Fish Passage Center

Weekly Report #00 - 1

March 10, 2000

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PLEASE NOTE:

The Fish Passage Center Weekly Report is available on Friday of each week by 4:00 p.m. on our internet homepage at www.fpc.org. If you can get the information from the website, you will get your information sooner and help us utilize our resources more efficiently by saving postage and paper costs. We can also send you the report via email. Reduced use of paper also helps the environment. Please let us know if you want to be taken off the weekly report mailing list or if you would rather receive the report by email rather than snail mail. You can email us at fpcstaff@fpc.org. Thanks!

SUMMARY OF EVENTS:

Water Supply: The cumulative precipitation for the October-March period for the Columbia above Coulee is 112% of normal, for the Snake River above Ice Harbor is 96% of normal, and for the Columbia at The Dalles is 104% of normal. Precipitation for the period of March 1-7 is for the Columbia above Coulee, 147% of normal, for the Snake River above Ice Harbor, 96% of normal and for the Columbia above The Dalles, 104% of normal. Snow pack is average and below average for most of the basin. The greatest increases in snowpack if 20%-50% from January 1 to March were recorded in western Oregon.

The Runoff Volume Forecasts are average and below average for the most of the basin. Runoff volume forecasts for Canadian reservoirs are showing a decreasing trend for the January-March period. Runoff volumes for Mica reservoir decreased from 109% of average in January to 101% of average in March. Runoff volumes for Libby reservoir also decreased from 107% in January and February to 105% in March. Runoff volume is 99% of average at The Dalles for the January-March Final Runoff Volume forecast. Runoff volumes for Dworshak are 104% of average. Upper Snake and Mid Snake basins forecasts have ranged from 60%-69% at Weiser, and 62%-70% at Brownlee for the January-March Final Runoff Volume forecasts. Forecasted runoff volumes for Lower Granite increased from 86% in January to 93% in March.

The Summary of the Runoff Volume Forecasts is given in the following Table:

Site	January Final Runoff Volume Forecast		February Final Runoff Volume Forecast		March Final Runoff Volume Forecast	
	Runoff Volume [KAF]	% of average	Runoff Volume [KAF]	% of average	Runoff Volume [KAF]	% of average
Mica (April-Sept.)	13.9	109	13.5	106	12.8	101
Hungry Horse (April-Sept.)	2.02	92	2.04	93	2.1	96
Libby (April-Sept.)	7.23	107	7.25	107	7.1	105
Grand Coulee (January-July)	66.6	105	66.1	104	65	103
The Dalles (January-July)	105	99	106	100	105	99
Brownlee (April-July)	3.59	62	3.67	63	4.06	70
Dworshak (April-July)	2.80	104	2.8	104	2.8	104
Lower Granite (January-July)	25.7	86	26.9	90	27.6	93
Heise NR-ID (April-July)	2.7	78	2.7	78	2.94	85
Weiser –ID (April-July)	3.3	60	3.4	62	3.77	69

Reservoir Operations: The reservoirs have been operated for power generation and flood control during fall and winter. A summary of actual elevations and required flood control elevations at the end of March is shown in the following Table:

Reservoir	Actual Elev. as of March 9, 2000 [ft]	Required End of March Flood Control Elevation [ft]	Max. Reservoir Pool [ft]
Libby	2338.05	2331.3	2459.0
Hungry Horse	3509.34	3516.5	3560.0
Grand Coulee	1263.20	1272.0	1290.0
Brownlee	2056.53*	2053.1	2077.0
Dworshak	1521.67	1512.2	1600.0

*as of March 8, 2000

Libby reservoir began refill in order to meet the 95 BiOp and the sturgeon BiOp, which includes refill to full pool elevation by June 30 and sturgeon flows, flows in the May-June period. The reservoir is decreasing outflows from 8 kcfs as of March 9 to 4 kcfs on March 14.

Hungry Horse is drafted below required flood control elevations for power generation purposes. Current outflows are in the range of 3.6 kcfs-6.45 kcfs for the period of March 2-9.

Grand Coulee was drafted for power generation purposes below flood control elevations. Current outflows are in the range of 86.5 kcfs-127.1 kcfs for the period of March 2-8.

Brownlee reservoir is above the required flood control elevation. Current outflows below Hells Canyon Dam are in the range of 18.95 kcfs to 29.92 kcfs for the period of March 3-9.

Dworshak is projected to be operated for flood control operations through the end of March. An operations request was made for the Nez Pierce tribe hatchery, to maintain 9.5 kcfs below Dworshak dam to facilitate hatchery water intake.

Flows: Requested flow operations for this period include, maintenance of 65 kcfs instantaneous flow at Priest Rapids Dam, spill passage for fall chinook at Bonneville Dam and flow at Bonneville Dam to protect chum redds at the Ives/Pierce complex.

Spill: Approximately 8 million tule fall chinook were released from the Spring Creek Hatchery on the morning of March 9, 2000. The fishery agencies and tribes have submitted SOR #2000-3 requesting spill to begin on March 9, 2000 at 2000 hours and to extend for a ten-day period. Spill is requested to occur 24-hours a day, up to levels that reach the 120% total dissolved gas cap at the Warrendale dissolved gas monitor. Total dissolved gas waivers were requested and received from the State of Oregon Department of Environmental Quality and the Washington Department of Ecology for this operation.

Warmer than normal winter temperatures have resulted in early development and emergence of chum and fall chinook salmon in the Ives/Pierce Islands complex downstream of Bonneville Dam. In order to protect the most sensitive developmental stages of these fish the total dissolved gas supersaturation levels over the redds should not exceed 105%. At the same time, the fishery agencies and tribes do not wish to diminish the spill protection for the Spring Creek Hatchery release. Accomplishment of both goals could be achieved by increasing the water depth over the redds establishing a total dissolved gas supersaturation compensation depth. SOR #2000-3 asks that flows at Bonneville Dam during the 10-day period be increased to 265 Kcfs. The Action Agencies (Corps of Engineers, Bonneville Power Administration and Bureau of Reclamation) response is to provide flows between 170-220 Kcfs citing caution regarding a “potential” for a lower than normal water supply forecast as justification. The Action Agencies will attempt to shape the flows higher towards the beginning of the period. Spill levels are to be set initially at 100 Kcfs and real-time gage depths, as well as field measurements of total dissolved gas levels, will be used to adjust the spill level from the initial volume. The Action Agencies have agreed to the special operations for 7 days, or until juvenile fish passage has dropped back to low levels, up to a maximum of 10 days. The fishery agencies and tribes will evaluate the fish passage rates and recommendations will be made to the Technical Management Team regarding the need for continuation of the operations.

Some small levels of spill have occurred in the Mid Columbia and lower Snake River over the past week. Monitoring for signs of gas bubble trauma will begin the first week of April.

Smolt Monitoring Program. Monitoring of the 2000 smolt migration is now underway at Bonneville Dam with timed subsamples being accumulated over a 24-hr period, ending 0700 each day, at the new Powerhouse 2 sampling facility. Mostly yearling and subyearling chinook were collected during the first two days' sampling. Spring Creek Hatchery made its first release for the season of tule fall chinook on March 9. These fish will start showing during the sample period ending 0700 March 10. Next week sampling will be underway at the traps on the Salmon, Snake, Grande Ronde, and Imnaha rivers. Sampling at Lower Granite Dam is scheduled to begin March 25 and sampling at the remaining dams is scheduled to begin April 1.

Adult Fish Passage: At present, all adult fish passage facilities should be operating at full criteria levels at the Columbia and Snake River dams. Fish counting will be initiated at most projects in April. Lower Granite Dam began recording fish passage starting on March 1st with a cumulatiave total of 436 steelhead, 34 of them wild, through March 7th. Fish counting will begin on March 15th at Bonneville Dam. Dates for fish counting at the dams are listed below: Fish counts can be found on the FPC website: www.fpc.org. In our Weekly Reports, the current (year 2000) counts will be listed at each project and the previous year's total (1999) and 10-year average through the same ending date, generally Wednesday or Thursday of the Report week. This should allow the reader to compare the year 2000 Run of Adult Fish to previous years.

Adult Return Reporting Dates for 2000

Dam Counting Dates

Bonneville Dam -	March 15 to November 15
The Dalles Dam -	April 1 to October 31
John Day Dam -	April 1 to October 31
McNary Dam -	April 1 to October 31
Ice Harbor Dam -	April 1 to October 31
Lower Monumental Dam -	April 1 to October 31
Little Goose Dam -	April 1 to October 31
Lower Granite Dam -	March 1 to December 15
Priest Rapids Dam -	April 16 to November 15
Rock Island Dam -	April 15 to November 15
Rocky Reach Dam -	April 15 to November 14
Wells Dam -	May 1 to November 15

Hatchery Releases: In the weekly reporting, juvenile fish released from State, Federal, and Tribal hatcheries will be listed for the two weeks proceeding the Report and the upcoming two weeks. Hatchery Release Schedules can also be garnered from the FPC website. Normally the juvenile hatchery release schedules are obtained from release coordinators or directly from the hatcheries prior to the releases, and updated with preliminary data through the season before being finalized by the Release Agency, usually near the end of the calendar year.

For the juvenile fish migration season, the Snake River basin had some yearling spring chinook released from acclimation ponds and streams in the Clearwater River during the 1999 fall, which should migrate during 2000. As noted in the Hatchery schedule, fish were released at selected locations during the past two weeks, with others scheduled for the upcoming two weeks. The majority of yearling spring, summer and fall chinook will be released during March and April with the steelhead released mainly in April and May. Subyearling fall chinook will predominantly be released in June from acclimation ponds in the Snake River above Asotin, WA and from Big Canyon Pond near Peck, Idaho, with an on-site release of subyearling fall chinook from Lyons Ferry Hatchery. Juvenile coho will be released in the Clearwater River drainage by the Nez Perce Tribe, with timing of the releases between March and April.

For the Mid-Columbia Zone (above McNary Dam), about 391,000 yearling spring chinook were released in January. The Yakama Tribal Supplementation Facilities will begin volitional releases of yearling chinook in March that will end on June 1. The yearling chinook from the Methow, Entiat, and Wenatchee River basins will mainly occur in mid-April. Juvenile steelhead and coho salmon will be released in April and May from Mid-Columbia hatcheries. Sockeye have already been released this past fall (1999). Yearling summer chinook will be liberated in April with the subyearling summer and fall chinook released from late May to late June.

In the Lower Columbia River Zone (from above Bonneville Dam to below McNary Dam), a number of juvenile salmon were released during the past two weeks. The largest single release slated for the Columbia River occurred Thursday, March 09, with almost 8.2 million subyearling "Tule" fall chinook released from Spring Creek Hatchery, located about 30 miles upstream from Bonneville Dam. Special Operations will again be implemented at Bonneville Dam to improve passage of these fish through the project. In addition, Klickitat Hatchery and acclimation facilities on the Umatilla River released about 1 million yearling spring chinook between them during the past two weeks. The first release of yearling fall chinook was also completed in the Umatilla River. Juvenile steelhead and coho releases will mainly occur in April in this Zone. No summer chinook or sockeye are released in this Zone.

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

	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
02/25/00	118.5	0.0	113.1	0.0	116.2	0.0	121.1	0.0	120.6	0.0	125.3	0.0	127.9	0.0
02/26/00	75.7	0.0	82.0	0.0	88.1	0.0	96.3	0.0	95.8	0.0	104.9	0.0	112.6	0.0
02/27/00	62.2	0.0	60.5	0.0	58.7	0.0	59.7	0.0	60.7	0.0	66.4	0.0	69.9	0.0
02/28/00	106.9	0.0	108.4	0.0	108.5	0.0	107.3	0.0	104.2	0.0	98.7	0.0	94.6	0.0
02/29/00	86.9	0.0	92.6	0.0	96.4	0.0	102.6	0.0	104.1	0.0	112.5	0.0	116.3	0.0
03/01/00	98.6	0.0	96.3	0.0	99.1	0.0	102.4	0.0	101.1	0.0	99.0	0.0	110.5	0.0
03/02/00	86.5	0.0	88.5	0.0	88.6	0.0	89.5	0.0	88.6	0.0	96.6	0.0	102.7	0.0
03/03/00	93.9	0.0	95.7	0.0	96.5	0.0	97.4	0.0	96.4	0.0	89.2	0.0	89.4	0.0
03/04/00	65.2	0.0	74.3	0.0	75.0	0.0	69.4	0.0	78.0	0.0	81.2	0.0	82.4	0.0
03/05/00	94.6	0.0	85.8	0.0	85.9	0.0	86.5	0.0	86.8	0.0	84.0	0.0	85.2	0.0
03/06/00	127.1	0.0	135.9	0.0	136.1	5.0	137.8	6.5	132.3	0.0	125.9	1.1	129.0	4.4
03/07/00	105.8	0.0	109.9	0.0	114.1	0.1	120.7	0.6	122.9	0.0	136.8	8.1	139.0	1.9
03/08/00	116.6	0.0	113.9	0.0	113.6	0.0	118.5	0.0	117.9	0.0	119.4	0.0	123.4	0.0
03/09/00	116.1	0.0	117.8	0.0	118.3	0.0	117.9	0.0	116.3	0.0	109.4	0.0	112.7	0.0

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

	Dworshak		Brownlee	Hells Canyon	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
Date	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
02/25/00	5.9	0.0	25.0	27.0	51.5	0.0	52.0	0.0	56.3	0.0	55.6	0.0
02/26/00	5.9	0.0	21.2	24.3	50.7	0.0	52.7	0.0	58.3	0.0	58.2	0.0
02/27/00	5.9	0.0	30.3	26.7	44.9	0.0	45.2	0.0	47.7	0.0	47.3	0.0
02/28/00	10.4	0.0	35.0	29.9	60.8	0.0	62.4	0.0	67.2	0.0	65.2	0.0
02/29/00	10.1	0.0	30.5	31.3	63.7	0.0	71.2	0.0	75.6	0.0	73.7	0.0
03/01/00	8.6	0.0	28.6	26.4	60.8	0.0	57.0	0.0	64.0	0.0	69.7	0.0
03/02/00	8.7	0.0	25.0	29.6	58.2	0.0	59.2	0.0	60.6	0.0	57.3	0.0
03/03/00	5.9	0.0	22.8	29.8	58.4	0.0	57.6	0.0	58.9	0.0	61.4	0.0
03/04/00	5.9	0.0	20.6	29.9	54.6	0.0	57.5	0.0	64.0	0.0	63.1	0.0
03/05/00	6.0	0.0	20.6	25.4	62.0	0.0	60.9	0.0	61.9	0.0	58.9	0.0
03/06/00	9.5	0.0	23.0	26.0	57.1	0.0	58.3	4.9	62.1	0.0	65.3	0.0
03/07/00	10.7	0.0	21.8	20.2	59.0	0.0	64.1	0.0	67.8	0.0	66.8	0.0
03/08/00	10.8	0.0	21.2	19.5	57.9	0.0	62.8	0.0	70.3	0.0	73.0	0.0
03/09/00	10.8	0.0	---	---	55.2	0.0	52.7	0.0	53.0	0.0	49.6	0.0

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

	McNary		John Day		The Dalles		Bonneville			
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
02/25/00	187.0	0.0	193.6	0.0	188.0	0.0	204.1	0.0	84.0	112.6
02/26/00	170.1	0.0	182.4	0.0	182.7	0.0	196.5	0.0	74.2	113.8
02/27/00	144.5	0.0	162.0	0.0	164.9	0.0	193.4	0.0	75.3	108.9
02/28/00	139.8	0.0	157.9	0.0	163.6	0.0	176.7	0.0	70.7	96.8
02/29/00	187.8	0.0	195.4	0.0	197.4	0.0	198.9	0.0	82.2	107.5
03/01/00	173.3	0.0	183.6	0.0	183.9	0.0	199.3	0.0	84.5	105.7
03/02/00	174.2	0.0	178.7	0.0	178.8	0.0	199.2	0.0	80.7	109.3
03/03/00	159.8	0.0	189.8	0.0	192.7	0.0	199.0	0.0	78.4	111.4
03/04/00	148.4	0.0	166.4	0.0	171.1	0.0	178.2	0.0	72.1	96.9
03/05/00	130.1	0.0	137.9	0.0	144.8	0.0	164.4	0.0	69.6	85.6
03/06/00	180.7	0.0	180.1	0.0	179.1	0.0	194.3	0.0	75.1	110.0
03/07/00	202.4	0.0	207.2	0.0	206.3	0.0	211.7	0.0	81.7	120.8
03/08/00	196.2	0.0	207.0	0.0	209.0	0.0	214.5	0.0	82.0	123.3
03/09/00	179.1	0.0	191.7	0.0	193.1	0.0	206.6	16.5	69.3	111.6

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

	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		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
2/25	95	95	96	2	102	103	104	24	102	102	103	24	102	102	103	23	---	---	---	0
2/26	96	96	96	5	103	104	104	24	102	103	103	24	103	103	104	23	---	---	---	0
2/27	96	96	96	4	103	103	104	24	103	103	103	24	103	104	106	23	---	---	---	0
2/28	96	96	99	5	103	103	104	24	103	103	103	24	102	103	107	23	---	---	---	0
2/29	96	96	97	5	104	104	104	24	102	103	103	24	102	102	104	23	---	---	---	0
3/1	96	96	96	6	103	103	104	24	102	102	102	24	101	102	103	24	---	---	---	0
3/2	96	96	96	5	103	103	104	24	102	102	102	24	101	102	105	23	---	---	---	0
3/3	95	95	96	6	101	101	102	24	102	102	103	24	102	102	105	23	---	---	---	0
3/4	95	95	96	7	102	102	103	24	103	103	103	24	103	104	106	23	---	---	---	0
3/5	96	96	96	4	102	102	103	24	103	104	104	24	104	104	105	23	---	---	---	0
3/6	96	96	97	4	102	103	104	24	104	104	104	24	103	103	105	23	---	---	---	0
3/7	96	96	96	5	102	103	104	24	103	103	103	24	102	103	105	23	---	---	---	0
3/8	96	96	96	4	102	102	103	24	103	103	103	24	102	103	105	23	---	---	---	0
3/9	96	96	97	6	102	102	103	24	103	103	103	24	102	103	105	23	---	---	---	0

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

	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		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
2/25	---	---	---	0	---	---	---	0	---	---	---	0	100	100	101	24	---	---	---	0
2/26	---	---	---	0	---	---	---	0	---	---	---	0	100	100	101	21	---	---	---	0
2/27	---	---	---	0	---	---	---	0	---	---	---	0	101	101	102	22	---	---	---	0
2/28	---	---	---	0	---	---	---	0	---	---	---	0	101	101	101	22	---	---	---	0
2/29	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	13	---	---	---	0
3/1	---	---	---	0	---	---	---	0	---	---	---	0	100	101	101	23	---	---	---	0
3/2	---	---	---	0	---	---	---	0	---	---	---	0	100	101	101	24	---	---	---	0
3/3	---	---	---	0	---	---	---	0	---	---	---	0	100	101	101	24	---	---	---	0
3/4	---	---	---	0	---	---	---	0	---	---	---	0	102	102	102	23	---	---	---	0
3/5	---	---	---	0	---	---	---	0	---	---	---	0	102	103	103	24	---	---	---	0
3/6	---	---	---	0	---	---	---	0	---	---	---	0	102	102	103	23	---	---	---	0
3/7	---	---	---	0	---	---	---	0	---	---	---	0	100	101	101	19	---	---	---	0
3/8	---	---	---	0	---	---	---	0	---	---	---	0	102	103	103	23	---	---	---	0
3/9	---	---	---	0	---	---	---	0	---	---	---	0	100	100	101	23	---	---	---	0

Total Dissolved Gas Saturation at Mid Columbia River Sites

	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		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
2/25	101	102	102	24	---	---	---	0	101	101	102	24	101	101	102	24	101	101	101	24
2/26	101	101	102	21	---	---	---	0	101	101	102	24	101	101	102	24	101	101	102	24
2/27	102	102	102	22	---	---	---	0	102	102	103	24	102	102	103	24	102	102	103	24
2/28	101	101	102	22	---	---	---	0	102	102	102	24	102	102	102	24	102	102	102	24
2/29	101	101	102	14	---	---	---	0	101	101	102	10	102	102	103	12	102	102	102	13
3/1	101	101	101	23	---	---	---	0	101	101	101	24	101	101	101	24	101	101	101	24
3/2	100	100	101	24	---	---	---	0	101	101	101	24	101	101	101	24	101	101	101	24
3/3	101	101	102	24	---	---	---	0	101	101	102	24	101	101	102	24	101	101	102	24
3/4	102	102	102	23	---	---	---	0	102	102	103	24	102	102	102	24	102	102	103	24
3/5	102	102	103	24	---	---	---	0	102	102	103	24	102	102	103	24	102	102	102	24
3/6	102	103	103	24	---	---	---	0	103	103	103	24	103	103	103	24	103	102	102	24
3/7	103	103	103	19	---	---	---	0	102	102	102	24	103	103	106	24	103	102	104	24
3/8	102	103	103	24	---	---	---	0	102	102	103	24	102	102	103	24	102	103	104	24
3/9	102	103	103	24	---	---	---	0	---	---	---	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

	Priest R. Dnst				Pasco				Dworshak				Clearwater				Anatone			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
2/25	101	101	101	24	---	---	---	0	---	---	---	0	---	---	---	0	101	102	103	13
2/26	102	102	103	24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
2/27	103	103	104	24	---	---	---	0	---	---	---	0	---	---	---	0	103	103	103	24
2/28	102	102	103	24	---	---	---	0	98	98	98	8	---	---	---	0	102	102	103	24
2/29	102	102	103	9	---	---	---	0	98	98	98	24	---	---	---	0	102	102	103	24
3/1	102	102	103	24	---	---	---	0	---	---	---	0	---	---	---	0	102	103	104	24
3/2	102	102	103	24	---	---	---	0	---	---	---	0	---	---	---	0	102	102	103	24
3/3	102	102	103	24	---	---	---	0	97	97	98	24	---	---	---	0	103	104	105	24
3/4	103	103	104	24	---	---	---	0	98	99	99	24	---	---	---	0	103	104	104	24
3/5	103	103	104	24	---	---	---	0	98	98	99	17	---	---	---	0	102	102	102	17
3/6	103	103	104	24	---	---	---	0	99	100	107	24	---	---	---	0	102	102	102	24
3/7	104	104	108	24	---	---	---	0	98	98	98	22	---	---	---	0	102	102	103	22
3/8	104	104	105	24	---	---	---	0	98	98	98	24	---	---	---	0	102	103	103	24
3/9	---	---	---	0	---	---	---	0	97	98	98	24	---	---	---	0	102	102	102	24

Total Dissolved Gas Saturation Data at Snake River Sites

	Snake-Lewiston				Lower Granite				L. Granite Tlwr				Little Goose				L. Goose Tlwr			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
2/25	---	---	---	0	102	102	102	24	102	102	102	24	---	---	---	0	---	---	---	0
2/26	---	---	---	0	102	102	103	24	101	101	102	24	---	---	---	0	---	---	---	0
2/27	---	---	---	0	102	102	102	24	102	102	102	24	---	---	---	0	---	---	---	0
2/28	---	---	---	0	102	102	102	24	101	101	101	24	---	---	---	0	---	---	---	0
2/29	---	---	---	0	102	102	102	13	102	102	104	13	---	---	---	0	---	---	---	0
3/1	---	---	---	0	102	102	104	24	101	101	102	24	---	---	---	0	---	---	---	0
3/2	---	---	---	0	101	101	101	24	100	101	101	24	---	---	---	0	---	---	---	0
3/3	---	---	---	0	100	100	101	5	100	100	100	5	---	---	---	0	---	---	---	0
3/4	---	---	---	0	103	103	104	24	102	103	103	24	---	---	---	0	---	---	---	0
3/5	---	---	---	0	103	103	104	17	103	103	103	17	---	---	---	0	---	---	---	0
3/6	---	---	---	0	103	103	104	24	103	103	103	24	---	---	---	0	---	---	---	0
3/7	---	---	---	0	103	103	105	22	102	102	102	22	---	---	---	0	---	---	---	0
3/8	---	---	---	0	101	102	102	24	101	101	102	24	---	---	---	0	---	---	---	0
3/9	---	---	---	0	100	100	101	24	100	100	100	24	---	---	---	0	---	---	---	0

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

	Lower Mon.				L. Mon. Tlwr				Ice Harbor				Ice Harbor Tlwr				McNary-Oregon			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
2/25	---	---	---	0	---	---	---	0	102	102	103	13	101	102	102	13	102	103	103	24
2/26	---	---	---	0	---	---	---	0	103	103	103	24	102	102	103	24	103	103	103	24
2/27	---	---	---	0	---	---	---	0	103	103	103	24	103	103	103	24	104	104	104	24
2/28	---	---	---	0	---	---	---	0	102	103	103	24	102	102	102	24	103	103	103	24
2/29	---	---	---	0	---	---	---	0	102	102	103	13	102	102	102	13	103	103	103	13
3/1	---	---	---	0	---	---	---	0	101	101	102	24	101	102	102	24	102	102	103	24
3/2	---	---	---	0	---	---	---	0	101	101	101	24	101	101	102	24	102	102	102	24
3/3	---	---	---	0	---	---	---	0	100	100	100	5	101	101	101	5	101	101	101	5
3/4	---	---	---	0	---	---	---	0	103	103	103	24	103	103	104	24	104	104	104	23
3/5	---	---	---	0	---	---	---	0	103	103	103	17	103	103	104	17	104	104	105	17
3/6	---	---	---	0	---	---	---	0	103	103	103	24	103	103	104	24	104	104	104	22
3/7	---	---	---	0	---	---	---	0	102	102	104	16	102	102	103	16	103	103	103	22
3/8	---	---	---	0	---	---	---	0	101	101	101	24	102	102	102	24	102	102	102	24
3/9	---	---	---	0	---	---	---	0	101	101	101	24	102	102	102	24	102	103	103	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

	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		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr
2/25	103	103	103	24	103	103	103	24	---	---	---	0	---	---	---	0	---	---	---	0
2/26	103	104	104	24	103	104	104	24	---	---	---	0	---	---	---	0	---	---	---	0
2/27	104	105	105	24	105	105	105	24	---	---	---	0	---	---	---	0	---	---	---	0
2/28	104	104	104	24	104	104	104	24	---	---	---	0	---	---	---	0	---	---	---	0
2/29	103	103	104	13	103	103	104	13	---	---	---	0	---	---	---	0	---	---	---	0
3/1	102	103	103	24	102	103	103	24	---	---	---	0	---	---	---	0	---	---	---	0
3/2	102	103	103	24	103	103	103	24	---	---	---	0	---	---	---	0	---	---	---	0
3/3	102	102	102	5	102	102	102	5	---	---	---	0	---	---	---	0	---	---	---	0
3/4	104	105	105	23	104	105	105	23	---	---	---	0	---	---	---	0	---	---	---	0
3/5	104	104	105	17	104	104	105	17	---	---	---	0	---	---	---	0	---	---	---	0
3/6	104	104	105	23	105	105	105	23	---	---	---	0	---	---	---	0	---	---	---	0
3/7	103	104	104	21	103	104	104	22	---	---	---	0	---	---	---	0	---	---	---	0
3/8	103	103	103	24	103	103	103	24	---	---	---	0	---	---	---	0	---	---	---	0
3/9	103	103	103	24	103	103	103	24	---	---	---	0	---	---	---	0	---	---	---	0

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

	The Dalles Dnst				Bonneville				Warrendale				Skamania				Camas\Washugal			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
2/25	---	---	---	0	101	102	102	24	101	101	102	24	101	101	102	24	101	101	102	23
2/26	---	---	---	0	102	102	102	24	102	102	102	24	101	102	102	24	101	102	102	23
2/27	---	---	---	0	102	102	103	24	102	102	102	24	102	102	103	24	102	102	103	23
2/28	---	---	---	0	103	103	103	24	102	103	103	24	102	103	103	24	102	103	103	23
2/29	---	---	---	0	102	103	103	24	103	103	105	24	102	103	103	24	102	102	103	23
3/1	---	---	---	0	102	102	102	24	104	105	106	24	102	102	103	24	102	102	103	24
3/2	---	---	---	0	102	102	102	24	103	104	104	24	102	102	102	24	102	102	102	23
3/3	---	---	---	0	102	103	103	24	103	103	104	24	102	103	103	24	102	103	103	23
3/4	---	---	---	0	103	103	104	24	104	104	104	24	103	103	103	24	103	103	103	23
3/5	---	---	---	0	103	103	103	24	104	104	104	24	102	103	103	24	103	103	104	23
3/6	---	---	---	0	102	102	103	24	103	103	103	24	102	103	104	24	103	103	104	23
3/7	---	---	---	0	102	102	102	24	103	103	103	24	102	102	103	24	102	102	103	23
3/8	---	---	---	0	102	102	103	24	103	103	104	24	102	102	103	24	102	103	103	23
3/9	---	---	---	0	102	102	102	24	103	104	111	24	103	103	108	24	102	103	103	23

Hatchery Release Summary

From 2/25/00 to 3/9/00

Hatchery	Species...	Migration Year	Number Released	...Release Dates... Begin...	...End	Release Site	River Name
			IDFG				
Clearwater							
	SP	Chinook 2000	463,000	03/06/00	03/10/00	Rapid R	Little Salmon River
		Agency Totals:	**463,000**	.....			
			Umatilla Tribe				
Imeques							
	SP	Chinook 2000	535,000	03/06/00	03/09/00	Imeques Acclim Pd	Umatilla River
Thornhollow							
	FA	Chinook 2000	235,000	03/06/00	03/09/00	Thornhollow Acclim Pd	Umatilla River
		Agency Totals:	**770,000**	.....			
			USFWS				
Spring Creek							
	FA	Chinook 2000	8,177,725	03/09/00	03/09/00	Spring Creek H	Columbia River
		Agency Totals:	**8,177,725**	.....			
			WDFW				
Klickitat							
	SP	Chinook 2000	563,000	03/01/00	03/30/00	Klickitat H	Klickitat River
		Agency Totals:	**563,000**	.....			
		Total Release..	**9,973,725**				

Hatchery Release Summary

From 3/10/00 to 3/23/00

Hatchery	Species...	Migration Year	Number Released	...Release Dates... Begin...	...End	Release Site	River Name
			IDFG				
Rapid River							
	SP Chinook	2000	2,450,000	03/16/00	04/15/00	Rapid River H	Little Salmon River
		Agency Totals:	**2,450,000**	.....			
			Nez Perce Tribe				
Willard							
	Coho	2000	265,000	03/13/00	03/17/00	Potlatch R	Clearwater Rvr M F
	Coho	2000	265,000	03/13/00	03/17/00	Lapwai Cr	Clearwater Rvr M F
		Agency Totals:	**530,000**	.....			
			ODFW				
Imnaha							
	SP Chinook	2000	180,000	03/22/00	04/18/00	Imnaha Acclim Pd	Imnaha River
		Agency Totals:	**180,000**	.....			
			Umatilla Tribe				
Cascade							
	Coho	2000	250,000	03/15/00	03/15/00	Umatilla R	Umatilla River
Lower Herman C							
	Coho	2000	500,000	03/15/00	03/15/00	Umatilla R	Umatilla River
		Agency Totals:	**750,000**	.....			
			WDFW				
Tucannon							
	SP Chinook	2000	128,000	03/10/00	04/20/00	Curl Lake	Tucannon River
		Agency Totals:	**128,000**	.....			
			Warm Spgs Tribe				
Round Butte							
	SP Chinook	2000	4,200	03/20/00	03/20/00	Parkdale Acclim Pd	Hood River
		Agency Totals:	**4,200**	.....			
			Yakima Tribe				
Clark Flat							
	SP Chinook	2000	229,000	03/15/00	06/01/00	Clark Flat Acclim Pd	Yakama River
Easton Pond							
	SP Chinook	2000	236,800	03/15/00	06/01/00	Easton Pd	Yakama River
		Agency Totals:	**465,800**	.....			
		Total Release..	**4,508,000**				

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)
02/26/00	---	---	---	---	---	---	---	---	---	---	---
02/27/00	---	---	---	---	---	---	---	---	---	---	---
02/28/00	---	---	---	---	---	---	---	---	---	---	---
02/29/00	---	---	---	---	---	---	---	---	---	---	---
03/01/00	---	---	---	---	---	---	---	---	---	---	---
03/02/00	---	---	---	---	---	---	---	---	---	---	---
03/03/00	---	---	---	---	---	---	---	---	---	---	---
03/04/00	---	---	---	---	---	---	---	---	---	---	---
03/05/00	---	---	---	---	---	---	---	---	---	---	---
03/06/00	---	---	---	---	---	---	---	---	---	---	---
03/07/00	---	---	---	---	---	---	---	---	---	---	---
03/08/00	---	---	---	---	---	---	---	---	---	---	390
03/09/00	---	---	---	---	---	---	---	---	---	---	696
03/10/00	---	---	---	---	---	---	---	---	---	---	295
Total:	0	0	0	0	0	0	0	0	0	0	1381
# Days:	0	0	0	0	0	0	0	0	0	0	3
Average:	0	0	0	0	0	0	0	0	0	0	460.33

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)
02/26/00	---	---	---	---	---	---	---	---	---	---	---
02/27/00	---	---	---	---	---	---	---	---	---	---	---
02/28/00	---	---	---	---	---	---	---	---	---	---	---
02/29/00	---	---	---	---	---	---	---	---	---	---	---
03/01/00	---	---	---	---	---	---	---	---	---	---	---
03/02/00	---	---	---	---	---	---	---	---	---	---	---
03/03/00	---	---	---	---	---	---	---	---	---	---	---
03/04/00	---	---	---	---	---	---	---	---	---	---	---
03/05/00	---	---	---	---	---	---	---	---	---	---	---
03/06/00	---	---	---	---	---	---	---	---	---	---	---
03/07/00	---	---	---	---	---	---	---	---	---	---	---
03/08/00	---	---	---	---	---	---	---	---	---	---	47
03/09/00	---	---	---	---	---	---	---	---	---	---	139
03/10/00	---	---	---	---	---	---	---	---	---	---	1228
Total:	0	0	0	0	0	0	0	0	0	0	1414
# Days:	0	0	0	0	0	0	0	0	0	0	3
Average:	0	0	0	0	0	0	0	0	0	0	471.33

The data presented in the following passage index section is preliminary and has been derived from various sources. For verification and/or origin of data, contact the operators of the Fish Passage Data System at (503) 230-4099.

Smolt indices, wild & hatchery 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 sampling system. Collection counts may be constrained due to sampling effort or river flow. 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 hour 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 (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
02/26/00	---	---	---	---	---	---	---	---	---	---	---
02/27/00	---	---	---	---	---	---	---	---	---	---	---
02/28/00	---	---	---	---	---	---	---	---	---	---	---
02/29/00	---	---	---	---	---	---	---	---	---	---	---
03/01/00	---	---	---	---	---	---	---	---	---	---	---
03/02/00	---	---	---	---	---	---	---	---	---	---	---
03/03/00	---	---	---	---	---	---	---	---	---	---	---
03/04/00	---	---	---	---	---	---	---	---	---	---	---
03/05/00	---	---	---	---	---	---	---	---	---	---	---
03/06/00	---	---	---	---	---	---	---	---	---	---	---
03/07/00	---	---	---	---	---	---	---	---	---	---	---
03/08/00	---	---	---	---	---	---	---	---	---	---	0
03/09/00	---	---	---	---	---	---	---	---	---	---	0
03/10/00	---	---	---	---	---	---	---	---	---	---	0
Total:	0	0	0	0	0	0	0	0	0	0	0
# Days:	0	0	0	0	0	0	0	0	0	0	3
Average:	0	0	0	0	0	0	0	0	0	0	0

COMBINED STEELHEAD

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
02/26/00	---	---	---	---	---	---	---	---	---	---	---
02/27/00	---	---	---	---	---	---	---	---	---	---	---
02/28/00	---	---	---	---	---	---	---	---	---	---	---
02/29/00	---	---	---	---	---	---	---	---	---	---	---
03/01/00	---	---	---	---	---	---	---	---	---	---	---
03/02/00	---	---	---	---	---	---	---	---	---	---	---
03/03/00	---	---	---	---	---	---	---	---	---	---	---
03/04/00	---	---	---	---	---	---	---	---	---	---	---
03/05/00	---	---	---	---	---	---	---	---	---	---	---
03/06/00	---	---	---	---	---	---	---	---	---	---	---
03/07/00	---	---	---	---	---	---	---	---	---	---	---
03/08/00	---	---	---	---	---	---	---	---	---	---	7
03/09/00	---	---	---	---	---	---	---	---	---	---	7
03/10/00	---	---	---	---	---	---	---	---	---	---	0
Total:	0	0	0	0	0	0	0	0	0	0	14
# Days:	0	0	0	0	0	0	0	0	0	0	3
Average:	0	0	0	0	0	0	0	0	0	0	4.67

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) }

Two-Week Summary of Passage Indices

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
			COMBINED SOCKEYE								
02/26/00	---	---	---	---	---	---	---	---	---	---	---
02/27/00	---	---	---	---	---	---	---	---	---	---	---
02/28/00	---	---	---	---	---	---	---	---	---	---	---
02/29/00	---	---	---	---	---	---	---	---	---	---	---
03/01/00	---	---	---	---	---	---	---	---	---	---	---
03/02/00	---	---	---	---	---	---	---	---	---	---	---
03/03/00	---	---	---	---	---	---	---	---	---	---	---
03/04/00	---	---	---	---	---	---	---	---	---	---	---
03/05/00	---	---	---	---	---	---	---	---	---	---	---
03/06/00	---	---	---	---	---	---	---	---	---	---	---
03/07/00	---	---	---	---	---	---	---	---	---	---	---
03/08/00	---	---	---	---	---	---	---	---	---	---	0
03/09/00	---	---	---	---	---	---	---	---	---	---	7
03/10/00	---	---	---	---	---	---	---	---	---	---	0
Total:	0	0	0	0	0	0	0	0	0	0	7
# Days:	0	0	0	0	0	0	0	0	0	0	3
Average:	0	0	0	0	0	0	0	0	0	0	2.33

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.

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)}

LEW and WTB data collected for the FPC by Idaho Dept. of Fish and Game.
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 March 7, 2000

	Spring Chinook						Summer Chinook						Fall Chinook					
	2000		1999		10-Yr Avg.		2000		1999		10-Yr Avg.		2000		1999		10-Yr Avg.	
DAM	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON																		
TDA																		
JDA																		
MCN																		
IHR																		
LMN																		
LGS					**	**					**	**					**	**
LWG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRD																		
RIS																		
RRH																		
WEL																		

	Coho						Sockeye			Steelhead			
	2000		1999		10-Yr Avg.				10-Yr			10-Yr	Wild
DAM	Adult	Jack	Adult	Jack	Adult	Jack	2000	1999	Avg.	2000	1999	Avg.	2000
BON													
TDA													
JDA													
MCN													
IHR													
LMN													
LGS					**	**			**			**	
LWG	0	0	0	0	0	0	0	0	0	436	423	345	34
PRD													***
RIS													
RRH													
WEL													

These numbers were collected from the COE's Running Sums text files.
As the COE's running sums report is several days behind, the numbers for 2000, 1999 and the 10 year average are through 03/(
Wild steelhead numbers are included in the total.
**Adult count records at Little Goose Dam have been maintained since 1991, visual counts were not conducted at Little Goose Dam between 1982 and 1990.
***PRD is not reporting Wild Steelhead numbers.
Bonneville and Lower Granite were doing video counts only until April 1, 1999. These counts were 8 hour daytime video counts.
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.