected to pass inflow of 12.3 kcfs by the end of next week.
- Millner flow at the lowest point of Upper Snake system is projected not to exceed 11 kcfs through the end of April.

The average weekly flows for run-of-the river projects during March 27-April 9 period is given in the following Table:

Project	March 27-April 2	April 3-9
Priest Rapids	112.6 kcfs	71.8 kcfs
McNary	182.1 kcfs	138.9 kcfs
Lower Granite	52.8 kcfs	60.7 kcfs
Bonneville	219.2 kcfs	162.6 kcfs

Spill: System Operational Request #98-9 asked for spill to begin on April 6, 1998 at the Snake River projects, coincident with the drawdown of the Snake projects to minimum operating pools. Spill was implemented as requested. Spill at Lower Granite was initially limited to 30 kcfs for

24-hours till April 10, 1998, due to restrictions placed on spill by the COE because of barge moorage concerns. The COE further limited spill at this project until April 10, 1998 for purposes related to the behavioral guidance structure construction. Spill at Lower Granite to the 120% gas cap during nighttime hours should begin on April 10, 1998.

Spill at Little Goose and Lower Monumental Dam has been provided up to the 120% total dissolved gas cap from 1800 hours to 0600 hours. Spill at Ice Harbor Dam has been provided on a 24-hour basis. However, spill has been managed at this project so TDGS does not exceed the 110% total dissolved gas limit in Oregon waters. The Oregon gas waiver went into effect on April 10, 1998 and, therefore, TDGS levels of 110% are no longer a limitation. Gas Bubble Trauma and Total Dissolved Gas Supersaturation: The COE has been managing total dissolved gas levels in the Lower Snake River to the allowable amounts under the Washington Department of Ecology waiver and at McNary Dam to the Oregon Department of Environmental Quality standard. All other projects are reporting levels of total dissolved gas below 110%. Gas Bubble Trauma monitoring was initiated at Lower Granite, Little Goose, Lower Monumental, McNary, John Day, Rock Island and Bonneville dams this past week. Few fish are being observed with rank 1 (less than 1% of an area) signs at these projects. Ice Harbor sampling was scheduled to begin on April 10, 1998.

Smolt Monitoring. Snake River Drainage. Hatchery chinook numbers increased this week in the trap collections from the lower Salmon (WTB), Imnaha, and Grande Ronde (GRN) rivers as large numbers of fish from McCall, Imnaha, and Lookingglass hatcheries, respectively, began passing those sites. At the Lewiston Snake River trap (LEW), PIT tagged chinook from Dworshak and Lookingglass hatcheries and PIT tagged steelhead from Wallowa Hatchery were present. Lower Granite Dam collections of hatchery fish this week included PIT tagged chinook from Dworshak and Rapid River hatcheries and PIT

tagged steelhead mostly from Wallowa Hatchery. Lower Granite Dam collections of wild fish this week was a mix of PIT tagged wild chinook from each of the tributaries (Salmon, Imnaha, Grande Ronde, and Clearwater rivers) above Lower Granite Dam, while PIT tagged wild steelhead were mostly from the Imnaha and Clearwater rivers.

Columbia River Drainage. This week's collections at Rock Island Dam were dominated by chinook fry (= 60 mm). The McNary Dam collections were dominated by yearling chinook. Most PIT tagged detections to date at McNary Dam have been of holdover fall chinook released above Lower Granite Dam in the Snake and Clearwater rivers last year. A PIT tagged spring chinook from the Umatilla River was detected this week at Bonneville Dam. The new sampling facility at John Day Dam went on line April 8 for post-construction evaluation. All systems performed well and the recaptured test fish were in excellent condition. Calibration of the 3-way rotational gate was done on Thursday April 9. During the system evaluation period, general monitoring of fish passage is continuing at John Day Dam.

Adult Fish Passage: At Bonneville Dam, the cumulative spring chinook count was 3,579 through April 9. This total was only 52% and 48% of the respective 1997 and 10-year average through April 9. Throughout the week, (April 2 - April 9), spring chinook counts ranged between 300 and 600 fish per day, with the higher numbers towards the end of the reporting period. The number of fish passing upstream projects has increased at all lower Columbia River projects, with 986 spring chinook past The Dalles Dam, 333 past John Day Dam and 113 past McNary Dam. As noted last week, these fish began moving up into the Snake River basin with 26 spring chinook migrating past Ice Harbor Dam. Priest Rapids Dam should begin counting adult fish next week.

Adult steelhead continue passing the projects in fairly high numbers with daily counts generally exceeding 100 per day through the past week at Lower Granite Dam. The total

count at Lower Granite Dam since March 15 was 3,311 (of which, 529 were "wild" origin). This compares with 2,880 in 1997 and 4,481 for the 10-yr average. Normally, the spring portion of the upstream steelhead run will peak in March and April.

Regarding adult fish passage facilities, the WA shore fishway at Bonneville Dam continues to operate with one of the two fish turbines. The second turbine will not be back on-line until May 30, 1998 according to the COE. All other COE projects are operating their fishways at full criteria.

Hatchery Releases. During the past two-week period (3/27-4/9) hatcheries in the Columbia River drainage above Bonneville Dam began releasing 9.2 million smolts, and during the next two-week period (4/10-4/23) these hatcheries will begin releasing another 19.2 million smolts.

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
03/27/98	132.7	0.0	127.2	2.2	126.3	0.0	131.0	2.6	131.2	0.0	133.0	16.3	143.7	5.4
03/28/98	128.8	0.0	122.9	0.0	127.6	0.0	134.8	6.0	134.2	0.0	107.3	4.7	120.8	0.0
03/29/98	121.5	0.0	125.1	0.0	138.9	7.5	141.7	6.4	140.8	0.0	99.7	0.0	100.8	0.0
03/30/98	125.3	0.0	125.5	0.0	129.4	0.0	135.4	0.0	137.0	0.0	127.3	0.0	135.4	0.0
03/31/98	88.4	0.0	87.9	0.0	96.1	0.0	99.9	0.0	103.4	0.0	111.8	2.6	122.1	0.0
04/01/98	45.4	0.0	55.9	0.0	64.1	0.0	72.6	0.0	75.6	0.0	85.2	0.0	91.8	0.0
04/02/98	58.1	0.0	60.3	0.0	60.0	0.0	60.8	0.0	56.8	0.0	66.2	0.0	73.3	0.0
04/03/98	61.8	0.0	63.5	0.0	68.6	0.0	73.0	0.0	72.4	0.0	69.5	0.0	71.8	0.0
04/04/98	44.6	0.0	48.6	0.0	59.7	0.0	66.0	0.0	66.4	0.0	66.9	0.0	77.7	0.0
04/05/98	44.3	0.0	44.8	0.0	42.1	0.0	45.8	0.0	45.0	0.0	66.5	0.0	71.0	0.0
04/06/98	54.0	0.0	56.5	0.0	59.6	0.0	61.7	0.0	62.7	0.0	60.9	0.0	69.1	0.0
04/07/98	67.6	0.0	66.8	0.0	70.5	0.0	71.4	0.0	70.8	0.0	72.9	0.0	69.0	0.0
04/08/98	69.6	0.0	72.7	0.0	72.9	0.0	72.9	0.0	74.1	0.0	65.8	0.0	75.2	0.0
04/09/98	68.7	0.0	69.8	0.0	75.6	0.0	84.6	0.0	85.5	0.0	66.8	0.0	68.9	0.0

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

Date	Dworshak		Brownlee		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
03/27/98	2.2	0.0	---	---	83.2	13.4	84.5	6.2	89.9	13.5	93.0	33.8
03/28/98	1.3	0.0	---	---	63.4	0.0	63.6	0.0	68.4	0.0	72.5	9.8
03/29/98	1.3	0.0	---	---	60.5	0.0	60.7	0.0	68.1	0.0	66.2	3.7
03/30/98	1.3	0.0	---	---	57.7	0.0	65.3	0.0	57.8	0.0	58.7	0.0
03/31/98	1.3	0.0	---	---	61.1	0.0	62.1	0.0	65.7	0.5	60.4	0.0
04/01/98	1.3	0.0	---	---	44.0	0.0	44.9	0.0	49.8	0.0	52.5	0.0
04/02/98	1.3	0.0	---	---	53.4	0.0	54.7	0.0	58.0	0.0	57.4	0.0
04/03/98	1.3	0.0	---	---	53.8	0.0	56.4	0.0	59.1	0.0	60.1	0.0
04/04/98	1.3	0.0	---	---	55.6	0.0	57.1	0.0	60.2	0.0	58.8	0.0
04/05/98	1.2	0.0	---	---	58.2	0.0	60.4	0.0	62.4	0.0	59.5	0.0
04/06/98	1.3	0.0	---	---	64.4	7.6	71.0	15.0	77.0	9.8	76.5	11.5
04/07/98	1.3	0.0	---	---	68.7	29.1	74.5	29.8	78.7	19.7	83.3	45.0
04/08/98	1.3	0.0	---	---	63.0	28.9	57.8	28.4	63.1	20.1	66.1	47.4
04/09/98	1.3	0.0	---	---	61.3	28.9	57.4	24.6	61.4	19.7	67.3	55.2

**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
03/27/98	241.1	62.7	279.5	54.8	288.8	60.7	307.3	112.5	72.5	113.0
03/28/98	215.3	41.0	234.0	0.0	227.3	0.0	249.8	53.3	68.4	118.8
03/29/98	159.6	0.0	189.3	0.0	191.0	0.0	213.4	13.9	73.7	116.6
03/30/98	164.6	0.0	185.5	0.0	191.8	0.0	196.3	0.0	68.5	118.6
03/31/98	192.9	26.7	193.5	0.0	192.3	0.0	197.3	0.0	67.6	120.5
04/01/98	153.7	0.0	167.2	0.0	172.9	0.0	185.1	0.0	68.0	107.9
04/02/98	147.6	0.0	160.7	0.0	165.9	0.0	185.3	0.0	59.2	116.9
04/03/98	137.0	0.0	154.3	0.0	160.2	0.0	171.1	0.0	60.2	101.7
04/04/98	138.8	0.0	143.9	0.0	146.6	0.0	150.0	0.0	61.5	79.3
04/05/98	131.3	0.0	147.0	0.0	146.4	0.0	154.5	0.0	62.2	83.1
04/06/98	148.1	0.0	159.3	0.0	160.1	0.0	169.2	0.0	60.4	99.6
04/07/98	149.9	0.0	159.3	0.0	162.1	0.0	169.7	0.0	62.0	98.5
04/08/98	137.4	0.0	169.5	0.0	170.9	0.0	175.6	0.0	59.3	107.1
04/09/98	129.9	0.0	140.2	0.0	143.0	0.0	148.4	0.0	64.4	74.8

These data were obtained from the Corps of Engineers through their CAFE reports #96 and #71.

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

		Number of Fish with Fin GBT										
		Listed by Highest Rank								Lateral Line GBT		
		Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Rank 1	Rank 2	Rank 3	Rank 4	Tot. Fish	Avg. Rank
Lower Granite Dam												
04/06/98	Yearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
04/06/98	Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	0	0
04/08/98	Yearling Chinook	64	2	1	1.56%	0.00%	1	0	0	0	1	1
04/08/98	Steelhead	100	3	0	0.00%	0.00%	0	0	0	0	3	1
Little Goose Dam												
04/09/98	Yearling Chinook	8	0	0	0.00%	0.00%	0	0	0	0	0	0
04/09/98	Steelhead	35	0	0	0.00%	0.00%	0	0	0	0	0	0
Lower Monumental Dam												
04/06/98	Yearling Chinook	38	1	1	2.63%	0.00%	1	0	0	0	0	0
04/06/98	Steelhead	25	0	0	0.00%	0.00%	0	0	0	0	0	0
04/08/98	Yearling Chinook	33	1	0	0.00%	0.00%	0	0	0	0	1	1
04/08/98	Steelhead	34	0	0	0.00%	0.00%	0	0	0	0	0	0
McNary Dam												
04/07/98	Yearling Chinook	12	0	0	0.00%	0.00%	0	0	0	0	0	0
04/07/98	Steelhead	1	0	0	0.00%	0.00%	0	0	0	0	0	0
04/09/98	Yearling Chinook	108	2	0	0.00%	0.00%	0	0	0	0	2	1
04/09/98	Steelhead	5	1	0	0.00%	0.00%	0	0	0	0	1	1
Bonneville Dam												
04/06/98	Steelhead	10	0	0	0.00%	0.00%	0	0	0	0	0	0
04/07/98	Yearling Chinook	28	1	1	3.57%	0.00%	1	0	0	0	0	0
04/08/98	Steelhead	8	0	0	0.00%	0.00%	0	0	0	0	0	0
04/09/98	Yearling Chinook	50	1	0	0.00%	0.00%	0	0	0	0	1	1
Rock Island Dam												
04/06/98	Yearling Chinook	28	0	0	0.00%	0.00%	0	0	0	0	0	0
04/06/98	Steelhead	1	0	0	0.00%	0.00%	0	0	0	0	0	0
04/08/98	Yearling Chinook	19	1	0	0.00%	0.00%	0	0	0	0	1	1
04/08/98	Steelhead	3	0	0	0.00%	0.00%	0	0	0	0	0	0

Hatchery Release Summary
Schedule for Last Two Weeks
From 03/27/98 to 04/09/98

Hatchery	Species	FPC LotID	Number Released	Release Dates		Release Site	River Name
				Begin	End		
IDFG							
Clearwater	SP Chinook	98004	8,900	04/01/98	04/15/98	Selway R	Clearwater River, Main Fk
	SP Chinook	98002	206,000	04/07/98	04/10/98	Crooked R Accl Pd	S Fk Clearwater River
	SP Chinook	98003	51,530	04/07/98	04/07/98	Red River Acclim Pd	S Fk Clearwater River
Magic Valley	SU Steelhead	98118	50,000	04/01/98	04/01/98	Squaw Cr Acclim Pd	Salmon River
McCall	SU Chinook	98009	370,000	03/31/98	04/09/98	S Fk Salmon R	Salmon River
	SU Chinook	98010	24,900	04/01/98	04/15/98	S Fk Salmon R	Salmon River
Niagara Springs	SU Steelhead	98120	660,720	03/23/98	04/06/98	Hells Canyon Dam	Snake River
	SU Steelhead	98122	29,400	04/07/98	04/07/98	Pine Bar/Salmon R	Salmon River
	SU Steelhead	98123	141,980	04/08/98	04/10/98	Hammer Cr	Salmon River
Powell	SP Chinook	98001	244,900	04/08/98	04/08/98	Powell Acclim Pd	Lochsa River
Rapid River	SP Chinook	98007	896,250	03/16/98	04/10/98	Rapid River H	Little Salmon River
	Agency Total:		2,684,580				
Nez Perce Tribe							
Lyons Ferry	FA Chinook	98044	135,710	04/01/98	04/15/98	Cpt John Accl Pd	Snake River
	FA Chinook	98043	76,571	04/01/98	04/15/98	Clearwater R	Clearwater River, Main Fk
	FA Chinook	98042	147,585	04/01/98	04/15/98	Pittsburg Landing	Snake River
	Agency Total:		359,866				
ODFW							
Big Canyon	SU Steelhead	98104	97,500	03/31/98	03/31/98	Big Canyon H	Grande Ronde River
	SU Steelhead	98103	97,500	04/01/98	04/15/98	Big Canyon H	Grande Ronde River
Cascade	Coho	98054	1,000,000	04/01/98	04/10/98	Umatilla R	Umatilla River
Imnaha	SU Chinook	98098	93,109	04/06/98	04/07/98	Imnaha Acclim Pd	Imnaha River
Irrigon	SU Steelhead	98099	200,000	04/06/98	04/08/98	Grande Ronde R	Grande Ronde River
	SU Steelhead	98100	62,500	04/09/98	04/09/98	Catherine Cr	Grande Ronde River
Lookingglass	SP Chinook	98097	293,000	04/06/98	04/10/98	Lookingglass H	Grande Ronde River
Round Butte	SU Steelhead	98129	162,000	04/06/98	04/09/98	Bel. Pelton Dam	Deschutes River
Wallowa	SU Steelhead	98101	186,100	03/25/98	04/08/98	Wallowa Acclim Pd	Grande Ronde River
	Agency Total:		2,191,709				
USFWS							
Entiat	SP Chinook	98063	350,784	04/01/98	04/15/98	Entiat H	Entiat River
Hagerman	SU Steelhead	98067	605,000	03/31/98	04/30/98	Sawtooth H	Salmon River
	SU Steelhead	98065	60,000	03/31/98	04/30/98	Sawtooth H	Salmon River
Kooskia	SP Chinook	98013	77,000	03/30/98	03/30/98	Kooskia H	Mid Fk Clearwater River
Warm Springs	SP Chinook	98076	665,000	03/25/98	04/15/98	Warm Springs R	Deschutes River
	Agency Total:		1,757,784				

**Hatchery Release Summary
Schedule for Last Two Weeks
From 03/27/98 to 04/09/98**

Hatchery	Species	FPC LotID	Number Released	Release Dates		Release Site	River Name
				Begin	End		
WDFW							
Chewuch	SP Chinook	98025	92,500	04/06/98	04/20/98	Chewuch R	Methow River
East Bank	SU Chinook	98016	624,000	04/01/98	05/15/98	Dryden Accl Pd	Wenatchee River
	SP Chinook	98015	15,000	04/01/98	04/30/98	Chiwawa H	Wenatchee River
Lyons Ferry	FA Chinook	98041	450,000	04/01/98	04/15/98	Lyons Ferry H	Snake River
Methow	SP Chinook	98026	78,000	04/06/98	04/20/98	Twisp R	Methow River
	SP Chinook	98024	202,000	04/06/98	04/20/98	Methow H	Methow River
Ringold	SP Chinook	98139	450,000	04/01/98	04/04/98	Ringold Springs H	Mid-Columbia River
Tucannon	SP Chinook	98039	15,000	03/12/98	04/15/98	Tucannon H	Tucannon River
	SP Chinook	98038	49,000	03/12/98	04/15/98	Curl Lake	Tucannon River
	SP Chinook	98040	15,000	04/03/98	04/03/98	Tucannon R	Tucannon River
	Agency Total:		1,990,500				
Warm Springs Tribe							
Oak Springs	SU Steelhead	98133	60,000	04/08/98	04/10/98	Hood R	Hood River
Round Butte	SP Chinook	98134	62,000	04/06/98	04/13/98	Hood R	Hood River
	Agency Total:		122,000				
Yakama Tribe							
Lost Creek	Coho	98147	99,270	03/30/98	03/31/98	Naches R	Yakama River
	Agency Total:		99,270				
	Total Release:		9,205,709				

Hatchery Release Summary
Schedule for Next Two Weeks
From 04/10/98 to 04/23/98

Hatchery	Species	FPC LotID	Number Released	Release Dates		Release Site	River Name
				Begin	End		
IDFG							
Clearwater	SU Steelhead	98084	207,900	04/20/98	04/20/98	Clear Cr	Clearwater River, Main Fk
Magic Valley	SU Steelhead	98008	285,000	04/13/98	04/15/98	Little Salmon R	Salmon River
	SU Steelhead	98112	144,000	04/15/98	04/16/98	McNabb/Salmon R	Salmon River
	SU Steelhead	98113	150,000	04/16/98	04/17/98	Bruno/Salmon	Salmon River
	SU Steelhead	98111	120,000	04/20/98	04/21/98	Lemhi R	Salmon River
	SU Steelhead	98114	292,000	04/21/98	04/23/98	N Fk Salmon R	Salmon River
Niagara Springs	SU Steelhead	98119	830,000	04/12/98	05/02/98	Pahsimeroi H	Pahsimeroi River
Pahsimeroi	SU Chinook	98011	65,100	04/15/98	04/25/98	Pahsimeroi H	Pahsimeroi River
Sawtooth	SP Chinook	98012	43,200	04/10/98	04/22/98	Sawtooth H	Salmon River
	Agency Total:		2,137,200				
ODFW							
Li Sheep	SU Steelhead	98109	82,000	04/23/98	04/23/98	L Sheep Acclim Pd	Imnaha River
Round Butte	SP Chinook	98130	50,000	04/13/98	04/14/98	Bel. Pelton Dam	Deschutes River
	SP Chinook	98128	280,000	04/20/98	04/23/98	Bel. Pelton Dam	Deschutes River
Agency Total:		412,000					
Umatilla Tribe							
Bonifer	SU Steelhead	98051	50,000	04/10/98	04/20/98	Bonifer H	Umatilla River
Minthorn	SU Steelhead	98053	50,000	04/10/98	04/20/98	Minthorn Acclim Pd	Umatilla River
Thornhollow	SP Chinook	98050	100,000	04/10/98	04/20/98	Thornhollow Acclim Pd	Umatilla River
	FA Chinook	98046	225,000	04/10/98	04/20/98	Thornhollow Acclim Pd	Umatilla River
Agency Total:		425,000					
USFWS							
Carson	SP Chinook	98059	1,733,500	04/15/98	04/15/98	Carson H	Wind River
Dworshak	SU Steelhead	98060	520,000	04/20/98	04/28/98	S Fk Clearwater R	Clearwater River, Main Fk
	SU Steelhead	98061	380,000	04/20/98	04/28/98	Kooskia H	Clearwater River, Main Fk
Hagerman	SU Steelhead	98068	361,000	04/13/98	04/30/98	Little Salmon R	Salmon River
Leavenworth	SP Chinook	98069	1,700,000	04/20/98	04/20/98	Leavenworth H	Wenatchee River
L White Salmon	SP Chinook	98070	1,070,000	04/15/98	04/15/98	Little White Salmon H	Little White Salmon River
Spring Creek	SP Chinook	98057	150,000	04/16/98	04/16/98	White Salmon R	Columbia River
	FA Chinook	98074	4,200,000	04/20/98	04/20/98	Spring Creek H	Columbia River
Willard	Coho	98077	1,800,000	04/15/98	04/15/98	Little White Salmon R	Columbia River
Winthrop	SP Chinook	98078	325,000	04/14/98	04/14/98	Winthrop H	Methow River
Agency Total:		12,239,500					

**Hatchery Release Summary
Schedule for Next Two Weeks
From 04/10/98 to 04/23/98**

Hatchery	Species	FPC LotID	Number Released	Release Dates		Release Site	River Name
				Begin	End		
WDFW							
East Bank	SU Steelhead	98020	276,000	04/15/98	05/05/98	Wenatchee R	Wenatchee River
Klickitat	Coho	98095	1,000,000	04/20/98	06/10/98	Klickitat H	Klickitat River
Lyons Ferry	SU Steelhead	98033	80,000	04/15/98	04/30/98	Lyons Ferry H	Snake River
	SU Steelhead	98036	160,000	04/15/98	04/30/98	Tucannon R	Snake River
	SU Steelhead	98034	300,000	04/15/98	04/30/98	Cottonwood Accl Pd	Grande Ronde River
	SU Steelhead	98035	140,000	04/15/98	04/30/98	Dayton Acclim Pd	Wallowa River
	SU Steelhead	98037	135,000	04/15/98	04/30/98	Walla Walla R	Walla Walla River
Methow	SU Chinook	98017	340,000	04/10/98	04/10/98	Carlton Accl Pd	Methow River
Ringold	SU Steelhead	98141	180,000	04/15/98	04/30/98	Ringold Springs H	Mid-Columbia River
Turtle Rock	SU Chinook	98023	207,000	04/10/98	04/20/98	Turtle Rock H	Mid-Columbia River
	SU Steelhead	98019	146,300	04/10/98	05/05/98	Wenatchee R	Wenatchee River
Wells	SU Chinook	98027	357,000	04/15/98	04/20/98	Wells H	Mid-Columbia River
	SU Steelhead	98028	50,000	04/15/98	05/05/98	Similkameen Acclim Pd	Okanogan River
	SU Steelhead	98029	50,000	04/15/98	05/05/98	Okanogan R	Mid-Columbia River
	SU Steelhead	98030	50,000	04/15/98	05/05/98	Effy Bridge	Methow River
	SU Steelhead	98031	300,000	04/15/98	05/05/98	Methow R	Mid-Columbia River
Agency Total:			3,771,300				
Warm Springs Tribe							
Oak Springs	WI Steelhead	98131	30,000	04/13/98	04/19/98	E Fk Hood R	Hood River
Round Butte	SP Chinook	98135	62,000	04/20/98	05/02/98	Hood R	Hood River
Agency Total:			92,000				
Yakama Tribe							
Lewis River	Coho	98143	138,000	04/15/98	04/30/98	Klickitat R	Klickitat River
Agency Total:			138,000				
Total Release:			19,215,000				

Total Dissolved Gas Saturation (%) - Average of
12 Highest Hours, 24 h Average and 24 h High²

Total Dissolved Gas Saturation Data at Upper Columbia Sites

Date	Can. Boundary			Grand Coulee				Tlwr G. Coulee				Chief Joseph				Wells			Rocky Reach					
	24 h	12 h	#	24 h	12 h	#	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	Avg	Avg	High	hr	Avg	Avg	High	hr	
3/27	105	107	113	24	105	105	105	23	103	103	105	23	---	---	---	0	---	---	---	0	---	---	---	0
3/28	108	111	112	24	105	106	107	23	103	103	103	23	---	---	---	0	---	---	---	0	---	---	---	0
3/29	107	109	113	24	104	105	105	23	103	103	104	23	---	---	---	0	---	---	---	0	---	---	---	0
3/30	109	112	113	23	105	105	106	19	103	103	104	19	---	---	---	0	---	---	---	0	---	---	---	0
3/31	106	108	112	24	105	105	105	23	103	104	105	23	---	---	---	0	---	---	---	0	---	---	---	0
4/1	106	109	114	24	105	105	106	23	104	105	106	23	---	---	---	0	---	---	---	0	---	---	---	0
4/2	103	103	104	24	105	106	106	23	104	104	105	23	103	104	105	22	---	---	---	0	105	105	106	8
4/3	109	112	113	24	106	106	107	23	104	104	106	23	105	106	106	24	---	---	---	0	105	105	106	22
4/4	104	104	108	24	106	107	108	23	105	105	106	23	106	106	107	22	---	---	---	0	106	106	106	23
4/5	103	103	104	15	106	106	108	16	104	105	105	16	105	105	106	16	---	---	---	0	---	---	---	0
4/6	104	104	104	24	107	108	108	24	104	105	106	24	106	107	107	23	---	---	---	0	107	107	108	19
4/7	104	105	111	24	107	108	109	24	104	104	105	24	106	106	107	24	---	---	---	0	107	107	108	23
4/8	108	112	114	24	106	106	107	24	103	103	104	24	105	106	106	24	---	---	---	0	106	107	108	23
4/9	108	112	114	20	106	107	108	20	103	104	105	20	106	107	107	22	---	---	---	0	108	108	109	23

Total Dissolved Gas Saturation Data at Mid Columbia Sites

Date	Tlwr. Rocky R.			Rock Island				Tlwr. Rock Island				Wanapum			Tlwr. Wanapum			Priest Rapids						
	24 h	12 h	#	24 h	12 h	#	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	Avg	Avg	High	hr	Avg	Avg	High	hr	
3/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	111	114	119	23
3/28	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	110	112	119	23
3/29	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	108	108	111	17
3/30	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	106	106	106	23
3/31	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	106	106	106	11
4/1	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
4/2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
4/3	---	---	---	0	---	---	---	0	105	105	105	13	---	---	---	0	---	---	---	0	---	---	---	0
4/4	---	---	---	0	---	---	---	0	105	106	106	22	---	---	---	0	---	---	---	0	---	---	---	0
4/5	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
4/6	---	---	---	0	120	129	146	19	106	106	106	18	---	---	---	0	---	---	---	0	---	---	---	0
4/7	---	---	---	0	104	104	105	23	106	106	106	23	---	---	---	0	---	---	---	0	---	---	---	0
4/8	---	---	---	0	104	104	104	23	106	106	106	22	---	---	---	0	---	---	---	0	---	---	---	0
4/9	---	---	---	0	104	105	105	23	106	106	106	23	---	---	---	0	---	---	---	0	---	---	---	0

Total Dissolved Gas Saturation at Mid Columbia, Clearwater and Snake Sites

Date	Dwnstr P Rapids			Dworshak				Clearwater				Snake-Lewiston				Lower Granite			Tlwr L. Granite					
	24 h	12 h	#	24 h	12 h	#	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	Avg	Avg	High	hr	Avg	Avg	High	hr	
3/27	---	---	---	0	105	109	110	24	---	---	---	0	---	---	---	0	---	---	---	0	108	111	111	24
3/28	---	---	---	0	109	110	111	24	---	---	---	0	---	---	---	0	---	---	---	0	101	101	101	24
3/29	---	---	---	0	109	110	111	24	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	24
3/30	---	---	---	0	109	109	111	24	---	---	---	0	---	---	---	0	---	---	---	0	100	100	101	24
3/31	---	---	---	0	109	110	112	24	---	---	---	0	---	---	---	0	102	102	102	24	101	101	101	24
4/1	---	---	---	0	109	110	111	24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
4/2	---	---	---	0	108	109	109	24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
4/3	---	---	---	0	109	109	110	24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
4/4	---	---	---	0	108	109	109	24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
4/5	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	104	104	104	24	102	102	103	24
4/6	---	---	---	0	109	109	111	22	---	---	---	0	---	---	---	0	105	105	107	23	105	108	114	23
4/7	---	---	---	0	101	101	101	24	---	---	---	0	101	102	103	24	104	104	105	24	109	111	113	24
4/8	---	---	---	0	101	102	103	24	---	---	---	0	102	103	105	24	103	105	106	24	109	109	110	24
4/9	---	---	---	0	108	109	110	24	101	101	101	14	101	101	102	12	104	105	105	24	108	109	109	24

¹ Data provided by the Corps of Engineers.

² Dissolved gas readings and averages have been rounded to the nearest integer.

Total Dissolved Gas Saturation (%) - Average of
12 Highest Hours, 24 h Average and 24 h High²

Total Dissolved Gas Saturation Data at Snake Sites

Date	Little Goose			Tlwr L. Goose				Lower Mon.			Tlwr L. Mon				Ice Harbor			Tlwr Ice Harbor						
	24 h	12 h	#	24 h	12 h	#	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	Avg	Avg	High	hr	Avg	Avg	High	hr	
3/27	---	---	---	0	---	---	---	0	105	106	107	24	116	120	126	23	106	106	107	24	113	114	115	24
3/28	---	---	---	0	---	---	---	0	104	105	105	24	107	108	111	17	105	105	106	24	108	109	109	24
3/29	---	---	---	0	---	---	---	0	104	105	107	24	105	105	106	20	105	106	108	24	107	108	109	24
3/30	---	---	---	0	---	---	---	0	103	103	104	24	104	105	105	24	105	105	106	24	105	106	106	24
3/31	---	---	---	0	---	---	---	0	103	103	103	24	104	105	109	24	104	104	104	23	104	104	105	23
4/1	---	---	---	0	---	---	---	0	102	102	103	21	104	104	104	21	104	104	106	21	104	104	104	21
4/2	---	---	---	0	---	---	---	0	103	103	104	21	103	104	104	21	102	102	103	21	102	102	103	21
4/3	---	---	---	0	---	---	---	0	103	103	104	21	104	104	105	21	102	102	103	21	102	102	103	21
4/4	---	---	---	0	---	---	---	0	102	102	102	21	104	104	104	21	102	103	104	21	103	103	104	21
4/5	---	---	---	0	---	---	---	0	101	101	101	22	103	103	104	22	103	103	104	23	103	103	104	23
4/6	---	---	---	0	---	---	---	0	101	101	102	22	106	109	121	22	102	103	104	24	106	109	114	24
4/7	102	102	103	24	113	121	122	23	100	100	101	24	114	120	121	22	99	100	101	24	114	114	114	24
4/8	102	102	103	24	113	122	123	24	103	105	110	24	114	120	121	23	103	106	108	24	114	114	114	24
4/9	102	102	103	6	121	121	123	7	111	113	115	21	118	120	121	21	107	107	108	9	114	114	115	9

Total Dissolved Gas Saturation Data at Lower Columbia Sites

Date	McNary-Oregon			McNary-Wash.				Tlwr McNary			John Day			Tlwr John Day			The Dalles							
	24 h	12 h	#	24 h	12 h	#	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	Avg	Avg	High	hr	Avg	Avg	High	hr	
3/27	104	104	105	24	104	104	104	24	113	115	116	24	104	104	104	24	113	115	120	17	106	107	111	24
3/28	105	105	106	24	105	106	106	24	113	114	116	24	104	104	105	24	104	104	104	17	104	104	106	24
3/29	106	107	108	24	107	108	109	24	107	107	107	24	103	103	103	24	103	103	103	17	103	103	103	24
3/30	106	106	107	24	107	108	108	24	107	107	108	24	103	103	104	24	102	103	103	17	103	103	103	24
3/31	105	106	106	24	106	106	107	24	109	113	114	24	104	104	106	24	103	103	104	15	103	103	103	24
4/1	105	106	106	24	106	107	108	24	105	105	106	24	104	104	105	24	---	---	---	0	103	104	104	23
4/2	104	105	105	24	105	106	106	24	105	105	105	24	104	104	105	24	103	103	103	18	103	103	104	24
4/3	104	104	105	24	105	105	106	24	104	104	105	24	105	105	107	24	101	101	103	12	104	104	105	24
4/4	105	106	109	24	105	105	106	24	105	105	105	24	105	105	105	22	99	99	99	17	104	104	105	22
4/5	105	105	107	23	105	106	106	23	105	105	106	23	105	105	105	15	99	99	99	12	104	104	104	15
4/6	106	107	109	24	106	106	106	24	105	105	106	24	105	105	105	20	100	100	100	9	104	104	104	19
4/7	103	104	106	24	104	105	105	24	104	104	105	24	104	104	105	24	103	103	104	14	103	103	104	24
4/8	104	106	110	23	104	106	108	24	104	105	105	24	103	104	104	24	103	103	103	24	103	103	103	24
4/9	104	105	107	23	107	108	110	23	105	105	106	23	104	104	105	22	103	103	103	24	104	104	104	22

Total Dissolved Gas Saturation Data at Lower Columbia Sites

Date	Dnstr T. Dalles			Bonneville				Warrendale			Skamania			Camas\Wash.			Wauna Mill							
	24 h	12 h	#	24 h	12 h	#	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	Avg	Avg	High	hr	Avg	Avg	High	hr	
3/27	111	114	119	23	107	108	110	24	114	115	117	24	111	113	115	24	110	112	113	23	105	106	107	23
3/28	104	104	106	23	110	112	114	24	115	119	142	24	109	111	113	24	111	112	113	23	106	106	107	23
3/29	102	102	103	23	106	107	108	24	108	111	113	24	106	107	108	24	110	111	113	23	106	107	108	23
3/30	102	102	103	23	103	103	104	24	104	104	104	24	103	103	103	24	105	105	107	23	107	108	108	23
3/31	102	102	103	23	103	103	103	24	103	103	104	24	102	103	103	24	103	103	104	23	107	108	108	23
4/1	103	104	104	23	103	103	103	4	103	103	104	19	102	102	103	24	102	103	104	23	106	106	107	23
4/2	103	103	104	23	102	102	103	22	102	102	103	24	102	102	103	24	102	102	103	23	104	104	104	23
4/3	104	104	105	23	103	103	104	24	103	103	104	24	102	103	104	24	102	103	103	23	103	103	104	23
4/4	104	104	105	23	103	104	104	22	104	104	104	22	102	103	103	22	103	104	104	23	103	103	104	23
4/5	103	104	104	15	103	103	103	1	104	104	104	15	102	103	104	15	103	103	105	15	103	103	103	15
4/6	104	104	104	19	104	104	104	23	104	104	105	23	103	104	105	23	104	104	105	23	103	104	104	23
4/7	103	103	103	23	103	103	104	24	103	103	104	24	102	102	103	24	103	103	104	24	102	103	103	24
4/8	103	103	104	24	103	103	103	24	103	104	104	24	102	103	104	24	103	104	104	24	103	103	104	24
4/9	104	104	104	23	103	104	104	22	103	104	104	22	103	104	104	22	103	104	104	23	104	104	104	23

¹ Data provided by the Corps of Engineers.

² Dissolved gas readings and averages have been rounded to the nearest integer.

Two-Week Summary of Passage Indices

Yearling Chinook

Date	Hatchery							Hatchery/Wild Combined			
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
03/27/98	472	0	0	11	44	---	---	---	---	---	797
03/28/98	---	---	---	---	103	---	---	---	---	---	309
03/29/98	---	---	---	---	30	---	---	---	---	---	166
03/30/98	23	0	0	28	210	---	---	---	84	---	186
03/31/98	28	0	0	3	380	---	---	---	0	---	145
04/01/98	23	0	0	4	720	---	---	91	0	---	372
04/02/98	24	0	0	4	650	---	20	75	0	---	274
04/03/98	36	0	0	4	1,820	49	20	102	430	---	183
04/04/98	---	---	---	---	3,226	92	120	57	5,230	---	110
04/05/98	---	---	---	---	4,740	80	80	40	28,961	---	280
04/06/98	172	0	---	4	7,050	113	110	32	30,453	---	318
04/07/98	529	0	0	33	3,913	73	---	23	19,518	---	300
04/08/98	225	870	205	30	5,113	123	784	21	7,695	---	382
04/09/98	585	3,929	---	36	3,661	106	1,163	11	4,760	---	493
Total:	2,117	4,799	205	157	31,660	636	2,297	452	97,131	0	4,315
# Days:	10	10	8	10	14	7	7	9	11	0	14
Average:	212	480	26	16	2,261	91	328	50	8,830	0	308

Wild Yearling Chinook

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)
03/27/98	131	44	43	17	44	---	---
03/28/98	---	---	---	---	137	---	---
03/29/98	---	---	---	---	70	---	---
03/30/98	17	167	42	83	140	---	---
03/31/98	43	151	61	4	220	---	---
04/01/98	38	131	45	4	270	---	---
04/02/98	19	125	21	3	530	---	40
04/03/98	22	63	12	4	2,200	21	0
04/04/98	---	---	---	---	3,761	34	120
04/05/98	---	---	---	---	5,300	30	50
04/06/98	18	101	---	0	6,210	47	30
04/07/98	50	43	2	9	3,836	65	---
04/08/98	33	59	0	9	3,055	47	83
04/09/98	53	23	---	8	2,378	19	58
Total:	424	907	226	141	28,151	263	381
# Days:	10	10	8	10	14	7	7
Average:	42	91	28	14	2,011	38	54

Wild Subyearling Chinook

LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	
0	---	---	
11	---	---	
10	---	---	
0	---	---	
10	---	---	
0	---	---	
0	---	0	
0	0	0	
0	0	0	
20	0	0	
10	0	0	
26	0	---	
0	0	14	
0	0	0	
Total:	87	0	14
# Days:	14	7	7
Average:	6	0	2

Smolt Monitoring Program (SMP) site definitions: Juvenile salmonids are sampled for the SMP at 11 dams or traps. Passage values are reported here as either collection or index counts. Collection counts are expanded, if necessary, for sub-sampling effort. Index counts are further expanded to account for non-sampled flow volume. ODFW operates the Grande Ronde trap (GRN), and reports on data collected at Little Goose Dam (LGS). IDFG operates the Salmon River trap (LEW). The Nex Perce Tribe operates a trap on the Imnaha River (IMN). WDFW reports data from the collection facilities at Lower Granite Dam (LGR); Lower Monumental Dam (LMN); Rock Island Dam PH2 (RIS) and McNary Dam (MCN). NMFS samples at John Day Dam (JDA), and provides an index value based on 8 hour sampling at Bonneville PH1 (BON).

Two-Week Summary of Passage Indices

Date	Hatchery Subyearling Chinook							Combined Subyearling Chinook			
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
03/27/98	0	0	0	0	0	---	---	---	---	---	1,145
03/28/98	---	---	---	---	0	---	---	---	---	---	774
03/29/98	---	---	---	---	0	---	---	---	---	---	322
03/30/98	0	0	0	0	0	---	---	---	270	---	153
03/31/98	0	0	0	0	0	---	---	---	0	---	167
04/01/98	0	0	0	0	0	---	---	3	0	---	714
04/02/98	0	0	0	0	0	---	0	67	0	---	202
04/03/98	0	0	0	0	0	0	0	17	380	---	129
04/04/98	---	---	---	---	0	0	0	29	30	---	42
04/05/98	---	---	---	---	0	0	0	68	320	---	103
04/06/98	0	0	---	0	0	0	0	115	50	---	85
04/07/98	0	0	0	0	0	0	---	166	150	---	10
04/08/98	0	0	0	0	0	0	0	449	60	---	67
04/09/98	0	0	---	0	0	0	0	112	0	---	52
Total:	0	0	0	0	0	0	0	1,026	1,260	0	3,965
# Days:	10	10	8	10	14	7	7	9	11	0	14
Average:	0	0	0	0	0	0	0	114	115	0	283

Date	All Coho										
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
03/27/98	0	0	0	0	11	---	---	---	---	---	315
03/28/98	---	---	---	---	0	---	---	---	---	---	98
03/29/98	---	---	---	---	10	---	---	---	---	---	122
03/30/98	0	0	0	0	10	---	---	---	18	---	109
03/31/98	0	0	0	0	0	---	---	---	0	---	56
04/01/98	0	0	0	0	60	---	---	0	0	---	62
04/02/98	0	0	0	0	10	---	0	0	0	---	250
04/03/98	0	0	0	0	20	0	0	0	80	---	161
04/04/98	---	---	---	---	14	0	0	0	80	---	144
04/05/98	---	---	---	---	20	0	0	0	120	---	103
04/06/98	0	0	---	0	0	0	0	0	0	---	53
04/07/98	0	0	0	0	0	8	---	0	50	---	41
04/08/98	0	0	0	0	0	0	14	0	30	---	22
04/09/98	0	0	---	0	38	0	0	0	80	---	130
Total:	0	0	0	0	193	8	14	0	458	0	1,666
# Days:	10	10	8	10	14	7	7	9	11	0	14
Average:	0	0	0	0	14	1	2	0	42	0	119

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Two-Week Summary of Passage Indices

Hatchery Steelhead

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
03/27/98	0	0	5	2	22	---	---	---	---	---	0
03/28/98	---	---	---	---	114	---	---	---	---	---	0
03/29/98	---	---	---	---	70	---	---	---	---	---	11
03/30/98	0	0	16	31	90	---	---	---	18	---	0
03/31/98	0	0	5	28	510	---	---	---	0	---	0
04/01/98	0	0	1	47	950	---	---	0	0	---	0
04/02/98	0	0	4	41	1,770	---	20	0	0	---	0
04/03/98	0	0	6	34	5,290	20	20	0	10	---	0
04/04/98	---	---	---	---	8,537	33	40	0	30	---	0
04/05/98	---	---	---	---	6,240	55	0	0	10	---	9
04/06/98	0	0	---	153	9,050	50	10	0	0	---	0
04/07/98	0	0	0	99	7,438	105	---	0	0	---	0
04/08/98	0	0	3	103	8,908	162	28	0	0	---	0
04/09/98	0	0	---	99	10,229	193	34	0	0	---	0
Total:	0	0	40	637	59,218	618	152	0	68	0	20
# Days:	10	10	8	10	14	7	7	9	11	0	14
Average:	0	0	5	64	4,230	88	22	0	6	0	1

Wild Steelhead

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
03/27/98	2	3	15	1	76	---	---	---	---	---	216
03/28/98	---	---	---	---	707	---	---	---	---	---	183
03/29/98	---	---	---	---	700	---	---	---	---	---	166
03/30/98	0	70	4	16	720	---	---	---	126	---	131
03/31/98	0	52	5	6	2,020	---	---	---	0	---	45
04/01/98	0	54	0	6	1,850	---	---	10	0	---	124
04/02/98	0	60	1	5	1,490	---	20	2	0	---	83
04/03/98	0	18	1	3	3,420	80	20	3	140	---	118
04/04/98	---	---	---	---	3,536	144	270	11	330	---	93
04/05/98	---	---	---	---	3,000	130	100	6	560	---	30
04/06/98	3	20	---	10	2,270	295	180	1	50	---	106
04/07/98	0	11	1	4	1,088	315	---	3	200	---	52
04/08/98	0	20	0	1	1,608	293	69	3	331	---	101
04/09/98	0	14	---	5	1,585	261	214	4	280	---	61
Total:	5	322	27	57	24,070	1,518	873	43	2,017	0	1,509
# Days:	10	10	8	10	14	7	7	9	11	0	14
Average:	1	32	3	6	1,719	217	125	5	183	0	108

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Two-Week Summary of Passage Indices

Hatchery Sockeye

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
03/27/98	0	0	0	0	0	---	---	---	---	---	0
03/28/98	---	---	---	---	0	---	---	---	---	---	0
03/29/98	---	---	---	---	0	---	---	---	---	---	0
03/30/98	0	0	0	0	0	---	---	---	6	---	0
03/31/98	0	0	0	0	0	---	---	---	0	---	0
04/01/98	0	0	0	0	0	---	---	0	0	---	0
04/02/98	0	0	0	0	0	---	0	1	0	---	0
04/03/98	0	0	0	0	0	0	0	0	0	---	0
04/04/98	---	---	---	---	0	0	0	0	10	---	0
04/05/98	---	---	---	---	0	0	0	0	0	---	0
04/06/98	0	0	---	0	0	0	0	0	0	---	0
04/07/98	0	0	0	0	0	0	---	2	0	---	0
04/08/98	0	0	0	0	0	0	0	0	0	---	0
04/09/98	0	0	---	0	0	0	0	1	0	---	0
Total:	0	0	0	0	0	0	0	4	16	0	0
# Days:	10	10	8	10	14	7	7	9	11	0	14
Average:	0	0	0	0	0	0	0	0	1	0	0

Wild Sockeye

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
03/27/98	0	0	0	0	0	---	---	---	---	---	0
03/28/98	---	---	---	---	0	---	---	---	---	---	0
03/29/98	---	---	---	---	0	---	---	---	---	---	0
03/30/98	0	0	0	0	0	---	---	---	0	---	0
03/31/98	0	0	0	0	0	---	---	---	0	---	0
04/01/98	0	0	0	0	10	---	---	0	0	---	0
04/02/98	0	0	0	0	0	---	0	0	0	---	0
04/03/98	0	0	0	0	0	0	0	0	10	---	0
04/04/98	---	---	---	---	0	0	0	0	0	---	0
04/05/98	---	---	---	---	0	0	0	0	0	---	0
04/06/98	0	0	---	0	0	0	0	0	0	---	0
04/07/98	0	0	0	0	0	0	---	0	0	---	0
04/08/98	0	0	0	0	0	18	0	8	30	---	0
04/09/98	0	0	---	0	0	0	0	5	0	---	9
Total:	0	0	0	0	10	18	0	13	40	0	9
# Days:	10	10	8	10	14	7	7	9	11	0	14
Average:	0	0	0	0	1	3	0	1	4	0	1

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Cumulative Adult Passage at Mainstem Dams Through April 09, 1998

	Spring Chinook						Summer Chinook						Fall Chinook					
	1998		1997		10-Yr Avg.		1998		1997		10-Yr Avg.		1998		1997		10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	3,579	1	6,918	0	7,501	28												
TDA	986	1	380	1	2,650	6,809												
JDA	333	0	51	1	846	6,809												
MCN	113	0	4	0	425	6,809												
IHR	26	2	2	0	72	0												
LMN	10	0	0	0	27	1												
LGS	0	0	1	0	na	na												
LWG	4	0	0	0	6	0												
PRD																		
RIS																		
RRH																		
WEL																		

	CRhR						SRFNHyH			SWHOHad		
	1998		1997		10-Yr Avg.		1998	1997	10-Yr Avg.	1998	1997	10-Yr Avg.
	Adult	Jack	Adult	Jack	Adult	Jack						
BON	0	0	0	0	0	0	0	0	798	1631	1,522	
TDA	0	0	0	0	0	0	0	0	367	243	811	
JDA	0	0	0	0	0	0	0	0	1,830	818	1,417	
MCN	0	0	0	0	0	0	0	0	853	463	1,307	
IHR	0	0	0	0	0	0	0	0	1,021	599	1,521	
LMN	0	0	0	0	0	0	0	0	764	534	1,337	
LGS	0	0	0	0	0	0	0	0	1,056	649	na	
LWG	0	0	0	0	0	0	0	0	3,311	2,880	4,481	
PRD												
RIS												
RRH												
WEL												

Historic counts (pre-1996) were obtained from CRITFC and compiled by the FPC.

1996, 1997, and 1998 counts were obtained from the Corps of Engineers.

1998 totals at LMN and LGS are based on video counts accumulated through April 08.

There are no records for adult fish passage at Little Goose Dam (LGS) on April 9 prior to 1997.

Transportation Summary Report

Two-Week Summary From 3/27/98 to 4/9/98

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	0	0	0	0	0	0
Bypassed	52,077	80	71,703	174	10	124,044
Trucked	14,701	33	13,668	14	0	28,416
Barged	29,603	46	45,409	119	10	75,187
Total Transported	44,304	79	59,077	133	10	103,603
LITTLE GOOSE DAM						
Collected	0	0	0	0	0	0
Bypassed	713	0	1,561	5	10	2,289
Trucked	0	0	0	0	0	0
Barged	568	0	1,092	5	0	1,665
Total Transported	568	0	1,092	5	0	1,665
LOWER MONUMENTAL DAM						
Collected	0	0	0	0	0	0
Bypassed	2,153	10	940	10	0	3,113
Trucked	1,548	10	260	10	0	1,828
Barged	447	0	490	0	0	937
Total Transported	1,995	10	750	10	0	2,765
M McNARY DAM						
Collected	0	0	0	0	0	0
Bypassed	97,131	1,260	2,085	458	56	100,990
Trucked	97,061	1,253	2,085	458	56	100,913
Barged	0	0	0	0	0	0
Total Transported	97,061	1,253	2,085	458	56	100,913
PROJECT TOTALS						
Collected	0	0	0	0	0	0
Bypassed	152,074	1,350	76,289	647	76	230,436
Trucked	113,310	1,296	16,013	482	56	131,157
Barged	30,618	46	46,991	124	10	77,789
Total Transported	143,928	1,342	63,004	606	66	208,946

Cumulative Summary As of 4/9/98

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	0	0	0	0	0	0
Bypassed	52,077	80	71,703	174	10	124,044
Trucked	14,701	33	13,668	14	0	28,416
Barged	29,603	46	45,409	119	10	75,187
Total Transported	44,304	79	59,077	133	10	103,603
LITTLE GOOSE DAM						
Collected	0	0	0	0	0	0
Bypassed	713	0	1,561	5	10	2,289
Trucked	0	0	0	0	0	0
Barged	568	0	1,092	5	0	1,665
Total Transported	568	0	1,092	5	0	1,665
LOWER MONUMENTAL DAM						
Collected	0	0	0	0	0	0
Bypassed	2,153	10	940	10	0	3,113
Trucked	1,548	10	260	10	0	1,828
Barged	447	0	490	0	0	937
Total Transported	1,995	10	750	10	0	2,765
M McNARY DAM						
Collected	0	0	0	0	0	0
Bypassed	97,131	1,260	2,085	458	56	100,990
Trucked	97,061	1,253	2,085	458	56	100,913
Barged	0	0	0	0	0	0
Total Transported	97,061	1,253	2,085	458	56	100,913
PROJECT TOTALS						
Collected	0	0	0	0	0	0
Bypassed	152,074	1,350	76,289	647	76	230,436
Trucked	113,310	1,296	16,013	482	56	131,157
Barged	30,618	46	46,991	124	10	77,789
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