



Fish Passage Center

# Weekly Report #00 - 12

May 26, 2000

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**SUMMARY OF EVENTS:**

**Water Supply:** Precipitation for the period of May 1 through 23 in the Columbia above Grand Coulee was 90% of normal, the Snake River above Ice Harbor was 89% of normal and the Columbia above The Dalles was 95% of normal. The highest precipitation in the region for this continued to be recorded at Hood/Lower Deschutes with 141% of normal, SW WA Cascades/Cowlitz with 139% of normal and the East Slopes of WA Cascades with 136% of normal. The lowest precipitation continued to be recorded Central Washington with 49% of normal, Clark Fork with 55% of normal and Flathead with 52% of normal. Below normal to normal temperatures were still prevailing across the basin with the exception of the Upper Snake and mid Snake areas. Flow increased due to snowmelt, which was recorded at the Lower Snake River. Unseasonably cool weather in May resulted in delayed snowmelt and relatively low inflows in the rest of the basin for this time of year.

The new June-Early Runoff Volume Forecast has been issued. Projected runoff volumes are showing a decrease of 1% to 2% compared to the May Final forecast for most of the subbasins. Forecasted volumes for the Libby basin were 2% higher than in the May Final Runoff Volume forecast. Lower Granite and The Dalles forecast decreased by 2% compared with the May Final forecast. The June-Early forecast is presented in the following table:

Site	June-Early Runoff Volume Forecast		May-Final Runoff Volume Forecast		May-Midmonth Runoff Volume Forecast	
	Runoff Volume [KAF]	% of avg	Runoff Volume [KAF]	% of avg	Runoff Volume [KAF]	% of avg
Mica (April-Sept.)	132	104	13.2	104	13.2	104
Hungry Horse (April-Sept.)	2.08	95	2.08	95	2.08	95
Libby (April-Sept.)	7.26	107	7.08	105	7.36	109
Grand Coulee (Jan.-July)	65.1	103	65.8	104	66.0	104
The Dalles (Jan.-July)	103	97	105.0	99	105.0	99
Brownlee (April-July)	3.99	69	4.08	70	4.04	70
Dworshak (April-July)	2.55	94	2.56	95	2.58	96
Lower Granite (Jan.-July)	26.0	87	26.4	89	26.4	89
Heise NR-ID (April-July)	2.87	83	2.83	82	2.85	83
Weiser -ID (April-July)	3.62	66	3.69	68	3.66	67

**Reservoir Operations:** Reservoirs were refilling during the week of May 19 through 25. A summary of actual elevations on May 25, and full pool elevations is shown in the following table:

Project	Actual May 25 Elevation in [ft]	Full Pool Elevation in [ft]
Libby	2387.96	2459.0
Hungry Horse	3530.93	3560.0
Grand Coulee	1239.6	1290.0
Brownlee	2065.97	2077.0
Dworshak	1566.64	1600.0

\* elevation as of May 24

*Libby* reservoir continued to refill in order to meet the 95 BiOp and the sturgeon BiOp, which includes refill to full pool elevation by June 30 and sturgeon flow releases. The reservoir is at minimum outflows of 4 kcfs. Inflows to the project were peaking from 39.4 kcfs on May 23 to 28.5 kcfs on May 20.

*Hungry Horse* was operated for refill during the May 19 through 25 period. Inflows continued with increases from 14.05 kcfs on May 19 to 19.52 kcfs on May 23, to 15.26 kcfs on May 25. The project continued to be operated with minimum outflows in the range of 0.50 kcfs to 2.72 kcfs during May 19-25.

*Grand Coulee* was refilling through May 19-25 from 1233.9 ft to 1239.6 ft. Inflows fluctuated from 132.2 kcfs on May 19 to 173 kcfs on May 23 and outflows were in the range of 102.6 kcfs to 149.7 kcfs.

*Brownlee* continued to refill during the past week. The outflows at Hells Canyon Dam were restricted to a minimum of 11 kcfs to maintain the necessary level for the Nez Pierce hatchery below Hells Canyon Dam. The flows at Hells Canyon Dam were fluctuating between 11.48 kcfs and 13.97 kcfs. Inflows at Brownlee reservoir were fluctuating between 17.07 kcfs and 19.17 kcfs for the period of May 19-24.

*Dworshak* continued to refill. The outflow continued to be at 1.5 kcfs. Inflows continued to increase from 17 kcfs on May 19 to 19.4 kcfs on May 23.

Upper Snake reservoirs: As of May 25, the Upper Snake system is at 93% of capacity. American Falls was at 96% of capacity and Palisades and Jackson Lake were at 86% and 95% of capacity. The irrigation demands in the system continue to increase, although moderate snowmelt resulted in refill of the system. Flow below American Falls was 11.3 kcfs on May 25 and flow at Milner, which is the lowest point in the Upper Snake system, continued to be in the range of 0.24-0.26 kcfs.

Boise and Payette River Basins: Both systems continued to refill. As of May 25, the Boise River system was at 94% of capacity. The major reser-

voirs: Arrowrock is at 94% of full, Anderson Ranch is at 96% of full and Lucky Peak is at 93% of full. As of May 25, the Payette River system was at 98% of capacity. The major reservoir, Cascade, was at 98% of full capacity.

**Streamflow:** The 1995 Biological Opinion spring flow targets based on the May Final Runoff Volume forecasts are: at Lower Granite 96.25 kcfs and at McNary 260 kcfs. The 1998 Biological Opinion flow target at Priest Rapids is 135 kcfs beginning on April 10. Inflows from the Upper Columbia and Mid Columbia continue to be low, while Snake River inflows increased due to snowmelt, resulting in some increase in flows at McNary. Weekly average flows for McNary and Lower Granite remain below the BiOp required flow target for the period of May 19 through 25. The average discharge for the major run-of-river projects for May 12 through 25 are given in the following table:

Project	Average discharge [kcfs]	
	May 12-18	May 19-25
Priest Rapids	171.01	165.2
McNary	244.5	256.8
Lower Granite	69.98	86.23
Bonneville	266.04	269.2

*Lower Granite:* Snowmelt in the Upper and Mid Snake basins resulted in flows peaking to 99.1 kcfs on May 23. The minimum flow was 73.4 kcfs on May 19.

*Priest Rapids:* Due to weekend power peaking and refill of Grand Coulee, daily average flows were fluctuating between 136.2 kcfs on May 21 and 187.6 kcfs on May 22 for the period of May 19-25.

*McNary:* Daily average flows fluctuated between 241.6 kcfs on May 21 and 281.5 kcfs on May 24.

**Spill:** Dworshak Dam was operated at the minimum of 1.5 Kcfs for the past week. Spill for fish passage continues at the Lower Snake projects as described by the NMFS and Action Agencies' Spill Plan.

Spill for fish passage continues at the lower Columbia River projects. The NMFS and Action Agencies' Spill Plan modifies spill at the lower Columbia Projects. The Dalles spill is reduced from 64% to 40% for 24 hours each day. Nighttime spill as described in the 1998 Supplemental Biological Opinion will continue at John Day and Bonneville dams, but daytime spill will be studied at John Day and Bonneville dams. At John Day Dam daytime spill will vary between 0 and 30% in three-day blocks. At Bonneville Dam daytime spill will vary between the previous 75 Kcfs spill level and the gas cap spill (120-150 Kcfs). Days of gas cap spill at Bonneville Dam will correspond to days of zero daytime spill at John Day Dam.

Spill volumes were decreased at some projects because of total dissolved gas levels produced. The COE has reduced spill volumes at Lower Monumental, Little Goose, and Bonneville dams based on downstream forebay readings.

The FERC spill program continues at the Mid Columbia projects.

With the exception of a few forebay monitor readings levels of total dissolved gas were significantly below the allowable TDGS levels at all locations measured. Monitoring for signs of gas bubble trauma (GBT) on fish collected through the Smolt Monitoring Program was conducted this past week. Few fish were detected with signs of GBT in fins.

**Smolt Monitoring Program.** Snake River basin: The increase in Snake River flow the latter part of this week has pushed Lower Granite Dam passage indices of steelhead and coho higher, while the passage indices of yearling chinook were little changed. Based on recent indices, large numbers of steelhead and coho still remain to migrate from the Snake River basin. Mid-Columbia River: Yearling chinook passage indices at Rock Island Dam have been declining this week, but the passage indices of steelhead and coho continue to increase. Lower Columbia River: This week has

seen large fluctuations in daily passage indices at McNary Dam, with passage indices of yearling chinook exhibiting a decreasing trend, those of steelhead and sockeye exhibiting no trend, and that of coho exhibiting an increasing trend. At Bonneville Dam, the passage indices have increased sharply the last couple of days for yearling chinook, coho, and sockeye, while the passage index of steelhead has changed little. Large numbers of subyearling chinook from the May release of Spring Creek Hatchery tulle fall chinook have been passing Bonneville Dam since May 19.

**Adult Fish Passage:** Passage of adult spring chinook at Bonneville Dam through the week (5/19-5/25) ranged between 500 and 900 per day. The cumulative count through May 25 was 173,618, approximately 4.7 times and 2.9 times greater than the respective 1999 count and 10-year average. The adult counts at other lower Columbia River projects were: The Dalles 98,225; John Day 80,288; and McNary 58,203. About 57% of the adult chinook and 67.5% of the jack chinook counted at Bonneville have moved upstream past The Dalles Dam. Through May 25, approximately 3,727 spring chinook have been counted at 3-Mile Dam located on the Umatilla River and through May 16, approximately 13,250 were counted at Prosser Dam on the Yakama River. The turnoff of adult chinook salmon into the Snake River totaled 31,668 at Ice Harbor Dam through May 25 [May 6 missing count] and that was 9.1 times greater than the 1999 total and 2.7 times greater than the 10-year average. Turnoff of salmon into the Mid-Columbia now totals 16,978 adult salmon counted at Priest Rapids Dam through May 23. The count of adult chinook past Rock Island Dam was 10,847 through May 22; and of this total, 3,841 have passed Rocky Reach Dam.

Numbers of jack chinook declined through the week at Bonneville with daily counts ranging from 113 to 222. The total jack chinook count at Bonneville remains well above normal with 19,587 through May 25. The jack count was 7.7 times greater than the 10-year average.

Steelhead counts at Bonneville Dam are still less than 100 fish per day with counts ranging

between 59 and 95 for the week. The cumulative count through May 25 was 3,334. Wild steelhead totaled 997 for the season. Counts of steelhead at The Dalles Dam averaged 11 per day through the week.

Sampled fish at Lower Granite Dam showed an increase in head damage to the fish with an increase in gill net damage noted as well during the past week. Marks from marine mammal attacks were near 14% (average to date) of the sampled fish at Bonneville Dam. Chinook at the Umatilla River [3-Mile Dam] sampling facility were reported with additional damage to the snout and head area of the fish.

As a point of interest, travel time (in days) of adult and jack salmon that were previously PIT tagged as juvenile fish, returned to Bonneville Dam and were recorded at the PIT tag detection system at the WA shore fish ladder, and then were recorded again at the Snake River sampling site (Lower Granite Dam) are given for 120 fish. Travel time of jack and adult chinook salmon from Bonneville Dam to Lower Granite Dam in Year 2000.

Age Group	Data	4/4-4/15	4/16-4/25	4/26-5/12	Total
Adults	Count	29	54	13	96
	Avg. Travel Time	19.1	17.2	14.7	17.4
Jacks	Count	1	4	19	24
	Avg. Travel Time	16.8	13.9	13.1	13.4
Combined	Count	30	58	32	120
	Avg. Travel Time	19.0	17.0	13.7	16.6

**Hatchery Releases** – Approximately 13.1 million fish were released from Basin hatcheries during the past two weeks and about 3.9 million projected for the upcoming two weeks.

*Snake River* – Yearling chinook, coho, and sockeye juvenile salmon are completed for the year 2000 migration. Juvenile steelhead are nearing completion for the year with the acclimation facilities at Grande Ronde sites releasing fish. Subyearling fall chinook remain to be released into

the Snake and Clearwater Rivers in June and July.

*Mid-Columbia* – (above McNary Dam)

Yakama Tribal Supplementation Facilities at Clark Flat and Easton continued volitional release of yearling chinook in the upper Yakama River basin. Juvenile steelhead releases continued in the Wenatchee, Methow, and Okanogan rivers during the week and will continue until completed this month. Summer chinook releases (yearling fish) are now completed for the year. Subyearling summer and fall chinook are scheduled for release from late May to late June. Coho salmon releases were completed this past week and all should now be in river and migrating downstream.

*Lower Columbia* - (from above Bonneville Dam to below McNary Dam). Yearling spring chinook releases are finished for the year. Coho releases are now complete in this Reach for the year. Juvenile steelhead releases are also completed for the 2000 migration. Release of subyearling fall chinook (upriver bright stocks) will continue through June in the Umatilla, Klickitat, and Little White Salmon river basins.

**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
05/12/00	152.3	0.0	159.6	0.0	168.1	10.0	174.4	29.6	176.6	31.0	177.4	62.0	171.0	95.6
05/13/00	145.7	0.0	149.1	0.0	155.6	10.0	159.2	27.1	162.2	30.9	175.4	66.0	175.9	99.7
05/14/00	128.6	0.0	131.1	0.0	137.9	9.3	142.8	25.4	145.5	31.0	165.6	62.5	165.6	92.3
05/15/00	159.8	0.0	164.7	0.0	168.8	10.0	173.6	25.3	176.1	30.9	172.2	66.0	165.8	93.5
05/16/00	149.4	0.0	150.4	0.0	152.9	10.0	162.9	23.6	168.0	30.9	176.9	66.4	181.1	101.8
05/17/00	149.5	0.0	152.5	0.0	158.5	10.0	158.6	27.1	167.1	30.9	173.5	60.9	161.5	92.3
05/18/00	150.1	0.0	154.3	0.0	163.6	10.0	175.3	23.2	171.1	31.0	179.0	62.5	176.2	99.3
05/19/00	147.1	0.0	147.3	0.0	156.0	10.0	162.4	21.1	170.6	31.0	175.3	61.2	172.8	97.1
05/20/00	124.2	0.0	127.9	0.0	139.4	9.4	146.3	22.7	156.4	30.9	167.4	58.6	168.5	94.9
05/21/00	129.0	0.0	130.5	0.0	135.0	10.2	132.3	19.7	143.4	30.8	145.4	51.6	136.2	77.5
05/22/00	149.7	0.0	152.9	0.0	165.5	16.7	174.4	31.2	183.9	30.9	190.5	72.5	187.6	106.1
05/23/00	116.3	0.0	130.3	0.0	148.9	9.0	162.1	20.0	172.9	30.9	188.4	66.6	182.3	102.8
05/24/00	126.4	0.0	122.2	0.0	141.8	8.7	141.0	25.3	151.2	30.9	162.9	56.6	168.5	95.2
05/25/00	102.6	0.0	104.5	0.0	121.7	8.3	124.3	25.1	135.7	30.9	146.7	51.7	140.4	78.5

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

Date	Dworshak		Brownlee Canyon		Hells Granite		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/12/00	1.5	0.0	18.7	21.4	78.5	20.2	74.9	27.2	75.9	24.2	81.0	61.7		
05/13/00	1.4	0.0	18.1	23.1	72.7	18.6	70.2	27.4	72.6	28.8	79.3	61.5		
05/14/00	1.5	0.0	18.0	23.0	70.8	17.9	67.6	27.0	69.3	34.9	74.6	58.1		
05/15/00	1.5	0.0	16.9	16.2	69.7	17.8	67.9	27.3	69.6	37.7	73.3	55.9		
05/16/00	1.5	0.0	17.9	11.8	62.3	16.7	60.8	25.2	62.9	35.8	65.8	53.0		
05/17/00	1.5	0.0	16.8	11.9	67.0	17.8	64.5	25.7	64.0	31.1	70.6	55.4		
05/18/00	1.5	0.0	18.7	10.9	68.9	17.3	65.7	26.8	67.0	28.5	72.4	56.4		
05/19/00	1.5	0.0	17.1	11.2	73.4	18.3	69.8	26.7	70.3	28.4	74.9	57.4		
05/20/00	1.5	0.0	17.3	11.9	76.5	19.5	73.6	27.0	76.9	28.3	85.0	65.1		
05/21/00	1.5	0.0	18.1	13.8	79.9	20.0	79.5	25.8	80.0	26.1	82.6	62.9		
05/22/00	1.5	0.0	18.0	12.1	87.6	22.0	81.6	24.5	81.0	22.1	86.7	64.1		
05/23/00	1.5	0.0	17.6	11.6	99.1	23.6	98.4	24.7	101.9	19.7	105.3	69.2		
05/24/00	1.5	0.0	19.2	11.6	95.1	23.0	89.7	24.2	89.8	17.9	95.2	66.3		
05/25/00	1.5	0.0	---	---	92.0	21.6	88.3	23.7	89.9	19.6	94.2	67.0		

**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		
05/12/00	258.2	98.1	272.6	113.4	272.4	108.3	290.0	81.6	85.6	112.4
05/13/00	228.8	98.0	235.7	105.8	230.8	93.7	256.6	80.2	80.4	84.5
05/14/00	249.4	107.2	263.0	71.2	258.9	104.0	266.7	91.0	82.0	83.4
05/15/00	256.5	104.8	264.6	72.4	261.1	104.3	282.8	88.1	84.0	100.3
05/16/00	231.6	107.9	237.2	67.2	234.2	95.0	260.4	87.3	86.7	76.0
05/17/00	240.3	100.8	235.8	104.1	239.6	93.7	240.4	78.4	76.2	75.4
05/18/00	246.4	110.9	257.4	109.6	251.5	102.5	265.4	79.8	87.4	87.8
05/19/00	246.8	114.8	240.2	103.6	233.7	93.4	254.9	80.8	82.4	81.3
05/20/00	250.3	107.0	244.2	74.3	237.5	94.5	244.1	95.4	82.0	56.3
05/21/00	241.6	74.5	247.9	69.5	240.9	96.3	266.0	92.1	88.7	74.8
05/22/00	245.2	107.4	240.6	68.3	238.6	94.1	256.0	87.9	83.2	74.5
05/23/00	279.0	148.2	294.2	120.3	286.5	112.7	287.0	79.3	90.4	106.9
05/24/00	281.5	127.2	274.9	115.6	273.1	108.5	287.7	80.3	85.7	111.3
05/25/00	253.3	114.4	274.0	119.4	271.5	108.5	288.4	80.0	91.9	106.1

## 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				Fish with L. Line GBT	
								Rank 1	Rank 2	Rank 3	Rank 4	Num Fish	Avg. Rank
<b>Lower Granite Dam</b>													
	05/22/00	Yearling Chinook	100	1	0	0.00%	0.00%	0	0	0	0	1	1
	05/22/00	Steelhead	100	1	0	0.00%	0.00%	0	0	0	0	1	1
<b>Little Goose Dam</b>													
	05/17/00	Yearling Chinook	100	2	2	2.00%	0.00%	2	0	0	0	0	0
	05/17/00	Steelhead	72	1	1	1.38%	0.00%	0	1	0	0	0	0
	05/24/00	Yearling Chinook	100	2	2	2.00%	0.00%	2	0	0	0	0	0
	05/24/00	Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	0	0
<b>Lower Monumental Dam</b>													
	05/22/00	Yearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	05/22/00	Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	0	0
<b>Ice Harbor Dam</b>													
	05/16/00	Yearling Chinook	35	1	0	0.00%	0.00%	0	0	0	0	1	1
	05/16/00	Steelhead	27	0	0	0.00%	0.00%	0	0	0	0	0	0
	05/23/00	Yearling Chinook	56	0	0	0.00%	0.00%	0	0	0	0	0	0
	05/23/00	Steelhead	71	0	0	0.00%	0.00%	0	0	0	0	0	0
<b>McNary Dam</b>													
	05/18/00	Yearling Chinook	100	1	0	0.00%	0.00%	0	0	0	0	1	1
	05/18/00	Steelhead	100	1	0	0.00%	0.00%	0	0	0	0	0	0
	05/22/00	Yearling Chinook	100	2	0	0.00%	0.00%	0	0	0	0	2	1.5
	05/22/00	Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	05/25/00	Yearling Chinook	100	2	0	0.00%	0.00%	0	0	0	0	2	1
	05/25/00	Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	0	0
<b>Bonneville Dam</b>													
	05/18/00	Yearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	05/18/00	Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	05/22/00	Yearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	05/22/00	Steelhead	100	1	0	0.00%	0.00%	0	0	0	0	1	1
	05/25/00	Yearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	05/25/00	Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	0	0
<b>Rock Island Dam</b>													
	05/18/00	Yearling Chinook	100	5	1	1.00%	0.00%	1	0	0	0	4	1
	05/18/00	Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	05/22/00	Yearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	05/22/00	Steelhead	100	1	0	0.00%	0.00%	0	0	0	0	1	1
	05/25/00	Yearling Chinook	100	4	3	3.00%	0.00%	3	0	0	0	2	1
	05/25/00	Steelhead	100	2	2	2.00%	0.00%	2	0	0	0	0	0

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

### Total Dissolved Gas Saturation Data at 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>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>
5/12	99	100	103	24	119	121	122	24	112	112	113	24	109	110	110	24	108	108	109	23
5/13	103	104	105	24	117	121	124	22	113	113	113	24	110	111	111	24	109	110	110	23
5/14	103	104	104	24	131	136	145	22	114	114	115	24	111	112	112	24	111	111	111	23
5/15	100	101	103	24	133	137	143	20	114	115	116	24	111	112	112	24	111	111	112	23
5/16	100	101	104	24	125	131	143	23	115	115	115	24	112	112	113	24	112	112	113	23
5/17	99	100	103	24	118	119	120	24	114	114	115	24	111	111	111	24	112	112	112	23
5/18	101	103	133	24	119	120	122	24	113	113	114	24	110	110	111	24	111	111	112	22
5/19	99	100	103	24	119	120	122	24	113	113	114	24	110	110	110	24	111	111	112	24
5/20	103	105	105	24	119	120	122	24	114	114	114	24	110	111	111	24	112	112	112	24
5/21	104	104	105	24	119	121	122	24	114	114	115	24	111	112	112	24	112	112	113	23
5/22	101	102	104	24	121	122	123	24	114	115	115	24	111	111	112	24	112	112	113	23
5/23	100	101	104	24	121	122	123	24	114	115	115	24	112	112	113	24	112	112	113	23
5/24	100	101	103	24	123	124	124	24	116	116	117	24	113	113	113	24	113	113	114	23
5/25	100	101	104	23	121	122	122	22	116	116	116	24	113	114	114	24	113	114	114	21

### 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>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>
5/12	108	108	109	23	107	107	108	24	109	109	109	24	107	107	107	24	109	109	110	22
5/13	109	109	110	23	108	108	109	23	109	110	110	23	108	108	109	23	109	110	110	22
5/14	110	111	111	23	110	110	110	10	111	111	112	10	109	110	110	22	110	110	111	20
5/15	110	110	111	23	110	110	111	23	111	112	112	23	109	110	110	23	111	111	112	20
5/16	111	112	114	23	111	111	111	24	112	112	113	24	110	110	110	24	112	112	112	23
5/17	113	113	116	23	110	111	111	24	111	112	112	24	109	109	110	22	111	111	112	22
5/18	111	112	113	23	109	110	110	24	111	111	111	24	109	109	110	23	110	111	111	18
5/19	111	112	113	24	109	109	110	24	111	111	111	24	109	110	110	23	111	111	111	21
5/20	112	113	113	24	110	110	110	24	111	111	112	24	109	109	110	22	111	111	112	20
5/21	113	113	114	23	110	110	110	23	111	111	114	23	109	109	110	24	111	111	112	24
5/22	112	113	113	23	109	110	110	24	112	113	117	24	108	109	109	22	112	112	117	22
5/23	112	113	113	23	109	109	110	12	110	110	112	12	109	110	110	22	112	112	115	20
5/24	113	113	114	23	110	110	111	12	111	111	112	12	109	110	110	21	112	112	113	19
5/25	114	115	115	21	111	111	112	24	112	112	112	24	109	110	110	20	112	112	113	18

### 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>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>
5/12	108	108	109	23	115	115	116	21	109	110	111	23	113	114	117	23	111	112	112	24
5/13	109	110	110	23	115	116	116	22	112	113	114	24	116	117	118	24	114	115	116	24
5/14	110	110	111	23	116	117	117	22	115	117	119	24	116	117	118	24	116	116	119	24
5/15	111	111	112	23	116	116	117	21	116	118	120	24	117	118	118	24	116	116	117	21
5/16	112	112	112	24	117	117	117	22	115	116	118	24	117	118	119	24	115	116	117	24
5/17	110	111	112	23	116	116	116	20	112	112	113	5	114	115	116	24	113	113	114	5
5/18	109	109	110	22	116	116	116	21	112	112	112	9	114	115	115	24	113	113	114	9
5/19	109	110	110	23	116	116	118	21	112	112	112	24	115	115	116	24	113	113	115	24
5/20	110	110	111	24	116	116	117	23	112	113	113	24	115	115	115	24	114	114	116	24
5/21	110	110	111	24	116	117	118	23	113	113	114	24	114	115	115	24	114	115	116	23
5/22	110	110	110	23	116	116	117	22	112	112	113	23	116	117	121	23	113	115	117	24
5/23	110	110	110	22	116	117	119	21	112	113	115	24	116	118	124	24	115	117	120	24
5/24	110	110	110	24	117	117	118	24	113	114	116	23	115	115	117	22	113	114	116	24
5/25	110	110	110	23	117	117	118	22	---	---	---	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>Cirwtr-Peck</u>			<u>Anatone</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	#	<u>24 h</u>	<u>12 h</u>	High	#
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
5/12	118	119	119	23	109	110	112	24	107	109	110	24	102	103	104	24	104	105	105	24
5/13	120	120	120	24	112	113	113	24	110	111	112	24	103	104	105	24	104	105	106	24
5/14	121	121	121	24	113	114	115	24	108	108	110	24	103	103	104	24	104	105	106	24
5/15	121	121	121	23	114	114	115	24	108	109	111	24	103	104	105	24	104	105	106	24
5/16	121	121	122	24	115	115	116	24	107	109	110	24	103	104	105	24	104	105	106	24
5/17	118	118	119	24	111	112	114	24	106	107	109	24	102	103	104	24	103	104	105	24
5/18	119	119	120	24	110	110	111	24	106	107	109	24	103	104	105	24	104	105	106	24
5/19	119	120	120	24	111	112	113	24	103	103	104	24	---	---	---	0	104	105	106	24
5/20	120	120	120	24	113	113	114	24	103	104	105	23	---	---	---	0	104	105	106	24
5/21	119	119	120	24	113	113	113	24	106	107	108	24	103	104	105	24	105	106	107	24
5/22	116	117	121	23	112	113	114	24	106	108	109	24	103	105	105	24	105	106	107	24
5/23	120	121	122	24	113	113	114	24	106	107	108	24	103	103	104	24	104	105	106	23
5/24	120	120	120	24	114	114	114	24	107	108	110	24	103	104	105	24	105	106	106	24
5/25	---	---	---	0	112	113	114	24	107	108	110	21	103	104	104	24	105	106	106	24

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

Date	<u>Cirwtr-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>	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	#	<u>24 h</u>	<u>12 h</u>	High	#
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
5/12	102	104	105	24	103	104	105	24	108	109	109	24	104	105	108	24	112	120	121	24
5/13	103	105	106	24	104	105	106	24	108	108	108	24	106	107	108	24	113	120	121	24
5/14	103	104	105	24	106	108	110	24	108	109	109	24	107	108	109	24	114	120	121	24
5/15	103	105	106	24	108	109	110	24	109	109	109	24	109	111	114	24	115	121	121	24
5/16	103	105	106	24	107	107	108	24	108	109	110	24	108	109	111	24	115	120	121	24
5/17	102	104	105	24	105	105	106	24	108	108	109	24	107	107	109	24	113	120	121	24
5/18	103	104	105	24	104	104	106	24	107	108	109	24	106	106	106	24	114	120	121	24
5/19	102	103	104	24	103	104	104	23	108	108	109	23	106	106	106	24	113	120	121	24
5/20	103	104	105	23	103	104	105	24	109	109	109	24	106	106	107	24	114	120	120	24
5/21	103	104	105	24	104	105	105	24	109	110	111	24	106	106	107	24	113	119	120	24
5/22	103	104	105	24	104	105	106	24	110	110	111	24	106	106	107	24	113	119	119	24
5/23	102	103	104	24	105	105	105	24	110	110	111	24	106	106	106	24	112	118	119	24
5/24	103	104	105	24	105	105	105	24	110	110	111	24	107	107	107	24	113	119	119	24
5/25	103	103	105	23	104	105	105	24	110	110	110	24	107	107	107	24	113	118	119	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>	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	#	<u>24 h</u>	<u>12 h</u>	High	#
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
5/12	108	110	112	24	114	115	116	24	109	110	112	24	113	114	116	24	107	108	111	24
5/13	111	114	115	24	116	116	117	24	111	112	115	24	114	115	116	24	109	110	111	24
5/14	113	115	119	24	117	118	119	24	114	115	116	24	114	114	115	24	113	115	117	24
5/15	115	117	120	24	118	119	119	24	116	118	119	23	113	114	115	24	116	118	120	24
5/16	115	117	119	24	117	118	120	24	118	119	119	23	113	114	114	24	116	118	120	24
5/17	113	115	117	24	116	117	118	24	117	117	118	24	113	113	116	24	114	114	116	24
5/18	112	113	114	24	115	115	117	12	115	116	116	23	113	114	116	24	113	114	117	24
5/19	112	113	115	23	116	116	117	11	115	115	116	23	113	114	116	24	111	111	113	24
5/20	114	115	118	24	116	116	117	24	115	116	117	23	114	115	117	24	113	115	118	24
5/21	114	116	117	24	116	116	117	24	116	116	116	24	114	116	118	24	114	115	116	24
5/22	114	116	118	24	115	115	116	24	116	116	117	24	114	116	117	24	114	115	115	24
5/23	113	116	119	24	114	115	116	24	115	116	118	24	115	117	120	24	113	114	116	24
5/24	114	116	118	24	114	115	115	24	114	115	116	24	115	117	119	24	114	115	118	24
5/25	113	115	118	23	114	115	116	24	114	114	114	24	115	116	118	24	114	115	116	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>hr</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>hr</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>hr</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>hr</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>#</u>
5/12	106	108	110	24	116	118	119	24	108	110	111	23	119	119	120	24	111	114	115	23
5/13	109	111	112	24	116	117	118	24	109	110	111	23	118	118	119	24	113	114	116	23
5/14	114	116	117	24	116	118	118	24	108	108	110	19	113	118	119	24	113	115	116	23
5/15	117	119	120	24	116	118	119	24	109	109	110	23	114	118	119	23	110	113	114	23
5/16	116	117	118	24	117	118	120	24	111	111	112	23	114	117	118	24	110	112	113	23
5/17	114	114	116	24	117	119	120	24	110	110	111	23	118	119	119	24	107	109	110	23
5/18	113	113	114	24	117	119	120	24	108	109	109	23	119	119	120	24	110	113	115	23
5/19	112	112	113	24	117	119	119	24	109	109	109	24	118	119	119	24	111	112	113	24
5/20	112	113	115	24	117	119	120	24	109	109	109	24	113	118	118	24	112	114	115	24
5/21	114	114	114	24	117	120	121	24	109	110	110	23	113	117	119	24	112	114	114	23
5/22	114	114	114	24	118	120	120	24	111	111	111	23	114	118	119	24	110	113	114	23
5/23	113	114	115	24	120	120	121	24	110	110	111	23	119	120	120	24	111	113	115	23
5/24	115	116	117	24	119	120	121	24	110	110	111	23	119	119	119	24	112	113	114	23
5/25	115	115	116	24	118	119	120	23	110	110	116	20	119	119	120	21	111	112	114	19

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

Date	<u>The Dalles Dnst</u>				<u>Bonneville</u>				<u>Warrendale</u>				<u>Skamania</u>				<u>Camas\Washugal</u>			
	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>hr</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>hr</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>hr</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>hr</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>hr</u>
5/12	118	120	120	24	112	112	114	23	115	115	116	23	114	114	115	23	113	115	116	24
5/13	118	119	120	24	114	114	115	23	117	118	118	23	117	117	118	23	115	116	117	23
5/14	119	120	122	24	113	114	114	23	119	119	120	22	119	119	120	23	117	119	119	24
5/15	117	119	120	24	113	113	114	23	118	118	119	23	118	118	119	23	117	119	119	24
5/16	116	117	117	24	109	110	112	23	116	117	118	23	116	117	117	23	116	117	118	24
5/17	115	117	118	24	105	106	107	23	112	112	113	23	112	113	114	23	112	113	114	24
5/18	118	120	121	24	106	106	107	23	112	112	113	23	112	112	113	23	111	113	114	24
5/19	117	118	119	24	109	109	110	24	114	114	115	24	114	114	116	24	112	114	115	24
5/20	118	119	121	24	110	111	111	24	116	117	117	24	117	118	119	24	115	117	118	24
5/21	118	119	120	24	111	111	112	23	116	117	118	23	117	118	119	23	116	117	117	23
5/22	118	119	120	24	110	111	111	23	116	117	117	23	116	117	117	23	116	117	118	23
5/23	119	120	121	24	109	109	110	23	115	115	115	23	114	114	115	23	114	115	116	23
5/24	120	121	122	24	111	112	113	23	115	116	116	23	113	114	114	23	114	115	116	24
5/25	120	121	122	24	112	112	113	21	115	115	116	17	113	114	114	18	113	114	115	22

# Hatchery Release Summary

From 5/12/00 to 5/25/00

Hatchery	Species...	Migration Year	Number Released	...Release Dates... Begin... End	Release Site	River Name
<b>IDFG</b>						
<b>Magic Valley</b>	SU Steelhead	2000	106,135	04/10/00 06/08/00	Squaw Cr Acclim Pd	Salmon River
<b>Sawtooth</b>	Sockeye	2000	12,955	05/23/00 05/23/00	Alturas Lake	Salmon River
	<b>Agency Totals:</b>		<b>119,090</b>	.....		
<b>ODFW</b>						
<b>Big Canyon</b>	SU Steelhead	2000	65,250	05/10/00 05/20/00	Big Canyon H	Grande Ronde River
	SU Steelhead	2000	65,250	05/11/00 05/25/00	Big Canyon H	Grande Ronde River
<b>Li Sheep</b>	SU Steelhead	2000	75,000	05/11/00 05/22/00	L Sheep Acclim Pd	Imnaha River
<b>Wallowa</b>	SU Steelhead	2000	108,750	05/04/00 05/18/00	Wallowa Acclim Pd	Wallowa River
	<b>Agency Totals:</b>		<b>314,250</b>	.....		
<b>Umatilla Tribe</b>						
<b>Thornhollow</b>	FA Chinook	2000	2,682,000	05/20/00 05/31/00	Thornhollow Acclim Pd	Umatilla River
	FA Chinook	2000	234,510	05/22/00 05/22/00	Thornhollow Acclim Pd	Umatilla River
	<b>Agency Totals:</b>		<b>2,916,510</b>	.....		
<b>USFWS</b>						
<b>Spring Creek</b>	FA Chinook	2000	3,700,000	05/18/00 05/18/00	Spring Creek H	Columbia River
<b>Winthrop</b>	SU Steelhead	2000	105,000	04/12/00 05/31/00	Winthrop H	Methow River
	<b>Agency Totals:</b>		<b>3,805,000</b>	.....		
<b>WDFW</b>						
<b>Chiwawa</b>	SU Steelhead	2000	25,600	04/26/00 05/15/00	Chiwawa H	Wenatchee River
	SU Steelhead	2000	43,400	04/26/00 05/15/00	Chiwawa H	Wenatchee River
<b>Klickitat</b>	NO Coho	2000	1,425,000	04/19/00 05/15/00	Klickitat H	Klickitat River
	FA Chinook	2000	1,500,000	05/15/00 05/21/00	Klickitat H	Klickitat River
<b>Wells</b>	SU Steelhead	2000	67,000	04/22/00 05/22/00	Bel. Wells Dam	Mid-Columbia River
	<b>Agency Totals:</b>		<b>3,061,000</b>	.....		
<b>Warm Spgs Tribe</b>						
<b>Oak Springs</b>	WI Steelhead	2000	1,590	05/16/00 05/16/00	Columbia R Above Bonn	Columbia River
<b>Parkdale Pond</b>	SP Chinook	2000	91	05/15/00 05/15/00	Columbia R Above Bonn	Columbia River
	WI Steelhead	2000	1,162	05/19/00 05/19/00	Columbia R Above Bonn	Columbia River
	<b>Agency Totals:</b>		<b>2,843</b>	.....		
<b>Yakima Tribe</b>						

## Hatchery Release Summary

From 5/12/00 to 5/25/00

Hatchery	Species...	Migration Year	Number Released	...Release Dates... Begin... ..End	Release Site	River Name
<b>Clark Flat</b>						
	SP Chinook	2000	229,000	03/15/00 06/01/00	Clark Flat Acclim Pd	Yakama River
<b>Easton Pond</b>						
	SP Chinook	2000	236,800	03/15/00 06/01/00	Easton Pd	Yakama River
	UN Coho	2000	125,000	05/25/00 05/25/00	Easton Pd	Yakama River
<b>Jack Creek Pond</b>						
	SP Chinook	2000	137,500	03/31/00 06/01/00	Jack Creek Acclim Pd	Yakama River
<b>Lost Creek</b>						
	UN Coho	2000	125,000	05/25/00 05/25/00	Lost Creek Acclim Pd	Yakama River
<b>Prosser</b>						
	FA Chinook	2000	1,700,000	05/15/00 06/07/00	Prosser Acclim Pd	Yakama River
<b>Stiles Pond</b>						
	UN Coho	2000	125,000	05/25/00 05/25/00	Naches R	Yakama River
<b>Winthrop</b>						
	UN Coho	2000	200,000	04/26/00 05/15/00	Winthrop H	Methow River
<b>Agency Totals:</b>			<b>2,878,300</b>	.....		
<b>Total Release..</b>			<b>13,096,993</b>			

## Hatchery Release Summary

From 5/26/00 to 6/8/00

Hatchery	Species...	Migration Year	Number Released	...Release Dates... Begin... ..End	Release Site	River Name
<b>Nez Perce Tribe</b>						
<b>Lyons Ferry</b>						
	FA Chinook	2000	500,000	06/01/00 06/09/00	Big Canyon (Clearwater	Clearwater Rvr M F
	FA Chinook	2000	500,000	06/01/00 06/09/00	Cpt John Acclim Pd	Snake River
<b>Agency Totals:</b>			<b>1,000,000</b>	.....		
<b>WDFW</b>						
<b>Klickitat</b>						
	FA Chinook	2000	2,500,000	06/07/00 06/23/00	Klickitat H	Klickitat River
<b>Wells</b>						
	SU Chinook	2000	378,000	06/05/00 06/20/00	Wells H	Mid-Columbia River
<b>Agency Totals:</b>			<b>2,878,000</b>	.....		
<b>Total Release..</b>			<b>3,878,000</b>			

## Two-Week Summary of Passage Indices

### COMBINED YEARLING CHINOOK

	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/12/00	26	9	62	20	66,851	114,742	26,486	693	79,998	25,737	40,948
05/13/00	---	---	---	---	59,168	43,993	48,143	1,265	63,498	12,995	43,298
05/14/00	---	---	---	---	28,689	27,321	21,957	1,483	69,031	9,635	49,552
05/15/00	3	12	0	4	42,336	26,204	11,915	1,011	57,160	11,230	53,973
05/16/00	35	14	7	7	19,131	24,570	6,464	1,024	67,818	15,057	69,705
05/17/00	18	22	20	3	15,098	23,865	4,286	778	60,797	18,528	39,560
05/18/00	13	35	53	3	16,097	22,836	12,215	899	39,933	10,722	39,346
05/19/00	14	10	71	15	18,668	13,891	2,443	1,247	46,579	15,302	48,958
05/20/00	---	---	---	---	21,465	12,310	3,145	814	57,854	10,024	42,793
05/21/00	---	---	---	---	15,263	10,017	5,342	727	43,376	15,606	65,707
05/22/00	26	34	31	46	11,540	17,094	9,127	646	49,434	19,279	68,441
05/23/00	---	15	104	155	18,048	15,130	19,006	415	71,148	27,815	51,354
05/24/00	---	9	49	337	26,190	17,442	20,828	401	36,271	26,793	72,976
05/25/00	---	14	22	291	16,401	18,101	3,551	227	46,146	18,366	114,396
<b>Total:</b>	<b>135</b>	<b>174</b>	<b>419</b>	<b>881</b>	<b>374,945</b>	<b>387,516</b>	<b>194,908</b>	<b>11,630</b>	<b>789,043</b>	<b>237,089</b>	<b>801,007</b>
<b># Days:</b>	<b>7</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>19</b>	<b>17</b>	<b>42</b>	<b>88</b>	<b>26,782</b>	<b>27,680</b>	<b>13,922</b>	<b>831</b>	<b>56,360</b>	<b>16,935</b>	<b>57,215</b>

### COMBINED SUBYEARLING CHINOOK

	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/12/00	0	0	0	11	200	0	9	0	524	568	375
05/13/00	---	---	---	---	0	0	0	0	378	73	374
05/14/00	---	---	---	---	0	0	0	1	799	0	456
05/15/00	0	0	0	12	0	0	14	0	663	257	1,353
05/16/00	0	0	0	22	0	100	0	0	875	50	658
05/17/00	0	0	0	11	0	102	9	5	475	19	368
05/18/00	0	0	0	7	0	69	202	0	711	33	587
05/19/00	0	0	0	8	0	0	19	16	1,000	286	13,124
05/20/00	---	---	---	---	0	0	0	19	1,461	294	107,703
05/21/00	---	---	---	---	0	0	161	10	738	287	242,700
05/22/00	0	0	0	22	0	0	62	21	681	14	131,493
05/23/00	---	0	0	37	0	0	474	36	2,520	875	49,953
05/24/00	---	0	0	18	0	68	1,249	42	2,344	297	35,456
05/25/00	---	0	0	16	0	0	702	22	3,686	64	23,403
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>164</b>	<b>200</b>	<b>339</b>	<b>2,901</b>	<b>172</b>	<b>16,855</b>	<b>3,117</b>	<b>608,003</b>
<b># Days:</b>	<b>7</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>14</b>	<b>24</b>	<b>207</b>	<b>12</b>	<b>1,204</b>	<b>223</b>	<b>43,429</b>

\* See sampling comments <http://www.fpc.org/2000Daily/smpcomments.htm>

These data are preliminary and have been derived from various sources. For verification and/or origin of these data, contact the operators of the Fish Passage Data System at (503) 230-4099.

## Two-Week Summary of Passage Indices

### COMBINED COHO

	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/12/00	0	0	0	2	1,201	747	78	143	393	13,030	39,700
05/13/00	---	---	---	---	1,220	190	794	231	756	9,550	58,396
05/14/00	---	---	---	---	201	199	188	191	799	5,437	52,288
05/15/00	0	0	0	3	806	412	58	276	663	6,462	60,137
05/16/00	0	0	0	0	202	0	81	340	875	4,276	86,408
05/17/00	0	0	0	0	207	102	27	414	760	1,975	52,440
05/18/00	0	0	0	0	1,228	0	11	586	445	2,708	58,725
05/19/00	0	0	0	2	2,533	68	29	1,080	546	2,387	53,529
05/20/00	---	---	---	---	5,500	193	67	1,962	389	2,692	53,371
05/21/00	---	---	---	---	5,673	40	32	1,855	738	5,610	66,890
05/22/00	0	0	0	0	11,247	234	118	1,976	1,513	2,968	85,147
05/23/00	---	0	0	5	13,235	277	409	4,689	2,147	4,165	73,763
05/24/00	---	0	0	29	15,557	1,221	916	4,291	1,094	5,321	177,468
05/25/00	---	0	0	16	20,551	1,234	372	2,955	3,407	4,313	117,392
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>57</b>	<b>79,361</b>	<b>4,917</b>	<b>3,180</b>	<b>20,989</b>	<b>14,525</b>	<b>70,894</b>	<b>1,035,654</b>
<b># Days:</b>	<b>7</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>5,669</b>	<b>351</b>	<b>227</b>	<b>1,499</b>	<b>1,038</b>	<b>5,064</b>	<b>73,975</b>

### COMBINED STEELHEAD

	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/12/00	42	11	173	245	171,930	66,940	11,681	725	16,297	7,988	21,847
05/13/00	---	---	---	---	113,660	16,749	48,301	791	12,849	7,880	11,979
05/14/00	---	---	---	---	48,550	10,778	49,920	718	15,591	8,856	13,376
05/15/00	117	847	15	98	98,380	6,606	28,294	520	9,283	6,645	6,916
05/16/00	193	1,126	18	60	79,557	8,429	21,505	606	9,274	5,714	24,594
05/17/00	165	1,369	27	106	52,532	3,896	13,639	567	12,632	4,432	16,192
05/18/00	39	2,462	34	316	51,838	3,873	19,178	685	7,031	8,363	21,728
05/19/00	19	521	116	276	88,271	4,608	9,147	697	6,738	10,406	18,433
05/20/00	---	---	---	---	117,119	3,381	8,967	1,051	7,700	9,389	13,944
05/21/00	---	---	---	---	98,194	2,654	7,595	1,099	7,142	8,396	11,247
05/22/00	10	1,706	26	34	71,094	3,784	5,922	1,158	9,764	8,796	17,245
05/23/00	---	1,244	235	209	121,792	2,925	19,549	1,359	11,205	3,178	12,138
05/24/00	---	700	144	134	219,762	13,724	73,223	1,346	7,978	5,309	27,014
05/25/00	---	486	23	111	118,168	12,860	16,590	1,197	11,061	7,173	21,906
<b>Total:</b>	<b>585</b>	<b>10,472</b>	<b>811</b>	<b>1,589</b>	<b>1,450,847</b>	<b>161,207</b>	<b>333,511</b>	<b>12,519</b>	<b>144,545</b>	<b>102,525</b>	<b>238,559</b>
<b># Days:</b>	<b>7</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>84</b>	<b>1,047</b>	<b>81</b>	<b>159</b>	<b>103,632</b>	<b>11,515</b>	<b>23,822</b>	<b>894</b>	<b>10,325</b>	<b>7,323</b>	<b>17,040</b>

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.

## Two-Week Summary of Passage Indices

### COMBINED SOCKEYE

	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/12/00	1	0	0	8	400	0	17	29	2,621	1,335	1,623
05/13/00	---	---	---	---	0	0	0	76	2,645	834	1,747
05/14/00	---	---	---	---	0	0	0	81	2,132	956	760
05/15/00	1	0	0	5	0	0	28	57	1,724	1,654	902
05/16/00	1	0	0	7	202	0	56	61	2,364	1,781	1,841
05/17/00	0	0	0	4	0	0	20	49	2,469	984	552
05/18/00	1	0	0	4	136	0	12	32	1,245	775	2,055
05/19/00	0	0	0	4	267	0	8	80	2,183	913	1,327
05/20/00	---	---	---	---	0	0	0	29	2,824	888	1,442
05/21/00	---	---	---	---	270	125	0	25	1,640	1,389	0
05/22/00	1	0	0	5	133	205	98	33	832	1,054	539
05/23/00	---	0	0	9	936	35	211	40	2,054	2,143	1,867
05/24/00	---	0	0	6	591	169	1,048	32	1,406	1,387	3,940
05/25/00	---	0	---	8	395	205	141	30	1,899	1,569	4,681
<b>Total:</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>60</b>	<b>3,330</b>	<b>739</b>	<b>1,639</b>	<b>654</b>	<b>28,038</b>	<b>17,662</b>	<b>23,276</b>
<b># Days:</b>	<b>7</b>	<b>10</b>	<b>9</b>	<b>10</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>238</b>	<b>53</b>	<b>117</b>	<b>47</b>	<b>2,003</b>	<b>1,262</b>	<b>1,663</b>

#### Definitions for Smolt Index Counts

WTB (Collection) = Salmon River Trap at Whitebird : Collection Counts

IMN (Collection) = Imnaha River Trap : Collection Counts

GRN (Collection) = Grande Ronde River Trap : Collection Counts

LEW (Collection) = Snake River Trap at Lewiston : Collection Counts

LGR (Index) = Lower Granite Dam Bypass Collection System : Passage Index Counts

Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}

LGS (Index) = Little Goose Bypass Collection System : Passage Index Counts

Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}

LMN (Index) = Lower Monumental Dam Bypass Collection System : Passage Index Counts

Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}

RIS (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts

Passage Index = Collection Counts / {Powerhouse 2 Flow / (Powerhouse 1 & 2 Flow + Spill)}

MCN (Index) = McNary Dam Bypass Collection System : Passage Index Counts

Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}

JDA (Index) = John Day Dam Bypass Collection System : Passage Index Counts

Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}

BO2 (Index) = Bonneville Dam Second Powerhouse Bypass Collection System : Passage Index Counts

Passage Index = Collection Counts / {Powerhouse 2 Flow / (Powerhouse 1 & 2 Flow + Spill)}

LEW and WTB data collected for the FPC by Idaho Dept. of Fish and Game.

JDA and BO2 data collected for the FPC by Pacific States Marine Fisheries Commission.

RIS data collected for the FPC by Chelan Co. PUD/Washington Dept. of Fish and Wildlife.

LGR, LMN, and MCN data collected for the FPC by Washington Dept. of Fish and Wildlife.

LGS and GRN data collected for the FPC by Oregon Dept. of Fish and Wildlife.

IMN data collected for the FPC by the Nez Perce Tribe.

**Cumulative Adult Passage at Mainstem Dams Through 05/25**

DAM	Spring Chinook						Summer Chinook						Fall Chinook					
	2000		1999		10-Yr Avg.		2000		1999		10-Yr Avg.		2000		1999		10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	173,618	19,587	36,962	8,034	60,428	2,557	0	0	0	0	0	0	0	0	0	0	0	0
TDA	98,225	13,214	15,643	5,374	34,335	1,617	0	0	0	0	0	0	0	0	0	0	0	0
JDA	80,288	10,486	13,097	4,230	26,651	1,270	0	0	0	0	0	0	0	0	0	0	0	0
MCN	58,203	8,979	7,573	2,928	24,888	1,202	0	0	0	0	0	0	0	0	0	0	0	0
IHR	32,083	6,878	3,496	1,790	11,878	465	0	0	0	0	0	0	0	0	0	0	0	0
LMN	28,197	7,242	2,178	1,529	9,843	417	0	0	0	0	0	0	0	0	0	0	0	0
LGS	27,516	7,101	1,679	1,247	**	**	0	0	0	0	**	**	0	0	0	0	**	**
LWG	26,315	6,984	1,512	1,103	7,758	293	0	0	0	0	0	0	0	0	0	0	0	0
PRD	16,978	686	3,164	179	7,120	75	0	0	0	0	0	0	0	0	0	0	0	0
RIS	10,847	511	1,837	92	4,245	41	0	0	0	0	0	0	0	0	0	0	0	0
RRH	3,841	146	517	23	727	6	0	0	0	0	0	0	0	0	0	0	0	0
WEL	699	98	0	0	356	6	0	0	0	0	0	0	0	0	0	0	0	0

DAM	Coho						Sockeye			Steelhead			
	2000		1999		10-Yr Avg.		10-Yr			10-Yr			Wild
	Adult	Jack	Adult	Jack	Adult	Jack	2000	1999	Avg.	2000	1999	Avg.	2000
BON	0	0	0	0	0	0	7	0	0	3,334	2,063	4,144	997
TDA	0	0	0	0	0	0	0	0	0	678	510	1,613	229
JDA	0	0	0	0	0	0	0	0	0	3,125	3,326	3,044	1,262
MCN	0	0	0	1	0	0	0	0	1	750	442	2,200	232
IHR	0	0	0	0	0	0	0	0	0	793	804	2,365	376
LMN	0	0	0	0	0	0	0	0	0	866	585	2,344	491
LGS	0	0	0	0	**	**	0	0	**	920	911	**	465
LWG	0	0	0	0	0	0	0	0	0	2,437	3,036	5,215	849
PRD	0	0	0	0	0	0	75	3	5	42	18	45	***
RIS	1	0	0	0	0	0	6	0	0	21	31	75	20
RRH	1	0	0	0	0	0	3	0	0	75	50	59	33
WEL	0	0	0	0	0	0	0	0	0	5	2	18	3

RIS, RRH are through 05/22, PRD is through 05/23, LGS, LMN and WEL are through 05/24.

Note: JDA has a partial count on 4/16 and is missing 5/23; LMN is missing 5/18.

Note: LMN 04/08 is missing the south ladder count; IHR 05/06 is missing the south ladder count.

These numbers were collected from the COE's Running Sums text files.

Wild steelhead numbers are included in the total.

\*\*Adult count records at Little Goose Dam have been maintained since 1991, visual counts were not conducted at Little Goose Dam between 1982 and 1990.

\*\*\*PRD is not reporting Wild Steelhead numbers.

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.

## Two Week Transportation Summary

05/12/00 TO 05/25/00

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
<b>LGR</b>	Sum Of NumberCollected	150	279,550	59,800	2,500	1,085,350	1,427,350
	Sum Of NumberBarged	150	271,128	59,792	2,491	1,076,013	1,409,574
	Sum Of NumberBypassed	0	7,936	2	0	9,151	17,089
	Sum Of NumberTrucked	0	0	0	0	0	0
	Sum Of TotalProjectMort	0	484	6	9	186	685
<b>LGS</b>	Sum Of NumberCollected	210	246,070	3,369	519	104,278	354,446
	Sum Of NumberBarged	207	245,514	3,367	515	104,069	353,672
	Sum Of NumberBypassed	0	0	0	0	0	0
	Sum Of NumberTrucked	0	0	0	0	0	0
	Sum Of TotalProjectMort	3	556	2	4	209	774
<b>LMN</b>	Sum Of NumberCollected	2,234	124,871	2,256	1,272	211,630	342,263
	Sum Of NumberBarged	2,217	111,672	2,255	1,272	211,270	328,686
	Sum Of NumberBypassed	15	12,996	0	0	201	13,212
	Sum Of NumberTrucked	0	0	0	0	0	0
	Sum Of TotalProjectMort	2	203	1	0	159	365
<b>MCN</b>	Sum Of NumberCollected	9,155	442,756	8,105	15,596	81,148	556,760
	Sum Of NumberBarged	0	0	0	0	0	0
	Sum Of NumberBypassed	9,155	442,563	8,105	15,596	81,092	556,511
	Sum Of NumberTrucked	0	0	0	0	0	0
	Sum Of TotalProjectMort	0	193	0	0	56	249
Total Sum Of NumberCollected		11,749	1,093,247	73,530	19,887	1,482,406	2,680,819
Total Sum Of NumberBarged		2,574	628,314	65,414	4,278	1,391,352	2,091,932
Total Sum Of NumberBypassed		9,170	463,495	8,107	15,596	90,444	586,812
Total Sum Of NumberTrucked		0	0	0	0	0	0
Total Sum Of TotalProjectMort		5	1,436	9	13	610	2,073

## YTD Transportation Summary

TO: 05/25/00

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
<b>LGR</b>	Sum Of NumberCollected	3,310	2,356,610	71,576	4,110	4,719,834	7,155,440
	Sum Of NumberBarged	3,126	2,240,539	71,154	3,883	4,484,108	6,802,810
	Sum Of NumberBypassed	46	106,879	400	16	224,036	331,377
	Sum Of NumberTrucked	117	6,084	16	187	11,238	17,642
	Sum Of TotalProjectMort	21	3,108	6	24	452	3,611
<b>LGS</b>	Sum Of NumberCollected	330	1,254,980	7,036	1,450	965,298	2,229,094
	Sum Of NumberBarged	326	1,245,776	7,027	1,350	957,869	2,212,348
	Sum Of NumberBypassed	0	0	0	0	0	0
	Sum Of NumberTrucked	0	4,308	5	76	6,791	11,180
	Sum Of TotalProjectMort	4	4,881	4	24	637	5,550
<b>LMN</b>	Sum Of NumberCollected	2,412	563,743	3,228	1,802	662,132	1,233,317
	Sum Of NumberBarged	2,392	514,029	3,217	1,790	660,481	1,181,909
	Sum Of NumberBypassed	16	22,680	0	0	601	23,297
	Sum Of NumberTrucked	0	25,741	10	10	810	26,571
	Sum Of TotalProjectMort	4	1,293	1	2	240	1,540
<b>MCN</b>	Sum Of NumberCollected	21,269	861,101	11,774	42,159	273,329	1,209,632
	Sum Of NumberBarged	0	0	0	0	0	0
	Sum Of NumberBypassed	21,253	860,676	11,774	42,151	273,208	1,209,062
	Sum Of NumberTrucked	0	0	0	0	0	0
	Sum Of TotalProjectMort	16	425	0	8	121	570
Total Sum Of NumberCollected		27,321	5,036,434	93,614	49,521	6,620,593	11,827,483
Total Sum Of NumberBarged		5,844	4,000,344	81,398	7,023	6,102,458	10,197,067
Total Sum Of NumberBypassed		21,315	990,235	12,174	42,167	497,845	1,563,736
Total Sum Of NumberTrucked		117	36,133	31	273	18,839	55,393
Total Sum Of TotalProjectMort		45	9,707	11	58	1,450	11,271



