



*Fish Passage Center*

# Weekly Report #04 - 14

June 10, 2004

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**Highlights:**

- Precipitation throughout the Columbia Basin was well above average in most basins in May.
- June Final Water Supply Forecasts have increased at most locations relative to the May Final Forecast.
- Over the last several weeks, flows have increased dramatically at Lower Granite and McNary, averaging 104.7 Kcfs and 243.8 Kcfs respectively last week.
- Most large storage reservoirs, with the exception of Libby, are close to being full and should not have a problem refilling by June 30th, 2004.

**Summary of Events:**

**Water Supply:** Precipitation throughout the Columbia Basin was well above average in most basins in May. Precipitation throughout the first seven days of June has continued to be above average precipitation in some basins. Over the entire water year, precipitation remains slightly below average in most basins.

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

Location	Water Year 2004 June 1-7		Water Year 2004 October 1, 2003 to June 7, 2004	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	0.65	117	18.03	96
Snake River Above Ice Harbor	0.20	57	12.98	93
Columbia Above The Dalles	0.40	95	17.76	97
Kootenai	0.78	136	18.01	94
Clark Fork	0.32	72	12.02	94
Flathead	0.69	112	15.83	94
Pend Oreille/Spokane	0.54	105	24.78	97
Central Washington	0.24	158	6.97	93
Snake River Plain	0.03	11	7.25	82
Salmon/Boise/Payette	0.25	73	15.18	92
Clearwater	0.68	116	26.57	107
SW Washington Cascades/Cowlitz	1.44	209	57.33	91
Willamette Valley	1.23	234	51.55	95

Snowpack within the Columbia Basin is below average for this time of year. Average snowpack in the Columbia River for basins above the Snake River confluence is 31% of average, for Snake River Basins the average snowpack is 23% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 42% of average.

June Final Water Supply Forecasts have increased at most locations relative to the May Final Forecast. All locations in Table 2 remain below average in terms of Water Supply.

**Table 2. May Final and June Final Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.**

Location	May Final		June Final	
	% Average (1971-2000)	Probable Runoff Volume (Kaf)	% Average (1971-2000)	Probable Runoff Volume (Kaf)
The Dalles (Jan-July)	74	79500	79	85100
Grand Coulee (Jan-July)	83	52200	84	53000
Libby Res. Inflow, MT (Jan-July)	79	4960	76	4820
Hungry Horse Res. Inflow, MT (Jan-July)	81	1810	91	2020
Lower Granite Res. Inflow (Apr- July)	61	13100	71	15400
Brownlee Res. Inflow (Apr-July)	40	2500	44	2790
Dworshak Res. Inflow (Apr-July)	76	2010	91	2400

The spring flow objective period started in the Lower Snake River on April 3rd, 2004. Based on the April Final Forecast at Lower Granite (Apr-July), the flow objective is 85 Kcfs at Lower Granite through June 20th. Over the spring flow objective period, flows have averaged 70.4 Kcfs at Lower Granite. Over the last two weeks, flows have increased dramatically at Lower Granite, averaging 104.7 Kcfs last week.

The Spring Flow Objective Periods at McNary Dam and Priest Rapids Dam began on April 10th. The flow objectives at McNary and Priest Rapids are 220 Kcfs and 135 Kcfs, respectively. Over the spring flow objective period, flows at McNary have averaged 201.8 Kcfs; flows have been relatively high over the last two weeks, averaging 243.8 Kcfs last week. SOR 2004-12 was submitted to the Action Agencies on May 25, 2004 and asked for flows at Priest Rapids to be reduced to a minimum of 125 Kcfs (week average) on June 1, 2004 and gave the operators flexibility to provide up to 135 Kcfs if they felt more water was available than indicated by current modeling. From June 3rd to June 9th, flows averaged 130.4 Kcfs at Priest Rapids.

Grand Coulee is currently at an elevation of 1285.5 feet (6-9-04) and has refilled approximately 4.7 feet over the last week. Grand Coulee is less than five feet from full.

The Libby Reservoir is currently at an elevation of 2436.2 feet (6-9-04). Inflows to Libby over the last week have ranged between 16.9 and 37.1; Libby has been able to refill 4.2 feet in the last week while maintaining outflows of 13.0 to 14.0 Kcfs.

The Hungry Horse Reservoir is currently at an elevation of 3555.4 feet (6-9-04), and is less than five feet from full. Over the last week, inflows to Hungry Horse have ranged between 8.5 and 16.4 Kcfs, enabling Hungry Horse to refill 4.2 feet. Outflows over the last week have ranged between 2.2 and 4.5 Kcfs.

The Dworshak Reservoir is currently at an elevation of 1593.3 feet (6-9-04). Inflows to Dworshak were still high over the past week ranging between 13.9 and 20.7 Kcfs; outflows have ranged between 16.0 and 21.0 Kcfs. Dworshak

has had to draft 1.5 feet in the last week to avoid refilling too quickly.

The Brownlee Reservoir is currently at an elevation of 2076.2 feet (6-9-04). Inflows to Brownlee have ranged between 16.1 and 19.4 Kcfs; outflows have ranged between 12.6 and 22.1 Kcfs. Brownlee has remained relatively steady in the last week and is currently less than one foot from full.

**Spill:** Spill for fish passage has continued at Mid-Columbia projects for the past week. Over the past week spill has occurred daily at about 50% of average daily flow per day at Dworshak Dam as inflow has remained high. Spill for fish passage for the past week has been provided at Ice Harbor Dam according to the Biological Opinion and has averaged 56% of average daily flow. Spill at Lower Granite Dam has occurred over the past week, but decreased towards the end of the week as flows receded. Spill averaged 16% of daily flow over the past week at this project. Spill at the other Snake River collector projects was minimal.

Spill at the lower Columbia River projects was provided in accord with the Biological Opinion measures. Over the past week spill averaged 34%, 28%, 40% and 35% of daily flow at McNary, John Day, The Dalles and Bonneville dams, respectively.

Gas bubble trauma monitoring is occurring at the Mid and Lower Columbia sites. Two fish at Rock Island Dam and one at Bonneville Dam were observed with signs of GBT this past week.

**Smolt Monitoring:** Yearling chinook numbers continue to decrease around the basin while steelhead numbers were down at Lower Columbia River sites, the index increased toward the end of this week in the Snake River as spill and higher flows continued. Subyearling chinook indices are continuing to increase throughout the system, with Lower Granite seeing the largest increases this past week.

At Snake River Basin traps only the Imnaha River Trap was in operation this week. Small numbers of yearling chinook were captured while steelhead collection was up to 120 per day this week compared to 70 per day last week.

At Lower Granite Dam, subyearling chinook indices were relatively high the last few days with indices reaching a season high 48,000 on June 8 as supplementation hatchery releases began reaching the Lower Snake River in large numbers. The indices for yearling chinook and coho decreased again this past week. The average daily passage index for yearling chinook was down to 3,500 compared to 7,000 last week. The coho average daily index was at 500 this week compared to 4,000 last week. Steelhead weekly numbers were down as well with the average daily index at 7,000 this week compared to 9,000 per day last week, despite the increases seen the past few days. Little Goose Dam saw a drop in yearling chinook numbers over the past week also while the steelhead index held steady, averaging about 14,000 per day. Lower Monumental Dam saw decreases in all spring migrant indices. Only the subyearling chinook showed an increase this past week with an average daily value of 2,000 compared to 400 per day last week.

At Rock Island Dam the numbers of yearling chinook increased with an average yearling chinook index of 90 this week compared to 50 last week, while steelhead averaged 50 per day compared to 130 last week, and sockeye averaged 16 per day this week compared to 30 per day last week. Subyearling chinook increased this week with the average daily index at nearly 500 per day compared to 100 last week, while coho indices decreased to 330 per day compared to 770 per day average the previous week.

In the Lower Columbia, at McNary Dam, based on full samples taken every other day, yearling chinook indices averaged 10,000 per day this week compared to 19,000 last week, while steelhead indices averaged 1,700 per day compared to 2,400 per day last week. Coho indices were down to 4,800 per day, down from 7,500 last week. Sockeye indices remained steady at 19,000 fish per day this week. Subyearling chinook indices also continued to increase this past week, with the average daily index at 39,000 per day this week compared to 33,400 last week.

At John Day Dam the numbers of yearling chinook continued to decline with the average

daily index at 4,000 this week, compared to 12,000 last week. Steelhead indices also decreased over the past week with the average daily value at 1,700 compared to 5,000 last week. Coho indices were at 4,200 per day this past week compared to 4,600 last week, while sockeye indices dropped to 7,700 and subyearling chinook indices rose to 9,800 per day.

At Bonneville Dam, the indices for all spring migrants were down, while subyearling indices increased. The subyearling chinook average daily index rose to 20,000 compared to 16,000 per day last week.

**Hatchery Releases** - The scheduled release of juvenile salmonids from Columbia River Basin hatcheries above Bonneville Dam for the 2004 migration season will be about 81.9 million for the season with all yearling chinook, coho, and steelhead in river to date. Subyearling summer and fall chinook releases began in mid-May and will continue through June and finish by early July. Supplemental and planned releases made during fall 2003 are considered to be 2004 migrants. The 2004 hatchery release totals are updated after information is received from the hatcheries with numbers finalized by the end of the year. The 2004 Hatchery Zone Report gives the latest numbers received for this year's report.

Juvenile sockeye were released from net pens into Lake Wenatchee last summer and fall (2003); the majority of these fish reside in the lake and migrate from the lake and to the ocean the next spring (2004). In the Snake River basin, juvenile sockeye were released in Redfish, Alturas, and Pettit lakes last fall with near 100 smolts released this spring. Most begin their migration in late April and May from the lakes.

Hatcheries in the Snake and Columbia River basins released about 5.1 million juvenile salmon during the past two weeks. About 17.2 million fish are scheduled for release during the next two weeks. See the Hatchery Release Summary Tables for details of individual release groups.

## 2004 Hatchery Zone Report

Race/Species	Thursday 10-June-2004			
	Snake River	Mid-Columbia	Lower Columbia	Total Release
Fall Chinook	2,602,935	12,430,000	21,738,796	36,771,731
Spring Chinook	10,492,087	3,940,197	5,175,531	19,607,815
Summer Chinook	2,374,050	3,213,145		5,587,195
Coho	1,367,111	1,243,063	5,960,228	8,570,402
Sockeye	76,927	315,790		392,717
Summer Steelhead	9,214,069	1,221,128	476,912	10,912,109
Winter Steelhead			90,000	90,000
Total	26,127,179	22,363,323	33,441,467	81,931,969

**Snake River** -Release of yearling chinook from hatcheries in the Snake River basin is completed for the 2004 migration season. About 12.8 million yearling spring/summer chinook and an additional 1-million yearling fall chinook were released for the 2004 migration. Juvenile steelhead releases are completed for the year with approximately 9.2 million released in this Basin. About 1.4 million subyearling and yearling coho were also released in the Snake River. Release of subyearling fall chinook is on going with hatchery facilities and acclimation ponds beginning releases during May with all releases completed by late June.

**Mid-Columbia** - Release of about 3.94 million yearling spring chinook from hatcheries and acclimation ponds is completed for the 2004 migration season. About 1.2 million juvenile steelhead were released from State hatcheries into the Wenatchee, Methow, Okanogan, and Walla Walla rivers, and the mainstem Columbia River from Ringold H. Yearling summer chinook releases were completed from Dryden, Similkameen, and Carlton ponds as well as Wells H by early May. The first group of subyearling chinook was released from Wells H (on-site) with another subyearling release completed in the Yakima River. Approximately 1.2 million yearling coho were released in the Wenatchee, Methow and Yakima River basins this spring. Subyearling fall chinook from Priest Rapids and Ringold hatcheries will

begin releasing their fish beginning next week, and these hatcheries account for greater than 10-million of the 12-million released in the Mid-Columbia River. Releases of summer chinook from Eastbank and Wells hatchery complexes are scheduled for June and early July.

**Lower Columbia** - Yearling fall and spring chinook and coho salmon were released from acclimation ponds located in the Umatilla River basin in March and April. Yearling spring chinook were released from Round Butte H, Warm Springs NFH, Carson, Warm Springs, and Little White Salmon NFHs and Hood River Acclimation Ponds mainly in April with Klickitat H releasing their fish in early March. About 2.5 million yearling coho from Washougal H were trucked and released by the first week of April with the on-site volitional release of coho from Klickitat H. completed by May 28. Juvenile steelhead releases were completed from mid-April through early May in most of the rivers in this Reach. Upriver bright fall chinook (subyearlings) were released in the Umatilla River in late May. About 2 million fall chinook will be released from Little White Salmon H and 4-million from Klickitat H in late June.

**Adult Fish Passage** - At Bonneville Dam, summer chinook passage ranged from 1,335 to 2,500 per day for the week ending June 9. To date, 16,007 adult summer chinook have been counted, and this total compares to about 21,000 in 2003 and 6,800 for the 10-year average at Bonneville Dam. There are no hatcheries or wild/natural summer chinook tributary spawning areas below McNary Dam so these summer chinook should be passing over the four lower Columbia River dams before splitting off into the Snake or Mid-Columbia rivers (including the Yakima R).

The final count of adult spring chinook salmon at McNary Dam will be near 107,000 this year, about 12% and 62% greater than the respective 2003 and 10-year average. The majority of spring chinook past McNary Dam is migrating up the Snake River with 76,000 counted at Ice Harbor Dam. The count at Priest Rapids Dam (Mid-upper

Columbia River) totaled near 12,000. Through the end of May, about 10,800 adult chinook were counted at Prosser Dam on the Yakima River. The Snake, Mid-Columbia, and Yakima rivers account for about 92% of the passage past McNary Dam.

Steelhead passage at Bonneville Dam continues to increase at Bonneville with daily passage counts that averaged 284 for the week ending June 9. It appears that about one half of these fish are passing upstream The Dalles Dam with the other half likely destined for the Bonneville Pool area. At present, the steelhead run is about 1.7 times greater than the respective 2003 and 10-year average through June 9 at Bonneville Dam.

Sockeye numbers increased through the week (range = 200 to 1,200 per day) at Bonneville Dam with the total through June 9 at 4,863. This total compares to 483 and 519 for the respective 2003 and 10-year average. With no sockeye spawning below McNary Dam, the fish passing Bonneville should be moving directly through these four lower Columbia River projects with minimal dropout of numbers. The majority of sockeye are destined for the Wenatchee and Okanogan River basins. A small number would be expected to return to the Snake River.

For the real good news, about 2.4 million Shad have passed Bonneville and The Dalles dams.

**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
05/27/04	112.6	0.0	117.5	0.0	133.4	8.5	134.9	30.9	142.3	27.1	146.3	20.7	144.6	89.6
05/28/04	87.7	0.0	95.5	0.0	111.2	8.1	116.0	28.2	125.1	24.4	136.9	19.9	139.1	84.7
05/29/04	92.6	0.2	92.9	0.0	101.3	7.1	101.3	25.0	108.9	24.0	109.1	19.6	111.5	66.6
05/30/04	99.9	0.2	94.5	1.7	111.8	7.9	114.8	24.7	122.3	22.0	124.9	20.3	125.3	74.9
05/31/04	82.2	0.1	86.1	0.0	97.9	7.4	96.1	21.6	104.9	20.0	114.6	19.4	117.9	70.8
06/01/04	100.7	0.2	101.6	0.0	112.7	8.3	111.1	26.8	115.6	27.2	131.7	18.8	137.9	82.5
06/02/04	120.5	0.1	120.3	0.0	129.4	8.2	127.4	28.0	131.2	25.6	115.9	19.2	110.5	67.0
06/03/04	137.6	0.1	133.6	0.0	142.9	8.9	142.1	26.1	147.7	23.2	147.3	22.6	146.3	87.9
06/04/04	125.6	0.2	132.3	0.0	147.2	8.9	147.3	30.5	151.0	24.7	155.9	22.4	158.6	93.5
06/05/04	90.1	0.2	97.0	0.0	107.8	7.6	110.5	28.5	118.5	22.4	128.7	21.8	129.7	75.5
06/06/04	84.1	0.1	81.5	0.0	95.4	7.0	98.9	25.2	108.0	20.5	114.8	21.5	118.8	69.1
06/07/04	89.9	0.2	96.1	0.0	105.9	7.5	102.1	11.8	111.2	26.6	120.3	19.6	120.9	70.3
06/08/04	101.2	0.0	100.8	0.0	112.3	7.7	113.6	12.5	119.6	28.1	115.7	20.8	115.3	66.7
06/09/04	110.0	0.2	104.3	0.0	113.8	7.8	112.9	11.3	120.5	27.7	121.6	21.8	122.9	71.4

**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
05/27/04	11.8	2.2	15.8	19.0	92.8	4.4	93.7	0.0	99.9	0.0	101.3	51.2
05/28/04	16.1	6.5	18.1	16.0	122.4	29.9	117.3	4.4	124.2	3.9	121.7	45.3
05/29/04	19.0	9.5	21.6	17.8	132.4	39.4	133.5	17.6	138.8	17.8	140.3	82.4
05/30/04	19.0	9.5	21.7	22.9	125.8	34.2	124.3	12.7	130.1	14.6	128.9	90.5
05/31/04	19.1	9.5	20.9	23.3	120.8	28.4	119.2	5.5	124.5	24.3	126.5	53.3
06/01/04	19.2	9.6	20.4	22.3	114.8	22.2	115.0	4.5	123.2	22.7	121.8	44.8
06/02/04	19.1	9.6	20.4	23.2	103.1	11.4	105.1	3.5	108.8	8.6	107.6	75.1
06/03/04	17.9	8.3	18.9	25.5	100.4	18.9	100.3	0.0	105.8	6.1	106.8	81.0
06/04/04	19.0	9.4	17.5	20.5	105.1	22.5	104.1	0.0	108.4	0.0	107.7	52.5
06/05/04	21.0	11.4	16.1	14.3	108.9	19.0	109.5	0.9	118.1	0.0	116.6	45.1
06/06/04	21.0	11.4	18.8	13.7	108.3	20.5	108.2	0.0	113.3	0.8	111.6	75.1
06/07/04	21.0	11.4	19.4	19.9	110.6	21.7	111.2	0.0	118.4	6.0	120.8	82.9
06/08/04	19.8	10.2	17.5	19.2	102.0	9.5	101.6	0.0	106.9	0.0	109.4	52.6
06/09/04	16.0	6.4	---	---	97.6	5.6	102.0	0.0	107.4	0.0	104.4	45.0

**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		
05/27/04	240.0	91.4	240.4	62.6	257.7	100.4	286.0	98.4	49.4	126.7
05/28/04	273.7	103.2	260.8	70.1	258.3	102.1	292.8	100.1	57.0	124.6
05/29/04	269.8	111.6	280.3	69.8	289.0	119.0	311.7	101.7	66.2	132.4
05/30/04	238.4	94.2	233.7	69.6	237.7	93.3	269.9	105.1	40.2	113.2
05/31/04	265.6	112.5	263.8	69.1	279.9	115.0	308.9	104.2	63.1	130.2
06/01/04	257.9	107.0	259.5	65.4	260.4	101.8	275.0	97.4	47.9	118.4
06/02/04	246.9	81.2	246.2	69.4	264.6	103.8	292.3	100.8	57.3	123.5
06/03/04	232.8	78.1	228.1	65.5	233.3	92.1	270.3	94.5	53.2	111.2
06/04/04	255.5	91.3	253.2	62.8	251.3	101.4	270.3	93.2	53.8	111.9
06/05/04	279.9	111.6	260.6	66.4	265.7	106.6	285.2	92.8	62.3	118.6
06/06/04	225.4	76.6	228.2	66.9	234.9	92.9	263.1	94.2	46.3	111.4
06/07/04	239.9	79.3	235.7	64.2	240.7	94.9	280.8	95.6	45.6	128.2
06/08/04	239.0	74.6	238.9	68.2	239.4	94.8	273.1	98.8	36.1	126.8
06/09/04	201.8	73.7	232.0	67.7	239.7	94.7	259.1	97.9	35.3	114.4

## HATCHERY RELEASE LAST TWO WEEKS

Hatchery Release Summary								
From:	5/27/2004	to	6/9/2004					
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite
Idaho Dept. of Fish and Game	Oxbow-Idaho	CH0	FA	2004	166,623	05-28-04	05-28-04	Pittsburg Landing Acclim Pond
<b>Idaho Dept. of Fish and Game Total</b>					<b>166,623</b>			
Nez Perce Tribe	Cherry Lane Hatchery	CH0	FA	2004	330,000	06-01-04	06-30-04	Cherry Lane Hatchery
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2004	200,000	05-21-04	05-31-04	Pittsburg Landing Acclim Pond
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2004	500,000	05-21-04	05-31-04	Cpt John Acclim Pond
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2004	500,000	05-31-04	06-10-04	Big Canyon (Clearwater R)
<b>Nez Perce Tribe Total</b>					<b>1,530,000</b>			
Umatilla Tribe	Umatilla Hatchery	CH0	FA	2004	299,392	05-20-04	06-01-04	Thornhollow Acclim Pond
Umatilla Tribe	Umatilla Hatchery	CH0	FA	2004	308,810	06-01-04	06-01-04	Umatilla River
<b>Umatilla Tribe Total</b>					<b>608,202</b>			
Washington Dept. of Fish and Wildlife	Klickitat Hatchery	CO	UN	2004	943,000	05-17-04	05-28-04	Klickitat Hatchery
<b>Washington Dept. of Fish and Wildlife Total</b>					<b>943,000</b>			
Yakama Tribe	Little White Salmon NFH	CH0	FA	2004	1,700,000	05-17-04	05-31-04	Prosser Acclim Pond
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2004	180,000	05-12-04	05-31-04	Prosser Acclim Pond
<b>Yakama Tribe Total</b>					<b>1,880,000</b>			
<b>Grand Total</b>					<b>5,127,825</b>			

CH = Chinook, ST = Steelhead, CO = Coho, SO = Sockeye, CT = Cutthroat Trout, CM = Chum

## HATCHERY RELEASE NEXT TWO WEEKS

### Hatchery Release Summary

From: **6/10/2004** to **6/23/2004**

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite
Nez Perce Tribe	Cherry Lane Hatchery	CH0	FA	2004	330,000	06-01-04	06-30-04	Cherry Lane Hatchery
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2004	500,000	05-31-04	06-10-04	Big Canyon (Clearwater R)
<b>Nez Perce Tribe Total</b>					<b>830,000</b>			
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH0	FA	2004	2,000,000	06-17-04	06-17-04	Little White Salmon Hatchery
<b>U.S. Fish and Wildlife Service Total</b>					<b>2,000,000</b>			
Washington Dept. of Fish and Wildlife	Klickitat Hatchery	CH0	FA	2004	4,000,000	06-21-04	06-30-04	Klickitat Hatchery
Washington Dept. of Fish and Wildlife	Priest Rapids Hatchery	CH0	FA	2004	6,700,000	06-14-04	06-23-04	Priest Rapids Hatchery
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2004	3,450,000	06-14-04	06-30-04	Ringold Springs Hatchery
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH0	SU	2004	228,000	06-14-04	06-18-04	Wells Hatchery
<b>Washington Dept. of Fish and Wildlife Total</b>					<b>14,378,000</b>			
<b>Grand Total</b>					<b>17,208,000</b>			

CH = Chinook, ST = Steelhead, CO = Coho, SO = Sockeye, CT = Cutthroat Trout, CM = Chum



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

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank			
								Rank 1	Rank 2	Rank 3	Rank 4
<b>McNary Dam</b>											
	05/30/04	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/03/04	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/07/04	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Bonneville Dam</b>											
	06/02/04	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/05/04	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/08/04	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
<b>Rock Island Dam</b>											
	05/31/04	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/03/04	Chinook + Steelhead	94	1	1	1.06%	0.00%	1	0	0	0
	06/07/04	Chinook + Steelhead	101	1	1	0.99%	0.00%	0	1	0	0

## 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>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
5/27	---	---	---	0	118	121	121	24	109	109	109	24	108	108	110	24	107	108	108	23
5/28	---	---	---	0	120	120	121	24	109	109	110	24	108	108	110	24	107	107	108	23
5/29	---	---	---	0	118	120	120	24	108	108	109	24	107	108	110	24	106	107	107	23
5/30	---	---	---	0	119	120	121	24	108	108	109	24	107	108	109	24	107	107	108	23
5/31	---	---	---	0	120	120	121	24	108	108	108	24	107	108	110	24	106	107	107	23
6/1	---	---	---	0	121	121	122	24	108	108	108	24	107	108	109	24	107	107	108	23
6/2	---	---	---	0	121	121	122	24	108	108	108	24	107	107	109	24	107	107	108	23
6/3	---	---	---	0	120	122	123	24	108	109	109	24	107	108	109	24	108	108	108	23
6/4	---	---	---	0	120	122	122	24	109	110	110	24	107	108	110	24	107	108	108	23
6/5	---	---	---	0	119	122	122	24	110	110	111	24	107	108	109	24	108	108	109	23
6/6	---	---	---	0	118	120	121	24	111	111	111	24	107	108	109	24	108	108	108	23
6/7	---	---	---	0	119	121	122	24	110	110	111	24	107	107	108	24	108	108	108	24
6/8	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
6/9	---	---	---	0	120	122	124	24	109	109	110	24	107	107	109	24	108	108	108	23

### 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>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
5/27	108	109	110	23	107	107	108	22	109	109	109	22	109	109	109	24	111	112	114	24
5/28	108	109	110	23	107	107	107	24	108	109	111	24	108	109	109	24	111	111	113	24
5/29	107	107	108	23	106	106	107	24	109	110	112	24	107	108	108	24	110	110	112	24
5/30	108	109	110	23	106	107	107	24	108	108	109	24	107	107	108	24	109	110	110	24
5/31	107	108	109	23	106	107	108	24	107	108	109	24	107	107	107	24	109	109	110	24
6/1	108	108	109	23	107	107	108	23	108	109	109	23	107	107	107	24	109	110	110	24
6/2	107	107	108	23	107	108	109	22	108	109	110	22	108	108	109	24	110	111	112	24
6/3	108	108	108	23	108	108	108	24	109	110	110	24	109	110	110	24	111	111	112	24
6/4	108	108	109	23	108	109	109	21	110	110	110	21	110	111	111	24	112	113	114	24
6/5	109	109	110	23	108	109	109	24	110	110	110	24	110	111	111	24	113	113	113	24
6/6	108	109	110	23	107	108	108	24	109	109	109	24	110	111	111	24	113	113	114	24
6/7	108	109	109	24	107	107	107	24	108	109	109	24	109	109	110	24	110	111	112	24
6/8	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
6/9	108	109	110	23	107	108	108	24	109	110	110	24	109	110	110	24	110	110	111	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>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
5/27	111	111	112	24	116	117	118	24	111	111	112	23	116	116	118	23	113	114	115	23
5/28	110	111	111	24	115	116	118	24	110	111	111	23	115	116	117	23	111	112	113	23
5/29	110	110	111	24	115	116	118	24	108	109	109	23	114	115	116	23	110	111	112	23
5/30	109	110	110	24	115	115	116	24	108	108	108	23	114	114	115	23	110	111	112	23
5/31	109	110	110	24	114	115	117	24	109	109	110	23	114	115	116	23	109	110	111	23
6/1	109	110	110	24	115	116	117	24	110	111	113	23	113	114	116	23	111	112	114	22
6/2	110	111	111	24	115	116	117	24	112	114	116	23	115	116	117	23	111	112	114	23
6/3	111	111	112	24	115	115	116	24	114	115	118	23	117	117	117	23	115	116	117	23
6/4	112	112	113	24	116	116	117	24	---	---	---	0	---	---	---	0	---	---	---	0
6/5	112	113	113	24	116	117	119	24	113	113	114	23	117	118	120	23	115	115	116	23
6/6	112	112	113	24	117	117	120	24	112	113	114	23	118	118	119	23	114	115	116	23
6/7	111	111	112	24	116	117	119	24	111	111	112	10	115	116	118	23	112	114	115	23
6/8	---	---	---	0	---	---	---	0	---	---	---	0	116	116	118	23	113	113	115	23
6/9	109	109	110	24	115	116	118	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	<u>Priest R. Dnst</u>			<u>Pasco</u>			<u>Dworshak</u>			<u>Clrwtr-Peck</u>			<u>Anatone</u>			#				
	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>					
	<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
5/27	118	119	119	23	112	113	113	24	106	110	112	24	102	104	104	24	103	103	104	24
5/28	118	118	119	23	110	111	111	24	113	114	118	21	103	104	104	21	103	103	103	24
5/29	115	116	117	23	109	110	110	24	117	117	118	24	104	105	105	24	103	104	104	24
5/30	116	117	117	23	108	109	109	24	117	117	118	24	105	106	106	24	103	104	104	24
5/31	116	117	117	23	110	112	112	24	117	118	118	24	105	106	106	24	103	104	105	24
6/1	117	118	119	22	112	112	113	24	117	118	118	24	106	107	107	24	103	104	105	24
6/2	117	117	118	23	113	114	115	24	117	118	118	24	106	107	108	24	103	104	105	24
6/3	119	120	120	23	113	114	114	21	116	117	118	24	106	106	107	24	104	104	105	24
6/4	---	---	---	0	114	116	116	24	117	119	119	24	106	108	108	24	104	104	105	24
6/5	118	119	120	23	113	114	115	24	119	119	119	22	107	107	107	24	103	104	104	24
6/6	117	118	119	23	109	110	110	24	119	119	119	24	106	107	107	24	104	104	105	24
6/7	117	118	118	23	110	111	112	24	119	119	119	24	107	108	108	24	104	104	105	24
6/8	116	117	117	23	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
6/9	---	---	---	0	110	110	111	24	113	116	117	24	105	105	106	24	104	104	104	24

### Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwtr-Lewiston</u>			<u>Lower Granite</u>			<u>L. Granite Tlwr</u>			<u>Little Goose</u>			<u>L. Goose Tlwr</u>			#				
	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>					
	<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
5/27	101	102	103	24	104	104	105	24	105	106	107	24	102	102	104	24	102	102	103	24
5/28	102	102	103	21	102	103	104	24	113	115	116	24	103	103	103	24	104	105	107	24
5/29	104	104	104	24	101	101	102	24	116	116	116	24	103	104	104	24	107	107	108	24
5/30	104	105	105	24	102	103	103	24	115	115	116	24	106	108	108	24	108	109	109	24
5/31	104	105	106	24	103	104	105	24	113	115	116	24	108	109	109	24	109	109	110	24
6/1	105	105	106	24	105	105	106	24	111	113	114	24	109	109	109	24	109	109	109	24
6/2	105	106	106	24	105	106	107	24	107	109	111	24	110	110	112	24	110	110	111	24
6/3	105	105	106	24	106	107	108	24	111	115	124	24	110	110	111	24	109	110	112	24
6/4	105	106	106	24	106	106	108	24	111	113	116	24	108	109	111	24	107	108	108	24
6/5	105	105	106	24	105	105	106	24	110	112	116	24	109	110	111	24	109	110	111	24
6/6	105	105	106	24	105	105	105	24	111	113	115	24	108	108	109	24	108	108	109	24
6/7	105	106	107	24	104	104	104	24	111	113	114	24	106	107	107	24	106	106	107	24
6/8	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
6/9	104	104	105	24	104	104	104	24	105	107	108	24	107	108	108	24	107	108	108	24

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

Date	<u>Lower Mon.</u>			<u>L. Mon. Tlwr</u>			<u>Ice Harbor</u>			<u>Ice Harbor Tlwr</u>			<u>McNary-Oregon</u>			#				
	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>					
	<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>		<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
5/27	102	103	103	24	102	103	103	24	102	102	102	24	115	116	118	24	110	110	111	24
5/28	102	102	102	24	104	106	111	24	101	101	102	24	114	114	114	24	110	110	110	24
5/29	102	102	103	24	111	112	113	24	101	101	101	24	119	121	121	24	107	107	108	24
5/30	104	104	105	24	110	113	121	24	103	103	104	24	120	121	121	24	106	106	106	24
5/31	105	106	107	24	115	118	122	24	103	104	105	24	115	117	121	24	107	108	109	24
6/1	108	109	110	24	114	117	117	24	108	109	110	24	114	114	114	24	112	114	117	24
6/2	109	110	112	24	110	112	113	24	110	111	113	24	118	119	120	24	111	112	114	24
6/3	110	111	112	24	111	112	115	23	110	110	111	24	119	120	120	24	111	112	114	24
6/4	110	111	112	24	109	110	110	21	110	111	112	24	115	116	119	24	115	118	125	24
6/5	109	109	111	24	109	109	110	24	110	110	111	24	114	114	114	24	115	115	115	24
6/6	107	107	108	24	107	107	109	23	108	109	109	24	118	119	120	24	112	113	113	24
6/7	108	108	110	24	109	110	112	24	106	106	107	24	120	120	120	24	110	111	114	24
6/8	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
6/9	105	105	105	24	105	105	106	24	106	106	106	24	113	114	114	24	110	111	113	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>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
5/27	110	110	111	24	116	120	121	24	108	109	110	23	113	117	119	23	110	112	115	23
5/28	109	110	110	24	117	120	121	24	109	109	110	23	114	118	120	24	111	113	115	23
5/29	107	107	108	24	116	120	121	24	107	108	108	23	112	118	120	24	109	110	112	23
5/30	105	106	106	24	115	119	121	24	106	106	106	23	114	117	119	24	110	113	115	23
5/31	107	108	109	24	117	120	121	24	105	105	105	23	112	118	119	24	109	111	113	23
6/1	110	111	113	24	117	120	121	24	104	104	105	23	111	117	119	24	108	112	115	23
6/2	111	113	114	24	115	120	120	24	105	106	107	23	111	117	118	24	109	113	116	23
6/3	113	115	116	24	116	120	120	24	107	107	108	23	112	117	119	24	111	115	117	23
6/4	115	117	120	24	118	120	121	24	108	109	110	23	113	117	119	24	111	114	116	23
6/5	115	116	119	24	119	121	121	24	111	111	112	23	115	118	119	24	111	112	113	23
6/6	111	112	112	24	116	120	121	24	111	111	112	23	114	118	119	24	112	114	116	23
6/7	110	110	112	24	115	120	121	24	109	109	110	24	113	118	119	24	112	114	114	24
6/8	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
6/9	112	112	112	24	115	119	120	24	108	108	108	23	113	118	119	24	112	115	116	23

**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>				
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
5/27	115	116	118	24	111	111	111	23	113	114	116	23	111	112	113	24
5/28	115	116	117	24	111	112	112	23	113	114	117	23	110	111	111	24
5/29	115	116	117	24	110	111	112	23	112	115	118	23	110	111	113	24
5/30	114	116	117	24	111	111	112	23	113	115	118	23	110	112	114	24
5/31	115	116	117	24	111	111	112	23	113	115	118	23	111	113	115	24
6/1	114	116	117	24	112	113	113	23	114	116	119	23	112	115	117	24
6/2	115	117	118	24	112	113	114	23	114	115	118	23	113	115	117	24
6/3	115	117	118	24	113	114	115	23	114	116	118	23	113	116	117	24
6/4	115	117	118	24	113	114	114	23	114	116	118	23	113	115	117	24
6/5	115	116	116	24	111	112	113	23	113	114	116	23	111	112	113	24
6/6	115	117	118	24	111	111	112	23	113	114	116	23	110	111	112	24
6/7	116	117	118	24	112	113	113	24	113	115	117	24	111	113	114	24
6/8	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
6/9	116	117	117	24	111	112	112	23	113	115	119	23	111	112	114	24

## Two-Week Summary of Passage Indices

COMBINED YEARLING CHINOOK													
	ENT	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	
05/27/2004	*	0	0	10	15	103	8,132	9,600	2,900	79	19,641	17,130	19,283
05/28/2004	*	0	1	2	94	86	9,991	5,407	6,200	87	---	15,371	18,563
05/29/2004	*	---	---	---	---	---	15,447	9,149	7,324	44	17,920	13,954	19,586
05/30/2004	*	---	---	---	---	---	3,587	6,076	4,106	36	---	11,097	16,425
05/31/2004	*	---	---	7	---	54	5,679	9,403	1,516	21	18,989	9,359	11,129
06/01/2004	*	0	---	4	---	272	3,286	8,678	1,206	23	---	8,645	16,098
06/02/2004		---	---	20	---	1,216	2,974	4,864	882	39	18,405	7,710	11,712
06/03/2004	*	---	---	16	---	319	2,945	2,085	646	81	---	5,033	13,265
06/04/2004	*	---	---	30	---	172	3,701	1,907	420	159	12,807	3,754	9,415
06/05/2004	*	---	---	34	---	---	4,409	2,208	630	188	---	9,732	10,883
06/06/2004	*	---	---	---	---	---	3,473	11,387	220	80	8,438	6,012	5,542
06/07/2004	*	---	---	2	---	---	2,830	6,500	838	86	---	3,773	5,622
06/08/2004		---	---	15	---	---	3,701	6,450	750	23	8,041	2,648	7,869
06/09/2004	*	---	---	8	---	---	3,852	1,100	260	10	---	2,375	4,487
-----													
<b>Total:</b>		<b>0</b>	<b>1</b>	<b>148</b>	<b>109</b>	<b>2,222</b>	<b>74,007</b>	<b>84,814</b>	<b>27,898</b>	<b>956</b>	<b>104,241</b>	<b>116,593</b>	<b>169,879</b>
<b># Days:</b>		<b>3</b>	<b>2</b>	<b>11</b>	<b>2</b>	<b>7</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>1</b>	<b>13</b>	<b>55</b>	<b>317</b>	<b>5,286</b>	<b>6,058</b>	<b>1,993</b>	<b>68</b>	<b>14,892</b>	<b>8,328</b>	<b>12,134</b>
<b>YTD</b>		<b>828</b>	<b>29,063</b>	<b>73,065</b>	<b>9,904</b>	<b>4,053</b>	<b>5,151,826</b>	<b>2,649,402</b>	<b>910,743</b>	<b>12,411</b>	<b>1,046,510</b>	<b>965,058</b>	<b>1,408,653</b>

COMBINED SUBYEARLING CHINOOK													
	ENT	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	
05/27/2004	*	5	0	0	0	36	149	200	250	95	17,879	1,235	12,165
05/28/2004	*	32	0	0	2	37	671	100	280	29	---	2,263	18,092
05/29/2004	*	---	---	---	---	---	9,444	109	458	48	41,969	3,164	18,727
05/30/2004	*	---	---	---	---	---	4,219	225	432	53	---	6,855	14,460
05/31/2004	*	---	---	0	---	57	3,651	0	379	55	26,122	5,481	14,067
06/01/2004	*	23	---	0	---	44	1,547	0	585	270	---	8,164	10,796
06/02/2004		---	---	0	---	35	700	413	653	106	47,982	8,536	18,882
06/03/2004	*	---	---	0	---	0	924	2,382	714	281	---	6,563	16,213
06/04/2004	*	---	---	0	---	14	2,196	2,200	510	251	32,195	2,947	18,947
06/05/2004	*	---	---	0	---	---	8,243	3,312	720	590	---	6,255	19,913
06/06/2004	*	---	---	---	---	---	21,315	3,266	780	494	35,963	9,674	16,683
06/07/2004	*	---	---	0	---	---	30,311	18,101	2,409	689	---	15,450	17,606
06/08/2004		---	---	0	---	---	47,934	15,303	3,508	838	48,556	11,358	24,563
06/09/2004	*	---	---	0	---	---	29,603	29,753	6,380	264	---	11,371	24,627
-----													
<b>Total:</b>		<b>60</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>223</b>	<b>160,907</b>	<b>75,364</b>	<b>18,058</b>	<b>4,063</b>	<b>250,666</b>	<b>99,316</b>	<b>245,741</b>
<b># Days:</b>		<b>3</b>	<b>2</b>	<b>11</b>	<b>2</b>	<b>7</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>		<b>20</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>32</b>	<b>11,493</b>	<b>5,383</b>	<b>1,290</b>	<b>290</b>	<b>35,809</b>	<b>7,094</b>	<b>17,553</b>
<b>YTD</b>		<b>487</b>	<b>0</b>	<b>27</b>	<b>80</b>	<b>935</b>	<b>166,413</b>	<b>78,501</b>	<b>56,162</b>	<b>6,145</b>	<b>298,280</b>	<b>106,516</b>	<b>2,240,167</b>

\* See sampling comments <http://www.fpc.org/currentDaily/smpcomments.htm>  
 this means that one or more of the sites on this date had an incomplete or biased sample.

For clip information see: [Daily Catch Report](#)

For sockeye and yearling chinook (Snake only) race information see: [Current Passage Index Query](#)

If the text appears garbled, please hit the refresh button on your browser

NOTE for 2002 Lower Monumental Data: Due to the non-standard operation of Lower Monumental this year, the passage index reliability is in question and is being looked into.

Fall (post SMP season) trapping at the Imnaha River Fish Trap (IMN) is funded by the Lower Snake River Compensation Program (LSRCP)

## Two-Week Summary of Passage Indices

COMBINED COHO													
	ENT	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/27/2004 *	0	0	0	0	0	6,568	4,400	350	820	5,375	3,731	22,067	
05/28/2004 *	0	0	0	0	2	5,524	1,900	860	1,244	---	5,018	10,585	
05/29/2004 *	---	---	---	---	---	4,722	11,434	2,174	1,193	7,685	5,294	8,546	
05/30/2004 *	---	---	---	---	---	2,953	12,930	1,945	662	---	4,807	10,256	
05/31/2004 *	---	---	0	---	0	4,259	3,606	632	667	8,120	8,524	4,329	
06/01/2004 *	0	---	0	---	0	1,932	3,598	585	316	---	2,264	5,841	
06/02/2004	---	---	0	---	0	1,399	6,094	425	677	6,780	2,685	4,738	
06/03/2004 *	---	---	0	---	0	289	5,074	1,157	616	---	5,434	2,494	
06/04/2004 *	---	---	0	---	0	439	5,100	570	428	5,027	1,473	2,267	
06/05/2004 *	---	---	0	---	---	320	3,162	360	493	---	12,401	6,136	
06/06/2004 *	---	---	---	---	---	419	1,759	250	245	3,617	2,073	1,847	
06/07/2004 *	---	---	0	---	---	880	1,150	230	236	---	2,634	3,180	
06/08/2004	---	---	0	---	---	597	1,800	507	183	5,779	1,951	2,499	
06/09/2004 *	---	---	0	---	---	935	3,450	280	95	---	3,742	2,035	
<hr/>													
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>31,236</b>	<b>65,457</b>	<b>10,325</b>	<b>7,875</b>	<b>42,383</b>	<b>62,031</b>	<b>86,820</b>	
<b># Days:</b>	<b>3</b>	<b>2</b>	<b>11</b>	<b>2</b>	<b>7</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>7</b>	<b>14</b>	<b>14</b>	
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,231</b>	<b>4,676</b>	<b>738</b>	<b>563</b>	<b>6,055</b>	<b>4,431</b>	<b>6,201</b>	
<b>YTD</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>45</b>	<b>250,604</b>	<b>103,891</b>	<b>14,870</b>	<b>26,827</b>	<b>73,538</b>	<b>148,966</b>	<b>891,882</b>	

COMBINED STEELHEAD													
	ENT	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2	
Date	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/27/2004 *	2	7	197	19	17	58,507	35,905	2,650	129	1,601	6,478	4,575	
05/28/2004 *	0	5	12	162	61	52,729	14,303	9,820	183	---	7,155	1,905	
05/29/2004 *	---	---	---	---	---	43,933	68,291	21,114	215	1,203	5,722	1,581	
05/30/2004 *	---	---	---	---	---	26,159	47,694	10,590	193	---	4,744	2,391	
05/31/2004 *	---	---	34	---	32	54,762	34,230	5,685	125	4,814	5,477	1,635	
06/01/2004 *	0	---	48	---	17	18,166	36,627	6,730	65	---	3,842	1,329	
06/02/2004	---	---	76	---	16	9,271	44,567	4,609	66	2,153	2,478	1,003	
06/03/2004 *	---	---	104	---	4	8,489	16,907	6,227	64	---	3,294	510	
06/04/2004 *	---	---	230	---	2	8,720	14,208	6,426	32	2,221	1,332	930	
06/05/2004 *	---	---	251	---	---	6,965	17,715	4,234	40	---	2,076	695	
06/06/2004 *	---	---	---	---	---	3,233	8,845	1,781	65	1,550	1,175	952	
06/07/2004 *	---	---	53	---	---	6,100	8,904	1,697	77	---	1,139	454	
06/08/2004	---	---	61	---	---	7,939	10,554	1,602	31	1,196	697	319	
06/09/2004 *	---	---	32	---	---	10,069	17,852	1,960	51	---	2,015	522	
<hr/>													
<b>Total:</b>	<b>2</b>	<b>12</b>	<b>1,098</b>	<b>181</b>	<b>149</b>	<b>315,042</b>	<b>376,602</b>	<b>85,125</b>	<b>1,336</b>	<b>14,738</b>	<b>47,624</b>	<b>18,801</b>	
<b># Days:</b>	<b>3</b>	<b>2</b>	<b>11</b>	<b>2</b>	<b>7</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>7</b>	<b>14</b>	<b>14</b>	
<b>Average:</b>	<b>1</b>	<b>6</b>	<b>100</b>	<b>91</b>	<b>21</b>	<b>22,503</b>	<b>26,900</b>	<b>6,080</b>	<b>95</b>	<b>2,105</b>	<b>3,402</b>	<b>1,343</b>	
<b>YTD</b>	<b>192</b>	<b>2,106</b>	<b>35,709</b>	<b>1,857</b>	<b>8,418</b>	<b>5,767,531</b>	<b>1,872,234</b>	<b>334,637</b>	<b>10,434</b>	<b>121,055</b>	<b>250,491</b>	<b>147,795</b>	

\* See sampling comments

## Two-Week Summary of Passage Indices

Date	COMBINED SOCKEYE											
	ENT (Coll)	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
05/27/2004 *	0	0	0	0	0	149	100	50	30	15,000	5,390	7,403
05/28/2004 *	0	0	0	0	0	167	100	60	49	---	5,113	5,410
05/29/2004 *	---	---	---	---	---	205	0	57	36	26,343	8,825	6,313
05/30/2004 *	---	---	---	---	---	0	225	0	22	---	9,718	7,742
05/31/2004 *	---	---	0	---	1	0	0	126	23	23,074	8,977	4,616
06/01/2004 *	1	---	0	---	2	0	317	73	3	---	12,830	7,009
06/02/2004	---	---	0	---	0	0	0	0	30	17,605	8,467	7,225
06/03/2004 *	---	---	0	---	1	0	0	34	56	---	7,316	7,596
06/04/2004 *	---	---	0	---	0	63	100	0	21	21,774	4,135	4,708
06/05/2004 *	---	---	0	---	---	0	201	0	17	---	11,808	7,641
06/06/2004 *	---	---	---	---	---	60	50	0	7	20,664	10,918	4,703
06/07/2004 *	---	---	0	---	---	189	0	21	3	---	5,838	3,805
06/08/2004	---	---	0	---	---	179	0	0	3	15,857	7,247	4,094
06/09/2004 *	---	---	0	---	---	55	100	20	3	---	6,693	4,122
<b>Total:</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1,067</b>	<b>1,193</b>	<b>441</b>	<b>303</b>	<b>140,317</b>	<b>113,275</b>	<b>82,387</b>
<b># Days:</b>	<b>3</b>	<b>2</b>	<b>11</b>	<b>2</b>	<b>7</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>76</b>	<b>85</b>	<b>32</b>	<b>22</b>	<b>20,045</b>	<b>8,091</b>	<b>5,885</b>
<b>YTD</b>	<b>2</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>25</b>	<b>6,438</b>	<b>4,317</b>	<b>919</b>	<b>6,842</b>	<b>260,398</b>	<b>191,003</b>	<b>133,001</b>

\* 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

ENT (Collection) = Entiat River Trap : 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.

## Two Week Transportation Summary

Source: Fish Passage Center

Updated:

6/10/04 9:24 AM

		05/28/04 TO 06/10/04					
		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
<b>LGR</b>	Sum of NumberCollected	133,027	60,763	26,085	897	261,309	482,081
	Sum of NumberBarged	125,690	59,649	26,016	892	256,228	468,475
	Sum of NumberBypassed	7,072	1,015	0	0	4,850	12,937
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	265	99	69	5	231	669
<b>LGS</b>	Sum of NumberCollected	75,207	81,828	62,200	1,150	358,721	579,106
	Sum of NumberBarged	75,157	81,506	62,098	1,150	357,691	577,602
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	47	324	5	0	1,028	1,404
<b>LMN</b>	Sum of NumberCollected	17,490	25,940	9,481	390	78,075	131,376
	Sum of NumberBarged	17,455	25,809	9,479	390	77,884	131,017
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	35	131	2	0	191	359
<b>MCN</b>	Sum of NumberCollected	156,578	63,697	26,213	86,902	9,058	342,448
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	156,380	63,380	26,199	86,558	9,018	341,535
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	198	317	14	344	40	913
Total Sum of NumberCollected		382,302	232,228	123,979	89,339	707,163	1,535,011
Total Sum of NumberBarged		218,302	166,964	97,593	2,432	691,803	1,177,094
Total Sum of NumberBypassed		163,452	64,395	26,199	86,558	13,868	354,472
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of TotalProjectMortalities		545	871	90	349	1,490	3,345



**YTD Transportation Summary**

Source: Fish Passage Center

Updated:

6/10/04 9:24 AM

**TO: 06/10/04**

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
<b>LGR</b>	Sum of NumberCollected	137,566	4,822,376	244,014	6,133	5,616,592	10,826,681
	Sum of NumberBarged	129,809	4,603,946	230,172	5,632	5,309,168	10,278,727
	Sum of NumberBypassed	7,329	151,329	13,352	285	288,898	461,193
	Sum of NumberTrucked	129	43,991	220	181	15,496	60,017
	Sum of TotalProjectMortalities	299	23,110	270	35	3,030	26,744
<b>LGS</b>	Sum of NumberCollected	78,135	2,564,014	100,634	4,265	1,826,185	4,573,233
	Sum of NumberBarged	78,066	2,560,543	100,525	4,262	1,823,178	4,566,574
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of NumberTrucked	0	2,096	0	2	1,333	3,431
	Sum of TotalProjectMortalities	66	1,441	12	1	1,671	3,191
<b>LMN</b>	Sum of NumberCollected	48,199	840,276	13,835	865	279,481	1,182,656
	Sum of NumberBarged	48,148	831,166	13,831	865	276,179	1,170,189
	Sum of NumberBypassed	0	6,321	0	0	2,125	8,446
	Sum of NumberTrucked	10	1,352	0	0	604	1,966
	Sum of TotalProjectMortalities	41	1,437	4	0	573	2,055
<b>MCN</b>	Sum of NumberCollected	183,623	638,838	43,932	154,945	73,456	1,094,794
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	183,336	626,495	43,900	154,348	72,806	1,080,885
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	288	2,731	32	597	254	3,902
Total Sum of NumberCollected		447,523	8,865,504	402,415	166,208	7,795,714	17,677,364
Total Sum of NumberBarged		256,023	7,995,655	344,528	10,759	7,408,525	16,015,490
Total Sum of NumberBypassed		190,665	784,145	57,252	154,633	363,829	1,550,524
Total Sum of NumberTrucked		139	47,439	220	183	17,433	65,414
Total Sum of TotalProjectMortalities		694	28,719	318	633	5,528	35,892

**Cumulative Adult Passage at Mainstem Dams Through: 06/09**

DAM	Spring Chinook						Summer Chinook						Fall Chinook					
	2004		2003		10-Yr Avg.		2004		2003		10-Yr Avg.		2004		2003		10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	170,188	8,885	192,010	14,258	130,296	7,371	16,007	2,082	20,960	2,038	6,802	716	0	0	0	0	0	0
TDA	130,226	7,717	131,207	11,522	87,249	5,199	10,254	997	9,944	1,024	3,384	331	0	0	0	0	0	0
JDA	110,304	6,353	101,436	10,206	72,403	4,083	5,112	569	6,000	450	1,693	123	0	0	0	0	0	0
MCN	106,397	7,049	95,550	11,123	66,222	4,195	1,518	120	1,120	203	0	0	0	0	0	0	0	0
IHR	75,996	4,352	76,091	7,618	43,126	2,566	0	0	0	0	0	0	0	0	0	0	0	0
LMN	68,448	3,454	65,592	6,637	40,266	2,377	0	0	0	0	0	0	0	0	0	0	0	0
LGS	58,075	2,824	62,093	6,065	38,270	2,368	0	0	0	0	0	0	0	0	0	0	0	0
LWG	65,127	3,612	60,435	6,738	36,443	2,349	0	0	0	0	0	0	0	0	0	0	0	0
PRD	11,989	973	17,400	618	13,999	360	0	0	0	0	0	0	0	0	0	0	0	0
RIS	8,925	14	15,761	657	10,361	503	0	0	0	0	0	0	0	0	0	0	0	0
RRH	3,569	12	3,642	369	3,660	126	0	0	0	0	0	0	0	0	0	0	0	0
WEL	2,484	64	1,731	100	1,931	97	0	0	0	0	0	0	0	0	0	0	0	0

DAM	Coho						Sockeye			Steelhead			
	2004		2003		10-Yr Avg.		2004		2003	10-Yr Avg.	10-Yr Avg.		Wild 2004
	Adult	Jack	Adult	Jack	Adult	Jack	2004	2003	Avg.	2004	2003	Avg.	2004
BON	0	0	0	0	0	0	4,863	483	519	8,286	5,448	5,608	2,190
TDA	0	0	0	0	0	0	2,807	240	308	2,531	1,362	1,501	938
JDA	0	0	0	0	0	0	1,729	163	180	2,553	1,772	3,638	1,084
MCN	0	0	0	0	0	0	556	52	55	2,031	1,593	1,904	728
IHR	0	0	0	0	0	0	1	0	0	1,853	1,644	1,754	780
LMN	2	0	0	0	0	0	0	0	0	1,658	1,929	1,803	868
LGS	0	0	0	0	0	0	0	3	0	1,929	2,120	1,873	1,052
LWG	0	0	0	0	0	0	0	0	0	7,652	15,809	5,932	2,632
PRD	0	0	0	0	0	0	56	0	20	122	13	4	0
RIS	0	0	0	0	0	0	0	14	0	178	36	21	0
RRH	0	0	0	0	0	0	2	0	0	333	47	50	0
WEL	0	0	0	0	0	0	0	0	0	80	21	8	55

MCN is missing 06/07.

WEL is through 06/08; RIS/RRH are through 06/06.

\*\*PRD is not reporting 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.

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: 06/10/04

BON counts from January 1, 2004 to March 14, 2004 (our traditional counts begin March 15)

Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
156	1	1,489	238

