



## Fish Passage Center

# Weekly Report #10 - 09

May 14, 2010

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### Summary of Events:

**Water Supply:** Precipitation throughout the Columbia Basin has varied between 42% and 147% of average at individual sub-basins over May 1-10. Precipitation above The Dalles has been 103% of average over May 1-10. Over the 2010 water year, precipitation has ranged between 75% and 87% of average.

**Table 1. Summary of May 1-10 precipitation and cumulative October through May 10 precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.**

Location	Water Year 2010 May 1-10		Water Year 2010 October 1, 2009 to May 10, 2010	
	Observed (inches)	% Average	Observed (inches)	% Average
	Columbia Above Coulee	0.76	106	13.41
Sneke River Above Ice Harbor	1.54	88	10.71	87
Columbia Above The Dalles	0.64	103	14.12	85
Kootenai	0.83	116	14.05	82
Clark Fork	0.59	90	8.21	75
Flathead	1.11	141	12.99	89
Pend Oreille/Spokane	0.97	115	19.13	82
Central Washington	0.10	42	5.80	85
Sneke River Plain	0.27	57	6.36	83
Salmon/Boise/Payette	0.48	84	13.03	87
Clearwater	1.25	128	18.63	84
SW Washington Cascades/Cowlitz	1.8	147	51.90	86
Willamette Valley	1.31	115	44.48	87

Table 2 displays the April Final and May Final runoff volume forecasts for multiple reservoirs. The current forecast at The Dalles between January and July is 70900 Kaf (66% of average).

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

Location	April Final		May Final	
	% Average (1971- 2000)	Probable Runoff Volume (Kaf)	% Average (1971- 2000)	Probable Runoff Volume (Kaf)
The Dalles (Jan-July)	65	69700	66	70900
Grand Coulee (Jan-July)	73	46000	74	46400
Libby Res. Inflow, MT (Apr-Aug)	68 81*	4270 5103*	69 77*	4310 4887*
Hungry Horse Res. Inflow, MT (Jan-July)	69	1540	74	1640
Lower Granite Res. Inflow (Apr- July)	56	12000	58	12400
Brownlee Res. Inflow (Apr-July)	41	2590	44	2780
Dworshak Res. Inflow (Apr-July)	50 52*	1330 1398*	55 57*	1460 1526*

\* Denotes COE Forecast

The Biological Opinion flow period began on April 3rd in the lower Snake River (Lower Granite). According to the April Final Water Supply Forecast, the flow objective this spring is 85 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 45.9 Kcfs from April 3 to May 13 and 50.4 Kcfs last week.

The Biological Opinion flow period began on April 10th in the mid and lower Columbia River (Priest Rapids and McNary Dams). According to the April Final Water Supply Forecast, the flow objective this spring is 220 Kcfs at McNary and 135 Kcfs at Priest Rapids. Flows from April 10 to May 13 have averaged 157.2 Kcfs at McNary Dam and 100.9 Kcfs at Priest Rapids

Dam. Over the last week, flows have averaged 180.8 Kcfs at McNary Dam and 124.8 Kcfs at Priest Rapids Dam. Outflows from Grand Coulee have been increased in attempt to achieve flows of 135 Kcfs at Priest Rapids Dam, next week operators will attempt to achieve flows of 130 Kcfs at Priest Rapids Dam (as decided at the 5-12-10 TMT Meeting).

Grand Coulee Reservoir is at 1261.7 feet (5-13-10) and drafted 6.7 feet over the last week. Outflows at Grand Coulee have ranged between 79 and 128.9 Kcfs over the last week. The end of April FC elevation at Grand Coulee was 1283.3 feet.

The Libby Reservoir is currently at elevation 2410.1 feet (5-13-10) and has refilled 1.15 feet last week. Outflows at Libby are currently 4.0 Kcfs. The end of April FC Elevation at Libby was 2447.5 feet. At the 4-28-10 TMT Meeting, a decision was made to reduce VARQ outflows in early May to provide a higher reservoir elevation at Libby Dam in Late May/Early June. The higher reservoir elevation at Libby Dam will provide an increased likelihood that a spill test can be conducted this year for sturgeon operations. Outflows from Libby will be increased later in the spring period in an effort to have no impact on the spring volume of flow augmentation from Libby Dam. The COE released its May Final forecast at Libby Dam on May 7<sup>th</sup>, 2010 which was 4887 Kaf (April-August) which puts Libby in a Tier 2 sturgeon operation in 2010.

Hungry Horse is currently at an elevation of 3530.0 feet (5-13-10) and has drafted 0.2 feet last week. Outflows at Hungry Horse have been approximately 2.3-4.0 Kcfs last week. The end of April FC Elevation at Hungry Horse was 3555.1 feet.

Dworshak is currently at an elevation of 1562.2 feet (5-13-10) and has refilled approximately 5.9 feet last week. Over the last week outflows at Dworshak were 1.1-1.4 Kcfs. The end of April System FC Elevation at Dworshak was 1597.4 feet. SOR #2010-2 was submitted requesting three days of increased discharge from Dworshak of 10 Kcfs, to add to natural peak flows expected in the next week. A TMT check-in on Monday, May 17, is scheduled to determine implementation of the SOR.

The Brownlee Reservoir was at an elevation of 2068 feet on May 13, 2010 drafting 1.9 feet last week. The end of April FC Elevation at Brownlee was 2077 feet.

Over the last week, outflows at Brownlee have ranged between 14.2-19.7 Kcfs.

**Spill:** The 2010 planned spring spill program at the lower Snake River Projects began on April 3 at 0001 hours. The following table shows the planned operations for spring 2010.

Project	Day/Night Spill
Lower Granite	20Kcfs/20Kcfs
Little Goose	30%/30%
Lower Monumental	Gas Cap/Gas Cap
Ice Harbor	April 3-April 28: 45 Kcfs/Gas Cap April 29-June 20: 30%/30% vs. 45 Kcfs/Gas Cap

Flows were a little lower over the past week in the Snake River and, the planned spill levels were mostly achieved. Spill at Lower Granite Dam met the 20 Kcfs instantaneous level. Spill at Little Goose Dam achieved the 30% of instantaneous flow and has ranged from a daily average of 15.4 to 19.5 Kcfs. Spill at Lower Monumental Dam varied over the past week as gas caps were lowered from 45 Kcfs at the beginning of the week to 27 Kcfs by week's end. The reductions were made in an attempt to decrease the total dissolved gas at the downstream forebay monitor at Ice Harbor Dam. The Ice Harbor simulated test of 30% spill versus 45 Kcfs during daytime hours and gas cap spill during nighttime hours began on April 29. Spill at Ice Harbor Dam occurred as 45 Kcfs during daytime hours, and all flow in excess of that required to operate one turbine unit during nighttime hours, or as 30% spill in two day blocks.

The 2010 spill program at the lower Columbia River projects began at 0001 hours on April 10<sup>th</sup>. The following table shows the planned operations for spring 2010.

Project	Day/Night Spill
McNary	40%/40%
John Day	<b>Pre-test:</b> 30%/30% <b>Testing:</b> 30%/30% vs. 40%/40%
The Dalles	40%/40%
Bonneville	100 Kcfs/100 Kcfs

The planned spill levels have been met at McNary, John Day and dams. At John Day Dam the testing of 30% spill versus 40% spill has begun and is occurring in two day blocks. At Bonneville Dam spill was reduced to address TDG at the Camas/Washougal monitor. Spill decreased from 100 Kcfs to 75 Kcfs, and increased to 90 Kcfs on the 13<sup>th</sup> of May.

At present, GBT monitoring is being implemented at Lower Granite, Little Goose, Lower Monumental, McNary, Bonneville and Rock Island dams. No fish were reported with signs of fin GBT this past week.

Most all total dissolved gas levels have been below the waiver amounts over the past week at the monitoring sites, with the exception of five days at the Ice Harbor Dam forebay monitor, one day at the Bonneville Dam forebay monitor, and three days at the Camas/Washougal simulated forebay monitor. The Camas/Washougal monitor is not a required point of compliance for the TDG waivers.

**Smolt Monitoring:** Juvenile salmon collections at Snake River dams decreased over the past week, while collections at dams below the Snake River confluence remained steady or increased over the past week. The spring migration appears to have stalled in the Snake River but in Columbia River migrants appear to be passing relatively well. Every day sampling began last week at Little Goose and Lower Monumental dams as transportation is now ongoing at all three Snake River collector dams. At Bonneville Dam and Rock Island Dam smolt collections have been near normal or above normal for the past few weeks. At the SMP traps large numbers of yearling Chinook smolts have been collected over the last few weeks at the Grande Ronde Trap while steelhead collections have been high at all four traps.

The Salmon River Trap, located at River km 103, and operated by Idaho Department of Fish and Game, has collected few yearling Chinook over the past week, as passage begins to wind down. This pattern of steady by declining steelhead collection and very few Chinook is typical of historic patterns of timing for the Salmon River Trap, and reflects the hatchery release timing of the two species. The wild portion of the steelhead catch has increased since May 1, with 13% of the steelhead collected at the trap this past week were wild origin compared to about 5% the week before. Small numbers of Sockeye smolts have been collected

at the trap over the past few days at those migrants appear to be beginning their migration out of the Salmon River. Flows dropped below historic median on May 1 and have been at about 50% of normal over the past week. Flows are projected to increase to about 18 kcfs by May 19 which would still be below normal but may help to push out late Spring migrant salmon.

Collections at the Grande Ronde Trap, operated by the Oregon Department of Fish and Wildlife, have remained relatively high over the past week. Since May 1, collections of yearling Chinook and steelhead have increased. Based on collections over the past ten years, yearling Chinook numbers typically decrease rapidly at this point. Hatchery origin yearling Chinook continued to predominate in the catch over the past week, with more than 70% either adipose clipped or coded wire tagged. Wild steelhead percentage has increased from about 20% of collections two weeks ago to over 30% in the past seven days. Flows in the Grande Ronde River have also decreased over the past week, with flows dropping well below historic median. Flows on May 13 were at 5000 cfs which is about 80% of historic median. Similar to the Salmon River, flows are projected to increase to a peak of 9000 cfs on May 19.

The Imnaha River Trap, operated by the Nez Perce Tribe, provides data to the SMP, on their fish collection. The trap has been operating since mid-February. The Imnaha Trap has been collecting relatively large numbers of steelhead over the past two weeks. Steelhead collection rose to over 1,400 on May 13. Steelhead collections typically peak during this period of May 13 to May 20. Flows in the Imnaha are at 1120 cfs which 80% of historic median for May 13. Similar to other Snake River tributaries flows are projected to increase through May 19.

Collections of yearling Chinook at the Lewiston Trap, operated by IDFG, have remained relatively low over the past week but jumped to nearly 300 on May 13. Steelhead collection decreased over the past week except for a relatively high collection of nearly 500 on May 12. Flows tapered off two weeks ago and have averaged about 35 kcfs for the past week as measured at Anatone Gage. The forecast for the Snake River also shows an increase up to over 50 kcfs on May 19 and then to stay relatively flat for the next few days.

Passage indices for yearling Chinook and steelhead at Lower Granite Dam have declined over the past two weeks. Passage indices averaged 53,000 per day this week compared to over 90,000 last week for yearling Chinook, while steelhead passage indices

dropped from over 45,000 per day last week to about 32,000 per day this week. No sockeye were sampled at Snake River dams in the past two weeks. Daily sampling began at Little Goose Dam on April 30 in support of smolt transportation, while sampling at Lower Monumental Dam began 3 days later, on May 2.

At Bonneville Dam the largest collections over the past week have been subyearling Chinook. A recent release from Spring Creek NFH of subyearling fall Chinook began arriving on May 12, with index of passage peaking at 427,000 on May 12. For yearling Chinook the average passage index was 64,000 per day this week compared to 59,000 last week. The average index for steelhead was 35,000 per day compared to 15,000 per day last week. Increasing numbers of coho and sockeye were captured over the past week. Sockeye indices continued to increase this past week with a peak index of over 15,000 fish on May 12. The coho passage index also reached a peak for the season on May 12 at nearly 23,000.

At John Day Dam there continue to be unusual smolt mortalities in the sample. The numbers are of mortality rate for steelhead has risen above 4% on several day while yearling Chinook sample mortality rate has risen over 2%. Dead fish have arrived in the sampling facility without heads. The COE has been flushing orifices and checking the bypass channel and examining gateway orifices to determine the cause of these smolt decapitations. So far the cause remains unidentified.

At Rock Island Dam there are also some unusual mortalities in the sample. At that site, fluctuating numbers of hatchery coho mortalities have been collected. The coho morts have had unusually high degree of fungus and the fish appear to have arrived at the facility dead. The percentage of the total sample has fluctuated between 0 and 20% of the total sample on some days. It is the opinion of SMP crew at the site that the morts were dead prior to arriving at the facility. Mortality rates of other species have remained relatively low.

### **Hatchery Release:**

**Snake River Zone:** The Snake River Zone encompasses the Snake River and its tributaries from its confluence with the Columbia River to Hells Canyon Dam. Releases of subyearling fall Chinook surrogates to the Snake River were scheduled to begin this week. In all, approximately 230,000 fall Chinook surrogates are scheduled for release into the Snake River, near

Captain John's Rapids. These surrogates are 100% unmarked, but do have PIT-tags. Two releases of summer steelhead from Haggerman NFH that began last week ended this week. In all, these releases totaled 427,440 summer steelhead that were released into Yankee Fork of the Salmon River. Approximately 51% of these summer steelhead were unclipped. In addition to these releases, a release of 156,000 summer steelhead to the Grande Ronde River was scheduled to begin this week.

Approximately 2.1 million subyearling fall Chinook are scheduled to be released in this zone over the next two weeks. Of these, about 1.0 million will be released into the Clearwater River and its tributaries, while the remaining 1.1 million will be released into the Snake River, above Lower Granite Dam. Also, only about 29% of these subyearling fall Chinook juveniles are adipose clipped, about 24% are tagged with coded-wire-tags only, and about 48% are unmarked. This means that it will be difficult to distinguish these unmarked hatchery fall Chinook from wild fall Chinook when they begin migrating past the projects. These are the only releases of juvenile salmonids that are scheduled for this zone over the next two weeks.

**Mid-Columbia Zone:** The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. Wells Hatchery was scheduled to begin releasing about 484,000 subyearling summer Chinook into the Mid-Columbia River this week. This release is expected to run through May 20<sup>th</sup>. In addition, several volitional releases of coho and yearling spring Chinook that began weeks ago were scheduled to end this week. Among these volitional releases were Yakama Tribal releases from three acclimation facilities on the Yakima River. These releases began in mid-March. In all, approximately 851,000 yearling spring Chinook were released into the Yakima River during these releases, many of which were tagged with red, orange, or green Elastomer tags. The other volitional releases that were scheduled to end this week were two Yakama Tribal releases of coho to the Wenatchee River. These releases began last week and are expected to total around 86,500 coho juveniles, most of which were unclipped but tagged with coded-wire-tags.

There are no new releases of juvenile salmonids scheduled to begin over the next two weeks. However, several volitional releases of summer Chinook, spring Chinook, and summer steelhead that began weeks ago are scheduled to end over the next two weeks.

**Lower Columbia Zone:** The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Spring Creek NFH released just over 4.55 million subyearling fall Chinook tules into the Lower Columbia River (Bonneville Dam pool) on May 10<sup>th</sup>. Of these, nearly 200,000 were unclipped but were tagged with coded-wire-tags. The only other release of juvenile salmonids scheduled to begin this week was a Warm Springs Tribal release of 12,500 winter steelhead to Hood River. These winter steelhead were reared at Oak Springs Hatchery but acclimated and released from the Parkdale Acclimation Facility.

The only release of juvenile salmonids scheduled to begin over the next two weeks is a release of approximately 600,000 subyearling fall Chinook to the Umatilla River. This release is scheduled to begin in late May.

#### **Adult Fish Passage:**

Adult counts at Bonneville Dam have been updated through May 13th. Daily adult spring Chinook counts at Bonneville Dam ranged from 2482 to 7549 adult salmon per day. Between March 15th and May 13th, 210424 spring Chinook have been counted at Bonneville Dam. In 2009, 75354 adult spring Chinook were counted at Bonneville Dam for the same time period. The 2010 adult spring Chinook count at Bonneville Dam is about 2.8 times greater than the 2009 count. The Bonneville spring Chinook adult count is about 1.5 times greater than the 10 year average of 139764. The 2010 Bonneville Dam spring Chinook jack count of 7218 is about 23.6% of the 2009 count of 30529 and about 79% of the 10 year average of 9130. The 2010 Willamette Falls Dam adult spring Chinook count of 18367 is about 3 times greater than the 2009 count of 6008. At The Dalles Dam the 2010 adult spring Chinook count is 148268 and at McNary Dam 106857 adult spring Chinook have been counted. The McNary Dam 2010 adult spring Chinook count is about 3.8 times greater than the 2009 count of 27744 and is about 1.7 times greater than the 10 year average of 62946. The 2010 McNary Dam jack spring Chinook count of 2554 is 27.6% of the 2009 count and 80.7% of the 10 year average count.

During this past week, the salmon managers had expressed concern about the low adult counts at Little Goose Dam. The counts at other dams along the river remained high, while the LGS counts were lower, comparatively. For instance, on 5/09 the IHR

adult spring Chinook daily count was 3007, the LMN daily count was 6085 and at LGS the daily count was 1330. On 5/13, the COE shut spill down in LGS bays 1 and 2 in order to adjust the crest on the TSW. During this period, a 30% spill level was maintained through the other bays. Due to this new operation at LGS, the adult numbers increased substantially. On 5/13 the IHR adult spring Chinook daily count was 2788, the LMN daily count was 5168 and the LGS daily count was 9572. As of 5/13 at Lower Granite Dam, the 2010 adult spring Chinook count of 32716 is about 4.5 times greater than the 2009 count of 7264 and about 1.10 times greater than the 10 year average count of 29711. The Bonneville Dam 2010 steelhead count of 5708 is about 2 times greater than the 2009 count of 2816.

The 2010 steelhead count is about 2 times greater than the 10-year average of 2871. At upriver sites, adult steelhead continue to move through the hydro system to reach their tributaries and spawning sites. The majority of these fish over-wintered in pools and will complete their trip to their spawning grounds in March through early May. Daily adult steelhead counts at Lower Granite Dam ranged from 13 to 26 adults per day last week. This year's Lower Granite steelhead count of 10303 is about 96.7% of the 2009 count of 10657 and 1.22 times greater than the 10 year average of 8472. The 2010 Lower Granite wild steelhead count as of May 13th was 4050. At Rock Island Dam, as of May 12th, 104 adult steelhead have been counted and at Rocky Reach Dam, 313 adult steelhead have been counted so far this season. At Willamette Falls Dam, the 2010 count for steelhead was 11773, as of May 8th. This year's steelhead count is about 2.74 times greater than the 2009 count of 4297 at Willamette Falls Dam for the same date range.

### Hatchery Releases Last Two Weeks

Hatchery Release Summary										
From:		4/30/2010		to		05/13/10				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver	
Idaho Dept. of Fish and Game	Oxbow-Idaho	CH0	FA	2010	200,000	05-01-10	05-01-10	Hells Canyon Dam	Snake River	
Idaho Dept. of Fish and Game	Oxbow-Oregon	SO	UN	2010	66,500	05-01-10	05-01-10	Redfish Lake Creek	Salmon River (ID)	
Idaho Dept. of Fish and Game	Sawtooth Hatchery	SO	UN	2010	112,500	05-01-10	05-01-10	Salmon River (ID)	Salmon River (ID)	
<b>Idaho Dept. of Fish and Game Total</b>					<b>379,000</b>					
National Marine Fisheries Service	Lyons Ferry Hatchery	CH0	FA	2010	230,000	05-11-10	05-29-10	Couse Creek	Snake River	
<b>National Marine Fisheries Service Total</b>					<b>230,000</b>					
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2010	156,000	05-10-10	05-10-10	Big Canyon Acclim.Pd (Grande Ronde)	Grande Ronde River	
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	CH1	SP	2010	212,760	04-13-10	06-01-10	Deschutes River	Deschutes River	
Oregon Dept. of Fish and Wildlife	Umatilla Hatchery	CH0	FA	2010	800,000	05-01-10	05-01-10	Hells Canyon Dam	Snake River	
<b>Oregon Dept. of Fish and Wildlife Total</b>					<b>1,168,760</b>					
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2010	120,918	05-03-10	05-04-10	East Fk Salmon River	Salmon River (ID)	
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2010	209,362	05-05-10	05-12-10	Yankee Fk (Salmon R)	Salmon River (ID)	
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2010	218,078	05-05-10	05-12-10	Yankee Fk (Salmon R)	Salmon River (ID)	
U.S. Fish and Wildlife Service	Spring Creek NFH	CH0	FA	2010	4,551,265	05-10-10	05-10-10	Spring Creek Hatchery	L Col R (D/s McN Dam)	
<b>U.S. Fish and Wildlife Service Total</b>					<b>5,099,623</b>					
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	CH1	SP	2010	610,000	04-15-10	05-15-10	Chiwawa River	Wenatchee River	
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SP	2010	150,000	05-01-10	05-07-10	Lake Wenatchee	Wenatchee River	
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2010	350,000	04-10-10	05-05-10	Similkameen Acclim Pd	Okanogan River	
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SU	2010	950,000	04-25-10	05-05-10	Dryden Acclim Pond	Wenatchee River	
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SU	2010	400,000	04-20-10	05-01-10	Carlton Acclim Pond	Methow River	
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2010	24,000	04-25-10	05-05-10	White Salmon River	White Salmon River	
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2010	90,000	05-01-10	05-07-10	Klickitat River	Klickitat River	
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	WI	2010	20,000	04-25-10	05-05-10	White Salmon River	White Salmon River	
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	CH1	SU	2010	257,000	04-25-10	05-05-10	Turtle Rock Hatchery	Mid-Columbia River	
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2010	50,000	04-10-10	05-15-10	Wenatchee River	Wenatchee River	
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2010	115,000	05-01-10	05-07-10	Chiwawa River	Wenatchee River	
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2010	144,000	05-01-10	05-07-10	Nason Creek	Wenatchee River	
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2010	156,000	05-01-10	05-07-10	Wenatchee River	Wenatchee River	
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2010	335,000	04-15-10	06-01-10	Wells Hatchery	Mid-Columbia River	
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH0	SU	2010	484,000	05-10-10	05-20-10	Wells Hatchery	Mid-Columbia River	
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2010	105,000	04-20-10	05-05-10	Okanogan River	Okanogan River	
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2010	180,000	04-20-10	05-05-10	Methow River	Methow River	
<b>Washington Dept. of Fish and Wildlife Total</b>					<b>4,420,000</b>					
Yakama Tribe	Cascade Hatchery	CO	UN	2010	58,338	05-01-10	05-07-10	Coulter Creek	Wenatchee River	
Yakama Tribe	Cascade Hatchery	CO	UN	2010	58,635	05-07-10	05-14-10	Rolfings Acclim Pond Butcher Creek Acclim.	Wenatchee River	
Yakama Tribe	Cascade Hatchery	CO	UN	2010	115,137	05-01-10	05-07-10	Pond	Wenatchee River	
Yakama Tribe	Cascade Hatchery	CO	UN	2010	116,250	04-29-10	05-07-10	Wenatchee River	Wenatchee River	
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	280,960	03-15-10	05-14-10	Clark Flat Acclim Pond Jack Creek Acclim	Yakima River	
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	282,011	03-15-10	05-14-10	Pond	Yakima River	
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	288,342	03-15-10	05-14-10	Easton Pond	Yakima River	
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	15,846	04-07-10	06-01-10	Holmes Pond	Yakima River	
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	37,806	04-12-10	06-01-10	Boone Pond	Yakima River	
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	45,060	04-12-10	06-01-10	Prosser Acclim Pond Lost Creek Acclim	Yakima River	
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	134,850	04-12-10	06-01-10	Pond	Yakima River	
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	135,086	04-12-10	06-01-10	Naches River	Yakima River	
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	205,926	04-12-10	06-01-10	Easton Pond Lost Creek Acclim	Yakima River	
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	38,159	04-12-10	06-01-10	Pond	Yakima River	
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	74,342	04-07-10	06-01-10	Holmes Pond	Yakima River	
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	74,438	04-12-10	06-01-10	Naches River	Yakima River	
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	137,659	04-12-10	06-01-10	Prosser Acclim Pond	Yakima River	
Yakama Tribe	Willard Hatchery	CO	UN	2010	9,879	05-01-10	05-07-10	Coulter Creek	Wenatchee River	
Yakama Tribe	Willard Hatchery	CO	UN	2010	26,999	05-07-10	05-14-10	Rolfings Acclim Pond Butcher Creek Acclim.	Wenatchee River	
Yakama Tribe	Willard Hatchery	CO	UN	2010	29,442	05-01-10	05-07-10	Pond	Wenatchee River	
Yakama Tribe	Winthrop NFH	CO	UN	2010	90,161	04-24-10	05-05-10	Twisp Acclim Pond	Methow River	
<b>Yakama Tribe Total</b>					<b>2,255,326</b>					
<b>Grand Total</b>					<b>13,552,709</b>					

### Hatchery Releases Next Two Weeks

Hatchery Release Summary									
From:	5/14/2010		to		5/27/2010				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
National Marine Fisheries Service	Lyons Ferry Hatchery	CH0	FA	2010	230,000	05-11-10	05-29-10	Couse Creek	Snake River
<b>National Marine Fisheries Service Total</b>					<b>230,000</b>				
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2010	400,000	05-25-10	06-01-10	Pittsburg Landing Acclim Pond	Snake River
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2010	500,000	05-26-10	05-26-10	Cpt John Acclim Pond	Snake River
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2010	500,000	05-27-10	05-27-10	Big Canyon (Clearwater River)	Clearwater River M F
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2010	500,000	05-15-10	05-15-10	Lapwai Creek	Clearwater River M F
<b>Nez Perce Tribe Total</b>					<b>1,900,000</b>				
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	CH1	SP	2010	212,760	04-13-10	06-01-10	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife	Umatilla Hatchery	CH0	FA	2010	600,000	05-23-10	05-31-10	Umatilla River	Umatilla River
<b>Oregon Dept. of Fish and Wildlife Total</b>					<b>812,760</b>				
Warm Springs Tribe	Oak Springs Hatchery	ST	WI	2010	12,500	05-14-10	05-14-10	Parkdale Acclim Pond	Hood River
<b>Warm Springs Tribe Total</b>					<b>12,500</b>				
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	CH1	SP	2010	610,000	04-15-10	05-15-10	Chiwawa River	Wenatchee River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH0	FA	2010	200,000	05-25-10	06-01-10	Couse Creek	Snake River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	ST	SU	2010	50,000	04-10-10	05-15-10	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2010	335,000	04-15-10	06-01-10	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH0	SU	2010	484,000	05-10-10	05-20-10	Wells Hatchery	Mid-Columbia River
<b>Washington Dept. of Fish and Wildlife Total</b>					<b>1,679,000</b>				
Yakama Tribe	Cascade Hatchery	CO	UN	2010	58,635	05-07-10	05-14-10	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	280,960	03-15-10	05-14-10	Clark Flat Acclim Pond Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	282,011	03-15-10	05-14-10	Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2010	288,342	03-15-10	05-14-10	Easton Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	15,846	04-07-10	06-01-10	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	37,806	04-12-10	06-01-10	Boone Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	45,060	04-12-10	06-01-10	Prosser Acclim Pond Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	134,850	04-12-10	06-01-10	Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	135,086	04-12-10	06-01-10	Naches River	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2010	205,926	04-12-10	06-01-10	Easton Pond Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	38,159	04-12-10	06-01-10	Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	74,342	04-07-10	06-01-10	Holmes Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	74,438	04-12-10	06-01-10	Naches River	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2010	137,659	04-12-10	06-01-10	Prosser Acclim Pond	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2010	26,999	05-07-10	05-14-10	Rolfings Acclim Pond	Wenatchee River
<b>Yakama Tribe Total</b>					<b>1,836,119</b>				
<b>Grand Total</b>					<b>6,470,379</b>				

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

**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
04/30/2010	72.5	0.0	75.2	0.0	80.1	6.6	75.9	0.0	81.6	9.6	102.0	17.5	107.5	26.4
05/01/2010	77.3	0.0	79.7	0.0	84.8	6.3	84.6	0.0	87.9	10.3	98.4	16.2	100.7	22.6
05/02/2010	84.0	0.0	74.6	0.0	83.2	6.0	76.5	0.0	84.2	9.2	101.6	15.2	99.3	22.3
05/03/2010	103.6	0.0	103.9	0.0	119.4	8.3	124.7	0.0	130.9	11.4	102.6	16.4	91.2	23.1
05/04/2010	106.1	0.0	110.2	0.0	113.2	8.0	106.4	0.0	112.4	10.6	111.2	17.9	115.5	25.1
05/05/2010	99.5	0.0	98.7	0.0	107.4	8.6	106.3	0.0	115.8	12.1	127.0	17.9	121.2	25.8
05/06/2010	101.9	0.1	99.3	0.0	113.3	8.1	107.9	0.0	113.2	11.6	116.9	17.8	117.1	24.0
05/07/2010	97.3	0.0	99.1	0.0	117.0	8.1	118.6	0.0	125.6	11.5	123.6	18.2	119.2	24.3
05/08/2010	98.1	0.2	93.9	0.0	102.1	7.6	99.5	0.0	104.7	9.4	108.6	18.2	109.4	27.1
05/09/2010	79.0	0.0	85.2	0.0	89.4	6.6	86.9	0.0	94.1	9.4	109.3	17.6	117.6	24.8
05/10/2010	114.6	0.0	118.5	0.0	123.3	8.1	118.4	0.0	121.9	12.9	120.0	17.0	122.6	22.2
05/11/2010	128.9	0.0	123.7	0.0	127.5	8.5	125.3	0.0	130.9	13.9	125.1	17.5	124.0	24.8
05/12/2010	120.7	0.0	129.7	0.0	138.6	8.8	135.8	0.0	143.0	13.9	138.3	18.4	132.8	24.2
05/13/2010	126.8	0.0	117.8	0.0	131.7	8.7	127.7	0.0	132.3	13.6	145.4	18.5	148.3	24.8

**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
04/30/2010	1.2	0.0	18.5	22.4	59.1	20.4	58.9	17.6	60.2	31.1	62.3	26.7
05/01/2010	1.2	0.0	17.1	24.1	65.7	20.5	65.3	19.5	65.3	35.9	66.3	19.8
05/02/2010	1.2	0.0	16.7	21.3	58.9	20.6	54.9	16.6	53.8	38.4	56.7	39.3
05/03/2010	1.2	0.0	16.5	22.6	58.8	20.4	59.9	18.0	61.3	39.9	62.9	46.0
05/04/2010	1.2	0.0	15.6	15.8	62.5	20.5	59.9	18.0	59.3	39.7	61.4	24.3
05/05/2010	1.1	0.0	15.2	15.7	55.3	20.3	53.6	16.0	54.6	37.5	56.2	16.8
05/06/2010	1.1	0.0	15.0	15.7	52.8	20.6	51.7	15.4	52.5	37.9	54.5	38.4
05/07/2010	1.1	0.0	15.1	19.3	52.5	20.6	50.6	15.1	50.8	36.6	52.3	41.8
05/08/2010	1.1	0.0	16.0	19.4	51.1	20.5	51.5	15.4	51.8	37.2	54.7	20.5
05/09/2010	1.2	0.0	16.7	18.9	49.8	20.6	46.3	13.9	45.4	32.7	45.2	13.5
05/10/2010	1.2	0.0	16.2	20.4	50.2	20.5	48.8	14.6	49.3	33.6	51.1	15.3
05/11/2010	1.1	0.0	16.4	22.4	50.5	20.5	49.4	14.8	48.2	31.4	48.2	14.4
05/12/2010	1.4	0.0	17.3	14.2	47.6	20.5	46.0	13.8	47.2	33.4	48.4	34.0
05/13/2010	1.2	0.0	---	---	51.4	20.4	49.4	14.8	49.1	30.1	50.9	40.3

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

Date	McNary		John Day		The Dalles		Bonneville			
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
04/30/2010	155.7	62.6	161.8	60.7	152.9	61.1	174.5	99.3	0.0	62.7
05/01/2010	182.8	73.8	180.2	72.1	169.5	67.5	172.4	99.5	0.0	60.5
05/02/2010	154.5	61.9	173.9	69.5	164.2	65.7	181.0	99.7	0.0	68.9
05/03/2010	180.0	71.9	177.2	70.8	168.4	67.3	185.0	99.5	0.5	72.6
05/04/2010	174.4	70.3	186.5	59.1	176.3	70.5	199.1	99.5	6.6	80.5
05/05/2010	189.8	76.1	188.0	56.4	178.3	70.9	191.9	99.6	0.6	79.2
05/06/2010	153.2	61.6	162.2	61.4	149.9	60.1	170.3	99.1	0.0	58.8
05/07/2010	190.2	76.3	194.3	77.6	182.8	73.0	198.0	94.2	4.7	86.8
05/08/2010	159.0	63.8	163.6	52.7	155.0	62.0	170.6	89.1	0.0	69.1
05/09/2010	175.1	70.3	175.6	52.7	163.6	65.4	182.5	82.8	0.0	87.3
05/10/2010	180.8	72.6	181.0	54.5	169.2	67.7	183.9	77.3	10.3	83.9
05/11/2010	164.2	65.9	153.9	46.1	143.0	57.3	159.8	74.4	0.0	73.0
05/12/2010	187.9	75.7	198.8	75.9	186.6	74.5	195.5	81.3	11.2	90.6
05/13/2010	208.6	84.1	206.0	82.6	196.1	78.6	209.1	89.5	18.3	88.9



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

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

Date	<u>Hungry H. Dnst</u>			#	<u>Boundary</u>			#	<u>Grand Coulee</u>			#	<u>Grand C. Tlwr</u>			#	<u>Chief Joseph</u>			#			
	<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<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			Avg	Avg	
4/30	97.3	98.1	98.8	24	105.3	105.7	106.1	23	104.9	105.0	105.1	24	103.6	104.0	104.5	23	104.5	105.1	105.3	24			
5/1	96.7	97.0	97.3	24	105.7	106.5	107.6	23	105.4	105.5	105.5	24	104.7	105.7	107.0	23	104.9	105.3	105.6	24			
5/2	96.4	96.6	96.9	24	105.1	105.9	106.5	22	104.9	105.1	105.5	24	104.1	104.8	105.6	22	104.5	104.8	105.0	24			
5/3	97.7	98.5	99.3	24	106.3	106.7	107.4	21	105.7	106.1	106.4	24	105.0	105.5	106.5	21	104.6	104.9	105.2	24			
5/4	96.4	96.6	97.0	23	104.5	104.9	105.5	22	103.6	103.9	104.4	24	103.0	103.7	104.5	22	103.3	103.5	103.6	24			
5/5	96.7	96.8	96.9	19	104.7	105.3	106.6	21	104.0	104.5	104.7	24	102.4	102.8	103.1	21	103.2	103.4	103.5	24			
5/6	96.3	96.7	96.9	24	104.2	105.0	105.8	22	104.1	104.3	104.7	24	102.8	103.0	103.5	22	102.4	102.6	102.9	24			
5/7	95.4	95.7	96.1	24	104.6	105.7	106.8	23	104.7	105.2	105.3	24	103.2	103.7	103.9	23	102.8	103.1	103.3	24			
5/8	95.9	96.1	96.3	24	105.2	105.8	105.9	22	105.4	105.5	105.8	19	103.7	104.1	104.2	22	103.8	104.5	104.6	24			
5/9	96.4	96.7	96.8	24	105.1	106.0	106.5	23	106.0	106.2	106.6	19	103.7	104.3	104.6	23	104.8	105.2	105.4	24			
5/10	97.1	97.5	97.9	24	106.1	106.9	107.8	23	107.3	107.6	107.8	21	104.6	105.0	105.5	23	105.3	105.4	105.6	24			
5/11	96.8	97.1	97.4	24	106.0	107.0	107.9	24	106.4	106.7	107.0	24	103.7	104.1	104.5	24	104.2	104.6	104.8	24			
5/12	96.3	96.6	96.8	24	106.5	107.7	109.0	23	105.8	106.0	106.3	24	103.2	103.7	104.1	23	104.4	104.9	105.1	24			
5/13	96.8	97.0	97.4	24	106.8	107.6	108.3	22	106.0	106.5	106.7	24	103.8	104.2	104.5	22	104.4	105.0	105.2	24			

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

Date	<u>Chief J. Dnst</u>			#	<u>Wells</u>			#	<u>Wells Dwnstrm</u>			#	<u>Rocky Reach</u>			#	<u>Rocky R. Tlwr</u>			#			
	<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<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			Avg	Avg	
4/30	105.0	105.7	106.1	24	103.6	104.1	104.6	24	104.7	105.5	106.0	24	104.8	104.9	105.0	24	104.8	105.3	105.7	24			
5/1	105.4	105.8	106.8	24	104.3	104.8	105.2	24	105.3	105.9	106.1	24	105.4	105.7	105.8	24	105.1	105.3	105.4	24			
5/2	104.9	105.3	106.2	24	104.0	104.4	104.6	24	105.5	106.0	106.2	24	105.0	105.4	105.8	24	104.7	105.0	105.6	24			
5/3	104.5	104.9	105.4	24	104.3	104.9	105.2	24	105.8	106.3	106.5	24	105.4	105.8	106.1	24	104.9	105.7	106.3	24			
5/4	103.2	103.8	104.3	24	102.2	102.5	102.7	24	104.0	104.4	104.7	24	104.2	104.5	104.6	24	103.9	104.1	104.4	24			
5/5	103.1	103.3	103.7	24	102.7	103.4	104.2	24	104.2	105.0	106.1	24	104.4	104.5	104.6	24	103.8	103.9	104.0	24			
5/6	102.7	103.2	103.5	24	102.7	103.2	103.8	24	104.3	104.9	105.8	24	104.5	104.7	104.8	24	103.4	104.0	104.4	24			
5/7	103.0	103.6	104.2	24	102.3	102.4	103.2	15	103.9	104.2	105.1	15	105.0	105.2	105.4	24	104.4	104.6	104.8	24			
5/8	104.0	104.4	105.4	24	103.7	104.0	104.9	18	105.2	105.8	106.5	18	105.8	106.1	106.4	24	105.3	105.6	105.9	24			
5/9	104.7	106.0	106.6	24	104.4	105.4	105.7	24	105.4	106.3	106.9	24	106.3	106.7	107.1	24	105.7	106.1	106.5	24			
5/10	104.6	104.9	105.5	24	105.1	105.7	106.1	24	106.4	107.3	107.8	24	106.5	106.6	106.8	24	106.0	106.2	106.4	24			
5/11	104.1	104.3	104.5	24	104.4	104.9	105.7	24	105.9	106.6	107.3	24	106.0	106.2	106.3	24	105.4	105.6	105.8	24			
5/12	103.9	104.2	104.5	24	104.7	105.3	105.6	24	106.2	107.1	107.5	24	106.4	106.9	107.1	24	105.8	106.2	106.6	24			
5/13	104.0	104.4	104.6	24	105.1	105.7	106.1	24	106.8	107.6	108.0	24	107.0	107.5	107.8	24	106.3	106.8	107.2	24			

### Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			#	<u>Rock I. Tlwr</u>			#	<u>Wanapum</u>			#	<u>Wanapum Tlwr</u>			#	<u>Priest Rapids</u>			#			
	<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<u>24 h</u>	<u>12 h</u>	High		<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			Avg	Avg	
4/30	104.9	105.2	105.5	24	109.5	110.6	112.9	24	103.6	104.0	104.5	24	108.4	108.9	110.1	24	104.9	105.4	106.0	24			
5/1	105.3	105.5	105.8	24	109.6	110.5	113.0	24	104.5	104.7	105.0	24	108.6	109.7	110.3	24	106.6	107.1	107.3	24			
5/2	104.9	105.1	105.4	24	108.7	109.8	112.1	24	103.6	103.8	103.9	24	107.5	108.0	109.5	24	105.5	106.0	106.5	24			
5/3	98.7	106.6	114.2	23	108.5	110.1	116.1	24	104.8	105.2	105.7	24	108.8	109.3	110.4	24	105.1	105.9	106.2	24			
5/4	104.1	104.9	107.5	24	107.3	108.1	109.7	24	103.6	103.7	103.8	24	108.5	109.3	110.4	24	104.8	105.8	106.2	24			
5/5	103.7	104.4	104.7	24	107.6	108.4	111.0	24	104.1	104.5	104.7	24	108.3	108.7	109.9	24	106.6	107.2	107.3	24			
5/6	103.8	104.1	104.5	24	107.7	108.4	111.5	24	104.2	104.7	105.1	24	108.7	109.2	109.9	24	106.2	106.5	106.9	24			
5/7	104.4	104.9	105.0	24	107.8	108.3	109.2	24	105.6	106.6	107.1	24	109.2	109.5	109.9	24	107.5	108.1	108.7	24			
5/8	105.4	105.6	105.7	24	109.1	109.7	111.3	24	106.6	107.3	107.5	24	110.3	110.6	111.0	24	109.2	109.7	110.2	24			
5/9	102.2	105.8	106.1	21	109.8	110.2	112.0	24	107.9	109.2	109.9	24	110.7	111.1	111.6	24	110.2	110.7	111.2	24			
5/10	---	---	---	0	109.6	110.9	112.9	24	108.3	108.7	109.3	24	110.6	110.9	111.6	24	110.5	110.8	111.0	24			
5/11	98.2	98.2	106.7	10	108.9	109.6	111.6	24	107.4	107.9	108.4	24	110.0	110.7	111.1	24	108.4	108.9	109.4	24			
5/12	106.1	107.0	107.4	24	108.9	109.5	111.0	24	---	---	---	0	---	---	---	0	---	---	---	0			
5/13	108.2	111.7	116.9	24	111.1	115.0	120.0	24	---	---	---	0	---	---	---	0	---	---	---	0			

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

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

Date	Priest R. Dnst			Pasco			Dworshak			Clwrtr-Peck			Anatone							
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
4/30	108.2	108.8	109.3	24	104.5	105.3	105.8	24	105.0	105.2	105.6	24	101.0	101.4	101.6	24	101.6	101.9	102.2	24
5/1	109.6	110.0	110.6	24	105.6	106.3	106.8	24	105.5	106.2	106.7	24	101.7	102.1	102.7	24	102.0	102.5	102.8	24
5/2	108.9	109.6	109.8	24	104.7	105.5	106.2	24	105.4	105.9	106.4	24	101.7	102.5	103.0	24	102.1	102.9	103.4	24
5/3	108.9	109.4	109.6	24	104.1	104.8	105.2	24	106.1	106.6	107.3	24	101.7	102.0	102.4	24	102.0	102.4	102.8	24
5/4	108.9	109.6	109.7	24	102.1	103.4	104.4	24	105.7	106.4	107.0	24	101.1	102.1	102.6	23	101.1	102.0	102.6	24
5/5	110.3	110.9	111.3	24	106.0	107.0	107.8	24	105.5	105.8	106.1	24	101.7	102.2	102.8	24	101.5	102.0	102.3	24
5/6	109.7	110.2	110.7	24	106.9	108.0	108.5	24	104.8	105.2	105.7	24	101.7	102.4	103.1	24	101.1	101.7	101.9	24
5/7	110.7	111.2	111.7	24	107.7	108.6	109.0	24	105.1	105.8	106.2	24	102.5	103.8	104.7	24	102.1	103.0	103.5	24
5/8	111.6	112.2	112.6	24	109.4	110.1	110.5	24	106.1	106.5	107.0	24	102.2	102.8	103.4	24	102.1	102.5	103.0	24
5/9	112.7	113.0	113.2	24	109.8	110.9	111.3	24	106.4	107.3	108.5	24	102.6	104.0	105.2	24	102.4	103.5	104.3	24
5/10	112.6	113.1	113.4	24	109.4	109.8	110.3	24	105.9	107.3	108.5	24	102.2	103.1	103.9	24	102.1	102.7	103.3	24
5/11	111.0	111.5	112.0	24	109.0	110.1	111.0	24	105.4	106.5	107.3	24	102.1	103.4	104.5	24	102.0	102.9	103.7	24
5/12	---	---	---	0	109.5	110.5	111.0	24	105.3	105.7	105.9	24	102.2	103.3	104.3	23	101.9	103.1	104.0	24
5/13	---	---	---	0	110.1	111.1	111.7	24	106.8	108.0	109.4	24	102.5	103.8	105.0	24	102.1	103.3	104.2	24

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

Date	Clwrtr-Lewiston			Lower Granite			L. Granite Tlwr			Little Goose			L. Goose Tlwr							
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
4/30	100.6	101.3	101.9	23	100.7	101.0	101.8	24	109.9	110.2	110.5	24	104.3	104.5	104.6	24	108.6	108.8	109.0	24
5/1	101.4	102.2	103.2	19	100.0	100.2	100.3	24	109.8	110.1	110.2	24	104.0	104.1	104.3	24	109.0	109.2	109.3	24
5/2	101.3	102.5	103.2	22	99.8	100.1	100.5	24	110.1	110.6	110.7	24	103.5	103.8	104.0	24	108.3	108.6	108.8	24
5/3	100.8	101.3	101.6	24	101.2	101.5	101.6	24	109.8	110.2	110.8	24	104.3	104.7	105.1	24	108.9	109.4	109.6	24
5/4	99.7	101.1	101.9	23	100.3	100.5	100.8	24	109.4	109.8	111.2	24	102.8	103.1	103.3	24	107.8	108.1	108.3	24
5/5	100.8	101.3	101.8	21	101.0	101.2	101.4	24	110.1	110.4	110.5	24	103.5	103.8	104.5	24	108.5	108.7	108.8	24
5/6	100.6	101.5	102.1	23	100.1	100.4	101.0	24	110.5	110.8	111.2	24	103.5	103.8	104.2	24	108.7	109.0	109.2	24
5/7	101.9	103.5	104.5	23	99.9	100.4	101.3	24	110.0	110.4	110.9	24	104.7	105.5	105.8	24	109.4	109.7	110.0	24
5/8	101.7	102.5	103.4	24	101.5	101.7	101.8	24	110.8	111.1	111.9	24	106.7	107.2	107.5	24	110.4	110.5	110.6	24
5/9	102.2	104.2	105.6	23	102.0	102.4	102.9	24	110.9	111.3	111.9	24	108.4	109.3	109.7	24	111.5	112.2	112.4	24
5/10	101.2	102.4	103.6	23	102.8	102.9	103.0	24	111.0	111.3	111.7	24	110.1	110.3	110.5	24	112.2	112.4	112.5	24
5/11	100.9	102.9	104.0	24	102.4	102.6	103.1	24	110.8	111.1	111.8	24	109.8	109.9	110.0	24	112.3	112.8	115.7	24
5/12	101.2	103.1	104.2	23	101.8	102.1	102.4	24	111.1	111.6	112.2	24	109.6	109.9	110.1	24	112.2	112.4	112.6	24
5/13	101.4	103.9	105.4	24	102.1	102.3	102.6	24	110.6	110.8	111.2	24	110.7	111.4	112.2	24	112.6	114.4	116.3	24

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

Date	Lower Mon.			L. Mon. Tlwr			Ice Harbor			Ice Harbor Tlwr			McNary-Oregon							
	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#	24 h	12 h	#					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
4/30	105.1	105.3	105.7	24	116.3	117.6	117.9	24	107.9	108.2	109.6	24	112.3	114.0	115.5	24	---	---	---	0
5/1	105.4	105.8	106.3	24	114.6	114.9	115.1	24	107.9	108.2	108.5	24	111.9	112.8	113.1	24	---	---	---	0
5/2	105.8	106.2	106.5	24	115.2	115.9	116.1	24	108.3	108.8	109.1	24	113.6	114.4	114.8	24	---	---	---	0
5/3	106.0	106.7	106.8	24	115.9	116.3	116.5	24	109.5	109.9	110.4	24	114.0	114.5	115.9	24	---	---	---	0
5/4	104.1	104.4	104.6	24	115.4	115.8	116.2	24	107.7	107.9	108.3	24	111.5	112.8	113.4	24	---	---	---	0
5/5	104.7	104.9	105.0	24	115.0	115.7	115.9	24	107.6	107.8	108.1	24	110.8	111.7	112.8	24	---	---	---	0
5/6	104.7	105.1	106.0	24	114.8	115.3	115.5	24	109.0	110.1	111.0	24	112.9	114.3	114.8	24	---	---	---	0
5/7	107.0	107.8	108.0	24	115.4	116.1	118.3	24	112.7	113.8	114.1	24	114.3	114.8	115.1	24	---	---	---	0
5/8	108.5	108.6	109.0	24	115.3	116.3	117.9	24	114.4	114.8	115.1	24	113.5	114.6	115.3	24	---	---	---	0
5/9	109.5	109.8	110.4	24	116.1	117.2	119.3	24	115.3	115.7	116.3	24	112.4	112.9	113.3	24	---	---	---	0
5/10	110.5	110.7	110.9	24	116.2	116.5	116.7	24	116.4	116.5	116.7	24	112.4	112.6	113.1	24	---	---	---	0
5/11	110.0	110.1	110.3	24	115.4	116.0	116.3	24	115.8	116.0	116.3	24	112.1	112.5	112.7	24	---	---	---	0
5/12	110.2	110.6	110.8	24	115.3	115.8	116.6	24	115.5	115.6	115.9	24	113.4	114.0	114.8	24	---	---	---	0
5/13	111.1	111.4	112.0	24	117.2	118.2	119.3	24	116.3	116.7	117.3	24	113.5	114.1	115.0	24	---	---	---	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 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>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
4/30	104.1	104.3	104.9	24	115.9	116.2	116.6	24	103.1	103.4	103.6	24	112.0	112.6	113.0	24	104.7	105.0	105.3	24
5/1	104.3	104.4	104.5	24	114.4	115.0	116.1	24	103.1	103.4	103.6	24	112.3	112.8	113.7	24	106.3	107.1	107.5	24
5/2	103.8	104.2	104.6	24	115.1	115.5	116.6	24	101.9	102.1	102.4	24	111.0	111.6	112.4	24	106.6	107.3	107.9	24
5/3	104.4	104.9	105.1	24	114.2	115.5	116.5	24	101.8	102.2	102.4	24	112.6	113.3	113.8	24	107.2	107.8	108.0	24
5/4	102.5	102.7	102.9	24	113.3	113.6	114.3	24	100.5	100.8	101.2	24	111.2	111.6	111.8	24	105.3	106.0	106.4	24
5/5	103.1	103.3	103.5	24	113.8	114.6	115.5	24	100.9	101.1	101.2	24	111.1	111.4	111.7	24	105.6	106.0	106.4	24
5/6	102.9	103.2	103.4	24	115.7	116.6	117.0	24	100.8	101.1	101.3	24	110.6	111.1	111.5	24	105.3	105.8	106.0	24
5/7	105.0	105.9	106.6	24	115.3	115.9	116.4	24	102.3	103.1	103.8	24	112.6	114.0	115.5	24	108.9	110.2	110.4	24
5/8	106.9	107.5	108.9	24	116.2	116.9	117.5	24	103.3	103.7	104.1	24	111.7	112.2	112.4	24	110.8	111.1	111.4	24
5/9	110.3	111.0	111.8	24	116.5	116.7	116.9	24	104.0	104.4	105.1	24	112.1	112.6	112.9	24	109.5	109.8	110.0	24
5/10	111.7	111.9	112.1	24	115.0	115.9	116.5	24	105.1	105.5	106.0	24	112.5	113.0	113.3	24	108.7	109.0	109.3	24
5/11	111.2	111.4	112.0	24	115.6	116.2	117.1	24	105.5	105.9	106.1	24	112.8	113.3	113.7	24	107.1	107.6	108.1	24
5/12	110.4	110.6	110.8	24	114.4	114.8	115.6	24	105.8	106.7	107.3	24	114.1	115.1	116.1	24	106.8	107.9	109.2	24
5/13	110.5	110.6	111.5	24	114.6	115.0	115.9	24	106.8	107.2	108.1	24	114.4	115.7	117.2	24	111.3	112.3	112.8	24

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

Date	<u>The Dalles Dnst</u>			#	<u>Bonneville</u>			#	<u>Warrendale</u>			#	<u>Camas\Washougal</u>			#	<u>Cascade Island</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
4/30	111.4	111.7	111.9	24	106.2	106.6	106.8	24	114.6	115.0	115.3	24	112.3	113.6	114.4	24	116.1	116.1	116.2	24
5/1	112.1	112.8	113.0	24	106.1	106.4	106.7	24	114.6	115.1	115.3	24	112.0	112.5	112.8	24	116.3	116.5	116.8	24
5/2	112.2	112.4	113.1	24	106.4	107.3	107.8	24	114.4	115.0	115.4	24	111.7	112.8	113.3	24	116.3	116.5	116.9	24
5/3	112.3	112.9	113.5	24	106.6	107.0	107.8	24	114.1	115.1	116.1	24	110.3	110.9	112.1	24	116.6	116.9	117.3	24
5/4	111.1	112.0	112.1	24	106.6	107.5	108.1	24	113.9	114.3	114.9	24	109.7	111.8	113.7	24	116.6	116.9	117.1	24
5/5	111.1	111.4	111.6	24	108.3	108.5	108.7	24	114.4	114.7	115.1	24	111.4	112.1	112.9	24	116.3	116.5	116.9	24
5/6	110.2	111.2	112.2	24	108.4	108.8	109.3	24	115.6	116.3	116.8	24	113.1	115.2	116.6	24	116.5	116.7	116.9	24
5/7	113.6	115.1	115.7	24	109.6	110.2	111.0	24	114.9	115.4	116.1	24	113.4	114.2	115.8	24	116.4	116.7	116.9	24
5/8	114.3	114.8	115.5	24	112.9	113.7	114.1	24	115.8	116.8	117.3	24	113.7	116.0	117.1	24	115.7	115.8	115.9	24
5/9	113.9	114.4	114.9	24	115.0	115.8	116.4	24	116.3	117.1	118.2	24	115.8	117.2	118.2	24	115.4	115.7	115.8	24
5/10	112.3	113.1	113.7	24	114.5	115.0	115.2	24	116.0	116.8	117.7	24	115.4	116.3	117.3	24	114.9	115.1	115.3	24
5/11	110.7	111.2	111.9	24	110.0	111.0	112.6	24	114.3	114.7	114.9	24	112.2	112.9	114.2	24	114.3	114.5	114.8	24
5/12	111.6	112.6	113.1	24	108.0	108.3	108.5	24	113.6	113.8	114.5	24	112.9	114.4	115.1	24	115.2	116.0	116.3	24
5/13	114.8	116.1	116.9	24	110.0	111.5	112.0	24	114.4	115.3	115.7	24	113.0	114.9	115.9	24	116.2	116.5	117.0	24

## 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>Lower Granite Dam</b>											
	05/10/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Little Goose Dam</b>											
	05/10/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Lower Monumental Dam</b>											
	05/05/10	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/12/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>McNary Dam</b>											
	05/06/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/10/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Bonneville Dam</b>											
	05/04/10	Chinook + Steelhead	109	0	0	0.00%	0.00%	0	0	0	0
	05/08/10	Chinook + Steelhead	105	0	0	0.00%	0.00%	0	0	0	0
	05/11/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Rock Island Dam</b>											
	05/06/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/11/10	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0

## Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 5/14/2010 11:39

### Two-Week Summary of Passage Indices

\* One or more of the sites on this date had an incomplete or biased sample.

See Sampling Comments: <http://www.fpc.org/currentDaily/smpcomments.htm>

For clip information see: <http://www.fpc.org/CurrentDaily/catch.htm>

For sockeye and yearling chinook (Snake only) race information see: <http://www.fpc.org/smoltqueries/currentsmppsubmitdata.asp>

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)
04/30/2010 *	585	327	965	87	75,832	---	---	276	---	15,839	38,013
05/01/2010 *	697	317	193	63	143,359	91,656	---	271	75,318	22,904	40,889
05/02/2010 *	335	233	230	40	125,913	131,801	---	279	---	17,971	60,931
05/03/2010 *	101	218	352	50	58,766	58,215	450	273	96,350	20,174	55,098
05/04/2010 *	70	173	335	43	93,251	60,565	5,130	260	---	31,650	65,097
05/05/2010 *	64	319	632	30	66,306	27,813	7,313	232	156,583	29,499	84,691
05/06/2010 *	60	264	697	25	79,316	19,630	5,050	247	---	25,351	67,519
05/07/2010 *	62	258	323	40	92,131	20,164	7,509	214	149,890	27,843	56,649
05/08/2010 *	36	171	196	36	40,217	14,761	7,332	262	---	22,955	74,575
05/09/2010 *	9	227	180	64	44,462	26,444	3,219	221	78,155	19,562	49,734
05/10/2010 *	12	185	229	36	26,723	24,872	4,280	348	---	18,506	66,370
05/11/2010	26	196	571	57	56,837	34,462	5,903	390	155,989	30,077	66,514
05/12/2010 *	29	227	301	7	54,038	19,670	1,341	486	---	38,491	61,677
05/13/2010 *	31	---	455	298	55,166	17,870	1,322	567	65,964	24,638	75,639
05/14/2010	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>	<b>2,117</b>	<b>3,115</b>	<b>5,659</b>	<b>876</b>	<b>1,012,317</b>	<b>547,923</b>	<b>48,849</b>	<b>4,326</b>	<b>778,249</b>	<b>345,460</b>	<b>863,396</b>
<b># Days:</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>11</b>	<b>14</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>151</b>	<b>240</b>	<b>404</b>	<b>63</b>	<b>72,308</b>	<b>42,148</b>	<b>4,441</b>	<b>309</b>	<b>111,178</b>	<b>24,676</b>	<b>61,671</b>
<b>YTD</b>	<b>55,803</b>	<b>78,793</b>	<b>25,528</b>	<b>4,443</b>	<b>1,816,928</b>	<b>573,088</b>	<b>49,502</b>	<b>5,574</b>	<b>863,065</b>	<b>414,753</b>	<b>1,157,189</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)
04/30/2010 *	0	4	0	1	300	---	---	14	---	0	2,412
05/01/2010 *	0	0	0	0	607	0	---	4	86	0	1,855
05/02/2010 *	0	0	0	0	0	0	---	11	---	0	2,018
05/03/2010 *	0	0	0	2	0	0	0	13	171	0	1,342
05/04/2010 *	0	0	0	0	0	0	0	21	---	0	2,115
05/05/2010 *	0	0	0	1	0	0	0	10	170	0	919
05/06/2010 *	0	0	0	0	0	0	0	9	---	0	1,751
05/07/2010 *	0	0	0	0	323	0	0	5	511	0	1,059
05/08/2010 *	0	0	0	0	0	0	74	1	---	0	1,496
05/09/2010 *	0	0	0	1	0	0	0	1	341	0	719
05/10/2010 *	0	0	1	2	345	0	68	11	---	0	824
05/11/2010	0	0	1	2	335	72	0	16	255	0	1,814
05/12/2010 *	0	0	3	5	0	0	0	17	---	0	150,924
05/13/2010 *	0	---	3	5	0	0	0	18	175	0	427,190
05/14/2010	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>	<b>0</b>	<b>4</b>	<b>8</b>	<b>19</b>	<b>1,910</b>	<b>72</b>	<b>142</b>	<b>151</b>	<b>1,709</b>	<b>0</b>	<b>596,438</b>
<b># Days:</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>11</b>	<b>14</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>136</b>	<b>6</b>	<b>13</b>	<b>11</b>	<b>244</b>	<b>0</b>	<b>42,603</b>
<b>YTD</b>	<b>0</b>	<b>38</b>	<b>11</b>	<b>210</b>	<b>11,476</b>	<b>72</b>	<b>142</b>	<b>1,429</b>	<b>2,163</b>	<b>58</b>	<b>1,550,938</b>

Two-Week Summary of Passage Indices

COMBINED COHO											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
04/30/2010 *	0	0	0	4	0	---	---	26	---	482	7,046
05/01/2010 *	0	0	0	6	304	0	---	40	428	399	9,366
05/02/2010 *	0	0	0	6	594	573	---	64	---	614	11,539
05/03/2010 *	0	0	0	4	304	576	0	58	256	954	6,865
05/04/2010 *	0	0	0	2	917	0	0	47	---	1,774	11,045
05/05/2010 *	0	0	0	3	304	287	105	62	1,022	1,933	9,484
05/06/2010 *	0	0	0	2	1,290	287	0	26	---	1,296	12,003
05/07/2010 *	0	0	0	5	647	429	0	75	2,046	920	6,353
05/08/2010 *	0	0	0	2	0	430	222	82	---	1,663	4,915
05/09/2010 *	0	0	0	5	0	788	72	148	682	1,505	9,300
05/10/2010 *	0	0	0	1	0	215	136	132	---	668	8,863
05/11/2010	0	0	0	0	585	72	124	177	3,149	2,351	9,272
05/12/2010 *	0	0	0	3	358	215	67	272	---	2,959	11,978
05/13/2010 *	0	---	0	0	167	287	0	305	1,619	2,468	22,778
05/14/2010	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>43</b>	<b>5,470</b>	<b>4,159</b>	<b>726</b>	<b>1,514</b>	<b>9,202</b>	<b>19,986</b>	<b>140,807</b>
<b># Days:</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>11</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>3</b>	<b>391</b>	<b>320</b>	<b>66</b>	<b>108</b>	<b>1,315</b>	<b>1,428</b>	<b>10,058</b>
<b>YTD</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>95</b>	<b>6,436</b>	<b>4,159</b>	<b>726</b>	<b>1,669</b>	<b>13,096</b>	<b>20,843</b>	<b>249,065</b>

COMBINED STEELHEAD											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
04/30/2010 *	321	528	180	312	35,968	---	---	199	---	7,738	2,782
05/01/2010 *	460	614	145	480	40,092	38,385	---	259	22,119	13,244	3,335
05/02/2010 *	138	524	190	261	47,217	133,510	---	237	---	14,177	7,545
05/03/2010 *	114	359	66	301	44,455	34,612	4,056	211	36,646	15,921	11,133
05/04/2010 *	99	574	49	645	61,819	25,256	15,384	272	---	20,510	13,395
05/05/2010 *	109	594	166	321	48,665	20,355	15,149	202	59,151	24,487	24,052
05/06/2010 *	43	497	240	445	38,046	37,398	10,613	172	---	27,583	42,012
05/07/2010 *	44	597	149	389	54,309	14,730	16,779	202	49,483	31,857	29,383
05/08/2010 *	60	552	71	521	26,133	17,413	13,628	181	---	27,745	17,522
05/09/2010 *	48	691	60	405	26,610	25,871	9,585	153	19,115	21,496	36,773
05/10/2010 *	54	681	59	296	42,929	19,949	8,900	133	---	16,599	43,697
05/11/2010	21	827	111	186	35,335	11,487	9,259	282	40,218	22,163	54,622
05/12/2010 *	61	1,189	66	494	17,894	12,850	5,097	285	---	24,621	28,732
05/13/2010 *	63	---	153	72	19,726	9,544	2,820	262	13,125	11,787	36,960
05/14/2010	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>	<b>1,635</b>	<b>8,227</b>	<b>1,705</b>	<b>5,128</b>	<b>539,198</b>	<b>401,360</b>	<b>111,270</b>	<b>3,050</b>	<b>239,857</b>	<b>279,928</b>	<b>351,943</b>
<b># Days:</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>11</b>	<b>14</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>117</b>	<b>633</b>	<b>122</b>	<b>366</b>	<b>38,514</b>	<b>30,874</b>	<b>10,115</b>	<b>218</b>	<b>34,265</b>	<b>19,995</b>	<b>25,139</b>
<b>YTD</b>	<b>3,296</b>	<b>14,692</b>	<b>2,847</b>	<b>7,511</b>	<b>1,071,933</b>	<b>448,324</b>	<b>112,194</b>	<b>4,321</b>	<b>275,581</b>	<b>321,112</b>	<b>381,860</b>

Two-Week Summary of Passage Indices

Date	COMBINED SOCKEYE										
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
04/30/2010 *	0	0	0	0	0	---	---	27	---	120	465
05/01/2010 *	0	0	0	0	0	0	---	48	18,990	148	556
05/02/2010 *	0	0	0	0	0	0	---	348	---	670	328
05/03/2010 *	0	0	0	0	0	0	0	435	18,338	1,077	481
05/04/2010 *	0	0	0	0	0	0	0	119	---	2,217	705
05/05/2010 *	0	0	0	0	0	0	0	18	38,764	3,938	465
05/06/2010 *	0	0	0	0	0	0	0	28	---	5,473	250
05/07/2010 *	0	0	0	0	0	0	0	67	14,311	7,358	1,059
05/08/2010 *	0	0	0	0	0	0	0	227	---	9,847	1,496
05/09/2010 *	0	0	0	0	0	0	0	388	24,912	6,162	2,696
05/10/2010 *	0	0	0	0	0	0	0	210	---	11,590	7,832
05/11/2010	0	0	0	0	0	0	0	391	36,259	17,433	5,039
05/12/2010 *	3	0	0	0	0	0	0	186	---	15,997	5,917
05/13/2010 *	4	---	0	0	0	0	0	196	28,283	15,964	15,472
05/14/2010	---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,688</b>	<b>179,857</b>	<b>97,994</b>	<b>42,761</b>
<b># Days:</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>11</b>	<b>14</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>192</b>	<b>25,694</b>	<b>7,000</b>	<b>3,054</b>
<b>YTD</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>6,934</b>	<b>190,498</b>	<b>98,201</b>	<b>43,537</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
- 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)}

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.

### Two Week Transportation Summary

Source: Fish Passage Center

Updated:

5/14/10 11:43 AM

		04/30/10	TO	05/14/10			
		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
<b>LGR</b>	Sum of NumberCollected	1,200	642,014	3,450	340,086		986,750
	Sum of NumberBarged	1,197	557,359	3,447	328,732		890,735
	Sum of NumberBypassed	0	83,846	0	11,311		95,157
	Sum of Numbertrucked	0	0	0	0		0
	Sum of SampleMorts	0	15	0	3		18
	Sum of FacilityMorts	3	472	3	28		506
	Sum of ResearchMorts	0	322	0	12		334
	Sum of TotalProjectMorts	3	809	3	43		858
<b>LGS</b>	Sum of NumberCollected	50	382,139	2,900	279,985		665,074
	Sum of NumberBarged	49	318,250	2,900	253,234		574,433
	Sum of NumberBypassed	0	63,840	0	26,733		90,573
	Sum of Numbertrucked	0	0	0	0		0
	Sum of SampleMorts	1	8	0	1		10
	Sum of FacilityMorts	0	41	0	17		58
	Sum of ResearchMorts	0	0	0	0		0
	Sum of TotalProjectMorts	1	49	0	18		68
<b>LMN</b>	Sum of NumberCollected	40	14,082	210	32,255		46,587
	Sum of NumberBarged	40	13,118	210	28,070		41,438
	Sum of NumberBypassed	0	954	0	4,173		5,127
	Sum of Numbertrucked	0	0	0	0		0
	Sum of SampleMorts	0	2	0	2		4
	Sum of FacilityMorts	0	8	0	10		18
	Sum of ResearchMorts	0	0	0	0		0
	Sum of TotalProjectMorts	0	10	0	12		22
<b>MCN</b>	Sum of NumberCollected	1,003	456,570	5,401	140,714	105,509	709,197
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	1,000	456,421	5,399	140,656	105,481	708,957
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	52	1	6	16	75
	Sum of FacilityMorts	3	97	1	52	12	165
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	3	149	2	58	28	240
Total Sum of NumberCollected		2,293	1,494,805	11,961	793,040	105,509	2,407,608
Total Sum of NumberBarged		1,286	888,727	6,557	610,036	0	1,506,606
Total Sum of NumberBypassed		1,000	605,061	5,399	182,873	105,481	899,814
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		1	77	1	12	16	107
Total Sum of FacilityMorts		6	618	4	107	12	747
Total Sum of ResearchMorts		0	322	0	12	0	334
Total Sum of TotalProjectMorts		7	1,017	5	131	28	1,188



### YTD Transportation Summary

Source: Fish Passage Center

Updated:

5/14/10 11:43 AM

TO: 05/14/10

Site	Data	Species					Grand Total
		CH0	CH1	CO	SO	ST	
<b>LGR</b>	Sum of NumberCollected	7,358	1,168,476	4,050	10	686,329	1,866,223
	Sum of NumberBarged	6,636	996,079	4,046	0	650,751	1,657,512
	Sum of NumberBypassed	700	171,185	0	10	35,505	207,400
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	2	35	0	0	5	42
	Sum of FacilityMorts	20	855	4	0	56	935
	Sum of ResearchMorts	0	322	0	0	12	334
	Sum of TotalProjectMorts	22	1,212	4	0	73	1,311
<b>LGS</b>	Sum of NumberCollected	50	399,682	2,900		312,725	715,357
	Sum of NumberBarged	49	318,250	2,900		253,234	574,433
	Sum of NumberBypassed	0	81,373	0		59,473	140,846
	Sum of NumberTrucked	0	0	0		0	0
	Sum of SampleMorts	1	15	0		1	17
	Sum of FacilityMorts	0	44	0		17	61
	Sum of ResearchMorts	0	0	0		0	0
	Sum of TotalProjectMorts	1	59	0		18	78
<b>LMN</b>	Sum of NumberCollected	40	14,465	210		32,797	47,512
	Sum of NumberBarged	40	13,118	210		28,070	41,438
	Sum of NumberBypassed	0	1,335	0		4,714	6,049
	Sum of NumberTrucked	0	0	0		0	0
	Sum of SampleMorts	0	2	0		2	4
	Sum of FacilityMorts	0	8	0		10	18
	Sum of ResearchMorts	0	0	0		0	0
	Sum of TotalProjectMorts	0	10	0		12	22
<b>MCN</b>	Sum of NumberCollected	1,273	506,299	7,682	111,744	161,685	788,683
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	1,270	506,126	7,679	111,714	161,615	788,404
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	65	1	17	13	96
	Sum of FacilityMorts	3	108	2	13	57	183
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	3	173	3	30	70	279
Total Sum of NumberCollected		8,721	2,088,922	14,842	111,754	1,193,536	3,417,775
Total Sum of NumberBarged		6,725	1,327,447	7,156	0	932,055	2,273,383
Total Sum of NumberBypassed		1,970	760,019	7,679	111,724	261,307	1,142,699
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		3	117	1	17	21	159
Total Sum of FacilityMorts		23	1,015	6	13	140	1,197
Total Sum of ResearchMorts		0	322	0	0	12	334
Total Sum of TotalProjectMorts		26	1,454	7	30	173	1,690

Cumulative Adult Passage at Mainstem Dams Through: 05/13

DAM	EndDate	Spring Chinook						Summer Chinook						Fall Chinook					
		2010		2009		10-Yr Avg.		2010		2009		10-Yr Avg.		2010		2009		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	05/13	210424	7218	75354	30529	139764	9130	0	0	0	0	0	0	0	0	0	0	0	0
TDA	05/13	148268	4867	49522	20120	93325	5909	0	0	0	0	0	0	0	0	0	0	0	0
JDA	05/13	136446	4791	38374	16905	74069	4694	0	0	0	0	0	0	0	0	0	0	0	0
MCN	05/13	106857	2554	27744	9235	62946	3164	0	0	0	0	0	0	0	0	0	0	0	0
IHR	05/13	70162	2153	18900	4196	39979	1650	0	0	0	0	0	0	0	0	0	0	0	0
LMN	05/13	58262	1092	16502	2308	36200	1208	0	0	0	0	0	0	0	0	0	0	0	0
LGS	05/13	44297	1060	10225	1477	31999	1005	0	0	0	0	0	0	0	0	0	0	0	0
LGR	05/13	32716	511	7264	1158	29711	845	0	0	0	0	0	0	0	0	0	0	0	0
PRD	05/12	17503	47	2019	173	11591	61	0	0	0	0	0	0	0	0	0	0	0	0
RIS	05/12	13265	183	818	93	6401	79	0	0	0	0	0	0	0	0	0	0	0	0
RRH	05/12	3523	14	192	10	2017	4	0	0	0	0	0	0	0	0	0	0	0	0
WEL	05/12	1579	69	3	0	775	0	0	0	0	0	0	0	0	0	0	0	0	0
WFA	05/08	18367	249	6008	105	-	-	-	-	-	-	-	-	0	0	0	0	-	-

DAM	Coho						Sockeye			Steelhead			
	2010		2009		10-Yr Avg.		2010	2009	10-Yr Avg.	2010	2009	10-Yr Avg.	Wild 2010
	Adult	Jack	Adult	Jack	Adult	Jack							
BON	0	0	0	0	0	0	0	0	0	5708	2816	2871	1608
TDA	0	0	0	0	0	0	0	0	0	2137	1092	1106	1082
JDA	0	0	0	0	0	0	0	0	0	2363	2784	2645	1379
MCN	0	0	0	0	0	0	0	0	0	2120	2312	1885	1160
IHR	0	0	0	0	0	0	0	0	0	2965	3053	2240	1228
LMN	0	0	0	0	0	0	0	0	0	3882	4626	2550	2100
LGS	0	0	0	0	0	0	0	0	0	2996	5267	2643	1493
LGR	0	0	0	0	0	0	0	0	0	10303	10657	8472	4050
PRD	0	0	0	0	0	0	0	0	0	79	34	7	0
RIS	0	0	0	0	0	0	0	0	0	104	74	54	72
RRH	0	0	0	0	0	0	0	0	0	313	353	181	236
WEL	0	0	0	0	0	0	0	0	0	38	38	29	31
WFA	0	0	0	0	0	0	-	-	-	11773	4297	-	0

PRD does not post wild steelhead numbers.  
 These numbers were collected from USACE, Grant PUD, Douglas PUD, Chelan PUD, ODFW and DART.  
 Wild steelhead numbers are included in the total. Wild Steelhead are defined as unclipped fish.  
 Historic counts (pre-1996) were obtained from CRITFC and compiled by the FPC.  
 Historic counts 1997 to present were obtained from the Corps of Engineers.

Page last updated on: 05/14/10

BON counts from January 1, 2009 to March 14, 2010 (historical counts begin March 15):

Year	Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
2010	39	0	2,318	657
2009	19	-1	321	109