



## Fish Passage Center

# Weekly Report #12 - 14

June 15, 2012

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### Summary of Events:

**Water Supply:** Precipitation throughout the Columbia Basin has varied between 46% and 121% of average at individual sub-basins over May. Precipitation above The Dalles has been 78% of average over May. Over the 2012 water year, precipitation has ranged between 85% and 112% of average.

**Table 1. Summary of May precipitation and cumulative October through May 31, 2012 precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.**

Location	Water Year 2012 May 1-31, 2012		Water Year 2012 October 1, 2011 to May 31, 2012	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	1.72	77	19.84	109
Snake River Above Ice Harbor	1.55	82	14.05	103
Columbia Above The Dalles	1.53	78	19.02	106
Kootenai	1.60	72	19.82	107
Clark Fork	1.58	77	13.74	112
Flathead	2.22	91	17.87	110
Pend Oreille/ Spokane	2.61	100	28.0	112
Central Washington	0.35	46	6.21	85
Snake River Plain	1.06	71	8.29	96
Salmon/Boise/ Payette	1.50	84	16.60	103
Clearwater	2.99	99	26.94	111
SW Washington Cascades/Cowlitz	4.58	121	64.31	103
Willamette Valley	3.59	102	58.06	108

Average snowpack in the Columbia River for basins above the Snake River confluence is 183% of average,

for Snake River Basins the average snowpack is 57% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 183% of average.

Table 2 displays the May 29<sup>th</sup> and June 13<sup>th</sup> Ensemble Streamflow Prediction (ESP) runoff volume forecasts for multiple reservoirs. The June 13<sup>th</sup> forecast at The Dalles between January and July is 123,053 Kaf (115% of average).

**Table 2. May 29<sup>th</sup> and June 13<sup>th</sup> ESP Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.**

Location	May 29, 2012 ESP		June 13, 2012 ESP	
	% Average (1971 -2000)	Runoff Volume (Kaf)	% Average (1971 -2000)	Runoff Volume (Kaf)
The Dalles (Jan-July)	109	117424	115	123053
Grand Coulee (Jan-July)	113	71280	121	76014
Libby Res. Inflow, MT (Apr-Aug)	117	7281 7155*	127	7938 7240*
Hungry Horse Res. Inflow, MT (Jan-July)	103	2290	111	2464
Lower Granite Res. Inflow (Apr- July)	99	21410	102	22000
Brownlee Res. Inflow (Apr-July)	84	5275	88	5548
Dworshak Res. Inflow (Apr-July)	114	3024 3226*	121	3189 3236*

\* Denotes COE Forecast

Grand Coulee Reservoir is at 1274.3 feet (6-14-12) and refilled 8.5 feet over the last week. Grand Coulee is currently 15.7 feet from full (1290 feet). Outflows at Grand Coulee have ranged between 194.6 and 206.2 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2439.9 feet (6-14-12) and has refilled 6.5 feet last week. Libby is currently 19.1 feet from full (2459 feet). Outflows at Libby Dam have ranged between 26.1-33.3 Kcfs last week.

Hungry Horse is currently at an elevation of 3554.6 feet (6-14-12) and has refilled 2.9 feet last week. Hungry Horse is currently 5.4 feet from full (3560 feet). Outflows at Hungry Horse have been 5.2-10.1 Kcfs last week.

Dworshak is currently at an elevation of 1594.0 feet (6-14-12) and has refilled 4.0 feet last week. Dworshak is currently 6.0 feet from full (1600 feet). Outflows from Dworshak have been approximately 9.5 Kcfs over the past week.

The Brownlee Reservoir was at an elevation of 2073.2 feet on June 13<sup>th</sup>, 2012 refilling 2.2 feet last week. Brownlee is currently 3.8 feet from full (2077 feet). Over the last week, outflows at Brownlee have ranged between 12.2 and 17.2 Kcfs.

The Biological Opinion flow period began on April 3<sup>rd</sup> in the lower Snake River (Lower Granite). According to the April Final Water Supply Forecast, the flow objective this spring is 100 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 90.8 Kcfs over the last week and 109.6 Kcfs over the spring period.

Based on the April Final Water Supply Forecast, the Spring Biological Opinion Flow Objectives are 260 Kcfs at McNary Dam (began April 10<sup>th</sup>) and 135 Kcfs at Priest Rapids Dam (began April 10<sup>th</sup>). Flows at McNary Dam have averaged 344.8 Kcfs over the last week and 336.9 Kcfs over the spring period. Flows at Priest Rapids Dam have averaged 253.1 Kcfs over the last week and 218.5 Kcfs over the spring period.

**Spill:**

Spring spill for fish passage began on April 3<sup>rd</sup> at the lower Snake River projects, and on April 10<sup>th</sup> at the lower Columbia River projects.

Snake River flows have remained relatively constant over the past week and considerable excess generation spill has occurred. At Lower Granite Dam spill met, or exceeded, the Court Ordered 20 Kcfs.

At Little Goose Dam spill met, or exceeded, the 30% of instantaneous flow level as specified in the Court Order and ranged between 33.4% and 61% of daily average flow at this project. At Lower Monumental Dam daily average spill ranged from 25.9 Kcfs when the COE could curtail spill for TDG management and 60.8 Kcfs, with the higher amounts due to uncontrolled spill. Instantaneous levels of spill were as high as 70 Kcfs, but because the uniform pattern was used for spill, total dissolved gas did not exceed the gas waivers. However, when spill was reduced and returned to the bulk pattern, TDG increased. At Ice Harbor Dam the Court Order “test-like” conditions are in place and have been met or exceeded.

Project	Day/Night Spill
Lower Granite	20 Kcfs/20 Kcfs
Little Goose	30%/30%
Lower Monumental	Gas Cap/Gas Cap
Ice Harbor	“Test-Like”: 45 Kcfs/gas cap vs. 30%/30%

Spill for fish passage at the Lower Columbia projects began on April 10<sup>th</sup>. Flows were relatively high in the lower Columbia River for the past week. Spill at McNary Dam met, or exceeded, the Court Order as a result of flows in excess of hydraulic capacity due to unit outages and due to spill in excess of generation needs. Spill at John Day Dam changed to the test levels of 30%/30% versus 40%/40%. For the most part, spill test levels were exceeded at John Day during the past week. At The Dalles Dam, spill generally met or was close to the 40%. Spill at Bonneville Dam exceeded the 100 Kcfs mostly due to a reprioritization of the spill priority list for distribution of excess spill in an attempt to operate Bonneville PH2 at the mid-range of the 1% efficiency range.

Project	Day/Night Spill
McNary	40%/40%
John Day	Testing: 30%/30% vs. 40%/40%
The Dalles	40%/40%
Bonneville	100 Kcfs/100 Kcfs

Gas bubble trauma samples were taken this past week at Lower Granite, Little Goose, Lower Monumental, Rock Island, McNary and Bonneville dams. The most recent samples estimated fish with signs of GBT equal to: 0% at Lower Granite (6/14); 0% at Little Goose (6/11), 1% at Lower Monumental (6/6), 1% at McNary (6/11), 0% at Bonneville (6/9) and 0% at Rock Island (6/11). All the affected fish exhibited minor (Rank 1) signs of GBT. All observed signs were well below the action criteria of 15%.

#### **Smolt Monitoring:**

Smolt monitoring activities are ongoing at all seven SMP dams (BON, JDA, MCN, LGR, LGS, LMN, and RIS). The Imnaha River Trap is the only SMP trap that is still collecting juvenile salmonids for the 2012 season.

The passage indices for yearling Chinook, steelhead, sockeye, and coho at BON all decreased this week, when compared to last week. The daily average passage index at BON for yearling Chinook this week was nearly 2,370 per day, compared to nearly 7,200 per day last week. The daily average passage indices for steelhead, sockeye, and coho at BON this week were just over 1,000, about 770, and nearly 4,200 per day, respectively. Subyearling Chinook numbers at BON continued to increase this week, with a daily average passage index of nearly 10,000 per day. The daily average passage index for subyearling Chinook last week was about 7,200 per day. The second powerhouse of BON was operated at or below the mid-range (50%) of the 1% efficiency range though Wednesday evening. Since Wednesday evening, operations at the BON second powerhouse have been in the upper range of the 1% efficiency range. Over the past week, sample counts for sockeye juveniles at BON have been below 20 per day, which makes interpretation of mortality and descaling rates difficult. Finally, only pacific lamprey macrophthalmia were collected at BON this week. The daily average collection for pacific lamprey macrophthalmia was 75 per day this week, compared to a daily average collection of 70 per day last week.

As with passage at BON, the passage indices for yearling Chinook, steelhead, sockeye, and coho all decreased at JDA this week, when compared to last week. The daily average passage index for yearling Chinook at JDA for this week was about 3,750 per day, compared to just nearly 7,200 per day last week. The daily average passage index for steelhead this week was 2,625 per day, compared to nearly 4,000

per day last week. However, passage of subyearling Chinook at JDA continued to increase this week. The daily average passage index for subyearling Chinook at JDA this week was about 7,230, compared to just over 1,200 per day last week. Lamprey collections at JDA continue to be dominated by pacific lamprey macrophthalmia. The daily average collection for pacific macrophthalmia at JDA this week was over 3,500 per day, which was higher than last week's average of about 1,560 per day. Pacific ammocoetes were also collected at JDA this week, but in much smaller numbers. The daily collection of Pacific ammocoetes at JDA ranged between 0 and 34 per day this week.

Passage for nearly all salmonid species also decreased at MCN this week, except for subyearling Chinook. The daily average passage index for yearling Chinook at MCN this week was about 5,200, whereas that for last week was almost 14,000 per day. The daily average passage index for subyearling Chinook at MCN this week was nearly 15,600 per day, compared to only 3,370 per day last week. Pacific lamprey macrophthalmia continue to be the only lamprey juveniles collected at MCN so far this year. Collections of pacific lamprey macrophthalmia at MCN increased this week. The daily average collection for pacific lamprey macrophthalmia at MCN was 988 per day, compared to only 383 per day last week.

There was a slight increase in passage of yearling Chinook and steelhead at LGR this week, compared to last week. The daily average passage index for yearling Chinook at LGR this week was about 1,200 per day, compared to almost 1,100 per day last week. This week's daily average passage index for steelhead at LGR was over 6,300 per day. The daily passage index for steelhead at LGR last week was about 5,700 per day. These slight increases are mostly due to higher passage numbers earlier in the week. In more recent days, the passage of yearling Chinook and steelhead at LGR has decreased. Sockeye passage at LGR also continued to decrease this week. The daily average passage index for sockeye at LGR this week was 149 per day, compared to 172 per day last week. Coho passage at LGR increased slightly this week. Subyearling Chinook passage continued to increase this week, with a daily average passage index of nearly 35,000 per day, compared to about 32,600 per day last week. Finally, only pacific lamprey ammocoetes were sampled at LGR this week, with one ammocoete in each of the June 8<sup>th</sup>, June 10<sup>th</sup>, and June 12<sup>th</sup> samples.

Passage at LGS decreased for nearly all species this week, except for steelhead and subyearling Chinook. The daily average passage index for yearling Chinook at LGS this week was just over 2,000 per day, compared to over 2,300 per day last week. Steelhead passage at LGS increased slightly this week, with a daily average passage index of nearly 9,000 per day. Last week's daily average passage index for steelhead was nearly 8,600 per day. Passage of subyearling Chinook at LGS also increased this week. This week's daily average passage index for subyearling Chinook was nearly 30,800 per day, compared to almost 27,000 per day last week. Both pacific lamprey ammocoetes and macrophthalmia were collected at LGS this week.

Passage of yearling Chinook, coho, sockeye, and steelhead at LMN continued to decrease this week. The daily average passage index for yearling Chinook at LMN this week was 964, compared to 1,270 per day last week. Passage of subyearling Chinook at LMN continued to increase this week. The daily average passage of subyearling Chinook at LMN this week was nearly 12,800 per day, compared to just over 8,500 per day last week. Lower Monumental Dam continued to collect mostly pacific lamprey macrophthalmia this week. Over the past week, collection estimates for pacific macrophthalmia have ranged from 0 to 200 per day. In addition, LMN collected its first pacific lamprey ammocoete of 2012 this week, with one ammocoete sampled in the June 9<sup>th</sup> sample.

Passage of yearling Chinook, coho, sockeye, and steelhead at RIS continued to decrease this week. Based on the passage index, subyearling Chinook are now the dominant species of salmonid passing RIS. As with last week, subyearling Chinook were the only juveniles whose passage at RIS increased this week, compared to last week. The daily average passage index for subyearling Chinook this week was 169 per day, compared to 149 per day last week. Only one Pacific lamprey macrophthalmia was collected at RIS this week. No other lamprey juveniles were collected at RIS this week.

Steelhead continued to dominate the collection at the Imnaha River Trap this week. Over the most recent seven days, the daily average collection for steelhead at this trap was 105 per day, which is a decrease from the previous week. Passage of yearling Chinook at this trap also appears to be very low. The daily average collection for yearling Chinook at the Imnaha River Trap over the past seven days was 16 per day.

## 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. Approximately 400,000 subyearling fall Chinook smolts were scheduled to be released this week. All of these fall Chinook juveniles were scheduled to be released into the Clearwater River and its tributaries. In addition, a volitional release of about 500,000 subyearling fall Chinook smolts that began last week was scheduled to end this week. Of these, approximately 200,000 were unmarked. The only other release of juvenile salmonids that was scheduled for this week was a release of about 303,000 spring Chinook parr. This parr release was scheduled to take place on the Selway River, a tributary of the Clearwater River on or around June 12<sup>th</sup>. These spring Chinook parr are not expected to out-migrate until spring 2013 and were 100% unmarked.

In addition to the subyearling fall Chinook that were released to this zone this week, about 98,000 fall Chinook subyearlings are scheduled for release into the Clearwater River over the next several weeks. All of these subyearling fall Chinook juveniles are surrogates, which are hatchery fish that are intentionally reared to a smaller size to more closely resemble wild fish. All of these surrogates are unmarked but do have PIT-tags. Finally, an additional 400,000 spring Chinook parr are scheduled for release into the Selway River over the next two weeks. These spring Chinook parr are unclipped but are tagged with coded-wire-tags. They are not expected to out-migrate until spring of 2013.

**Mid-Columbia Zone:** The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. There was only one new release of juvenile salmonids scheduled for this zone this week. On June 12<sup>th</sup>, Priest Rapids Hatchery began releasing approximately 6.7 million subyearling fall Chinook brights. Of these, approximately 48% are unmarked and nearly 9% are unclipped but tagged with coded-wire-tags. This release is expected to run through June 20<sup>th</sup>. In addition to the Priest Rapids Hatchery release that began this week, approximately 3.45 million subyearling fall Chinook brights are scheduled for release from Ringold Hatchery, beginning next week. The release from Ringold Hatchery is expected to run through late July. Finally, many of the volitional releases of coho juveniles to the Methow, Wenatchee, and Yakima rivers that began in April and May are scheduled to end

throughout the next several weeks.

**Lower Columbia Zone:** The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. There were no new releases of juvenile salmonids scheduled for this zone this week. However, approximately 7.8 million subyearling fall Chinook brights are scheduled for release into this zone over the next two weeks. Of these, about 3.3 million will be released into the Klickitat River while the remaining 4.5 million will be released into the Little White Salmon River. The Klickitat River release is expected to begin next week while the Little White Salmon River release is expected to begin on or around June 28<sup>th</sup>. These are the only releases that are scheduled for this zone over the next two weeks.

**Adult Fish Passage:**

The summer Chinook count began June 1st at Bonneville Dam. Daily passage numbers at Bonneville Dam ranged between 1,389 and 2,610 adult summer Chinook in the last week. The 2012 summer Chinook count of 25,820 is about 72% of the 2011 count and about 93.4% of the 10 year average. The 2012 Bonneville Dam summer Chinook jack count of 2,344 is 15.5% of the 2011 count and 47.3% of the 10 year average count. At McNary Dam 6,752 adult summer Chinook have been counted. The 2012 adult summer Chinook count at McNary Dam is about 74% of the 2011 count and is about 87.3% of the 10 year average. The 2012 McNary Dam summer Chinook jack count of 314 is about 6.8% of the 2011 count and 22% of the 10 year average count.

At Willamette Falls 24,458 adult spring Chinook have been counted so far this year. The 2012 adult spring Chinook count at Willamette Falls is 89.1% of the 2011 count of 27,443 and 59.8% of the 10 year average count of 40,889. The last day of counting spring Chinook at Rock Island Dam and Lower Granite Dam is 6/17. The 2012 adult spring Chinook count at Rock Island Dam of 18,204 is about 1.50 times greater than the 2011 count and 1.36 times greater than the 10 year average. The 2011 adult spring Chinook count at Lower Granite Dam of 63,249 is about 1.11 times greater than the 2011 count and 1.23 times greater than the 10 year average. The 2011 Lower Granite spring Chinook jack count of 3,340 is about 16.4% of the 2011 count and 36.9% of the 10 year average count.

The Bonneville Dam 2012 steelhead count of 6,204 is 1.10 times greater than the 2011 count of 5,642, while being about 85.6% of the 10 year

average count of 7,249. The 2012 Bonneville wild adult steelhead count of 1,783 has 20 more fish than the 2011 count of 1,763, while having 92 fewer fish the 10 year average count of 1,875. In the Snake River, this year's Lower Granite steelhead count of 8,943 is about 72.6% of the 2011 count of 12,315 and 89.2% of the 10 year average of 10,024. The 2012 Lower Granite wild adult steelhead count of 3,945 is about 96.6% of the 2011 count of 4,082, while being about 1.25 times greater than the 10 year average count of 3,152. At Willamette Falls Dam, the 2012 count for steelhead was 21,515, as of June 13th. This year's steelhead count is about 1.16 times greater than the 2011 count of 15,119 and 1.05 times greater than the 10 year average count of 20,478.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 1,006 and 6,863 last week. The 2012 adult sockeye count at Bonneville Dam of 26,330 is about 8 times greater than the 2011 count of 3,278 and 3.56 times greater than the 10 year average count of 7,357.

### Hatchery Releases Last Two Weeks

**Hatchery Release Summary**

From: 6/1/2012 to 06/14/12

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
National Marine Fisheries Service	Lyons Ferry Hatchery	CH0	FA	2012	226,788	05-21-12	06-08-12	Couse Creek	Snake River
<b>National Marine Fisheries Service</b>									
<b>Total</b>					<b>226,788</b>				
Nez Perce Tribe	Clearwater Hatchery	CH0	SP	2013	302,782	06-12-12	06-18-12	Selway River	Clearwater River M F
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2012	200,000	06-13-12	06-13-12	Cedar Flats Acclim.	Selway River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2012	200,000	06-13-12	06-13-12	Lukes Gulch Acclim. Nez Perce Tribal	S Fk Clearwater River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2012	500,000	06-04-12	06-15-12	Hatchery	Clearwater River M F
<b>Nez Perce Tribe Total</b>					<b>1,202,782</b>				
								Blackbird Island Acc	
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	ST	SU	2012	25,000	05-12-12	06-30-12	Pond	Wenatchee River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH0	FA	2012	200,000	06-01-12	06-05-12	Couse Creek	Snake River
Washington Dept. of Fish and Wildlife	Priest Rapids Hatchery	CH0	FA	2012	6,700,000	06-12-12	06-20-12	Priest Rapids Hatchery	Mid-Columbia River
<b>Washington Dept. of Fish and Wildlife</b>									
<b>Wildlife Total</b>					<b>6,925,000</b>				
Yakama Tribe	Cascade Hatchery	CO	UN	2012	65,537	05-14-12	07-01-12	Rolfings Acclim Pond Beaver Creek Acclim	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2012	65,564	05-13-12	07-14-12	Pond Butcher Creek Acclim.	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2012	65,662	05-02-12	06-30-12	Pond	Wenatchee River
Yakama Tribe	Chelan Hatchery	ST	SU	2012	25,000	05-02-12	07-01-12	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	64,114	04-16-12	07-01-12	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	67,858	04-16-12	07-01-12	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	78,892	04-16-12	07-01-12	Easton Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	82,621	04-16-12	07-01-12	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	93,312	04-16-12	07-01-12	Easton Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	91,112	04-20-12	07-01-12	Easton Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	97,073	04-20-12	07-01-12	Holmes Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	100,000	03-02-12	07-01-12	Prosser Acclim Pond Beaver Creek Acclim	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2012	31,423	05-13-12	07-14-12	Pond	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2012	31,533	05-14-12	07-01-12	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2012	86,994	05-14-12	06-02-12	Coulter Creek	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2012	95,257	05-11-12	06-11-12	Twisp Acclim Pond	Methow River
<b>Yakama Tribe Total</b>					<b>1,141,952</b>				
<b>Grand Total</b>					<b>9,496,522</b>				

### Hatchery Releases Next Two Weeks

Agency	Hatchery Release Summary				NumRel	RelStart	RelEnd	RelSite	RelRiver
	From:	Hatchery	Species	Race					
National Marine Fisheries Service	Lyons Ferry Hatchery	CH0	FA	2012	98,000	06-21-12	07-06-12	Big Canyon (Clearwater River)	Clearwater River M F
<b>National Marine Fisheries Service Total</b>					<b>98,000</b>				
Nez Perce Tribe	Clearwater Hatchery	CH0	SP	2013	302,782	06-12-12	06-18-12	Selway River	Clearwater River M F
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2012	500,000	06-04-12	06-15-12	Nez Perce Tribal Hatchery	Clearwater River M F
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	SP	2013	400,000	06-25-12	06-29-12	Meadow Creek - SELW	Selway River
<b>Nez Perce Tribe Total</b>					<b>1,202,782</b>				
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH0	FA	2012	2,000,000	06-28-12	06-28-12	Little White Salmon Hatchery	Little White Salmon River
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH0	FA	2012	2,500,000	06-28-12	06-28-12	Little White Salmon Hatchery	Little White Salmon River
<b>U.S. Fish and Wildlife Service Total</b>					<b>4,500,000</b>				
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	ST	SU	2012	25,000	05-12-12	06-30-12	Blackbird Island Acc Pond	Wenatchee River
Washington Dept. of Fish and Wildlife	Priest Rapids Hatchery	CH0	FA	2012	6,700,000	06-12-12	06-20-12	Priest Rapids Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	CH0	FA	2012	3,450,000	06-20-12	07-31-12	Ringold Springs Hatchery	Mid-Columbia River
<b>Washington Dept. of Fish and Wildlife Total</b>					<b>10,175,000</b>				
Yakama Tribe	Cascade Hatchery	CO	UN	2012	65,537	05-14-12	07-01-12	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2012	65,564	05-13-12	07-14-12	Beaver Creek Acclim Pond	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2012	65,662	05-02-12	06-30-12	Butcher Creek Acclim. Pond	Wenatchee River
Yakama Tribe	Chelan Hatchery	ST	SU	2012	25,000	05-02-12	07-01-12	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	64,114	04-16-12	07-01-12	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	67,858	04-16-12	07-01-12	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	78,892	04-16-12	07-01-12	Easton Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	82,621	04-16-12	07-01-12	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2012	93,312	04-16-12	07-01-12	Easton Pond	Yakima River
Yakama Tribe	Klickitat Hatchery	CH0	FA	2012	3,300,000	06-18-12	06-18-12	Klickitat Hatchery	Klickitat River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	91,112	04-20-12	07-01-12	Easton Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	97,073	04-20-12	07-01-12	Holmes Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2012	100,000	03-02-12	07-01-12	Prosser Acclim Pond	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2012	31,423	05-13-12	07-14-12	Beaver Creek Acclim Pond	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2012	31,533	05-14-12	07-01-12	Rolfings Acclim Pond	Wenatchee River
<b>Yakama Tribe Total</b>					<b>4,259,701</b>				
<b>Grand Total</b>					<b>20,235,483</b>				

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

## 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>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
6/1	97.4	97.7	97.8	24	122.9	123.3	123.7	23	116.9	117.2	117.7	24	114.0	114.5	114.9	23	114.9	115.1	115.3	24
6/2	97.7	97.9	98.1	24	122.8	123.4	123.8	24	117.0	117.1	117.3	24	113.9	114.5	115.2	24	115.0	115.2	115.6	24
6/3	97.7	98.0	98.2	24	123.2	123.4	123.8	22	116.5	116.6	116.7	24	113.4	114.1	114.5	22	114.5	114.8	115.2	24
6/4	98.3	98.7	99.0	24	122.9	123.1	123.6	22	116.5	116.8	117.1	24	113.4	113.7	114.6	22	114.8	115.1	115.3	24
6/5	98.2	98.3	98.5	24	123.9	124.7	125.7	21	116.3	116.6	116.9	24	112.5	112.9	113.8	21	114.5	114.9	115.1	24
6/6	97.9	98.0	98.1	24	126.5	127.0	127.6	22	115.8	115.9	116.9	24	112.7	113.0	113.3	22	113.1	113.2	113.5	23
6/7	101.7	106.0	107.5	24	127.3	128.1	129.4	21	114.3	115.2	115.7	24	112.4	112.5	112.7	21	112.7	112.9	113.2	24
6/8	107.2	107.4	107.7	23	127.6	128.2	129.2	20	115.4	116.0	116.4	24	112.7	112.9	113.1	20	112.5	112.6	112.8	24
6/9	107.2	107.3	107.4	24	127.7	128.2	129.1	21	116.1	116.4	116.6	24	113.0	113.3	113.8	21	112.1	112.3	112.4	24
6/10	107.0	107.0	107.1	24	127.4	127.8	128.1	23	116.2	116.3	116.5	24	112.9	113.3	113.7	23	112.3	112.6	113.1	24
6/11	105.7	106.3	107.0	23	127.2	127.8	128.3	21	115.4	115.6	115.8	24	112.7	113.0	113.3	21	113.0	113.7	113.9	24
6/12	105.9	106.2	106.6	24	126.3	127.1	127.9	21	115.7	116.0	116.3	24	113.4	113.8	114.1	22	113.9	114.3	114.7	24
6/13	105.9	106.1	106.5	24	125.9	126.5	128.3	24	115.9	116.1	116.3	24	113.3	113.6	113.9	21	113.6	113.9	114.2	24
6/14	106.2	106.6	107.1	24	126.2	126.8	127.3	24	115.9	116.1	116.5	24	113.0	113.2	113.4	24	113.2	113.4	113.6	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>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
6/1	114.1	114.4	115.0	24	113.7	114.1	114.3	24	116.4	117.6	118.9	24	116.0	116.2	116.2	24	116.0	116.3	116.8	24
6/2	115.0	115.4	115.8	24	113.1	113.8	114.2	24	114.3	115.0	115.9	24	115.4	115.6	116.0	24	115.3	115.8	116.3	24
6/3	113.8	114.0	114.8	24	112.2	112.3	112.7	24	114.1	115.0	116.3	24	113.9	114.9	115.4	24	115.3	116.1	117.3	24
6/4	114.1	114.4	115.2	24	112.4	112.6	112.7	24	114.2	114.8	116.7	24	112.3	112.8	113.8	24	114.3	114.5	114.6	24
6/5	113.4	115.1	115.5	24	111.8	112.1	112.4	24	113.2	113.4	113.9	24	113.4	114.2	114.6	24	113.3	113.6	113.9	24
6/6	114.7	115.2	115.6	24	111.5	111.9	112.1	24	118.1	120.1	120.4	24	110.4	110.9	111.5	24	115.4	116.5	117.1	24
6/7	114.5	115.2	115.5	24	111.7	112.0	112.2	24	119.0	120.0	122.0	24	115.8	117.6	118.2	24	119.1	120.3	121.9	24
6/8	116.1	116.8	117.2	24	112.5	112.8	113.3	24	122.0	124.4	128.3	24	118.4	119.1	120.8	24	122.6	122.9	123.3	24
6/9	116.4	117.8	119.0	24	113.5	113.8	114.2	24	118.1	118.7	119.8	24	118.8	120.0	121.4	24	122.1	122.4	122.6	24
6/10	115.2	115.6	115.7	24	112.6	112.9	114.0	24	116.6	117.0	117.3	24	114.9	115.3	115.8	24	119.9	120.3	121.2	24
6/11	118.3	119.8	120.0	24	113.5	114.7	117.0	24	117.4	118.9	120.1	24	115.4	116.0	116.5	24	120.1	120.7	121.1	24
6/12	117.6	118.8	119.7	24	117.2	117.6	118.1	19	121.6	122.1	125.5	19	117.0	118.0	119.1	24	121.7	122.3	122.7	24
6/13	115.3	117.5	119.1	24	114.4	114.6	116.0	20	118.9	120.3	124.5	20	119.5	120.1	120.8	24	122.5	123.0	123.3	24
6/14	110.5	110.8	110.9	24	112.4	113.1	114.3	18	116.3	116.8	117.4	18	117.0	117.8	118.8	24	121.0	121.4	121.8	24

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

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
6/1	114.8	115.3	116.1	24	117.1	117.6	118.2	24	116.0	116.6	117.2	24	119.3	121.3	122.7	24	118.7	120.6	122.0	24
6/2	114.1	114.3	114.3	24	117.2	117.7	117.9	24	115.4	115.6	116.0	24	116.6	116.8	120.6	13	115.6	117.0	119.4	24
6/3	112.9	113.4	113.6	24	116.9	117.5	117.9	24	115.2	115.7	116.5	24	---	---	---	0	113.3	113.6	113.8	24
6/4	111.3	111.7	112.4	24	115.1	115.9	116.9	24	115.4	115.6	115.8	24	115.1	115.4	116.9	16	115.9	116.9	117.6	24
6/5	111.2	111.4	111.5	24	116.0	116.5	116.9	24	111.9	113.8	115.0	24	114.0	115.2	117.7	24	111.7	113.1	114.8	24
6/6	111.3	112.2	113.9	24	115.8	117.4	119.1	24	108.1	108.6	109.5	24	117.5	119.7	120.4	24	111.5	114.0	117.0	24
6/7	115.8	117.3	118.7	24	119.7	121.2	122.3	24	111.8	112.8	113.7	24	121.0	123.0	124.5	24	117.8	118.7	121.7	24
6/8	119.7	120.0	120.5	24	122.8	123.2	123.4	24	115.0	116.0	116.5	24	123.2	124.2	125.6	24	120.9	122.4	123.7	24
6/9	118.6	119.2	119.5	24	121.6	122.0	122.8	24	116.2	116.8	117.3	24	121.6	122.0	122.5	24	117.4	118.4	119.9	24
6/10	115.7	116.2	117.3	24	119.3	120.0	121.6	24	114.7	115.3	115.9	24	120.9	122.2	122.5	24	116.2	117.9	119.3	24
6/11	116.0	116.8	117.6	24	119.4	120.7	121.4	24	117.3	118.3	118.7	24	120.7	122.5	122.9	24	119.4	122.0	122.7	24
6/12	117.5	118.4	119.0	24	120.8	122.0	122.6	24	117.7	118.2	118.5	24	122.3	123.8	124.7	24	119.9	122.0	123.0	24
6/13	119.1	119.3	119.7	24	122.4	122.9	123.3	24	115.6	116.6	118.1	24	122.2	123.4	124.5	24	118.7	119.7	120.3	24
6/14	116.9	117.2	118.2	24	120.6	121.5	122.4	24	---	---	---	0	---	---	---	0	---	---	---	0



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

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

Date	<u>Priest R. Dnst</u>			#	<u>Pasco</u>			#	<u>Dworshak</u>			#	<u>Clwrtr-Peck</u>			#	<u>Anatone</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
6/1	120.7	121.3	121.9	24	116.5	117.6	118.3	24	101.7	102.7	103.3	24	102.4	103.4	103.9	24	105.1	106.0	106.6	24
6/2	118.3	119.5	120.5	24	115.6	116.2	116.8	24	101.8	102.1	102.7	24	101.8	102.3	102.9	24	104.8	105.1	105.5	24
6/3	116.5	117.6	119.8	24	113.4	114.1	114.5	24	101.2	101.4	101.6	24	102.0	102.5	102.8	24	104.7	105.1	105.2	24
6/4	119.0	119.9	120.8	24	112.6	113.7	114.5	24	101.8	102.2	102.5	24	103.0	103.6	104.3	24	106.2	107.1	108.3	24
6/5	115.6	116.8	118.0	24	110.3	111.4	113.6	24	101.6	102.7	107.4	24	101.6	102.1	103.0	24	104.9	105.0	105.3	24
6/6	117.1	118.0	119.4	24	108.9	110.0	111.1	24	107.8	108.8	109.0	24	103.3	104.0	104.5	24	106.0	106.7	107.4	24
6/7	121.6	122.4	123.1	24	112.8	114.1	115.3	24	100.7	100.9	101.0	24	102.0	102.4	102.5	24	105.7	106.1	106.4	24
6/8	123.0	123.4	124.0	24	115.0	115.7	116.0	24	105.3	108.4	109.1	24	102.7	103.9	104.6	24	105.1	105.5	106.1	24
6/9	121.7	122.1	122.7	24	115.0	115.4	115.8	24	108.0	109.1	109.7	24	102.8	103.1	103.3	24	104.6	105.0	105.3	24
6/10	121.1	121.8	122.0	24	113.7	115.1	115.7	24	102.8	105.0	108.0	24	101.5	102.0	102.6	24	104.6	105.3	106.1	24
6/11	122.3	122.7	123.6	24	116.3	117.7	118.4	24	100.8	101.3	101.6	24	102.1	103.1	103.8	24	104.9	105.9	106.4	24
6/12	122.7	123.1	123.8	24	117.4	117.9	118.4	24	101.1	101.4	101.7	24	101.9	102.5	102.8	24	104.8	105.5	105.9	24
6/13	121.9	122.6	122.9	24	116.9	117.6	118.1	24	106.2	108.6	109.2	24	103.1	104.3	104.7	24	104.4	105.1	105.9	24
6/14	---	---	---	0	116.0	117.1	117.7	24	103.7	105.8	107.7	24	102.8	103.3	103.7	24	104.5	105.4	106.1	24

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

Date	<u>Clwrtr-Lewiston</u>			#	<u>Lower Granite</u>			#	<u>L. Granite Tlwr</u>			#	<u>Little Goose</u>			#	<u>L. Goose Tlwr</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
6/1	102.8	104.3	105.3	24	104.7	104.9	105.1	24	110.4	110.7	111.3	24	110.6	111.0	111.2	24	111.1	111.5	112.2	24
6/2	101.9	102.4	102.9	24	104.5	104.7	105.1	24	110.2	110.4	110.7	24	111.0	111.2	111.3	24	112.6	113.4	113.6	24
6/3	101.4	101.7	101.9	24	104.3	104.5	104.6	24	110.0	110.3	110.8	24	110.7	110.8	110.9	24	113.9	114.3	114.6	24
6/4	102.9	104.0	105.2	24	104.2	104.4	104.6	24	110.3	110.5	110.9	24	111.3	111.6	111.9	24	114.2	114.8	115.1	24
6/5	101.0	101.2	102.0	24	103.2	103.4	103.8	24	115.0	117.6	120.3	24	109.4	110.5	111.3	24	114.9	115.8	118.0	24
6/6	102.4	103.3	104.0	24	102.8	103.1	103.2	24	118.5	119.0	119.2	24	104.9	105.4	106.3	24	117.8	118.8	119.8	24
6/7	102.0	102.4	102.7	24	103.2	103.7	104.4	24	114.5	117.9	119.9	24	107.8	109.4	110.2	24	114.9	116.0	120.9	24
6/8	101.9	102.7	103.3	24	105.0	105.1	105.2	24	118.8	120.3	120.7	24	112.2	113.1	113.4	24	119.1	121.0	121.8	24
6/9	102.0	102.5	102.9	24	104.2	104.4	104.7	24	120.1	120.3	120.5	24	111.0	112.4	113.0	24	120.2	120.9	121.7	24
6/10	101.6	102.1	102.9	24	103.2	103.3	103.6	24	118.8	119.9	120.1	24	109.9	110.7	111.3	24	115.7	118.2	119.5	24
6/11	102.3	103.6	104.5	24	103.1	103.4	103.7	24	113.1	116.4	120.1	24	112.9	113.6	113.9	24	113.6	114.9	118.3	24
6/12	102.3	103.1	103.6	24	104.3	104.8	105.0	24	112.8	115.4	119.7	24	115.5	116.8	117.6	24	114.7	116.3	119.2	24
6/13	102.6	103.9	105.2	24	104.9	105.1	105.5	24	118.9	119.8	120.2	24	116.8	117.0	117.2	24	118.0	119.3	119.5	24
6/14	102.8	103.8	105.0	24	104.5	104.6	104.9	24	114.3	117.0	117.1	24	113.9	114.5	116.0	24	114.1	114.6	115.2	24

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

Date	<u>Lower Mon.</u>			#	<u>L. Mon. Tlwr</u>			#	<u>Ice Harbor</u>			#	<u>Ice Harbor Tlwr</u>			#	<u>McNary-Oregon</u>			#
	<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>			<u>24 h</u>	<u>12 h</u>		
	Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High		Avg	Avg	High	
6/1	113.9	114.3	114.5	24	118.8	119.4	120.2	24	116.8	117.0	117.3	24	116.4	116.9	117.3	24	---	---	---	0
6/2	113.6	114.2	114.5	24	118.4	118.6	119.1	24	116.7	116.9	117.2	24	116.3	116.7	116.9	24	---	---	---	0
6/3	111.9	112.1	112.4	24	118.2	118.5	118.9	24	115.5	115.8	116.3	24	117.2	117.9	119.2	24	---	---	---	0
6/4	113.5	114.1	114.4	24	118.8	119.2	119.5	24	115.1	115.3	115.5	24	118.0	119.1	119.4	24	---	---	---	0
6/5	112.4	113.3	114.2	24	118.4	118.9	119.2	24	112.9	113.7	114.8	24	117.9	119.3	119.6	24	---	---	---	0
6/6	110.2	110.5	111.2	24	117.3	117.6	118.6	24	110.7	111.0	111.5	24	119.8	120.1	120.3	24	---	---	---	0
6/7	115.0	116.5	118.8	24	119.0	119.6	120.0	24	112.5	113.1	113.9	24	117.4	118.3	119.4	24	---	---	---	0
6/8	115.2	116.6	119.1	24	117.3	117.9	118.7	24	113.6	113.8	114.0	24	118.3	119.1	119.3	24	---	---	---	0
6/9	115.2	116.2	116.7	24	117.1	117.8	118.7	24	113.6	113.8	114.0	24	118.3	119.5	120.0	24	---	---	---	0
6/10	115.9	116.2	116.4	24	117.9	118.9	119.3	24	113.4	113.7	114.3	24	117.6	118.2	119.3	24	---	---	---	0
6/11	118.3	119.0	119.6	24	119.5	119.9	120.4	24	115.1	115.6	116.1	24	117.0	117.6	119.0	24	---	---	---	0
6/12	117.9	118.4	119.6	24	119.0	119.8	122.5	24	117.2	117.8	118.2	24	116.4	116.8	117.5	24	---	---	---	0
6/13	115.3	115.9	117.3	24	117.8	118.3	119.2	24	117.6	117.9	118.2	24	116.4	116.7	116.9	24	---	---	---	0
6/14	114.9	115.3	116.2	24	119.1	119.5	120.1	24	116.6	117.0	117.4	24	116.9	117.1	117.6	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>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>hr</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>	<u>hr</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
6/1	116.1	116.3	116.7	24	115.8	116.0	116.2	24	111.4	111.8	112.0	24	115.2	115.7	116.2	24	113.1	113.3	113.6	24
6/2	115.5	115.8	116.2	24	115.7	116.0	116.2	24	112.1	112.5	112.8	24	115.2	116.2	117.8	24	111.7	112.0	112.9	24
6/3	115.1	115.2	115.5	24	115.4	115.6	115.7	24	112.3	112.4	112.5	24	117.9	118.1	118.7	24	112.3	113.4	114.1	24
6/4	114.5	114.8	115.3	24	117.4	118.5	118.7	24	113.1	113.4	113.8	24	117.8	118.3	118.4	24	113.9	114.1	114.3	24
6/5	109.7	111.0	113.0	24	117.7	118.1	119.1	24	110.6	111.5	112.8	24	116.2	117.8	118.8	24	110.1	111.7	113.6	24
6/6	107.2	107.4	108.0	24	119.1	119.3	119.4	24	108.4	108.5	108.6	24	119.3	120.0	120.4	24	111.2	112.6	113.2	24
6/7	107.7	108.1	109.5	24	120.2	120.8	122.3	24	108.2	108.4	108.5	24	119.5	120.0	120.2	24	113.1	113.5	113.9	24
6/8	110.4	111.1	111.4	24	121.8	123.2	123.9	24	106.6	106.8	107.0	24	119.2	119.7	120.1	24	111.8	112.3	112.8	24
6/9	111.1	111.3	111.6	24	121.4	122.9	123.4	24	107.4	107.6	107.8	24	119.7	120.4	120.6	24	110.3	110.7	110.9	24
6/10	110.9	111.8	112.6	24	119.0	119.5	119.8	24	108.1	108.6	108.9	24	119.1	119.2	119.6	24	111.2	112.0	112.3	24
6/11	112.6	113.8	115.3	24	120.6	121.5	122.7	24	109.4	110.3	110.6	24	119.1	119.5	120.2	24	112.8	113.8	114.4	24
6/12	115.8	116.5	116.9	24	120.2	120.3	120.3	24	111.1	111.5	111.7	24	118.8	119.1	119.6	24	114.0	114.4	114.8	24
6/13	114.7	115.0	115.7	24	120.5	121.1	122.0	24	111.2	111.5	111.7	24	119.2	119.7	120.1	24	112.8	113.4	114.2	24
6/14	114.1	114.9	115.6	24	120.3	120.6	121.1	24	111.5	111.9	112.1	24	118.6	119.0	119.3	24	112.1	112.8	113.5	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>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>hr</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>	<u>hr</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
6/1	118.0	118.3	118.6	24	117.5	118.1	118.5	24	117.5	117.9	118.2	24	116.8	117.6	118.5	24	---	---	---	0
6/2	117.0	117.3	117.4	24	116.3	116.9	117.7	24	116.8	117.2	117.5	24	116.0	116.5	117.0	24	---	---	---	0
6/3	116.8	117.5	118.0	24	113.8	114.1	114.2	24	115.1	115.3	115.5	24	114.6	115.1	115.7	24	---	---	---	0
6/4	118.3	118.7	118.9	24	115.5	116.3	116.9	24	116.0	116.7	117.0	24	114.0	114.5	115.0	24	---	---	---	0
6/5	117.4	118.6	122.8	24	113.1	114.0	116.1	24	114.6	115.3	116.1	24	112.4	113.1	113.7	24	---	---	---	0
6/6	121.6	123.9	126.1	24	112.8	114.1	118.7	24	113.9	114.7	116.8	24	113.1	114.0	114.4	24	119.3	119.6	123.5	13
6/7	119.2	120.3	122.1	24	120.2	121.6	123.1	24	120.1	121.0	121.6	24	115.9	118.4	119.3	24	124.7	124.9	125.2	24
6/8	117.9	118.7	119.9	24	117.2	117.7	118.3	24	117.8	118.1	118.8	24	116.6	117.4	118.4	24	121.2	122.3	124.8	24
6/9	118.1	118.7	120.1	24	113.8	114.5	115.8	24	116.4	117.0	117.8	24	115.1	115.4	115.5	24	122.8	123.8	124.9	24
6/10	116.9	117.7	119.0	24	112.3	113.0	114.1	24	114.5	115.1	115.7	24	114.7	115.1	115.4	24	120.9	121.7	124.0	24
6/11	118.7	119.8	120.4	24	114.8	115.4	116.6	24	116.7	117.2	117.7	24	115.5	116.7	117.4	24	122.3	123.4	124.0	24
6/12	120.1	120.5	121.3	24	117.1	117.5	118.0	24	118.7	118.9	119.2	24	117.1	117.9	118.4	24	123.8	124.1	124.3	24
6/13	118.8	119.6	120.1	24	115.7	116.3	117.0	24	118.3	118.5	118.7	24	117.4	117.7	118.0	24	122.9	123.2	123.5	24
6/14	117.5	118.0	118.3	24	113.8	114.3	114.8	24	116.7	117.1	117.4	24	116.6	117.0	117.4	24	123.0	123.4	123.5	24

### Two-Week Summary of Passage Indices

COMBINED YEARLING CHINOOK												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
06/01/2012	*	---	5	---	---	908	2,574	786	---	---	8,768	8,253
06/02/2012	*	---	13	---	---	1,161	1,892	691	21	16,478	8,421	6,996
06/03/2012	*	---	13	---	---	1,173	1,684	924	40	---	7,411	6,933
06/04/2012	*	---	5	---	---	966	4,410	1,521	21	14,172	6,621	3,911
06/05/2012	*	---	0	---	---	684	2,862	2,350	20	---	8,254	4,563
06/06/2012	*	---	---	---	---	1,068	1,607	2,088	16	10,960	6,320	3,397
06/07/2012	*	---	4	---	---	1,726	1,132	536	19	---	4,505	4,262
06/08/2012		---	23	---	---	1,591	592	634	29	8,184	5,769	4,792
06/09/2012	*	---	10	---	---	1,920	306	410	23	---	4,789	2,098
06/10/2012		---	0	---	---	531	923	857	15	5,894	4,994	1,910
06/11/2012	*	---	5	---	---	515	1,899	3,562	19	---	2,960	2,662
06/12/2012	*	---	7	---	---	283	501	704	6	3,713	2,957	1,707
06/13/2012	*	---	33	---	---	120	1,314	529	2	---	2,201	1,898
06/14/2012		---	---	---	---	387	508	50	2	2,971	2,619	1,508
06/15/2012		---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>118</b>	<b>0</b>	<b>0</b>	<b>13,033</b>	<b>22,204</b>	<b>15,642</b>	<b>233</b>	<b>62,372</b>	<b>76,589</b>	<b>54,890</b>
<b># Days:</b>		<b>0</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>931</b>	<b>1,586</b>	<b>1,117</b>	<b>18</b>	<b>8,910</b>	<b>5,471</b>	<b>3,921</b>
<b>YTD</b>		<b>58,098</b>	<b>10,713</b>	<b>26,417</b>	<b>13,494</b>	<b>4,041,009</b>	<b>2,258,767</b>	<b>746,811</b>	<b>25,780</b>	<b>2,169,887</b>	<b>4,268,804</b>	<b>2,521,523</b>

COMBINED SUBYEARLING CHINOOK												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
06/01/2012	*	---	0	---	---	15,497	5,612	126	---	---	1,038	6,052
06/02/2012	*	---	0	---	---	14,435	3,785	1,381	29	1,699	1,244	6,612
06/03/2012	*	---	0	---	---	24,155	12,865	1,501	55	---	1,175	5,941
06/04/2012	*	---	0	---	---	43,579	58,279	5,134	155	2,884	723	8,038
06/05/2012	*	---	0	---	---	43,559	36,708	16,591	59	---	1,297	9,440
06/06/2012	*	---	---	---	---	47,063	40,300	20,694	348	5,536	1,196	6,996
06/07/2012	*	---	0	---	---	39,844	30,772	14,388	250	---	1,924	7,187
06/08/2012		---	0	---	---	32,311	32,742	11,382	241	11,754	2,666	7,616
06/09/2012	*	---	0	---	---	55,885	41,062	11,153	132	---	3,840	7,468
06/10/2012		---	0	---	---	30,252	31,130	21,533	468	19,443	4,193	7,738
06/11/2012	*	---	0	---	---	22,350	32,133	18,415	97	---	6,574	9,440
06/12/2012	*	---	0	---	---	19,956	27,400	10,373	53	17,189	7,844	10,897
06/13/2012	*	---	0	---	---	19,246	13,385	5,950	43	---	12,530	13,063
06/14/2012		---	---	---	---	24,761	29,493	10,484	153	14,012	12,968	13,487
06/15/2012		---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>432,893</b>	<b>395,666</b>	<b>149,105</b>	<b>2,083</b>	<b>72,517</b>	<b>59,212</b>	<b>119,975</b>
<b># Days:</b>		<b>0</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30,921</b>	<b>28,262</b>	<b>10,650</b>	<b>160</b>	<b>10,360</b>	<b>4,229</b>	<b>8,570</b>
<b>YTD</b>		<b>0</b>	<b>2</b>	<b>67</b>	<b>327</b>	<b>549,849</b>	<b>411,872</b>	<b>150,934</b>	<b>3,256</b>	<b>205,929</b>	<b>82,213</b>	<b>2,476,087</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)	
06/01/2012	*	---	0	---	---	134	1,001	157	---	---	4,930	7,545
06/02/2012	*	---	0	---	---	166	464	115	758	6,175	4,497	14,377
06/03/2012	*	---	0	---	---	254	788	79	1,058	---	3,015	30,510
06/04/2012	*	---	0	---	---	218	1,147	199	368	6,842	2,337	37,657
06/05/2012	*	---	0	---	---	249	429	541	225	---	5,139	28,476
06/06/2012	*	---	---	---	---	458	229	491	343	2,767	3,117	13,993
06/07/2012	*	---	0	---	---	235	646	81	192	---	1,924	26,492
06/08/2012		---	0	---	---	226	338	261	277	3,250	1,704	8,642
06/09/2012	*	---	0	---	---	427	204	26	176	---	2,373	3,356
06/10/2012		---	0	---	---	133	132	7	139	2,673	3,015	2,935
06/11/2012	*	---	0	---	---	103	165	297	194	---	1,950	6,502
06/12/2012	*	---	0	---	---	40	167	93	144	725	1,569	3,711
06/13/2012	*	---	0	---	---	120	82	10	140	---	1,384	2,353
06/14/2012		---	---	---	---	166	274	80	64	475	1,690	1,621
06/15/2012		---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,929</b>	<b>6,066</b>	<b>2,437</b>	<b>4,078</b>	<b>22,907</b>	<b>38,644</b>	<b>188,170</b>
<b># Days:</b>		<b>0</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>209</b>	<b>433</b>	<b>174</b>	<b>314</b>	<b>3,272</b>	<b>2,760</b>	<b>13,441</b>
<b>YTD</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>80</b>	<b>69,307</b>	<b>77,599</b>	<b>19,252</b>	<b>48,878</b>	<b>143,720</b>	<b>280,919</b>	<b>668,128</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)	
06/01/2012	*	---	74	---	---	2,343	8,544	1,383	---	---	4,307	1,493
06/02/2012	*	---	86	---	---	2,489	4,928	1,525	76	3,314	4,115	1,691
06/03/2012	*	---	154	---	---	5,104	7,240	1,957	119	---	3,833	1,491
06/04/2012	*	---	113	---	---	3,710	8,073	2,161	120	2,458	4,395	797
06/05/2012	*	---	261	---	---	8,761	8,445	2,839	87	---	4,359	629
06/06/2012	*	---	---	---	---	7,628	4,205	6,511	62	2,435	2,775	1,519
06/07/2012	*	---	63	---	---	9,726	18,643	4,658	75	---	4,111	585
06/08/2012		---	60	---	---	6,939	11,139	2,958	76	1,848	3,627	1,284
06/09/2012	*	---	62	---	---	8,106	8,582	3,762	74	---	3,581	1,091
06/10/2012		---	0	---	---	3,980	10,420	3,045	44	2,127	3,627	1,194
06/11/2012	*	---	42	---	---	2,781	10,581	3,177	33	---	2,804	1,486
06/12/2012	*	---	87	---	---	3,157	6,263	1,882	28	1,221	1,629	705
06/13/2012	*	---	275	---	---	2,072	3,613	2,544	39	---	1,704	613
06/14/2012		---	---	---	---	4,366	5,277	2,262	30	356	1,404	928
06/15/2012		---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>1,277</b>	<b>0</b>	<b>0</b>	<b>71,162</b>	<b>115,953</b>	<b>40,664</b>	<b>863</b>	<b>13,759</b>	<b>46,271</b>	<b>15,506</b>
<b># Days:</b>		<b>0</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>106</b>	<b>0</b>	<b>0</b>	<b>5,083</b>	<b>8,282</b>	<b>2,905</b>	<b>66</b>	<b>1,966</b>	<b>3,305</b>	<b>1,108</b>
<b>YTD</b>		<b>2,722</b>	<b>20,045</b>	<b>2,065</b>	<b>2,311</b>	<b>3,525,618</b>	<b>1,466,529</b>	<b>598,578</b>	<b>16,636</b>	<b>539,410</b>	<b>2,824,147</b>	<b>286,547</b>

Two-Week Summary of Passage Indices

COMBINED SOCKEYE												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)	
06/01/2012	*	---	0	---	---	235	465	220	---	---	4,930	4,637
06/02/2012	*	---	0	---	---	199	750	317	31	9,222	2,871	5,228
06/03/2012	*	---	0	---	---	95	824	169	11	---	2,811	2,724
06/04/2012	*	---	0	---	---	94	932	604	4	4,308	1,948	2,752
06/05/2012	*	---	0	---	---	124	429	419	8	---	3,479	1,731
06/06/2012	*	---	---	---	---	381	306	205	5	3,323	2,605	1,800
06/07/2012	*	---	0	---	---	78	323	144	13	---	1,837	2,006
06/08/2012		---	0	---	---	75	169	91	0	2,224	1,399	1,027
06/09/2012	*	---	0	---	---	107	102	20	2	---	690	1,007
06/10/2012		---	0	---	---	0	132	18	2	1,276	1,084	829
06/11/2012	*	---	0	---	---	103	83	87	12	---	849	773
06/12/2012	*	---	0	---	---	0	0	100	6	846	784	355
06/13/2012	*	---	0	---	---	40	0	25	0	---	532	875
06/14/2012		---	---	---	---	0	39	3	0	119	621	523
06/15/2012		---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,531</b>	<b>4,554</b>	<b>2,422</b>	<b>94</b>	<b>21,318</b>	<b>26,440</b>	<b>26,267</b>
<b># Days:</b>		<b>0</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>109</b>	<b>325</b>	<b>173</b>	<b>7</b>	<b>3,045</b>	<b>1,889</b>	<b>1,876</b>
<b>YTD</b>		<b>5</b>	<b>0</b>	<b>0</b>	<b>475</b>	<b>43,227</b>	<b>36,637</b>	<b>18,049</b>	<b>46,655</b>	<b>1,127,507</b>	<b>838,804</b>	<b>771,553</b>

COMBINED LAMPREY JUVENILES												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR <sup>†</sup> (Coll)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)	
06/01/2012	*	---	0	---	---	25	25	0	---	---	2,100	75
06/02/2012	*	---	0	---	---	25	25	0	0	300	1,700	50
06/03/2012	*	---	0	---	---	0	25	0	0	---	1,533	72
06/04/2012	*	---	0	---	---	0	0	0	2	300	1,100	50
06/05/2012	*	---	0	---	---	0	50	50	0	---	1,200	150
06/06/2012	*	---	---	---	---	0	50	100	0	550	2,175	0
06/07/2012	*	---	0	---	---	0	100	0	0	---	1,125	100
06/08/2012		---	0	---	---	50	50	0	0	250	2,500	50
06/09/2012	*	---	0	---	---	0	0	250	1	---	4,350	25
06/10/2012		---	0	---	---	50	250	150	0	700	6,025	104
06/11/2012	*	---	0	---	---	0	50	100	0	---	3,155	129
06/12/2012	*	---	0	---	---	25	100	50	0	1,950	3,103	14
06/13/2012	*	---	0	---	---	0	100	200	0	---	2,600	118
06/14/2012		---	---	---	---	0	50	0	0	1,050	3,143	86
06/15/2012		---	---	---	---	---	---	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>175</b>	<b>875</b>	<b>900</b>	<b>3</b>	<b>5,100</b>	<b>35,809</b>	<b>1,023</b>
<b># Days:</b>		<b>0</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>63</b>	<b>64</b>	<b>0</b>	<b>729</b>	<b>2,558</b>	<b>73</b>
<b>YTD</b>		<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,290</b>	<b>5,049</b>	<b>1,688</b>	<b>87</b>	<b>74,830</b>	<b>285,646</b>	<b>27,994</b>

## Two-Week Summary of Passage Indices

\* 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, sockeye, and lamprey juveniles. Two classes of fish counts are shown in these tables:

Two classes of fish counts are shown in these tables:

Collection counts (Coll), which account for sample rates but are not adjusted for flow;

Passage indices (INDEX), 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.

Combined lamprey juvenile collection counts are provided for all sites. Combined lamprey juveniles is a combination of pacific lamprey ammocoetes, brook lamprey ammocoetes, unknown lamprey ammocoetes, pacific lamprey macrophthalmia, and unidentified lamprey species.

† Caution should be used with interpreting lamprey juvenile collection counts at LGR because of the possibility that lamprey may escape the sample tank before being sampled

### 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 =  $\text{Collection Counts} / \{ \text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill}) \}$

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

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

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

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

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

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

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

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

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

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

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

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

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

RIS data collected for the FPC by Chelan Co. PUD.

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.

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

### Two Week Transportation Summary

Source: Fish Passage Center

Updated:

6/15/12 9:49 AM

		06/01/12 TO 06/15/12						
		Species						
Site	Data	CH0	CH1	CO	ST	SO	Grand Total	
<b>LGR</b>	Sum of NumberCollected	273,175	8,431	1,875	45,342	1,050	329,873	
	Sum of NumberBarged	267,238	9,059	1,869	43,050	1,292	322,508	
	Sum of NumberBypassed	61	0	2	2,438	0	2,501	
	Sum of Numbertrucked	0	0	0	0	0	0	
	Sum of SampleMorts	66	0	1	3	3	73	
	Sum of FacilityMorts	1,034	16	3	30	5	1,088	
	Sum of ResearchMorts	0	4	0	2	0	6	
	Sum of TotalProjectMorts	1,100	20	4	35	8	1,167	
<b>LGS</b>	Sum of NumberCollected	237,681	14,489	3,965	70,116	3,045	329,296	
	Sum of NumberBarged	224,833	18,301	4,699	71,400	3,200	322,433	
	Sum of NumberBypassed	4	0	0	0	0	4	
	Sum of Numbertrucked	0	0	0	0	0	0	
	Sum of SampleMorts	12	1	0	3	0	16	
	Sum of FacilityMorts	169	27	1	40	0	237	
	Sum of ResearchMorts	0	0	0	0	0	0	
	Sum of TotalProjectMorts	181	28	1	43	0	253	
<b>LMN</b>	Sum of NumberCollected	90,670	10,298	1,654	24,920	1,689	129,231	
	Sum of NumberBarged	79,421	11,205	1,740	24,965	1,763	119,094	
	Sum of NumberBypassed	4,655	11	0	128	0	4,794	
	Sum of Numbertrucked	0	0	0	0	0	0	
	Sum of SampleMorts	21	0	0	2	1	24	
	Sum of FacilityMorts	145	9	0	33	3	190	
	Sum of ResearchMorts	0	0	0	0	0	0	
	Sum of TotalProjectMorts	166	9	0	35	4	214	
<b>MCN</b>	Sum of NumberCollected	31,376	31,880	11,975	6,854	11,402	93,487	
	Sum of NumberBarged	0	0	0	0	0	0	
	Sum of NumberBypassed	31,370	31,864	11,975	6,852	11,398	93,459	
	Sum of Numbertrucked	0	0	0	0	0	0	
	Sum of SampleMorts	2	6	0	0	2	10	
	Sum of FacilityMorts	4	10	0	2	2	18	
	Sum of ResearchMorts	0	0	0	0	0	0	
	Sum of TotalProjectMorts	6	16	0	2	4	28	
Total Sum of NumberCollected		632,902	65,098	19,469	147,232	17,186	881,887	
Total Sum of NumberBarged		571,492	38,565	8,308	139,415	6,255	764,035	
Total Sum of NumberBypassed		36,090	31,875	11,977	9,418	11,398	100,758	
Total Sum of Numbertrucked		0	0	0	0	0	0	
Total Sum of SampleMorts		101	7	1	8	6	123	
Total Sum of FacilityMorts		1,352	62	4	105	10	1,533	
Total Sum of ResearchMorts		0	4	0	2	0	6	
Total Sum of TotalProjectMorts		1,453	73	5	115	16	1,662	

### YTD Transportation Summary

Source: Fish Passage Center

Updated:

6/15/12 9:49 AM

TO: 06/15/12

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
<b>LGR</b>	Sum of NumberCollected	358,730	2,692,444	47,335	30,545	2,345,254	5,474,308
	Sum of NumberBarged	334,901	987,840	39,060	29,055	939,849	2,330,705
	Sum of NumberBypassed	11,373	1,702,758	8,165	1,422	1,403,278	3,126,996
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	86	177	2	9	57	331
	Sum of FacilityMorts	1,185	1,419	33	59	169	2,865
	Sum of ResearchMorts	0	75	0	0	31	106
	Sum of TotalProjectMorts	1,271	1,671	35	68	257	3,302
<b>LGS</b>	Sum of NumberCollected	248,949	1,493,843	52,641	25,389	955,670	2,776,492
	Sum of NumberBarged	233,574	1,104,600	50,898	24,674	665,305	2,079,051
	Sum of NumberBypassed	104	388,249	1,601	689	287,507	678,150
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	12	30	0	1	13	56
	Sum of FacilityMorts	173	705	2	5	147	1,032
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	185	735	2	6	160	1,088
<b>LMN</b>	Sum of NumberCollected	91,998	537,872	13,864	13,255	429,631	1,086,620
	Sum of NumberBarged	80,600	525,747	13,781	13,230	418,346	1,051,704
	Sum of NumberBypassed	4,663	11,563	19	13	9,783	26,041
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	21	59	0	3	34	117
	Sum of FacilityMorts	146	470	10	7	119	752
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	167	529	10	10	153	869
<b>MCN</b>	Sum of NumberCollected	92,297	1,036,417	72,075	552,439	246,536	1,999,764
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	92,280	1,036,242	72,075	552,365	246,510	1,999,472
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	13	43	0	27	10	93
	Sum of FacilityMorts	4	132	0	47	16	199
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	17	175	0	74	26	292
Total Sum of NumberCollected		791,974	5,760,576	185,915	621,628	3,977,091	11,337,184
Total Sum of NumberBarged		649,075	2,618,187	103,739	66,959	2,023,500	5,461,460
Total Sum of NumberBypassed		108,420	3,138,812	81,860	554,489	1,947,078	5,830,659
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		132	309	2	40	114	597
Total Sum of FacilityMorts		1,508	2,726	45	118	451	4,848
Total Sum of ResearchMorts		0	75	0	0	31	106
Total Sum of TotalProjectMorts		1,640	3,110	47	158	596	5,551



Cumulative Adult Passage at Mainstem Dams Through: 06/15

DAM	EndDate	Spring Chinook						Summer Chinook						Fall Chinook					
		2012		2011		10-Yr Avg.		2012		2011		10-Yr Avg.		2012		2011		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	06/14	158075	7591	167097	50945	152015	20110	25820	2344	35819	15092	27649	4951	0	0	0	0	0	0
TDA	06/14	117071	7173	124164	40146	112195	16495	15436	1338	19394	9276	18121	3013	0	0	0	0	0	0
JDA	06/14	107655	6755	103401	39823	94492	15370	10411	951	13908	7391	12284	2224	0	0	0	0	0	0
MCN	06/14	102763	4787	101245	31750	86252	13687	6752	314	9130	4642	7730	1427	0	0	0	0	0	0
IHR	06/14	71957	2905	69306	18161	60108	8392	2387	152	1969	614	2787	505	0	0	0	0	0	0
LMN	06/14	68608	2891	69832	18094	58469	7193	1438	43	688	306	856	124	0	0	0	0	0	0
LGS	06/14	66867	3383	66176	22816	53133	7999	0	0	0	0	0	0	0	0	0	0	0	0
LGR	06/14	63249	3340	57108	20303	51261	9045	0	0	0	0	0	0	0	0	0	0	0	0
PRD	06/12	18831	978	15012	5957	16306	1305	0	0	0	0	0	0	0	0	0	0	0	0
RIS	06/11	18204	767	12098	6829	13369	1934	0	0	0	0	0	0	0	0	0	0	0	0
RRH	06/11	6168	422	5879	2833	4972	704	0	0	0	0	0	0	0	0	0	0	0	0
WEL	06/13	4616	592	3270	2539	3161	604	0	0	0	0	0	0	0	0	0	0	0	0
WFA	06/13	24458	865	27443	810	40889	794	-	-	-	-	-	-	0	0	0	0	0	0

DAM	Coho						Sockeye			Steelhead					
	2012		2011		10-Yr Avg.		2012	2011	10-Yr Avg.	2012	2011	10-Yr Avg.	Wild 2012	Wild 2011	10-Yr Avg.
	Adult	Jack	Adult	Jack	Adult	Jack									
BON	0	0	0	0	0	0	26330	3278	7357	6204	5642	7249	1783	1763	1875
TDA	0	0	0	0	0	0	10769	1310	3768	1293	1693	2287	469	804	799
JDA	0	0	0	0	0	0	6812	584	2334	2215	2992	3574	1361	1783	1467
MCN	-1	0	0	0	0	0	2386	60	947	1971	2750	2658	1015	1590	1047
IHR	0	0	0	0	0	0	2	3	0	2515	3113	2766	1096	1214	957
LMN	0	0	0	0	0	0	-1	0	0	3706	3951	3226	1940	2194	1477
LGS	0	0	0	0	0	0	0	0	0	3950	6243	3373	2310	3342	1497
LGR	0	0	0	0	0	0	0	0	0	8943	12315	10024	3945	4082	3152
PRD	0	0	0	0	0	0	17	2	73	119	45	45	0	0	0
RIS	0	0	0	0	0	0	0	1	2	195	73	83	135	50	51
RRH	0	0	0	0	0	0	2	2	0	732	553	293	608	490	202
WEL	0	0	0	0	0	0	0	0	0	119	127	64	95	239	39
WFA	0	0	0	0	0	0	-	-	-	21515	18532	20478	-	-	-

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: 06/15/12

BON counts from January 1, 2012 to March 14, 2012 (historical counts begin March 15):

Year	Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
2012	12	1	1,471	497
2011	47	0	1,370	580

## 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>											
	06/07/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/14/12	Chinook + Steelhead	3	0	0	0.00%	0.00%	0	0	0	0
<b>Little Goose Dam</b>											
	06/04/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/11/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Lower Monumental Dam</b>											
	06/06/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	6/13/2012	Chinook + Steelhead	83	0	0	0%	0.00%	0	0	0	0
<b>McNary Dam</b>											
	06/01/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	06/03/12	Chinook + Steelhead	100	2	1	1.00%	0.00%	1	0	0	0
	06/07/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/11/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
<b>Bonneville Dam</b>											
	06/02/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	06/05/12	Chinook + Steelhead	25	0	0	0.00%	0.00%	0	0	0	0
	06/09/12	Chinook + Steelhead	29	0	0	0.00%	0.00%	0	0	0	0
<b>Rock Island Dam</b>											
	06/05/12	Chinook + Steelhead	52	3	3	5.77%	0.00%	3	0	0	0
	06/07/12	Chinook + Steelhead	42	0	0	0.00%	0.00%	0	0	0	0