



Fish Passage Center

Weekly Report #05 - 1

March 11, 2005

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has been very low over the first portion of March. Of the sites in Table 1, none recorded precipitation that was greater than 25% of average over the beginning of March. Over the entire water year, precipitation also has been well below average.

Table 1. Summary of March precipitation and cumulative October through March precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2005 March 1-7		Water Year 2005 October 1, 2004 to March 7, 2005	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	0.08	19	9.64	75
SNAKE RIVER ABOVE ICE HARBOR	0.08	21	6.35	70
Columbia Above The Dalles	0.08	18	8.76	68
Kootenai	0.05	12	9.47	72
Clark Fork	0.02	9	3.94	49
Flathead	0.02	5	8.16	75
Pend Oreille/Spokane	0.01	1	12.63	70
Central Washington	0.00	0	2.88	55
SNAKE RIVER PLAIN	0.01	5	4.18	80
Salmon/Boise/ Payette	0.04	9	6.18	55
Clearwater	0.02	3	10.50	64
SW Washington Cascades/Cowlitz	0.23	15	26.60	55
Willamette Valley	0.05	4	19.58	49

Snowpack within the Columbia Basin is also well below average. Average snowpack in the Columbia River for basins above the Snake River confluence is 40% of average, for Snake River Basins the average snowpack is 58% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 24% of average.

Water Supply Forecasts have been decreasing over the winter months, dropping between eight and thirteen percent of average between the February and March Final Forecasts. Table 2 displays the February Final and March Final runoff volume forecasts for multiple reservoirs along with runoff volumes that actually occurred in 2001 for comparison. The current forecast at The Dalles between January and July is 70700 Kaf (66% of average), still somewhat higher than recorded in the very low runoff year of 2001. At Lower Granite Dam and Brownlee Dam, the current forecasts are lower than seen in 2001. The April-July forecast at Dworshak Dam is identical to the actual runoff volume recorded in 2001.

Table 2. February Final and March Final Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins along with 2001 actual runoff volumes over the same periods.

Location	February Final		March Final		Actual 2001
	% Average (1971-2000)	Probable Runoff Volume (Kaf)	% Average (1971-2000)	Probable Runoff Volume (Kaf)	Actual Runoff Volume (Kaf)
The Dalles (Jan-July)	77	82400	66	70700	58200
Grand Coulee (Jan-July)	91	57200	79	54700	37400
Libby Res. Inflow, MT (Jan-July)	90	5650	77	4860	3341
Hungry Horse Res. Inflow, MT (Jan-July)	75	1660	67	1480	1300
Lower Granite Res. Inflow (Apr- July)	59	12700	46	9960	10300
Brownlee Res. Inflow (Apr-July)	41	2590	28	1740	1970*
Dworshak Res. Inflow (Apr-July)	66	1750	56	1470	1470

Grand Coulee Reservoir is projected to draft to elevation 1255 feet by the end of March for drum gate maintenance. Grand Coulee is currently at an elevation of 1268.0 feet, and will draft approximately 13 feet of reservoir water in the next several weeks. Because of this operation Grand Coulee will be far below its flood control elevations, and will refill heavily during the spring flow period.

The Libby Reservoir is currently well below its flood control elevations. Libby ended March 10th at an elevation of 2412.6 feet, 29.4 feet below its end of March Flood Control elevation of 2442 feet. Libby continues to release its minimum project outflow of 4.0 Kcfs.

The Hungry Horse Reservoir is currently at an elevation of 3546.0 feet, which is 9.6 feet below

its end of March Flood Control elevation of 3555.6 feet. Hungry Horse has been releasing between 0.8 and 1.3 Kcfs over the past week. The Dworshak reservoir is currently at an elevation of 1567.3 feet. Dworshak is currently 20.2 feet below its end of March Flood Control elevation of 1587.5 feet.

The Brownlee Reservoir was at an elevation of 2072.5 on March 10th. Out of all the major storage projects within the Columbia Hydrosystem, Brownlee is the closest to its end of March Flood Control elevation (2077 feet).

On March 1st, 2005, the Salmon Managers submitted SOR 2005-2 to the Action Agencies which asked for the Bonneville Corner Collector to run for a period of five days (with an optional 6th day if necessary) to assist in the passage of 7.37 million Spring Creek Hatchery fall chinook past Bonneville Dam. The SOR also asked for the Bonneville tailwater to be maintained at a level of 12.5 feet during the operation of the Bonneville Corner Collector to provide adequate depth compensation for chum redds below the project. The Action Agencies agreed to run the requested operation for a period of four days using the volume in John Day Pool and possibly impacting irrigation. The operation began on the afternoon of March 3rd, 2005. On Friday March 4th, 2005 TMT reconvened and decided that because several chum redds below Bonneville Dam were experiencing higher than desired total dissolved gas levels, they would use all the allotted water for this operation to run the corner collector with a Bonneville tailwater of 13.5 feet for as long as possible. The corner collector was turned off on Saturday afternoon, March 5th, 2005. At 3:00 PM on March 5th, 2005 the John Day pool was at an elevation of 264.1 feet, 1.6 feet above the minimum irrigation pool of 262.5 feet. At previous TMT meetings, the Action Agencies had discussed using the John Day pool for the Spring Creek operation to the minimum irrigation pool. The storage in John Day pool between elevation 264.1 feet and 262.5 feet is 79.4 Kaf, which may have allowed the 13.5 foot Bonneville Tailwater to continue for an additional day.

Spill: Presently the only spill occurring in the basin is at Bonneville Dam where approximately 2.3 Kcfs is being spilled during daylight hours for adult fish attraction.

The corner collector at Bonneville Dam operated at 5 Kcfs for approximately 48 hours beginning on 1545 hours on March 3, 2005 and continued through 1530 hours on March 5, 2005 to facilitate the passage of Spring Creek fish. Tail-race elevation was raised from 11.5 feet to 12.5 feet during the first day, and then to 13.5 feet during the remainder of this operation to address dissolved gas concerns at the ESA listed chum redds located below the project. Total dissolved gas levels reached 107% over the chum redds located on the Oregon side of the river, near Multnomah Falls, prior to the operation of the corner collector, and after the first day of the operation. On March 4 the tailwater was raised to a minimum of 13.5 feet to address concerns of gas levels above 105% over the redds with insufficient depth compensation when the tailwater was at 12.5 feet. After the operation the tailwater returned to 11.5 feet. Total dissolved gas levels have exceeded 105% over the last several days at the Warrendale site..

Smolt Monitoring: Smolt Monitoring began the first week of March at Bonneville Dam and at four traps in the Snake River by March 7. Sampling dates for the traps and dams in the Smolt Monitoring Program are posted on our website at http://www.fpc.org/smolt_home.html.

Low flows are already impacting trapping operations. To date only a few yearling and subyearling chinook have been collected at the traps. At the Grande Ronde Trap, located 2 km from the confluence with the Snake River, ODFW personnel were forced to use two screw traps instead of the larger inclined plain trap because flows were too low to install the larger trap.

In the Lower Columbia, at Bonneville Dam, sampling began March 1, in anticipation of the Spring Creek Hatchery release of 7.37 million tule fall Chinook on March 2. The release represented one-half of the total tule production for brood year 2004 from that site. The SMP crew was forced to shut-down sampling at 1600 hours on March 1 and

2 due to a lack of funding for round-the-clock sampling facility monitoring (aka separator monitoring). Because there is a strong diel component to passage at the site it is important to get 24-hour sampling to get representative estimates of passage indices, especially because corner collector operation was initially set for five days around the peak passage of the release. By March 3 the funding had been secured for the month of March so that 24-hour samples were being collected before the Spring Creek fish arrived. The first Spring Creek subyearlings began arriving at approximately 10 pm on March 3. The passage index peaked at 390,000 on March 5 and then dropped down to 6,000 by March 10. Corner Collector operations only lasted two days, beginning March 3 at 3:45 pm and ending March 5 at 3:30 pm. The operation did not continue through peak of passage as the operation ended on the day after highest passage index (SMP sample dates represent the end date of 24 hour samples). Approximately half of the release passed after the corner collector shut down.

Hatchery Releases - The scheduled release of juvenile salmonids from Columbia River Basin hatcheries above Bonneville Dam for the 2005 migration season is estimated near 83 million. Supplemental and planned releases completed during the fall 2003 season are considered to be 2005 migrants. The Zone Release Report below summarizes "planned" hatchery releases from State, federal or Tribal hatcheries or acclimation ponds for the 2005 Migration Season. These totals will be updated after release from the hatcheries and finalized through the year.

Hatchery Zone Release Report

Thursday 10-Mar-2005				
	Snake River	Mid-Columbia	Lower Columbia	Total Release
Fall Chinook	4,850,000	12,656,000	21,928,976	39,434,976
Spring Chinook	8,970,411	4,693,405	5,058,230	18,722,046
Summer Chinook	2,375,000	3,466,500		5,841,500
Coho		2,449,119	4,736,992	7,186,111
Sockeye	210,716	240,459		451,175
Summer Steelhead	9,119,500	1,240,151	522,500	10,882,151
Winter Steelhead			118,300	118,300
Total	25,525,627	24,745,634	32,364,998	82,636,259

Due to the drought conditions that presently exist in the Northwest, hatchery releases may be altered from more normal release dates seen during average flow years. Many of the rivers and streams in the Columbia River basin are already at extreme low levels with the snow pack in many basins well below 50% of normal. The spring migrants comprised mainly of yearling Chinook, Coho, Sockeye and Steelhead could see near record low flows in some of the river basins in 2005.

Hatchery releases completed or initiated during the past two weeks accounted for about 9.1 million fish. Most of the juvenile fish released were comprised of the large subyearling release of Tule fall Chinook from Spring Creek NFH released on March 2nd. Other releases in the Lower Columbia were completed in the Umatilla River (Coho and yearling fall Chinook) in February and yearling spring Chinook in the Klickitat River. Volitional releases were initiated from three acclimation ponds in the Columbia River as well. Based on river and stream flow forecasts, many of the hatcheries will be releasing their fish 1-3 weeks earlier than originally planned. For the upcoming two weeks, about 10 million fish will be released from hatcheries or else initiated during the next two weeks. See the Hatchery Release Summary Tables for details.

Juvenile Sockeye were released from net pens into Lake Wenatchee last summer and fall; the majority of these fish reside in the lake and then migrate from the lake and to the ocean the next spring, in this case, April and May, 2005. In the

Snake River basin, juvenile sockeye were released in Redfish, Alturas, and Pettit lakes last fall and will also begin their migration in the spring, usually late April and May from the lakes.

Snake River - Release of yearling chinook from Rapid River H below Hells Canyon Dam and in the Little Salmon River was completed this week with the latter release made on Friday (3/11). The on-site volitional release from Rapid River H is scheduled to begin next week. In addition, yearling chinook from the acclimation ponds located in the Grande Ronde River at Lostine R, Catherine Creek, and upper Grande Ronde will begin their volitional releases this month. In the upcoming two weeks, the majority of yearling spring/summer Chinook will be liberated from State, Federal, and Tribal hatcheries and acclimation ponds in the Salmon River basin as well as most Clearwater River sites.

Although not currently listed in our database, the Nez Perce Tribal releases of yearling Coho began this week with about 460,000 released in the Potlatch R and also the Mainstem Clearwater River near Potlatch River mouth, and another 93,000 near the mouth of Clear Creek. A smaller group of 37,000 Coho were released into Lapwai Creek.

Trucking of steelhead from Niagara Springs H. to Hells Canyon is scheduled for this month with most IDFG facilities starting their hatchery releases about two weeks early in some cases. Mid-Columbia - The CleElum tribal facility will begin volitional releases of yearling chinook mid-March and will continue through late April. No other releases are scheduled for the Mid-Columbia Reach in March unless some schedules are moved earlier.

Lower Columbia - Yearling fall Chinook and Coho salmon were released in late February in the Umatilla River with other scheduled releases in March for yearling spring Chinook. Yearling chinook were released from Klickitat Hatchery on March 1-11 (600,000 total). Warm Springs NFH will have a volitional release in the Deschutes River basin from mid-March through early April.

Adult Fish Passage - At Bonneville and upstream dams, calendar dates when official counting of adult fish will be initiated varies among the sites. Lower Granite Dam began reporting counts on March 1, Bonneville Dam on March 15th, and at the remaining mainstem COE projects, counting will begin on April 1. The PUD dams in the Mid-Columbia River normally begin counting adult fish near April 15 with Wells Dam starting on May 1. The Bonneville Dam counts from January through March 14 are listed in a small table below the normal Adult Table.

At Bonneville Dam, counts of spring Chinook were near non-existent during the first week of March. In a normal year, 5-year old spring Chinook or 3-ocean age fish are the first to migrate upstream in the Columbia River. To date, no PIT-tagged adult spring Chinook have been detected passing Bonneville Dam. Based on pre-season projections of spring Chinook (Note: through June 15) destined for areas above Bonneville Dam, there should be about 254,100 adult spring/summer Chinook on the way.

As noted at the upriver sites, adult steelhead are beginning to move through the hydro system to reach their tributaries and spawning sites. The majority of these fish have over-wintered in the pools and will complete their trip to the spawning grounds in March through early May. Counts at Lower Granite have exceeded 100 per day during most of this week and the total from March 1 of 701 adult steelhead at the project.

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
02/25/05	96.7	0.0	95.5	0.0	99.7	0.0	97.9	0.0	100.0	0.0	100.8	0.0	101.5	0.0
02/26/05	85.0	0.0	82.9	0.0	85.1	0.0	84.0	0.0	85.9	0.0	97.5	0.0	98.2	0.0
02/27/05	85.0	0.0	82.9	0.0	85.1	0.0	84.0	0.0	85.9	0.0	97.5	0.0	98.2	0.0
02/28/05	107.9	0.0	109.6	0.0	106.2	0.0	100.0	0.0	100.1	0.0	83.9	0.0	84.8	0.0
03/01/05	110.2	0.0	109.6	0.0	113.0	0.0	112.3	0.0	115.4	0.0	110.7	0.0	101.5	0.0
03/02/05	112.8	0.0	115.1	0.0	119.5	0.0	117.5	0.0	120.1	0.0	118.0	0.0	112.7	0.0
03/03/05	118.5	0.0	118.3	0.0	117.8	0.0	115.4	0.0	117.6	0.0	131.0	0.0	134.9	0.0
03/04/05	95.8	0.0	102.1	0.0	111.8	0.0	115.1	0.0	118.5	0.0	120.3	0.0	116.8	0.0
03/05/05	79.6	0.0	77.8	0.0	77.0	0.0	77.5	0.0	79.6	0.0	97.6	0.0	98.7	0.0
03/06/05	54.0	0.0	61.1	0.0	69.9	0.0	73.5	0.0	77.2	0.0	84.4	0.0	82.4	0.0
03/07/05	108.3	0.0	101.6	0.0	94.3	0.0	88.6	0.0	90.9	0.0	76.2	0.0	79.4	0.0
03/08/05	95.8	0.0	95.7	0.0	100.5	0.0	100.8	0.0	104.1	0.0	102.9	0.0	90.3	0.0
03/09/05	97.9	0.0	97.8	0.0	97.1	0.0	93.3	0.0	96.0	0.0	108.3	0.0	121.6	0.0
03/10/05	93.8	0.0	104.2	0.0	109.1	0.0	110.4	0.0	113.0	0.0	118.3	0.0	105.6	0.0

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

Date	Dworshak		Hells Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
02/25/05	1.5	0.0	11.0	9.1	17.3	0.0	19.4	0.0	20.7	0.0	22.1	0.0
02/26/05	1.5	0.0	9.4	9.0	20.6	0.0	18.5	0.0	19.2	0.0	18.3	0.0
02/27/05	1.5	0.0	9.4	9.0	20.6	0.0	18.5	0.0	19.2	0.0	18.3	0.0
02/28/05	1.6	0.0	12.2	8.7	22.0	0.0	23.3	0.0	25.7	0.0	29.2	0.0
03/01/05	1.6	0.0	12.2	8.7	16.8	0.0	16.5	0.0	16.1	0.0	13.9	0.0
03/02/05	1.5	0.0	11.2	10.4	21.2	0.0	22.6	0.0	24.1	0.0	24.0	0.0
03/03/05	1.5	0.0	10.7	9.5	21.1	0.0	21.8	0.0	21.0	0.0	20.7	0.0
03/04/05	1.5	0.0	11.0	10.4	14.9	0.0	14.1	0.0	15.0	0.0	13.6	0.0
03/05/05	1.5	0.0	12.2	12.8	19.2	0.0	16.5	0.0	15.0	0.0	15.5	0.0
03/06/05	1.5	0.0	10.5	10.9	20.5	0.0	21.9	0.0	22.6	0.0	21.7	0.0
03/07/05	1.5	0.0	11.0	11.7	21.3	0.0	21.3	0.0	21.3	0.0	22.7	0.0
03/08/05	1.5	0.0	10.9	8.9	22.7	0.0	24.8	0.0	25.7	0.0	25.6	0.0
03/09/05	1.5	0.1	11.3	8.8	18.4	0.0	18.0	0.0	17.9	0.0	16.4	0.0
03/10/05	1.5	0.0	---	---	25.7	0.0	27.6	0.0	29.9	0.0	31.5	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		
02/25/05	107.2	0.0	113.2	0.0	114.9	0.0	125.4	1.0	66.6	52.3
02/26/05	111.1	0.0	105.2	0.0	107.0	0.0	121.0	1.0	64.6	49.9
02/27/05	111.1	0.0	105.2	0.0	107.0	0.0	121.0	1.0	64.6	49.9
02/28/05	118.7	0.0	131.7	0.0	130.5	0.0	120.8	1.0	56.9	57.4
03/01/05	108.9	0.0	108.0	0.0	116.9	0.0	120.4	1.1	15.4	98.4
03/02/05	130.8	0.0	133.6	0.0	120.5	0.0	119.5	1.4	11.2	101.1
03/03/05	136.3	0.0	116.9	0.0	120.9	0.0	129.3	1.2	19.6	99.7
03/04/05	142.6	0.0	144.6	0.0	140.5	0.0	140.4	0.0	24.3	104.1
03/05/05	129.9	0.0	137.0	0.0	140.8	0.0	142.7	0.0	23.2	109.7
03/06/05	109.3	0.0	100.1	0.0	101.1	0.0	122.1	1.3	11.1	103.1
03/07/05	107.8	0.0	127.6	0.0	127.9	0.0	123.1	1.3	13.4	101.9
03/08/05	111.7	0.0	118.5	0.0	121.3	0.0	121.8	1.3	11.6	102.8
03/09/05	120.6	0.0	109.6	0.0	118.0	0.0	120.4	1.3	6.1	106.9
03/10/05	138.3	0.0	143.0	0.0	136.2	0.0	133.5	1.3	15.5	110.6

HATCHERY RELEASE LAST TWO WEEKS

Hatchery Release Summary

From: 2/25/2005 to 03/10/05

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Umatilla Tribe	Bonneville Hatchery	CH1	FA	2005	240,000	02-14-05	02-18-05	Umatilla River	Umatilla River
Umatilla Tribe	Cascade Hatchery	CO	UN	2005	250,000	02-16-05	02-17-05	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe	Lower Herman Cr	CO	UN	2005	334,492	02-14-05	02-17-05	Pendelton Acclim Pond	Umatilla River
Umatilla Tribe Total					824,492				
Washington Dept. of Fish and Wildlife	Klickitat Hatchery	CH1	SP	2005	600,000	03-01-05	03-11-05	Klickitat Hatchery	Klickitat River
Washington Dept. of Fish and Wildlife Total					600,000				
Grand Total					1,424,492				

HATCHERY RELEASE NEXT TWO WEEKS

Hatchery Release Summary

From: 3/11/2005 to 3/24/2005

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. Clearwater	CH1	SP		2005	400,000	03-14-05	03-18-05	Powell Accli	Lochsa River
Idaho Dept. Magic Valle	ST	SU		2005	90,000	03-14-05	04-01-05	Little Salmo	Salmon River (ID)
Idaho Dept. Magic Valle	ST	SU		2005	100,000	03-14-05	04-01-05	Squaw Cr A	Salmon River (ID)
Idaho Dept. McCall Hatc	CH1	SU		2005	105,000	03-11-05	03-15-05	Johnson Cr	South Fork Salmon River
Idaho Dept. McCall Hatc	CH1	SU		2005	1,050,000	03-15-05	03-25-05	Knox Bridge	Salmon River (ID)
Idaho Dept. Rapid River	CH1	SP		2005	300,000	03-14-05	03-18-05	Hells Canyc	Snake River
Idaho Dept. Rapid River	CH1	SP		2005	2,700,000	03-15-05	04-15-05	Rapid River	Little Salmon River
Idaho Dept. of Fish and Game Total					4,745,000				
Nez Perce T Lookingglas	CH1	SP		2005	95,400	03-11-05	03-20-05	Lostine Acc	Wallowa River
Nez Perce Tribe Total					95,400				
Oregon Dep Oak Spring	ST	SU		2005	30,000	03-15-05	03-15-05	Hood River	Hood River
Oregon Dept. of Fish and Wildlife Total					30,000				
U.S. Fish ar Dworshak	CH1	SP		2005	1,070,000	03-15-05	04-01-05	Dworshak F	Clearwater River M F
U.S. Fish ar Spring Cree	CH0	FA		2005	7,400,000	03-02-05	03-02-05	Spring Cree	L Col R (D/s McN Dam)
U.S. Fish and Wildlife Service Total					8,470,000				
Umatilla Trit Lookingglas	CH1	SP		2005	130,900	03-14-05	03-27-05	Catherine C	Grande Ronde River
Umatilla Trit Umatilla Ha	CH1	SP		2005	600,000	03-14-05	03-18-05	Imequas Ac	Umatilla River
Umatilla Tribe Total					730,900				
Washington Klickitat Hat	CH1	SP		2005	600,000	03-01-05	03-11-05	Klickitat Hat	Klickitat River
Washington Dept. of Fish and Wildlife Total					600,000				
Yakama Tril Cle Elem H	CH1	SP		2005	268,500	03-15-05	05-15-05	Easton Pon	Yakama River
Yakama Tril Cle Elem H	CH1	SP		2005	274,500	03-15-05	05-15-05	Clark Flat A	Yakama River
Yakama Tril Cle Elem H	CH1	SP		2005	284,500	03-15-05	05-15-05	Jack Creek	Yakama River
Yakama Tril Yakama Ha	CH0	FA		2005	150,000	03-11-05	03-18-05	Stiles Pond	Yakama River
Yakama Tribe Total					977,500				
Grand Total					15,648,800				

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>			#				
	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High		#			
	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg			hr	Avg	Avg	hr
2/25	---	---	---	0	102	102	103	24	101	101	102	24	102	102	104	24	---	---	---	0
2/26	---	---	---	0	102	103	103	24	101	101	102	24	102	102	103	24	---	---	---	0
2/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
2/28	---	---	---	0	102	103	104	24	102	102	102	24	102	102	104	24	---	---	---	0
3/1	---	---	---	0	103	104	104	24	102	102	102	24	102	102	104	24	---	---	---	0
3/2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/3	---	---	---	0	104	105	106	24	102	102	102	24	102	102	103	24	---	---	---	0
3/4	---	---	---	0	103	103	104	24	102	102	102	24	102	103	104	24	---	---	---	0
3/5	---	---	---	0	103	104	104	24	102	102	102	24	102	103	104	24	---	---	---	0
3/6	---	---	---	0	102	103	104	24	102	102	103	24	102	102	103	24	---	---	---	0
3/7	---	---	---	0	103	104	104	24	102	102	103	24	102	103	105	24	---	---	---	0
3/8	---	---	---	0	103	104	104	24	102	103	103	24	102	103	105	24	---	---	---	0
3/9	---	---	---	0	104	105	105	24	102	102	103	23	102	102	104	24	---	---	---	0
3/10	---	---	---	0	103	104	105	24	102	103	103	24	102	103	105	24	---	---	---	0

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. Tlwr</u>			#				
	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High		#			
	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg			hr	Avg	Avg	hr
2/25	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	23	99	99	99	23
2/26	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	24	99	99	99	24
2/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
2/28	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	24	99	99	99	24
3/1	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	24	99	99	99	24
3/2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/3	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	24	99	99	99	24
3/4	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	24	99	99	99	24
3/5	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	24	99	99	99	24
3/6	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	24	99	99	99	24
3/7	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	24	99	99	99	24
3/8	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	24	99	99	99	24
3/9	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	24	99	99	99	24
3/10	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	24	99	99	99	24

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>			#				
	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High		#			
	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg			hr	Avg	Avg	hr
2/25	99	99	99	23	100	100	101	23	---	---	---	0	---	---	---	0	---	---	---	0
2/26	99	99	99	24	101	101	101	24	---	---	---	0	---	---	---	0	---	---	---	0
2/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
2/28	99	99	99	24	102	102	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/1	99	99	99	24	101	102	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/3	99	99	99	24	101	102	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/4	99	99	99	24	101	102	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/5	99	99	99	24	101	102	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/6	99	99	99	24	102	102	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/7	99	99	99	24	102	102	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/8	99	99	99	24	102	102	103	24	---	---	---	0	---	---	---	0	---	---	---	0
3/9	99	99	99	24	102	102	103	24	---	---	---	0	---	---	---	0	---	---	---	0
3/10	99	99	99	24	102	102	103	24	---	---	---	0	---	---	---	0	---	---	---	0

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

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

Date	Priest R. Dnst			Pasco			Dworshak			Clrwr-Peck			Anatone			#				
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h						
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High		hr			
2/25	---	---	---	0	---	---	---	0	107	108	109	24	---	---	---	0	---	---	---	0
2/26	---	---	---	0	---	---	---	0	107	108	111	24	---	---	---	0	---	---	---	0
2/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
2/28	---	---	---	0	---	---	---	0	106	107	109	21	---	---	---	0	---	---	---	0
3/1	---	---	---	0	---	---	---	0	105	107	109	24	---	---	---	0	---	---	---	0
3/2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/3	---	---	---	0	---	---	---	0	107	108	110	24	---	---	---	0	---	---	---	0
3/4	---	---	---	0	---	---	---	0	107	108	110	24	---	---	---	0	---	---	---	0
3/5	---	---	---	0	---	---	---	0	106	107	109	24	---	---	---	0	---	---	---	0
3/6	---	---	---	0	---	---	---	0	103	104	106	24	---	---	---	0	---	---	---	0
3/7	---	---	---	0	---	---	---	0	104	105	106	24	---	---	---	0	---	---	---	0
3/8	---	---	---	0	---	---	---	0	105	105	107	24	---	---	---	0	---	---	---	0
3/9	---	---	---	0	---	---	---	0	105	106	113	24	---	---	---	0	---	---	---	0
3/10	---	---	---	0	---	---	---	0	104	105	106	24	---	---	---	0	---	---	---	0

Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clrwr-Lewiston			Lower Granite			L. Granite Tlwr			Little Goose			L. Goose Tlwr			#				
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h						
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High		hr			
2/25	---	---	---	0	101	102	102	24	101	102	102	24	---	---	---	0	---	---	---	0
2/26	---	---	---	0	102	102	103	24	102	102	102	24	---	---	---	0	---	---	---	0
2/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
2/28	---	---	---	0	102	102	103	24	102	102	103	24	---	---	---	0	---	---	---	0
3/1	---	---	---	0	102	103	103	24	102	103	103	24	---	---	---	0	---	---	---	0
3/2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/3	---	---	---	0	103	104	104	24	103	103	104	24	---	---	---	0	---	---	---	0
3/4	---	---	---	0	103	103	104	24	103	103	103	24	---	---	---	0	---	---	---	0
3/5	---	---	---	0	103	104	104	24	103	103	104	24	---	---	---	0	---	---	---	0
3/6	---	---	---	0	104	104	105	24	103	104	104	24	---	---	---	0	---	---	---	0
3/7	---	---	---	0	104	104	105	24	104	104	105	24	---	---	---	0	---	---	---	0
3/8	---	---	---	0	105	106	107	24	104	104	105	24	---	---	---	0	---	---	---	0
3/9	---	---	---	0	105	105	106	24	104	104	105	24	---	---	---	0	---	---	---	0
3/10	---	---	---	0	106	108	109	24	104	104	105	24	---	---	---	0	---	---	---	0

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

Date	Lower Mon.			L. Mon. Tlwr			Ice Harbor			Ice Harbor Tlwr			McNary-Oregon			#				
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h						
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High		hr			
2/25	---	---	---	0	---	---	---	0	100	100	101	24	100	101	101	24	101	102	102	24
2/26	---	---	---	0	---	---	---	0	100	100	100	24	100	101	102	24	102	102	102	24
2/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
2/28	---	---	---	0	---	---	---	0	101	101	102	24	101	101	102	24	102	103	103	24
3/1	---	---	---	0	---	---	---	0	100	101	101	24	101	102	104	24	103	103	104	24
3/2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/3	---	---	---	0	---	---	---	0	102	103	104	24	102	102	103	23	103	104	104	24
3/4	---	---	---	0	---	---	---	0	101	102	102	24	102	103	103	24	103	104	106	24
3/5	---	---	---	0	---	---	---	0	101	102	102	24	102	102	103	24	103	104	105	24
3/6	---	---	---	0	---	---	---	0	101	102	103	24	102	102	103	24	104	105	108	24
3/7	---	---	---	0	---	---	---	0	102	103	103	24	103	103	104	24	104	105	106	24
3/8	---	---	---	0	---	---	---	0	103	103	104	24	103	103	104	24	105	106	108	24
3/9	---	---	---	0	---	---	---	0	103	103	104	24	103	104	105	24	105	105	107	24
3/10	---	---	---	0	---	---	---	0	104	104	105	24	104	104	104	24	105	105	106	24

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>McNary-Wash</u>			<u>McNary Tlwr</u>			<u>John Day</u>			<u>John Day Tlwr</u>			<u>The Dalles</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr				
2/25	100	101	101	24	101	101	102	24	---	---	---	0	---	---	---	0	---	---	---	0
2/26	101	101	101	24	102	102	102	24	---	---	---	0	---	---	---	0	---	---	---	0
2/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
2/28	102	102	102	8	102	102	103	24	---	---	---	0	---	---	---	0	---	---	---	0
3/1	103	104	104	24	103	103	103	24	---	---	---	0	---	---	---	0	---	---	---	0
3/2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/3	103	103	104	24	103	103	103	24	---	---	---	0	---	---	---	0	---	---	---	0
3/4	103	103	103	24	103	103	104	24	---	---	---	0	---	---	---	0	---	---	---	0
3/5	103	103	103	24	103	103	103	24	---	---	---	0	---	---	---	0	---	---	---	0
3/6	104	105	106	24	103	103	104	24	---	---	---	0	---	---	---	0	---	---	---	0
3/7	105	105	106	24	104	105	106	24	---	---	---	0	---	---	---	0	---	---	---	0
3/8	104	104	105	24	104	105	106	24	---	---	---	0	---	---	---	0	---	---	---	0
3/9	105	105	106	24	104	105	105	24	---	---	---	0	---	---	---	0	---	---	---	0
3/10	105	106	106	24	104	105	105	24	---	---	---	0	---	---	---	0	---	---	---	0

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			<u>Bonneville</u>			<u>Warrendale</u>			<u>Camas\Washugal</u>						
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>				
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
2/25	---	---	---	0	102	103	103	24	103	103	104	24	103	104	105	23
2/26	---	---	---	0	103	103	103	24	103	104	104	24	104	105	105	19
2/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
2/28	---	---	---	0	103	103	103	24	103	103	104	24	103	104	104	23
3/1	---	---	---	0	104	104	105	24	104	105	106	24	104	105	106	23
3/2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/3	---	---	---	0	104	104	105	24	106	107	108	24	105	106	106	23
3/4	---	---	---	0	104	104	104	24	107	108	108	24	106	107	108	23
3/5	---	---	---	0	104	104	105	24	106	107	107	24	107	108	108	23
3/6	---	---	---	0	104	105	105	24	105	106	106	24	106	107	108	23
3/7	---	---	---	0	105	105	105	24	105	106	106	24	106	107	108	23
3/8	---	---	---	0	105	105	106	24	106	106	107	24	106	108	109	23
3/9	---	---	---	0	106	106	106	24	106	107	108	24	107	108	109	23
3/10	---	---	---	0	106	106	107	24	107	108	108	24	107	108	109	23

Two-Week Summary of Passage Indices

Date	COMBINED SOCKEYE										
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
02/25/2005	---	---	---	---	---	---	---	---	---	---	---
02/26/2005	---	---	---	---	---	---	---	---	---	---	---
02/27/2005	---	---	---	---	---	---	---	---	---	---	---
02/28/2005	---	---	---	---	---	---	---	---	---	---	---
03/01/2005	---	---	---	---	---	---	---	---	---	---	---
03/02/2005	*	---	---	---	---	---	---	---	---	---	0
03/03/2005	*	---	0	---	---	---	---	---	---	---	0
03/04/2005	---	---	0	---	---	---	---	---	---	---	0
03/05/2005	---	---	0	---	---	---	---	---	---	---	0
03/06/2005	---	---	0	---	---	---	---	---	---	---	0
03/07/2005	0	0	---	0	---	---	---	---	---	---	0
03/08/2005	0	0	0	0	---	---	---	---	---	---	0
03/09/2005	0	0	0	0	---	---	---	---	---	---	0
03/10/2005	0	---	0	0	---	---	---	---	---	---	0
03/11/2005	---	---	---	---	---	---	---	---	---	---	0
<hr/>											
Total:	0	0	0	0	0	0	0	0	0	0	0
# Days:	4	7	3	4	0	0	0	0	0	0	10
Average:	0	0	0	0	0	0	0	0	0	0	0
YTD	0	0	0	0	0	0	0	0	0	0	0

* See sampling comments <http://www.fpc.org/currentDaily/smpcomments.htm>

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)}
- BO1 (Index) = Bonneville Dam First Powerhouse Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse 1 Flow / (Powerhouse 1 & 2 Flow + Spill)}
- JDA and BO2 data collected for the FPC by Pacific States Marine Fisheries Commission.
- RIS data collected for the FPC by Chelan Co. PUD/Washington Dept. of Fish and Wildlife.
- LGR, LMN, and MCN data collected for the FPC by Washington Dept. of Fish and Wildlife.
- LGS and GRN data collected for the FPC by Oregon Dept. of Fish and Wildlife.
- IMN data collected for the FPC by the Nez Perce Tribe. ENT data collected for the FPC by USFWS.

Cumulative Adult Passage at Mainstem Dams Through: 03/08

DAM	Spring Chinook						Summer Chinook						Fall Chinook					
	2005		2004		10-Yr Avg.		2005		2004		10-Yr Avg.		2005		2004		10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TDA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JDA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MCN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IHR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LMN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LGS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LWG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RRH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DAM	Coho						Sockeye			Steelhead			
	2005		2004		10-Yr Avg.		2005	2004	10-Yr Avg.	2005	2004	10-Yr Avg.	Wild 2005
	Adult	Jack	Adult	Jack	Adult	Jack							
BON	0	0	0	0	0	0	0	0	0	0	0	0	0
TDA	0	0	0	0	0	0	0	0	0	0	0	0	0
JDA	0	0	0	0	0	0	0	0	0	0	0	0	0
MCN	0	0	0	0	0	0	0	0	0	0	0	0	0
IHR	0	0	0	0	0	0	0	0	0	0	0	0	0
LMN	0	0	0	0	0	0	0	0	0	0	0	0	0
LGS	0	0	0	0	0	0	0	0	0	0	0	0	0
LWG	0	0	0	0	0	0	0	0	0	701	532	469	111
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS	0	0	0	0	0	0	0	0	0	0	0	0	0
RRH	0	0	0	0	0	0	0	0	0	0	0	0	0
WEL	0	0	0	0	0	0	0	0	0	0	0	0	0

LGR is through 03/08. BON is through 03/03.

*PRD is not posting wild steelhead numbers.

These numbers were collected from the COE's Running Sums text files, except where otherwise noted.

Wild steelhead numbers are included in the total. Wild Steelhead are defined as unclipped fish.

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.

Page last updated on: 03/11/05

BON counts from January 1, 2005 to March 14, 2005 (our traditional counts begin March 15):

Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
2	0	170	-50