



Fish Passage Center

Weekly Report #98 - 3

April 3, 1998

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SUMMARY OF EVENTS:

1. Water Supply: The summary of precipitation for the October through March period shows that most of the subbasins had below average precipitation. The lowest precipitation which was 75% of average was recorded at Flathead and the highest precipitation of 115% was recorded at both the Klamath and Harney/Malheur basins. Sites with higher precipitation than average for the October through March period were: Okanogan with 112%, Umatilla/Lower John Day with 106%, central Washington with 106%, and northeast Washington with 103%. Precipitation distribution for March shows that the highest precipitation was in Flathead with 146% and the lowest at Clearwater with 42%. Other sites with high precipitation included: Upper Snake with 142%, Okanogan with 135%, Northeast Washington with 133% and Burnt/Grande Ronde with 133%. Precipitation for the Columbia River above The Dalles remained at 104%, while Snake River above Ice Harbor increased to 112%.

2. System Storage and Streamflow: The system continues to be operated for flood control purposes and power generation. The April Early Runoff Volume Forecast showed decreased runoff volumes at Libby compared to the March Final, resulting in failure to operate the reservoir to flood control elevation. A summary of flood control operations through the end of March shows that all major reservoirs except Brownlee are below the required end of March flood control elevations. These operations will result in failure to refill reservoirs by April 20 to the BiOp required flood control elevations and meet BiOp requested spring flow targets. Summary of elevations on March 31 and Required Flood Control elevations at the end of March is given in the following table:

Reservoir	Actual Elev. [ft] March 31	Max. Res. Pool [ft]	End of March Flood Control Elev. [ft]
Libby	2391.58	2459.0	2413.2
Hungry Horse	3507.61	3560.0	3533.1
Grand Coulee	1257.7	1290.0	1283.3
Brownlee	2063.0	2077.0	2049.1
Dworshak	1544.87	1600.0	1578.0

- Libby was on minimum outflow of 4 kcfs through the end of March and failed to refill to the end of March flood control elevation. It is projected to continue minimum outflow of 4 kcfs during week of April 3-10.
- Hungry Horse is projected to be on minimum outflow of about 0.5 kcfs in order to refill to April 20 flood control elevation.
- Grand Coulee began a slow refill to the required April 20 flood control elevation. The outflow decreased to 45.4 kcfs on April 1. It is projected to continue refill to elevation of 1264 ft by April 5.
- Brownlee refilled to 2063 ft because of the increased inflows up to 47 kcfs during last week. The inflows decreased from March 29 to 32 kcfs. It is expected that inflows will continue to be in the range of 30-36 kcfs during next two weeks and that the outflow will continue to be in the range of 31-32 kcfs by the end of April.
- Dworshak is projected to remain on minimum outflow of 1.3-1.6 kcfs through April 20 in attempt to refill to BiOp required April 20 Flood Control Elevation.

Upper Snake Operations:

- Currently there is about 720 kaf of the empty space in the reservoirs.

- There is not a final decision yet on projected operations through the end of April, but based on the current hydrometeorological situation in the basin. The plan is to continue passing inflow during next week, resulting in a Milner outflow of about 11 kcfs.
- Irrigation demands are only 1.5 kcfs due to current high precipitation in the basin.

The average discharge for the run of river projects during March 27-April 2 period is given in the following Table:

Project	Average Discharge [kcfs]
Priest Rapids	112.6
McNary	182.1
Lower Granite	52.8
Bonneville	219.2

3. Spill: Spill that occurred in the system last week as a result of increased streamflow from snowmelt and precipitation in excess of load demand gradually decreased the first few days of this week. Presently, no spill is occurring at the projects.

System Operational Request #98-08 requests that spill at Lower Granite, Little Goose, Lower Monumental and Ice Harbor dams begin on April 6, 1998, coincident with initiating the draft of the four lower Snake Pools to minimum operating levels. This request is based on the numbers of fish present at the tributary traps and Lower Granite Dam. Spill is scheduled to occur beginning April 6 at levels up to the total dissolved gas limits in place at the time. At present, the gas limit is the 110% standard, with the waivers for total dissolved gas (120% in the tailrace and 115% in the forebay) from the States of Washington and Oregon scheduled to take effect on April 10, 1998. NMFS is presently exploring the extension of the gas waivers to cover the April 6-9 period. Spill will occur at Lower Granite Dam at levels up to the gas limit until the initiation of the surface bypass collector research.

4. Smolt Monitoring. *Snake River Drainage.* Trap collections on the lower Salmon, Imnaha, and Grande Ronde rivers this week showed emigration of wild chinook from all three rivers, but emigration of wild steelhead from only the Imnaha and Grande Ronde rivers. Trap collections of hatchery chinook include Rapid River Hatchery chinook at the Salmon River trap, and Rapid River, Dworshak and Clearwater (Hells Canyon Dam release) Hatchery chinook at the Snake River (Lewiston) trap. Trap collections of hatchery steelhead include Wallowa Hatchery steelhead at the Grande Ronde River trap, and Wallowa and Niagara Springs (Hells Canyon Dam release) Hatchery steelhead at the Lewiston trap. The last three days of this reporting period has shown an increase in passage of both hatchery and wild chinook and steelhead at Lower Granite Dam. Low numbers of coho from Willard Hatchery that were released in the Clearwater River drainage for the Nez Perce Tribe are also passing Lower Granite Dam this week.

Columbia River Drainage. The first collection at Rock Island Dam was processed April 1 with a mix of yearling and subyearling chinook and wild steelhead present. The first collection at Lower Monumental Dam was processed April 2 with a mix of wild and hatchery chinook and steelhead. The first collection at McNary Dam was processed May 30, but due to ESA concerns by the COE, sampling was suspended until the COE received notification from NMFS on approval to handle listed Mid-Columbia River steelhead. The last three days of the reporting period, fish passing through the McNary Dam bypass were routed either through the secondary bypass (allowing for PIT tag detections, but no subsample) or through the primary bypass (during periods each day when repairs were made to the dewatering system). Sampling resumed at McNary Dam at 0700 May 2 with the next 24-hr sample to be processed May 3. The collections this week at Bonneville Dam were a mix of mostly coho, wild steelhead, and yearling and subyearling chinook.

5. Adult Fish Passage: Fish counting began at all COE projects this week (April 1) on a **16-hour per day** schedule for reporting fish counts. The Mid-Columbia projects will begin counting adult fish in mid-April, with Wells Dam starting fish counting on May 1. The 1998, 1997, and 10-yr average fish count data are located in Table format on the final page of this report.

At Bonneville Dam, the cumulative spring chinook count was 724 through April 2. This total was 159% and 34% of the respective 1997 and 10-yr average through April 2. Through the week (March 27 – April 2), spring chinook counts ranged from 15 on March 26 to 240 by the end of the reporting week. The University of Idaho Cooperative Unit will again tag a portion of the adult chinook with radio tags at the WA shore adult sampling facility this year. Marking was initiated this week at the facility. Columbia Intertribal Fish Commission personnel to assess age of the fish, fish condition, and other aspects for the 1998 adult fish run will also sample adult fish at the WA ladder. The number of fish passing upstream projects was still fairly low; however, adult spring chinook were counted at all lower Columbia river projects, including McNary Dam. Next week these fish should begin moving up into the Snake River basin and past Priest Rapids Dam.

Adult steelhead continue passing the projects in fairly high numbers with daily counts normally near 100 per day through the past week at Lower Granite Dam. The total count at Lower Granite Dam since March 15 was 2082, of which, 207 were “wild” origin. This compares with 1300 each for the 1997 and 10-year 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 is still operating with one of the two fish turbines. The second turbine should be on-line by mid-April according to the COE. The north shore fishway at Ice Harbor will be out of service during the latter part of this week to make required repairs to the fish facilities. The COE plans to have the fishway back up and operating by early next week; it was anticipated that the outage would be for four days. All other

COE projects are operating their fishways at full criteria.

6. Hatchery Releases: In the **Snake River basin**, yearling spring and summer chinook continued to be released from the basin hatcheries. Next week will see the release of spring chinook from Lookingglass and Imnaha hatcheries. Most volitional releases from the hatcheries will also be completed during the next two weeks. Several million spring and summer chinook should be in the river and migrating downstream to date. Yearling fall chinook will be released from Pittsburg Landing and Cpt John in the Snake River, and Big Canyon Acclimation Pond in the Clearwater River, as well as from Lyons Ferry Hatchery during the upcoming two weeks.

Juvenile steelhead continue to be released in the upper Salmon, Snake, and Grande Ronde basins. About 10 million juvenile steelhead will be released in the Snake River basin so fish will be liberated from hatcheries until mid-May. Approximately 485,000 coho salmon have been released in the Clearwater River basin to date.

In the **Mid-Columbia Reach**, few fish have been released to date. Yearling spring chinook from Ringold Hatchery should be in the river by April 4. Most yearling spring chinook will be released by mid to late April. About 539,000 yearling summer chinook were released from Similkameen Ponds in March.

In the **Lower Columbia River**, yearling spring chinook were released in the Umatilla and Klickitat rivers with subyearling spring chinook released in Big White Salmon River. Most yearling spring chinook are slated for release in mid-April in other mainstem tributaries.

Coho salmon have also been released in the Klickitat and Umatilla rivers. Other planned releases are scheduled for April and May.

The second release of subyearling “tule” fall chinook from Spring Creek Hatchery will be made in mid-April with the final release in mid-May.

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
03/20/98	94.1	0.0	99.1	0.0	102.9	0.0	112.1	0.0	111.0	0.0	122.3	0.0	129.6	0.0
03/21/98	72.3	0.0	75.9	0.0	78.5	0.0	83.9	0.0	83.7	0.0	89.2	0.0	96.3	0.0
03/22/98	46.1	0.0	46.2	0.0	52.7	0.0	56.4	0.0	56.1	0.0	64.7	0.0	67.9	0.0
03/23/98	90.8	0.0	89.3	0.0	88.9	0.0	88.9	0.0	88.9	0.0	114.5	0.0	117.9	0.0
03/24/98	91.4	0.9	89.4	0.0	90.6	0.0	90.4	0.0	89.2	0.0	95.7	0.0	104.6	0.0
03/25/98	153.6	14.9	151.0	12.8	155.8	0.5	157.0	21.2	151.7	0.0	144.7	33.4	159.5	44.1
03/26/98	121.5	0.0	130.9	0.9	141.2	12.5	146.6	18.9	146.5	0.0	138.1	21.1	152.2	25.7
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	64.1	0.0	60.8	0.0	56.8	0.0	66.2	0.0	73.3	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
03/20/98	1.3	0.0	---	---	47.1	0.0	49.1	0.0	51.8	0.0	48.3	0.0
03/21/98	1.3	0.0	---	---	41.7	0.0	43.2	0.0	46.0	0.0	43.6	0.0
03/22/98	1.3	0.0	---	---	44.4	0.0	47.8	0.0	51.0	0.0	53.3	0.0
03/23/98	1.3	0.0	---	---	50.1	0.0	52.0	0.0	54.4	0.0	55.5	0.0
03/24/98	1.3	0.0	---	---	65.5	0.6	62.8	1.4	65.3	1.7	58.7	5.6
03/25/98	2.4	0.0	---	---	74.1	7.6	72.9	11.3	78.1	21.0	81.8	24.9
03/26/98	3.4	0.0	---	---	75.4	6.2	75.2	8.0	78.0	8.5	79.9	22.7
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

**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		
03/20/98	176.3	0.0	186.8	0.0	192.7	0.0	204.6	76.0	61.5	57.9
03/21/98	164.6	6.5	178.1	0.0	165.5	0.0	178.3	73.7	69.2	26.2
03/22/98	130.4	0.0	143.2	0.0	141.7	0.0	153.4	50.3	64.1	29.6
03/23/98	156.1	0.0	166.6	0.0	167.5	0.0	193.5	28.1	69.8	86.4
03/24/98	172.1	2.1	180.3	1.7	183.7	6.7	190.1	10.6	69.3	101.0
03/25/98	197.5	47.5	210.0	21.4	205.0	45.0	222.1	56.9	70.2	85.8
03/26/98	253.3	83.4	262.4	46.7	249.2	41.9	248.4	70.7	65.3	103.2
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

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

Hatchery Release Summary
Schedule for Last Two Weeks
From 03/20/98 to 04/02/98

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
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
Rapid River	SP Chinook	98007	896,250	03/16/98	04/10/98	Rapid River H	Little Salmon River
	Agency Total:		2,010,770				
Nez Perce Tribe							
Lyons Ferry	FA Chinook	98044	135,710	04/01/98	04/15/98	Cpt John Accl Pd	Snake River
	FA Chinook	98042	147,585	04/01/98	04/15/98	Pittsburg Landing	Snake River
	FA Chinook	98043	76,571	04/01/98	04/15/98	Clearwater R	Clearwater River, Main Fk
	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
Lower Herman C	Coho	98055	500,000	03/10/98	03/20/98	Umatilla R	Umatilla River
Wallowa	SU Steelhead	98102	179,100	03/24/98	03/24/98	Wallowa Acclim Pd	Grande Ronde River
	SU Steelhead	98101	186,100	03/25/98	04/08/98	Wallowa Acclim Pd	Grande Ronde River
	Agency Total:		2,060,200				
USFWS							
Dworshak	SP Chinook	98014	970,000	03/25/98	03/26/98	Dworshak H	N Fk Clearwater River
Entiat	SP Chinook	98063	357,000	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:		2,734,000				
WDFW							
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
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
Wells	SU Chinook	98018	539,000	03/13/98	03/20/98	Similkameen Acclim Pd	Okanogan River
	SU Chinook	98027	357,000	04/01/98	04/20/98	Wells	Mid-Columbia River
	Agency Total:		2,499,000				
	Total Release:		9,663,836				

Hatchery Release Summary
Schedule for Next Two Weeks
From 04/03/98 to 04/16/98

Hatchery	Species	FPC LotID	Number Released	Release Dates		Release Site	River Name
				Begin	End		
IDFG							
Clearwater	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	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
Niagara Springs	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
	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
Powell	SP Chinook	98001	244,900	04/08/98	04/08/98	Powell Acclim Pd	Lochsa River
Sawtooth	SP Chinook	98012	43,200	04/10/98	04/22/98	Sawtooth H	Salmon River
	Agency Total:		2,191,110				
ODFW							
Imnaha	SU Chinook	98098	92,500	04/06/98	04/07/98	Imnaha H	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	290,000	04/06/98	04/07/98	Lookingglass H	Grande Ronde River
Round Butte	SU Steelhead	98129	162,000	04/06/98	04/09/98	Bel. Pelton Dam	Deschutes River
	SP Chinook	98130	50,000	04/13/98	04/14/98	Bel. Pelton Dam	Deschutes River
	Agency Total:		857,000				
Umatilla Tribe							
\	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
Hagerman	SU Steelhead	98068	361,000	04/13/98	04/30/98	Little Salmon R	Salmon 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
Willard	Coho	98077	1,800,000	04/15/98	04/15/98	Little White Salmon R	Columbia River
Winthrop	SP Chinook	98078	326,000	04/14/98	04/14/98	Winthrop H	Methow River
	Agency Total:		5,440,500				

**Hatchery Release Summary
Schedule for Next Two Weeks
From 04/03/98 to 04/16/98**

Hatchery	Species	FPC LotID	Number Released	Release Dates		Release Site	River Name
				Begin	End		
WDFW							
Chewuch Ac Pond	SP Chinook	98025	92,500	04/06/98	04/20/98	Chewuch R	Methow River
East Bank	SU Steelhead	98020	276,000	04/15/98	05/05/98	Wenatchee R	Wenatchee River
Lyons Ferry	SU Steelhead	98035	140,000	04/15/98	04/30/98	Dayton Acclim Pd	Wallowa River
	SU Steelhead	98034	300,000	04/15/98	04/30/98	Cottonwood Accl Pd	Grande Ronde River
	SU Steelhead	98036	160,000	04/15/98	04/30/98	Tucannon R	Snake River
	SU Steelhead	98037	135,000	04/15/98	04/30/98	Walla Walla R	Walla Walla River
	SU Steelhead	98033	80,000	04/15/98	04/30/98	Lyons Ferry H	Snake River
Methow	SP Chinook	98024	202,000	04/06/98	04/20/98	Methow H	Methow River
	SP Chinook	98026	78,000	04/06/98	04/20/98	Twisp R	Methow River
	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
Tucannon	SP Chinook	98040	15,000	04/03/98	04/03/98	Tucannon R	Tucannon 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 Steelhead	98031	300,000	04/15/98	05/05/98	Methow R	Mid-Columbia River
	SU Steelhead	98028	50,000	04/15/98	05/05/98	Similkameen Acclim Pd	Okanogan River
	SU Steelhead	98030	50,000	04/15/98	05/05/98	Effy Bridge	Methow River
	SU Steelhead	98029	50,000	04/15/98	05/05/98	Okanogan R	Mid-Columbia River
Agency Total:			2,801,800				
Warm Springs Tribe							
]	SU Steelhead	98133	60,000	04/08/98	04/10/98	Hood R	Hood River
	WI Steelhead	98131	30,000	04/13/98	04/19/98	E Fk Hood R	Hood River
Round Butte	SP Chinook	98134	62,000	04/06/98	04/13/98	Hood R	Hood River
Agency Total:			152,000				
Yakama Tribe							
Lewis River	Coho	98143	138,000	04/15/98	04/30/98	Klickitat R	Klickitat River
Agency Total:			138,000				
Total Release:			12,005,410				

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	#
	Avg	Avg	High		hr	Avg	Avg		High	hr	Avg		Avg	High	hr		Avg	Avg	High		hr	Avg	Avg	
3/20	102	102	103	24	104	105	105	23	102	102	104	23	---	---	---	0	---	---	---	0	---	---	---	0
3/21	102	102	103	24	105	105	105	23	103	103	104	23	---	---	---	0	---	---	---	0	---	---	---	0
3/22	102	102	103	24	105	105	106	23	104	104	106	23	---	---	---	0	---	---	---	0	---	---	---	0
3/23	103	103	103	24	105	105	105	23	103	103	106	23	---	---	---	0	---	---	---	0	---	---	---	0
3/24	104	106	112	20	105	105	106	23	103	104	106	23	---	---	---	0	---	---	---	0	---	---	---	0
3/25	106	108	110	24	106	107	109	23	112	120	137	23	---	---	---	0	---	---	---	0	---	---	---	0
3/26	106	108	113	24	105	106	106	23	103	104	105	23	---	---	---	0	---	---	---	0	---	---	---	0
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

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	#
	Avg	Avg	High		hr	Avg	Avg		High	hr	Avg		Avg	High	hr		Avg	Avg	High		hr	Avg	Avg	
3/20	---	---	---	0	---	---	---	0	---	---	---	0	106	106	107	19	106	106	107	19	107	107	108	23
3/21	---	---	---	0	---	---	---	0	---	---	---	0	106	106	106	23	105	106	106	22	108	108	108	22
3/22	---	---	---	0	---	---	---	0	---	---	---	0	106	106	107	23	105	106	106	23	107	108	108	23
3/23	---	---	---	0	---	---	---	0	---	---	---	0	105	105	106	8	106	106	106	23	107	108	108	23
3/24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	104	104	105	11	107	108	108	23
3/25	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	107	108	115	23
3/26	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	116	117	118	23
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	149	149	150	5	---	---	---	0	---	---	---	0	---	---	---	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	#
	Avg	Avg	High		hr	Avg	Avg		High	hr	Avg		Avg	High	hr		Avg	Avg	High		hr	Avg	Avg	
3/20	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	103	104	105	24	102	102	103	24
3/21	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	103	103	104	24	102	102	102	24
3/22	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	103	103	103	24	102	102	103	24
3/23	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	104	104	105	24	103	104	104	24
3/24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	104	104	105	12	103	103	104	11
3/25	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	104	104	105	24	106	109	113	24
3/26	---	---	---	0	105	110	116	24	---	---	---	0	---	---	---	0	102	102	103	10	104	106	109	24
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

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	#						
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
3/20	---	---	---	0	---	---	---	0	103	104	105	24	---	---	---	0	103	105	106	24	103	103	104	24
3/21	---	---	---	0	---	---	---	0	104	104	104	2	---	---	---	0	103	104	105	24	104	104	104	24
3/22	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	103	104	104	24	104	104	104	24
3/23	---	---	---	0	---	---	---	0	104	104	105	24	---	---	---	0	104	104	104	24	104	104	104	24
3/24	---	---	---	0	---	---	---	0	105	106	107	24	---	---	---	0	104	104	105	24	105	106	111	24
3/25	---	---	---	0	---	---	---	0	105	105	106	24	---	---	---	0	104	104	104	11	111	111	112	11
3/26	---	---	---	0	---	---	---	0	104	104	106	24	---	---	---	0	104	105	107	24	110	111	112	24
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

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	#						
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
3/20	103	103	103	7	103	103	103	6	104	104	104	7	---	---	---	0	---	---	---	0	---	---	---	0
3/21	105	105	106	24	104	105	106	24	106	108	111	24	---	---	---	0	---	---	---	0	---	---	---	0
3/22	105	105	106	24	104	105	105	24	105	106	106	24	---	---	---	0	---	---	---	0	---	---	---	0
3/23	105	106	106	24	105	106	106	24	106	106	106	24	---	---	---	0	---	---	---	0	---	---	---	0
3/24	106	106	109	24	105	106	107	24	106	106	107	24	107	107	107	9	106	106	106	7	---	---	---	0
3/25	105	105	106	23	106	106	107	23	112	113	116	23	106	107	107	24	108	109	114	17	106	106	106	15
3/26	104	104	105	23	105	105	105	23	116	118	121	23	105	105	106	24	112	114	115	17	105	106	108	24
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

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	#						
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
3/20	---	---	---	0	105	106	106	24	111	112	112	24	111	112	113	24	109	111	112	23	108	109	109	22
3/21	---	---	---	0	105	106	106	24	110	111	111	24	112	114	116	24	108	109	109	23	108	108	108	23
3/22	---	---	---	0	105	105	105	24	110	110	111	24	111	112	113	22	109	110	111	23	108	108	109	23
3/23	---	---	---	0	105	106	106	24	109	111	111	24	109	111	112	24	109	110	111	23	108	109	109	23
3/24	---	---	---	0	105	105	105	24	105	106	106	24	104	105	107	24	105	106	109	23	107	107	108	23
3/25	---	---	---	0	105	105	105	24	109	111	114	24	109	113	118	24	107	111	114	23	106	106	107	23
3/26	105	105	107	13	106	107	110	24	111	112	113	24	109	110	111	24	107	108	110	23	105	105	106	23
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

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)
03/20/98	87	0	0	4	---	---	---	---	---	---	407
03/21/98	---	0	---	---	---	---	---	---	---	---	157
03/22/98	---	0	---	---	---	---	---	---	---	---	108
03/23/98	69	0	0	2	---	---	---	---	---	---	169
03/24/98	3,490	0	0	10	---	---	---	---	---	---	261
03/25/98	1,171	0	0	80	---	---	---	---	---	---	230
03/26/98	501	0	0	46	---	---	---	---	---	---	513
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	---	---	---	---	---	145
04/01/98	23	0	0	4	720	---	---	92	---	---	372
04/02/98	24	0	0	4	650	---	20	72	---	---	274
Total:	5,888	0	0	192	2,137	0	20	164	84	0	4,094
# Days:	10	12	10	10	7	0	1	2	1	0	14
Average:	589	0	0	19	305	0	20	82	84	0	292

Wild Yearling Chinook

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)
03/20/98	37	184	2	0	---	---	---
03/21/98	---	84	---	---	---	---	---
03/22/98	---	79	---	---	---	---	---
03/23/98	54	155	39	0	---	---	---
03/24/98	207	0	114	9	---	---	---
03/25/98	109	0	34	137	---	---	---
03/26/98	98	19	23	51	---	---	---
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
Total:	753	1,139	424	308	1,411	0	40
# Days:	10	12	10	10	7	0	1
Average:	75	95	42	31	202	0	40

Wild Subyearling Chinook

LGR (INDEX)	LGS (INDEX)	LMN (INDEX)
---	---	---
---	---	---
---	---	---
---	---	---
---	---	---
---	---	---
---	---	---
0	---	---
11	---	---
10	---	---
0	---	---
10	---	---
0	---	---
0	---	0
31	0	0
7	0	1
4	0	0

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. Data are collected at Rock Island Dam PH2 (RIS) by Chelan Co. PUD. 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); and McNary Dam (MCN). NMFS samples the Unit 3B gatewell 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)
03/20/98	0	0	0	0	0	---	---	---	---	---	2,211
03/21/98	---	0	---	---	---	---	---	---	---	---	1,264
03/22/98	---	0	---	---	0	---	---	---	---	---	809
03/23/98	0	0	0	0	---	---	---	---	---	---	676
03/24/98	0	0	0	0	---	---	---	---	---	---	543
03/25/98	0	0	0	0	0	---	---	---	---	---	558
03/26/98	0	0	0	0	---	---	---	---	---	---	909
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	---	---	---	---	---	167
04/01/98	0	0	0	0	0	---	---	13	---	---	714
04/02/98	0	0	0	0	0	---	0	64	---	---	202
Total:	0	0	0	0	0	0	0	77	270	0	10,447
# Days:	10	12	10	10	10	0	1	2	1	0	14
Average:	0	0	0	0	0	0	0	39	270	0	746

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)
03/20/98	0	0	0	0	---	---	---	---	---	---	13
03/21/98	---	0	---	---	---	---	---	---	---	---	20
03/22/98	---	0	---	---	---	---	---	---	---	---	27
03/23/98	0	0	0	0	---	---	---	---	---	---	74
03/24/98	0	0	0	0	---	---	---	---	---	---	20
03/25/98	0	0	0	0	---	---	---	---	---	---	60
03/26/98	0	0	0	0	---	---	---	---	---	---	15
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	---	---	---	---	---	56
04/01/98	0	0	0	0	60	---	---	0	---	---	62
04/02/98	0	0	0	0	10	---	0	0	---	---	250
Total:	0	0	0	0	101	0	0	0	18	0	1,241
# Days:	10	12	10	10	7	0	1	2	1	0	14
Average:	0	0	0	0	14	0	0	0	18	0	89

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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)
03/20/98	0	0	0	0	---	---	---	---	---	---	0
03/21/98	---	0	---	---	---	---	---	---	---	---	0
03/22/98	---	1	---	---	---	---	---	---	---	---	0
03/23/98	0	1	0	0	---	---	---	---	---	---	0
03/24/98	0	0	0	0	---	---	---	---	---	---	0
03/25/98	0	0	0	0	---	---	---	---	---	---	0
03/26/98	0	0	6	0	---	---	---	---	---	---	15
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
04/01/98	0	0	1	47	950	---	---	0	---	---	0
04/02/98	0	0	4	41	1,770	---	20	0	---	---	0
Total:	0	2	37	149	3,526	0	20	0	18	0	26
# Days:	10	12	10	10	7	0	1	2	1	0	14
Average:	0	0	4	15	504	0	20	0	18	0	2

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)
03/20/98	0	4	0	4	---	---	---	---	---	---	0
03/21/98	---	5	---	---	---	---	---	---	---	---	0
03/22/98	---	9	---	---	---	---	---	---	---	---	9
03/23/98	0	28	1	1	---	---	---	---	---	---	21
03/24/98	0	0	52	1	---	---	---	---	---	---	0
03/25/98	1	0	35	10	---	---	---	---	---	---	24
03/26/98	1	25	30	6	---	---	---	---	---	---	73
03/27/98	2	5	15	1	76	---	---	---	---	---	216
03/28/98	---	---	---	---	707	---	---	---	---	---	183
03/29/98	---	---	---	---	700	---	---	---	---	---	166
03/30/98	0	71	4	16	720	---	---	---	126	---	131
03/31/98	0	54	5	6	2,020	---	---	---	---	---	45
04/01/98	0	54	0	6	1,850	---	---	10	---	---	124
04/02/98	0	60	1	5	1,490	---	20	2	---	---	83
Total:	4	315	143	56	7,563	0	20	12	126	0	1,075
# Days:	10	12	10	10	7	0	1	2	1	0	14
Average:	0	26	14	6	1,080	0	20	6	126	0	77

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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)
03/20/98	0	0	0	0	0	---	---	---	---	---	0
03/21/98	---	0	---	---	---	---	---	---	---	---	0
03/22/98	---	0	---	---	---	---	---	---	---	---	0
03/23/98	0	0	0	0	---	---	---	---	---	---	0
03/24/98	0	0	0	0	---	---	---	---	---	---	0
03/25/98	0	0	0	0	---	---	---	---	---	---	0
03/26/98	0	0	0	0	---	---	---	---	---	---	0
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
04/01/98	0	0	0	0	0	---	---	0	---	---	0
04/02/98	0	0	0	0	0	---	0	1	---	---	0
Total:	0	0	0	0	0	0	0	1	6	0	0
# Days:	10	12	10	10	7	0	1	2	1	0	14
Average:	0	0	0	0	0	0	0	1	6	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)
03/20/98	0	0	0	0	---	---	---	---	---	---	0
03/21/98	---	0	---	---	---	---	---	---	---	---	0
03/22/98	---	0	---	---	---	---	---	---	---	---	0
03/23/98	0	0	0	0	---	---	---	---	---	---	0
03/24/98	0	0	0	0	---	---	---	---	---	---	0
03/25/98	0	0	0	0	---	---	---	---	---	---	0
03/26/98	0	0	0	0	---	---	---	---	---	---	0
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
04/01/98	0	0	0	0	10	---	---	0	---	---	0
04/02/98	0	0	0	0	0	---	0	0	---	---	0
Total:	0	0	0	0	10	0	0	0	0	0	0
# Days:	10	12	10	10	7	0	1	2	1	0	14
Average:	0	0	0	0	1	0	0	0	0	0	0

Operational Comments:

IMN 3/23 - 26/98 Trap took partial sample on 3/23 and was out of service 3/24, 3/25, 3/26 due to high flows and debris.

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Cumulative Adult Passage at Mainstem Dams Through April 02, 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	724	0	455	0	2,104	7												
TDA	37	0	21	0	362	1												
JDA	21	0	2	0	42	0												
MCN	8	0	1	0	24	0												
IHR	0	0	0	0	4	0												
LMN	0	0	0	0	2	0												
LGS	0	0	0	0	na	na												
LWG	1	0	0	0	0	0												
PRD																		
RIS																		
RRH																		
WEL																		

	Coho						Sockeye			Steelhead		
	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	526	1081	1027	
TDA	0	0	0	0	0	0	0	0	153	72	261	
JDA	0	0	0	0	0	0	0	0	331	99	270	
MCN	0	0	0	0	0	0	0	0	206	178	277	
IHR	0	0	0	0	0	0	0	0	293	166	313	
LMN	0	0	0	0	0	0	0	0	0	41	295	
LGS	0	0	0	0	0	0	0	0	138	188	na	
LWG	0	0	0	0	0	0	0	0	2,082	1,329	1,354	
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 01.
 There are no records for adult fish passage at Little Goose Dam (LGS) on April 2 prior to 1997.

Transportation Summary Report

Two-Week Transportation Summary from 03/20/98 to 04/02/98

	Yearling	Subyearling	Steelhead	Coho	Sockeye	Total
	Chinook	Chinook				
LOWER GRANITE DAM						
Collected	0	0	0	0	0	0
Bypassed	3,510	30	10,980	100	10	14,630
Trucked	0	0	0	0	0	0
Barged	2,277	29	7,630	74	10	10,020
Total Transported	2,277	29	7,630	74	10	10,020
LITTLE GOOSE DAM						
Collected	0	0	0	0	0	0
Bypassed	0	0	0	0	0	0
Trucked	0	0	0	0	0	0
Barged	0	0	0	0	0	0
Total Transported	0	0	0	0	0	0
LOWER MONUMENTAL DAM						
Collected	0	0	0	0	0	0
Bypassed	60	0	40	0	0	100
Trucked	0	0	0	0	0	0
Barged	0	0	0	0	0	0
Total Transported	0	0	0	0	0	0
M McNARY DAM						
Collected	0	0	0	0	0	0
Bypassed	84	270	144	18	6	522
Trucked	83	269	144	18	6	520
Barged	0	0	0	0	0	0
Total Transported	83	269	144	18	6	520
PROJECT TOTALS						
Collected	0	0	0	0	0	0
Bypassed	3,654	300	11,164	118	16	15,252
Trucked	83	269	144	18	6	520
Barged	2,277	29	7,630	74	10	10,020
Total Transported	2,360	298	7,774	92	16	10,540

Cumulative Transportation Summary through 04/02/98

	Yearling	Subyearling	Steelhead	Coho	Sockeye	Total
	Chinook	Chinook				
LOWER GRANITE DAM						
Collected	0	0	0	0	0	0
Bypassed	3,510	30	10,980	100	10	14,630
Trucked	0	0	0	0	0	0
Barged	2,277	29	7,630	74	10	10,020
Total Transported	2,277	29	7,630	74	10	10,020
LITTLE GOOSE DAM						
Collected	0	0	0	0	0	0
Bypassed	0	0	0	0	0	0
Trucked	0	0	0	0	0	0
Barged	0	0	0	0	0	0
Total Transported	0	0	0	0	0	0
LOWER MONUMENTAL DAM						
Collected	0	0	0	0	0	0
Bypassed	60	0	40	0	0	100
Trucked	0	0	0	0	0	0
Barged	0	0	0	0	0	0
Total Transported	0	0	0	0	0	0
M McNARY DAM						
Collected	0	0	0	0	0	0
Bypassed	84	270	144	18	6	522
Trucked	83	269	144	18	6	520
Barged	0	0	0	0	0	0
Total Transported	83	269	144	18	6	520
PROJECT TOTALS						
Collected	0	0	0	0	0	0
Bypassed	3,654	300	11,164	118	16	15,252
Trucked	83	269	144	18	6	520
Barged	2,277	29	7,630	74	10	10,020
Total Transported	2,360	298	7,774	92	16	10,540