Fish Passage Center

Weekly Report #12 - 11

May 25, 2012

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 24% and 111% of average at individual sub-basins over May. Precipitation above The Dalles has been 53% of average over May. Over the 2012 water year, precipitation has ranged between 84% and 111% of average.

Table 1. Summary of May precipitation and cumulative October through May 21, 2012 precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2012 May 1-21, 2012		Water Year 2012 October 1, 2011 to May 21, 2012	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	0.81	53	19.37	111
Snake River Above Ice Harbor	0.56	44	12.91	99
Columbia Above The Dalles	0.71	53	18.38	106
Kootenai	0.96	64	19.87	111
Clark Fork	0.55	39	12.59	108
Flathead	0.67	41	16.21	105
Pend Oreille/ Spokane	1.11	63	26.33	109
Central Washington	0.18	34	5.94	84
Snake River Plain	0.24	24	7.55	93
Salmon/Boise/ Payette	0.68	56	15.80	101
Clearwater	1.15	56	24.84	107
SW Washington Cascades/Cowlitz	2.85	111	61.79	101
Willamette Valley	2.05	86	55.91	106

Average snowpack in the Columbia River for basins above the Snake River confluence is 114% of average, for Snake River Basins the average snowpack is 38% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 92% of average.

Table 2 displays the April 5th and May 23rd Ensemble Streamflow Prediction (ESP) runoff volume forecasts for multiple reservoirs. The May 23rd forecast at The Dalles between January and July is 117329 Kaf (109% of average).

Table 2. April 5th and May 23rd ESP Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.

Location	April 5, 2012 ESP		May 23, 2012 ESP	
	% Average (1971 -2000)	Runoff Volume (Kaf)	% Average (1971 -2000)	Runoff Volume (Kaf)
The Dalles (Jan-July)	106	114135	109	117329
Grand Coulee (Jan-July)	110	69099	113	70970
Libby Res. Inflow, MT (Apr-Aug)	117	7312 6872*	117	7339 7155*
Hungry Horse Res. Inflow, MT (Jan-July)	103	2285	100	2231
Lower Granite Res. Inflow (Apr- July)	106	22825	102	21983
Brownlee Res. Inflow (Apr-July)	103	6512	89	5645
Dworshak Res. Inflow (Apr-July)	109	2874 2966*	115	3045 3226*

* Denotes COE Forecast

Grand Coulee Reservoir is at 1248.7 feet (5-24-12) and refilled 4.9 feet over the last week. Outflows at Grand Coulee have ranged between 178.0 and 200.2 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2415.3 feet (5-24-12) and has refilled 8.8 feet last week. Outflows at Libby Dam have ranged between 13.4-14.4 Kcfs last week.

Hungry Horse is currently at an elevation of 3542.6 feet (5-24-12) and has refilled 5.3 feet last week. Outflows at Hungry Horse have ranged between 6.0 and 6.5 Kcfs last week.

Dworshak is currently at an elevation of 1568.2 feet (5-24-12) and has refilled 12.5 feet last week. Outflows from Dworshak have been 2.3-7.8 Kcfs over the past week.

The Brownlee Reservoir was at an elevation of 2061.3 feet on May 22nd, 2012 refilling 5.6 feet last week. Over the last week, outflows at Brownlee have ranged between 13.0 and 18.9 Kcfs.

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 100 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 118.9 Kcfs over the last week and 115.6 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 10th) and 135 Kcfs at Priest Rapids Dam (began April 10th). Flows at McNary Dam have averaged 366.3 Kcfs over the last week and 343.6 Kcfs over the spring period. Flows at Priest Rapids Dam have averaged 239.1 Kcfs over the last week and 216.6 Kcfs over the spring period.

Spill:

Spill for fish passage began on April 3rd at the lower Snake River projects, and on April 10th at the lower Columbia River projects.

Snake River flows have increased over the past week. At Lower Granite Dam spill met, or exceeded, the Court Ordered 20 Kcfs, and has ranged from a daily average of 21 Kcfs to 48 Kcfs. At Little Goose Dam spill varied, and did not always meet the 30% of instantaneous flow level as specified in the Court Order. The curtailments occurred based on the TDG readings in the Lower Monumental Dam forebay. On several occasions over the past week, the forebay TDG measurements at the downstream project often exceeded tailrace measurements at the Little Goose tailrace, demonstrating the limitations of managing to the forebay TDG concentration. Total dissolved gas in the forebay is affected by localized processes at the face of the dam and, thus, is not always a measure of effects from spill at the upstream project. At Lower Monumental Dam the COE was operating with a bulk spill pattern, which tends to produce higher total dissolved gas than the uniform spill pattern. During this period, TDG exceedences at the Ice Harbor Forebay caused spill levels to be decreased. At Ice Harbor Dam the Court Order "test-like" conditions are in place and have been met.

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 10th. Flows have remained relatively high in the lower Columbia River. Spill at McNary Dam was in excess of the Court Order as a result of flows in excess of hydraulic capacity due to unit outages. Spill at John Day Dam changed to the test levels of 30%/30% versus 40%/40%. For the most part, spill test levels were not met at John Day at the 30% levels due to high flows and at 40% due to restricted spill caps. At The Dalles Dam, spill did not meet the 40% objective, and the COE decreased spill to as low as 30% based on TDG at the Bonneville forebay. Spill at Bonneville Dam exceeded the 100 Kcfs spill level due to river flows in excess of hydraulic capacity.

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 (5/24); 1% at Little Goose (5/21), 0% at Lower Monumental (5/23), 0% at McNary (5/24), 1% at Bonneville (5/23) and 0% at Rock Island (5/24). 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). This was the last week of collection activities at the Snake River and Grande Ronde River traps for the 2012 season. The Salmon River trap terminated collection activities on May 11th, due to high flows and debris. Only the Imnaha Trap will continue collecting juvenile salmonids for the 2012 season.

The passage indices for yearling Chinook and steelhead at BON decreased this week. The daily average passage index at BON for yearling Chinook this week was 64,577 per day compared to over 120,600 per day last week. The daily average passage index for steelhead at BON this week was 5,405 per day. Subyearling Chinook numbers increased this week, with a daily average passage index of 4,308 per day. Sockeye passage at BON deceased this week, with a daily average passage index of 15,533 per day. The daily average passage index for sockeye juveniles at BON last week was over 64,600 per day. On May 16th, operations at the second powerhouse were changed to the mid-range of the 1% efficiency range. This special operation stayed in place until the afternoon of May 21st. During this time, mortality rates for sockeye at BON were in the 0.0 to 4.3% range. On the afternoon of May 21st, operations at the second powerhouse went back to the upper range of the 1% efficiency range, which coincided to higher mortality for sockeye juveniles (7.0-9.2%). On the afternoon of May 23rd, per the request of the fish managers, operations of the second powerhouse were switched again to the mid-range of the 1% efficiency range. Since the afternoon of May 23rd, sockeye mortality in the sample has been 0.0%. This mid-range operation is expected to run through Tuesday, May 29th, when the fish managers will revisit sockeye passage and determine if there is a need to extend this special operation. The bulk of Snake River sockeye juveniles are expected to begin passing BON in the next few days. Compared to last week, the passage index of coho decreased this week. Finally, pacific lamprey macropthalmia continue to be the only lamprey juveniles collected at BON this week. The daily average collection for pacific lamprey macropthalmia this week was 137 per day, with a few days where no macropthalmia were collected.

Passage of yearling Chinook at John Day Dam continued to decrease this week. The daily average passage index for yearling Chinook at JDA for this week was 68,238 whereas last week's daily average passage index was 93,351 per day. Steelhead numbers at JDA also decreased this week. The daily average passage index for steelhead this week was 20,313, compared to 33,808 per day last week. Sockeye and subyearling Chinook passage at JDA also decreased this week. Coho passage at JDA continued to increase this week. The daily average passage index for coho at JDA this week was 10,281, compared to 7,667 per day last week. Both pacific lamprey macropthalmia and ammocoetes were collected at JDA this week. Yearling Chinook passage at MCN also decreased this week, compared to last week. The daily average passage index for yearling Chinook at MCN this week was 87,280, whereas that for last week was 145,452 per day. Passage of steelhead and sockeye also decreased this week. As with JDA, coho passage at MCN increased this week. The daily average passage index for coho at MCN was 9,971 this week, compared to 7,940 per day last week. Finally, passage of pacific lamprey macropthalmia decreased this week. Macropthalmia continue to be the only lamprey juveniles collected at MCN so far this year.

Yearling Chinook and steelhead passage at LGR continued to decrease this week. The daily average passage index for yearling Chinook at LGR this week was 36,730 per day, compared to 64,745 per day last week. This week's daily average passage index for steelhead at LGR was 47,250. The daily passage index for steelhead at LGR last week was 50,894. Sockeye passage at LGR increased this week. The daily average passage index for sockeye at LGR this week was 3,604 per day, compared to 2,184 per day last week. The increase in sockeye passage this week is partially due to the release of approximately 165,000 sockeye smolts into the Salmon River basin on May 10th. Passage of the sockeye juveniles peaked at LGR on May 18th. Coho passage at LGR also increased this week. Finally, no lamprey juveniles were sampled this week at LGR.

Yearling Chinook passage at LGS decreased this week. The daily average passage index for yearling Chinook at LGS this week was 44,785, compared to 60,871 per day last week. Compared to last week,

steelhead, coho, and subyearling Chinook, and sockeye passage all increased at LGS. Sockeye passage at LGS appears to have peaked on May 19th. Yearling Chinook passage at LMN also decreased this week. The daily average passage index for yearling Chinook at LMN this week was 24,448, compared to 27,493 per day last week. However, passage of steelhead, coho, subyearling Chinook, and sockeye at LMN all increased this week. Sockeye passage at LMN appears to have peaked on May 21st and 22nd. After nearly two weeks of no lamprey juveniles in the sample, LMN has collected pacific lamprey macropthalmia over the past three days. During this time, collection estimates have ranged from 20 to 125 per day.

Passage at RIS decreased for nearly all species this week, when compared to last week. Based on the passage index, coho continue to be the dominant species of salmonid passing RIS this week. The daily average passage index for coho at RIS this week was 1,479 per day. The daily passage index for coho last week was 2,949 per day. The only species what had an increase in passage this week, compared to last week, were subyearling Chinook. The daily average passage index for subyearling Chinook this week was 49 per day, compared to 25 per day last week. Very few lamprey juveniles were collected at RIS this week. However, all lamprey juveniles that were collected at RIS this week were pacific lamprey macropthalmia.

This was the last week of collection activities for the Grande Ronde River Trap. Collection activities at this trap were officially terminated on the afternoon of May 23rd. Yearling Chinook and steelhead collections at the Grande Ronde Trap both decreased this week. Yearling Chinook were the dominate species this week, with a daily average collection of 72 per day. The daily average collection for steelhead this week was 36 per day.

Due to high flows, collection activities at the Salmon River Trap were terminated on May 11th and never resumed. Trapping activities at the Snake River Trap continued this week, until the afternoon of May 23rd. During the last week of sampling, yearling Chinook were the dominant species at the Snake River trap this week, with a daily average collection of 420 per day. However, many of the yearling Chinook collected this week were likely large hatchery subyearling Chinook that were released from acclimation facilities above the Snake River Trap. Collection activities at the Snake River and Salmon River traps are finished for the 2012 season.

Over the past week of available data from the Imnaha River Trap, steelhead dominated the collection. The daily average collection for steelhead at this trap was 644 per day, which is a decrease from the previous week. Passage of yearling Chinook at this trap also appears to be decreasing. The daily average collection for yearling Chinook at the Imnaha Trap over the most recent week was 7 per day, whereas that for the previous week was 29 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. The only releases that were schedule for this zone this week were of subyearling fall Chinook. In all, about 2.8 million subyearling fall Chinook smolts were scheduled to be released this week. Of these, approximately 69% were scheduled for release into the Snake River while 18% and 13% were scheduled for release into the Clearwater and Grande Ronde rivers, respectively. Approximately 43% of the subyearling fall Chinook that were scheduled for release this week were unmarked.

In addition to the 2.8 million subyearling fall Chinook that were scheduled for release to this zone this week, about 1.55 million fall Chinook subyearlings are scheduled for release over the next two weeks. Of these, approximately 74% are scheduled for release into the Clearwater River and its tributaries and 26% are scheduled for release into the Snake River. Of the fall Chinook that are scheduled for release into the Snake River, approximately 50% will be released from Lyon's Ferry Hatchery, which is located below Little Goose Dam. These are the only releases 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. The only release of juvenile salmonids that was scheduled for this zone this week weeks is a release of about 80,000 summer steelhead to the Okanogan River. There are no new releases of juvenile salmonids planned for this zone 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. There was only one release of juvenile salmonids scheduled for this zone this week. From May 22nd to May 23rd, approximately 600,000 subyearling fall Chinook

juveniles were released into the Umatilla River. There is only one release of juvenile salmonids scheduled for this zone over the next two weeks. This is a release of approximately 3.3 million subyearling fall Chinook juveniles to the Klickitat River, which is scheduled to begin on or around June 1st.

Adult Fish Passage:

Adult counts at Bonneville Dam have been updated through May 24th. Daily adult spring Chinook counts at Bonneville Dam ranged from 960 to 3,118 adult salmon per day. As of May 24th, using the historical counting schedule, 147,506 spring Chinook have been counted at Bonneville Dam. In 2011, 159,997 adult spring Chinook were counted at Bonneville Dam for the same time period. The 2012 adult spring Chinook count at Bonneville Dam is 92.2% of the 2011 count and 1.04 times greater than the 10 year average of 142,363. The 2012 spring Chinook jack count of 6,792 is about 15.9% of the 2011 count of 42,781 and 38.1% of the 10 year average count of 17,823. At Willamette Falls Dam 17,792 adult spring Chinook has been counted so far this year. At The Dalles Dam, 104,630 adult spring Chinook have been counted and at McNary Dam 82,024 adult spring Chinook have been counted so far this season. The Dalles Dam 2012 adult spring Chinook count is 89.2% of the 2011 count, while being 1.04 times greater than the 10 year average count. The 2012 McNary Dam adult spring Chinook count is about 92.7% of the 2011 count, while being 1.13 times greater than the 10 year average count.

The Bonneville Dam 2012 steelhead count of 3,778 is about 1.10 times greater than the 2011 count of 3,423, while being about 97.4% of the 10 year average count of 3,877. The 2012 Bonneville wild adult steelhead count of 1,144 is the same as the 2011 count , while being about 1.10 times greater than the 10 year average count of 1,041. 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 2 to 18 adults per day last week. This year's Lower Granite steelhead count of 8,905 is about 72.6% of the 2011 count of 12,256 and 89.3% of the 10 year average of 9,967. The 2012 Lower Granite wild adult steelhead count of 3,919 is about 68.3% of the 2011 count of 5,741, while being about 1.25 times greater than the 10 year average count of 3,139. At Willamette Falls Dam, the 2012 count for steelhead was 14,147, as of May 23rd. This year's steelhead count is about 1.11 times greater than the 2011 count of 12,691, while being and about 94.6% of the 10 year average count of 14,953.

Hatchery Releases Last Two Weeks

Hatchery Release Summary
From: 5/11/2012 to 05/24/12

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
National Marine Fisheries Service	Lyons Ferry Hatchery	CH0	FA	2012	230,000	05-21-12	06-08-12	Couse Creek	Snake River
National Marine Fisheries Service Total					230,000				
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2012	400,000	05-20-12	05-23-12	Pittsburg Landing Acclim Pond	Snake River
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2012	500,000	05-20-12	05-23-12	Big Canyon (Clearwater River)	Clearwater River M F
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2012	500,000	05-20-12	05-23-12	Cpt John Acclim Pond	Snake River
Nez Perce Tribe Total					**1,400,000**				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	CH0	FA	2012	375,000	05-24-12	05-24-12	Grande Ronde River	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	CH0	FA	2012	800,000	05-22-12	05-24-12	Hells Canyon Dam	Snake River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	CH1	SP	2012	211,920	04-17-12	06-01-12	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife Total					**1,386,920**				
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2012	228,000	05-06-12	05-17-12	Yankee Fk (Salmon R)	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2012	230,000	05-06-12	05-17-12	Yankee Fk (Salmon R)	Salmon River (ID)
U.S. Fish and Wildlife Service Total					**458,000**				
Umatilla Tribe	Umatilla Hatchery	CH0	FA	2012	600,000	05-22-12	05-23-12	Umatilla River	Umatilla River
Umatilla Tribe Total					**600,000**				
Warm Springs Tribe	Oak Springs Hatchery	ST	WI	2012	25,000	04-29-12	05-13-12	Parkdale Acclim Pond	Hood River
Warm Springs Tribe Total					**25,000**				
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	CH1	SP	2012	298,000	05-11-12	05-20-12	Chiwawa Hatchery	Wenatchee River
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	ST	SU	2012	200,000	05-15-12	05-20-12	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SP	2012	150,000	05-15-12	05-15-12	White River	Wenatchee River
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	Lyons Ferry Hatchery	CH0	SP	2013	30,000	05-01-12	05-15-12	Tucannon River	Tucannon River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SU	2012	400,000	04-12-12	05-25-12	Carlton Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2012	90,000	04-15-12	05-15-12	Klickitat River	Klickitat River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH0	SU	2012	484,000	05-12-12	05-25-12	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2012	80,000	05-20-12	05-20-12	Okanogan River	Okanogan River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2012	200,000	04-20-12	05-20-12	Methow River	Methow River
Washington Dept. of Fish and Wildlife Total					**1,957,000**				
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	Cle Elem Hatchery	CH1	SP	2012	264,721	03-15-12	05-15-12	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2012	265,151	03-15-12	05-15-12	Easton Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2012	267,107	03-15-12	05-15-12	Jack Creek Acclim Pond	Yakima 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	Yakima River
Yakama Tribe	Wells Hatchery	CH1	FA	2012	345,000	05-14-12	05-14-12	Stiles 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
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
Yakama Tribe Total					**2,283,931**				
Grand Total					**8,340,851**				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 5/25/2012 to 6/7/2012

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
National Marine Fisheries Service	Lyons Ferry Hatchery	CH0	FA	2012	230,000	05-21-12	06-08-12	Couse Creek	Snake River
National Marine Fisheries Service Total					**230,000**				
Nez Perce Tribe	Clearwater Hatchery	CH0	FA	2012	250,000	05-30-12	05-30-12	Lapwai Creek	Clearwater River M F
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2012	200,000	06-02-12	06-15-12	Cedar Flats Acclim.	Selway River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2012	200,000	06-02-12	06-15-12	Lukes Gulch Acclim.	S Fk Clearwater River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2012	500,000	06-02-12	06-15-12	Nez Perce Tribal Hatchery	Clearwater River M F
Nez Perce Tribe Total					**1,150,000**				
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	CH1	SP	2012	211,920	04-17-12	06-01-12	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife Total					**211,920**				
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	Lyons Ferry Hatchery	CH0	FA	2012	200,000	06-01-12	06-01-12	Lyons Ferry Hatchery	Snake 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	Methow Hatchery	CH1	SU	2012	400,000	04-12-12	05-25-12	Carlton Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH0	SU	2012	484,000	05-12-12	05-25-12	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					**1,309,000**				
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	06-01-12	06-01-12	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
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
Yakama Tribe Total					**4,441,952**				
Grand Total					**7,342,872**				

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

Daily Average Flow and Spill (in kcfs) at Mid-Columbia Projects

	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/11/2012	182.3	0.0	188.6	75.8	217.6	56.8	213.3	54.2	213.6	33.2	240.0	116.6	237.6	99.8
05/12/2012	169.6	0.0	172.0	21.0	192.5	34.2	186.5	25.9	192.8	23.0	207.9	99.6	209.8	65.7
05/13/2012	172.3	0.0	164.9	17.4	186.7	27.4	179.8	6.7	186.1	22.3	194.7	69.9	194.3	88.8
05/14/2012	176.1	0.0	175.8	29.1	205.1	46.0	200.3	7.9	204.8	24.2	218.7	95.4	220.3	121.7
05/15/2012	162.2	0.0	166.0	30.4	204.1	60.4	204.9	61.5	212.5	26.0	212.2	91.2	211.9	84.6
05/16/2012	160.2	0.0	152.2	38.5	191.1	57.8	182.1	15.6	193.0	22.9	205.5	94.8	204.9	110.0
05/17/2012	178.0	0.0	179.5	70.5	213.2	81.6	207.7	30.6	216.2	26.7	227.1	116.2	228.2	113.3
05/18/2012	181.4	0.0	184.2	84.3	220.1	61.4	213.0	40.2	220.2	40.2	238.2	117.7	237.7	120.4
05/19/2012	194.9	0.0	203.3	79.6	233.2	72.8	227.8	29.8	226.3	43.1	238.0	111.2	236.5	143.7
05/20/2012	200.2	0.0	195.6	70.7	221.8	60.8	226.5	30.2	229.3	47.0	246.8	122.6	254.4	151.8
05/21/2012	198.7	0.0	198.6	93.8	228.1	66.4	221.9	38.7	225.9	43.1	243.7	119.8	244.0	132.5
05/22/2012	179.5	0.0	182.9	65.5	208.3	62.1	208.5	43.0	216.3	41.3	236.7	114.7	244.9	118.5
05/23/2012	178.0	0.0	173.9	72.5	201.7	55.3	195.0	22.2	203.2	30.1	217.3	101.2	218.3	122.3
05/24/2012	188.4	0.0	191.2	73.7	221.9	60.1	220.2	31.7	224.4	33.0	241.0	124.2	238.2	130.5

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

	Dworshak		Brownlee	Hells Canyon	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
Date	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/11/2012	8.0	0.0	29.1	26.0	101.4	20.1	97.4	29.2	102.0	26.0	103.3	30.8
05/12/2012	2.6	0.0	27.6	25.6	97.5	20.3	91.4	27.3	95.1	25.4	96.4	49.9
05/13/2012	2.7	0.0	28.7	25.1	95.1	20.2	92.8	27.7	96.0	25.2	97.8	65.5
05/14/2012	7.9	0.0	28.3	22.2	101.6	20.2	97.2	29.0	98.9	24.7	98.7	42.0
05/15/2012	7.9	0.0	28.9	19.2	107.2	20.5	101.7	30.3	105.4	24.5	106.5	32.0
05/16/2012	7.9	0.0	28.3	14.5	120.2	30.6	114.7	38.3	117.2	27.4	119.4	54.0
05/17/2012	7.9	0.6	28.7	15.5	133.8	48.4	127.5	46.6	131.5	43.7	132.9	74.5
05/18/2012	7.8	0.5	27.5	14.1	129.2	44.8	122.1	38.9	125.7	32.4	131.6	81.9
05/19/2012	2.4	0.0	26.4	16.5	112.4	32.0	104.8	34.5	108.9	28.6	110.3	69.0
05/20/2012	2.3	0.0	25.4	18.0	106.2	21.5	103.8	31.2	110.4	26.2	110.7	45.5
05/21/2012	5.6	0.0	23.9	20.9	106.9	21.3	100.4	29.1	102.1	24.9	105.4	33.6
05/22/2012	5.5	0.0	24.6	18.8	118.1	31.8	112.1	29.6	115.4	23.6	114.8	64.9
05/23/2012	5.5	0.5	24.8	19.2	137.7	47.4	130.2	38.8	135.4	35.1	139.4	84.3
05/24/2012	3.9	0.0	---	---	122.1	30.4	116.5	31.3	122.3	25.4	125.8	56.7

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

	McNary		John Day		The Dalles		Bonneville			
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
05/11/2012	353.2	177.5	362.2	132.6	347.7	110.7	353.6	120.1	94.3	126.8
05/12/2012	344.6	168.4	346.7	109.9	325.4	110.7	351.7	134.3	94.6	110.4
05/13/2012	298.3	123.2	313.9	99.2	298.2	99.7	330.0	116.3	94.5	106.9
05/14/2012	312.3	136.6	302.1	118.7	280.7	99.5	308.2	101.2	85.2	109.4
05/15/2012	337.9	162.5	327.2	128.1	313.6	95.2	336.5	124.0	85.2	114.9
05/16/2012	326.3	150.6	323.9	102.4	304.4	106.8	333.0	112.6	97.5	110.5
05/17/2012	345.1	168.7	345.6	126.9	329.0	139.3	347.1	113.0	119.8	101.9
05/18/2012	387.4	213.7	385.7	148.7	365.9	133.5	380.6	141.5	122.4	104.2
05/19/2012	361.1	186.2	376.8	140.4	364.8	134.7	391.2	155.5	119.5	103.8
05/20/2012	353.3	178.3	355.0	118.9	332.7	105.7	378.1	140.1	123.5	102.1
05/21/2012	362.7	192.0	357.1	121.0	339.6	98.5	373.2	143.5	109.5	107.9
05/22/2012	361.6	190.1	359.1	136.9	341.8	113.3	348.9	129.2	83.5	123.9
05/23/2012	370.6	197.1	369.7	140.9	352.5	149.5	378.2	148.3	101.3	116.2
05/24/2012	367.5	192.3	378.7	132.6	360.6	121.2	382.4	143.8	127.5	98.7

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

	Hungry H. Dnst				Boundary				Grand Coulee				Grand C. Tlwr				Chief Joseph			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/11	97.2	97.4	97.7	24	123.0	124.7	129.6	24	114.4	114.7	114.9	24	111.4	111.8	112.1	24	111.4	112.1	112.7	24
5/12	97.2	97.5	98.0	24	123.7	124.4	125.0	23	114.7	115.0	115.3	24	111.5	112.0	112.6	23	112.2	112.7	113.2	24
5/13	97.1	97.3	97.5	24	123.7	124.7	125.9	23	115.4	115.8	115.9	24	112.3	113.1	113.6	23	112.9	113.4	113.7	24
5/14	97.5	97.9	98.2	24	123.9	125.1	125.9	24	116.1	116.5	116.6	23	113.1	113.8	114.4	24	113.8	114.3	114.8	24
5/15	98.4	98.8	99.0	24	124.3	125.0	125.9	22	117.2	117.5	117.7	24	113.7	114.2	115.0	22	114.5	114.9	115.3	24
5/16	104.9	108.3	111.8	24	124.6	125.1	125.9	22	117.7	117.9	118.1	23	114.2	115.2	115.7	22	114.8	114.9	115.2	24
5/17	104.3	107.6	108.1	24	125.3	125.9	126.8	23	118.5	118.9	119.1	24	115.0	115.6	116.2	24	115.1	115.4	115.9	24
5/18	98.1	98.4	98.5	24	124.7	125.2	125.4	24	118.6	118.7	118.8	24	114.8	115.4	115.9	24	114.8	114.9	115.1	24
5/19	97.8	97.9	98.1	23	125.1	125.4	126.4	20	118.6	118.7	118.9	24	115.4	115.5	115.8	20	115.2	115.6	116.0	24
5/20	97.6	97.8	98.0	24	124.8	125.0	125.9	23	118.6	118.8	119.1	24	115.8	115.9	116.2	23	115.8	115.9	116.0	24
5/21	98.0	98.4	98.7	24	125.1	125.4	125.7	23	119.1	119.3	119.5	24	116.5	116.7	116.8	23	116.1	116.2	116.3	24
5/22	98.6	98.7	98.8	24	126.1	126.7	127.6	24	119.3	119.4	119.5	24	115.8	116.3	116.8	24	115.8	116.0	116.2	24
5/23	98.4	98.7	98.8	23	126.2	126.6	127.3	21	118.6	118.8	118.9	24	115.7	116.0	116.4	21	115.6	115.7	115.9	24
5/24	97.9	98.1	98.4	24	126.3	127.1	127.8	23	118.8	119.1	120.4	24	115.5	115.9	116.3	23	115.5	115.6	115.8	24

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

	Chief J. Dnst				Wells				Wells Dwnstrm				Rocky Reach				Rocky R. Tlwr			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/11	114.3	114.8	115.1	24	112.3	112.7	113.4	24	118.6	119.4	120.9	24	120.4	121.3	121.8	24	122.5	123.2	123.7	24
5/12	110.6	111.0	111.2	24	112.0	112.5	113.0	24	116.0	116.9	119.2	24	118.4	118.9	120.2	24	119.8	121.2	123.4	24
5/13	110.6	111.2	112.5	24	111.7	112.3	112.5	24	114.7	115.7	117.2	24	117.1	117.7	118.5	24	116.6	117.7	118.6	24
5/14	111.4	112.2	114.0	24	112.6	113.1	113.4	24	117.6	119.8	121.5	24	115.4	116.0	116.7	24	114.8	115.6	116.7	24
5/15	111.6	113.0	113.9	24	113.2	113.9	114.2	23	120.3	121.9	122.8	23	117.5	118.8	119.9	24	119.4	120.7	121.7	24
5/16	111.5	113.8	114.2	24	112.6	113.0	113.7	24	119.9	121.1	122.8	24	118.9	119.4	119.8	24	119.2	120.4	121.2	24
5/17	114.8	115.9	117.6	24	112.9	113.4	113.6	22	124.4	125.4	126.9	22	118.4	119.2	119.9	24	118.9	119.8	120.6	24
5/18	114.4	114.7	114.9	24	113.2	113.7	114.0	24	119.3	119.8	120.4	24	121.4	122.0	123.1	24	121.9	122.5	123.3	24
5/19	114.7	115.0	115.5	24	113.9	114.3	114.6	24	120.7	121.7	124.2	24	118.9	119.5	120.4	24	119.4	119.9	121.2	24
5/20	114.9	115.1	115.3	24	114.4	114.6	114.7	24	121.0	122.5	124.2	24	120.4	121.2	122.7	24	120.2	121.7	123.1	24
5/21	115.5	116.3	116.6	24	114.6	114.9	115.0	24	120.8	121.6	122.0	24	120.8	121.4	122.6	24	121.3	123.1	124.0	24
5/22	113.8	114.9	115.2	24	114.1	114.6	114.9	24	120.8	121.7	124.0	24	120.0	120.1	120.3	24	122.5	123.1	123.9	24
5/23	114.1	115.2	115.9	24	113.3	113.5	113.8	23	119.5	120.6	122.8	23	118.9	119.5	120.7	24	120.3	121.0	121.8	24
5/24	114.6	114.9	115.3	24	114.2	114.6	115.0	24	120.9	122.0	122.9	24	118.0	118.5	120.2	24	119.2	120.0	121.3	24

Total Dissolved Gas Saturation at Mid Columbia River Sites

	Rock Island				Rock I. Tlwr				Wanapum				Wanapum Tlwr				Priest Rapids			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/11	119.7	120.4	120.9	24	121.3	122.1	122.4	24	119.3	121.2	122.5	24	122.5	124.1	124.7	24	121.8	122.9	124.0	24
5/12	118.7	119.4	120.3	24	119.6	120.4	122.2	24	120.8	121.5	121.9	24	121.8	123.3	124.9	24	120.6	122.1	123.7	24
5/13	116.3	116.8	117.4	24	117.9	118.3	118.7	24	121.7	122.6	123.6	24	119.1	120.0	120.8	24	119.3	119.7	120.4	24
5/14	114.3	114.9	115.5	24	116.1	116.4	116.9	24	121.1	122.3	123.4	24	120.9	121.8	122.5	24	118.4	119.4	120.1	24
5/15	116.4	117.8	118.2	24	118.3	119.4	119.8	24	118.1	118.8	119.7	24	119.9	121.6	123.1	24	119.5	120.9	122.3	24
5/16	117.7	118.3	118.8	24	119.3	120.0	120.4	24	114.5	114.9	115.6	24	120.0	121.4	123.5	24	115.3	116.2	117.2	24
5/17	116.5	117.1	117.8	24	118.5	118.9	119.5	24	115.8	116.3	116.7	24	123.1	124.8	125.5	24	116.7	118.4	119.6	24
5/18	119.3	120.7	120.8	24	121.4	122.5	123.1	24	114.9	115.3	115.6	24	122.5	123.3	123.9	24	119.0	119.8	120.7	24
5/19	117.7	118.1	120.5	24	120.1	120.7	122.2	24	116.3	117.7	118.9	24	121.4	122.9	126.8	24	117.8	118.3	118.6	24
5/20	118.4	119.0	119.7	24	121.3	122.1	123.7	24	119.1	119.2	119.4	24	123.2	125.7	127.8	24	120.2	121.6	123.7	24
5/21	119.5	120.4	121.1	24	122.0	122.9	123.6	24	119.5	119.9	120.1	24	123.2	125.3	127.6	24	121.3	123.6	125.3	24
5/22	119.4	120.0	120.6	24	121.7	122.2	123.5	24	118.6	118.8	119.1	24	122.3	124.6	125.8	24	120.4	122.7	123.6	24
5/23	117.7	118.2	118.8	24	119.7	120.5	121.3	24	118.2	118.8	119.4	24	120.6	121.7	123.4	24	118.4	119.6	120.9	24
5/24	115.9	116.4	116.8	24	118.5	119.1	119.7	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

	Priest R. Dnst				Pasco				Dworshak				Clrwtr-Peck				Anatone			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/11	121.9	122.3	122.9	24	117.1	118.4	119.1	24	98.4	98.8	99.1	24	101.7	102.4	103.1	21	104.2	105.2	105.9	24
5/12	120.9	121.8	122.1	24	117.3	118.4	119.1	24	98.7	99.5	99.9	24	102.1	103.1	103.9	24	104.6	105.5	106.3	24
5/13	120.0	120.4	120.7	24	116.9	117.3	117.6	24	99.6	100.4	100.8	24	102.4	103.4	104.2	24	105.0	105.9	106.7	24
5/14	120.3	120.6	121.1	24	117.1	118.0	118.6	24	99.6	100.1	100.4	24	102.3	103.3	103.9	24	105.4	106.3	107.1	24
5/15	120.7	121.2	121.6	24	117.2	118.2	119.0	24	100.0	100.5	100.9	24	102.6	103.6	104.3	24	105.6	106.4	107.2	24
5/16	119.0	119.5	119.9	24	116.5	117.2	117.7	24	100.0	100.3	100.5	24	102.9	104.0	104.5	24	105.7	106.4	107.0	24
5/17	119.6	119.9	120.6	24	115.2	115.9	116.7	24	102.0	104.1	109.1	24	103.2	104.1	105.1	24	106.2	106.8	107.7	24
5/18	120.6	121.0	121.2	24	115.1	116.7	117.5	24	102.2	103.8	107.9	24	102.9	103.5	104.0	24	106.6	107.3	108.0	24
5/19	120.9	121.2	121.7	24	116.5	117.5	118.1	24	101.5	102.4	103.1	24	102.8	103.8	104.5	24	106.6	107.3	108.0	24
5/20	122.2	122.9	123.6	24	116.9	117.7	118.1	24	100.9	101.6	102.0	24	102.4	103.0	103.4	24	106.2	106.8	107.2	24
5/21	122.3	122.9	123.1	24	117.4	117.7	117.9	24	100.9	101.1	101.3	24	102.0	102.2	102.4	24	105.9	106.2	106.8	24
5/22	121.9	122.3	123.0	24	115.0	115.5	116.1	24	100.9	101.1	101.6	24	102.2	102.8	103.2	24	105.4	105.8	106.3	24
5/23	121.0	121.2	121.5	24	114.1	114.9	115.4	24	102.9	103.9	106.1	19	103.0	103.4	104.2	24	106.1	106.9	107.5	24
5/24	---	---	---	0	116.5	117.9	118.7	24	102.3	103.0	104.1	19	102.9	103.8	104.5	24	106.6	107.3	107.9	24

Total Dissolved Gas Saturation Data at Snake River Sites

	Clrwtr-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		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/11	101.3	102.5	103.5	22	102.1	102.3	102.5	24	110.3	110.6	111.3	24	111.5	112.4	113.5	24	114.2	114.8	115.2	24
5/12	102.0	103.3	104.3	22	102.9	103.4	103.6	24	110.1	110.6	111.4	24	113.2	113.9	114.3	24	114.0	114.6	115.1	24
5/13	102.3	103.6	104.7	24	104.2	104.7	104.9	24	110.3	110.8	111.4	24	109.6	110.1	111.3	24	113.1	113.5	113.7	24
5/14	102.3	103.4	104.4	24	105.4	105.9	106.3	24	110.6	111.0	111.7	24	109.4	110.0	110.6	24	113.2	113.8	114.6	24
5/15	102.3	103.3	104.1	24	105.9	106.1	106.4	24	111.2	111.5	112.9	24	110.5	111.0	111.8	24	113.9	114.4	115.3	24
5/16	102.3	103.1	103.6	24	105.8	105.9	106.0	24	114.5	115.4	118.4	24	111.1	111.5	111.8	24	116.0	116.9	117.7	24
5/17	102.4	102.9	103.4	24	105.5	105.7	105.9	24	118.7	119.3	120.8	24	110.0	110.3	110.9	24	117.9	119.8	120.7	24
5/18	102.7	103.4	103.9	24	104.5	104.7	105.3	24	117.7	118.6	118.8	24	110.5	111.7	113.0	24	116.2	116.9	118.1	24
5/19	102.6	103.6	104.3	24	104.6	105.0	105.7	24	113.9	117.2	118.6	24	113.8	114.3	114.9	24	115.8	117.0	118.6	24
5/20	102.5	103.1	103.6	24	105.8	106.0	106.1	24	111.1	111.8	113.0	24	115.0	115.5	116.1	24	115.4	116.0	116.4	24
5/21	102.0	102.4	102.9	24	106.5	106.7	107.0	24	111.1	111.6	112.7	24	115.4	116.4	116.7	24	114.3	115.1	116.2	24
5/22	101.6	102.1	102.5	24	105.8	106.0	106.1	24	114.8	116.6	117.4	24	109.5	110.0	111.3	24	113.0	113.1	113.3	24
5/23	102.4	102.9	103.3	24	104.4	104.6	105.1	24	118.1	118.3	118.6	24	107.6	108.0	108.4	24	115.2	117.5	118.4	24
5/24	102.8	103.6	104.4	24	104.4	104.8	105.3	24	114.2	116.7	117.3	24	109.4	110.7	111.9	24	114.1	114.4	114.5	24

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

	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		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/11	114.2	114.5	115.1	24	119.3	119.5	119.9	24	115.3	115.5	115.6	24	116.3	116.5	116.8	24	---	---	---	0
5/12	113.0	113.4	114.0	24	119.0	119.3	119.5	24	115.6	115.9	116.0	24	116.5	116.8	118.0	24	---	---	---	0
5/13	115.2	115.7	116.1	24	119.4	119.9	120.4	24	116.0	116.2	116.3	24	117.4	118.3	118.9	24	---	---	---	0
5/14	115.4	115.7	116.3	24	118.9	119.8	120.0	24	116.7	117.1	117.3	24	117.4	118.0	119.0	24	---	---	---	0
5/15	114.6	114.9	115.1	24	117.2	119.2	119.4	24	117.7	118.0	118.3	24	117.2	117.5	117.7	24	---	---	---	0
5/16	114.8	115.1	115.4	24	114.5	115.3	118.4	24	117.3	117.5	117.9	24	117.6	118.4	119.5	24	---	---	---	0
5/17	115.8	117.0	118.0	24	118.3	120.9	121.4	24	116.0	116.2	116.6	24	119.0	120.2	120.8	24	---	---	---	0
5/18	116.7	117.8	119.0	24	115.9	117.5	120.7	24	114.7	115.0	115.2	24	119.5	120.1	120.6	24	---	---	---	0
5/19	116.3	116.6	117.3	24	114.4	115.5	119.6	24	115.4	115.6	115.9	24	117.8	119.0	119.9	24	---	---	---	0
5/20	117.0	117.9	118.1	24	113.8	114.2	114.8	24	116.1	116.4	116.6	24	117.0	117.6	118.7	24	---	---	---	0
5/21	116.7	116.9	117.1	24	113.4	114.3	115.3	24	116.6	116.7	116.8	24	116.5	117.0	117.4	24	---	---	---	0
5/22	115.5	116.1	116.8	24	113.2	113.8	115.8	24	115.6	115.9	116.4	24	117.5	118.7	119.7	24	---	---	---	0
5/23	111.9	112.4	113.7	24	116.2	118.9	120.3	24	112.0	112.4	113.6	24	119.3	119.7	120.0	24	---	---	---	0
5/24	113.0	113.7	114.2	24	113.3	113.8	114.2	24	112.2	112.7	113.0	24	117.9	119.2	119.7	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

	McNary-Wash				McNary Tlwr				John Day				John Day Tlwr				The Dalles			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr
5/11	113.4	114.5	115.0	24	119.3	120.2	120.4	24	113.9	114.1	114.5	24	118.8	119.4	119.8	24	114.9	115.6	116.1	24
5/12	115.6	116.6	117.3	24	118.9	119.7	119.9	24	113.9	114.6	115.2	24	117.9	118.9	119.3	24	114.2	114.9	115.2	24
5/13	116.9	117.7	118.3	24	116.9	117.2	117.5	24	116.5	117.4	118.1	24	117.2	117.5	118.2	24	115.2	116.0	116.6	24
5/14	118.0	118.8	119.5	24	117.8	118.4	118.6	24	118.9	119.6	120.1	24	117.9	119.0	119.7	24	116.7	117.3	117.9	24
5/15	117.3	117.9	118.2	24	118.9	120.0	120.7	24	119.3	119.6	119.8	24	118.6	119.2	119.7	24	116.7	117.1	117.9	24
5/16	116.7	117.0	117.5	24	118.2	118.8	119.1	24	117.7	118.3	118.9	24	117.8	118.3	118.9	24	114.7	115.4	116.6	24
5/17	115.8	116.1	116.3	24	119.1	119.9	120.2	24	115.3	115.8	116.6	24	119.0	119.7	120.3	24	113.0	113.5	114.3	24
5/18	113.9	114.2	114.7	24	121.2	121.9	122.6	24	112.8	113.2	113.9	24	120.1	120.6	120.8	24	112.6	113.6	114.4	24
5/19	113.7	114.3	115.1	24	119.8	120.4	120.6	24	112.5	113.0	113.1	24	119.7	120.4	120.6	24	114.2	115.2	116.0	24
5/20	115.3	115.6	116.3	24	119.5	120.1	120.2	24	113.6	114.1	114.4	24	118.4	119.7	120.1	24	113.6	114.2	114.8	24
5/21	115.9	116.1	116.4	24	120.2	120.5	120.7	24	115.9	116.7	117.0	24	118.8	119.3	119.6	24	114.3	114.6	115.1	24
5/22	114.5	115.1	115.8	24	119.8	120.7	121.4	24	116.3	116.6	116.9	24	119.5	120.0	120.6	24	114.2	114.7	115.3	24
5/23	111.3	111.7	112.7	24	120.0	120.5	121.3	24	113.7	114.2	115.0	24	119.4	119.7	120.0	24	113.1	113.5	114.4	24
5/24	111.5	112.8	113.9	24	120.0	120.5	120.7	24	111.8	112.0	112.2	24	119.6	119.9	120.2	24	113.1	113.5	114.0	24

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

	The Dalles Dnst				Bonneville				Warrendale				Camas\Washougal				Cascade Island			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/11	117.6	118.2	118.9	24	118.7	119.0	119.2	24	119.0	119.6	120.3	24	117.2	118.0	118.7	24	---	---	---	0
5/12	117.3	117.5	117.6	24	117.1	117.9	118.4	24	118.5	119.3	119.5	24	116.3	117.0	117.8	24	---	---	---	0
5/13	117.6	118.2	118.6	24	117.4	118.0	118.6	24	118.3	118.8	119.5	24	117.7	118.7	119.9	24	---	---	---	0
5/14	118.9	119.2	119.6	24	117.9	118.3	118.7	24	117.9	118.0	118.1	24	117.4	118.5	119.5	24	---	---	---	0
5/15	118.3	118.8	119.3	24	115.7	116.8	117.5	24	117.5	117.9	118.4	24	116.8	117.9	118.7	24	---	---	---	0
5/16	117.6	118.1	118.4	24	113.7	114.3	114.6	24	115.5	116.1	116.8	24	115.4	116.1	116.7	24	---	---	---	0
5/17	118.8	121.0	122.4	24	112.9	113.3	113.6	24	114.5	114.6	114.8	24	113.5	114.5	115.4	24	---	---	---	0
5/18	117.2	118.6	120.6	24	113.3	114.8	116.1	24	115.7	116.8	118.1	24	113.9	115.3	116.0	24	---	---	---	0
5/19	118.5	119.2	120.4	24	115.7	116.5	118.3	24	118.2	118.6	119.2	24	117.4	118.8	119.7	24	---	---	---	0
5/20	116.8	117.4	117.8	24	118.3	118.7	119.2	24	119.4	119.8	120.1	24	118.1	119.2	120.0	24	---	---	---	0
5/21	116.8	117.1	117.3	24	116.3	116.7	117.3	24	118.4	118.7	119.1	24	117.9	118.2	118.6	24	---	---	---	0
5/22	117.4	118.0	118.7	24	113.4	113.9	115.0	24	116.1	116.4	117.1	24	114.6	115.6	116.3	24	---	---	---	0
5/23	119.0	120.4	121.3	24	113.6	114.9	116.2	24	116.5	116.9	117.6	24	113.6	114.6	115.0	24	---	---	---	0
5/24	116.6	117.1	117.6	24	116.7	117.5	118.3	24	118.3	118.6	119.3	24	116.9	117.9	118.8	24	---	---	---	0

Two-Week Summary of Passage Indices

				COMBINED YEARLING CHINOOK								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/11/2012	*	98	48	352	94	76,956	114,832	59,055	1,105	107,067	121,140	132,350
05/12/2012	*	---	28	224	105	58,292	87,282	27,723	747	---	101,602	152,162
05/13/2012	*	---	23	79	244	78,556	58,409	22,180	809	105,535	109,904	124,734
05/14/2012	*	---	21	86	167	58,574	46,035	23,011	714	---	90,016	100,050
05/15/2012	*	---	10	234	128	50,903	50,314	17,202	866	175,893	62,264	116,247
05/16/2012	*	---	8	315	307	50,758	33,162	15,326	855	---	74,765	123,519
05/17/2012	*	---	2	207	482	79,176	36,066	27,951	677	193,312	93,763	95,248
05/18/2012	*	---	4	183	815	100,319	54,584	31,205	456	---	96,198	102,070
05/19/2012	*	---	6	59	358	55,261	66,677	33,191	455	107,654	77,734	110,540
05/20/2012	*	---	6	28	106	32,463	56,762	19,658	601	---	54,790	75,693
05/21/2012		---	10	19	116	28,303	38,405	21,521	521	68,010	63,229	43,496
05/22/2012	*	---	11	30	789	12,798	33,928	29,692	418	---	66,005	39,513
05/23/2012		---	---	115	757	13,065	36,470	18,965	412	86,175	67,155	41,097
05/24/2012	*	---	---	---	0	14,902	26,670	16,906	239	---	52,557	39,629
05/25/2012		---	---	---	---	---	---	---	---	---	---	22,378
Total:		**98**	**177**	**1,931**	**4,468**	**710,326**	**739,596**	**363,586**	**8,875**	**843,646**	**1,131,122**	**1,318,726**
# Days:		**1**	**12**	**13**	**14**	**14**	**14**	**14**	**14**	**7**	**14**	**15**
Average:		**98**	**15**	**149**	**319**	**50,738**	**52,828**	**25,970**	**634**	**120,521**	**80,794**	**87,915**
YTD		**58,098**	**10,530**	**26,417**	**13,494**	**3,984,321**	**2,155,642**	**694,465**	**24,890**	**1,969,246**	**3,996,107**	**2,356,883**

				COMBINED SUBYEARLING CHINOOK								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/11/2012	*	0	0	0	5	627	0	0	23	3,988	1,413	387
05/12/2012	*	---	0	0	3	3,363	0	0	17	---	2,168	403
05/13/2012	*	---	0	0	10	7,084	0	0	21	3,048	1,382	1,115
05/14/2012	*	---	0	0	6	3,828	571	0	16	---	286	1,221
05/15/2012	*	---	0	1	3	1,862	429	32	15	1,811	620	0
05/16/2012	*	---	0	1	17	2,131	286	0	31	---	208	2,459
05/17/2012	*	---	0	2	16	1,156	152	28	52	2,658	494	1,766
05/18/2012	*	---	0	5	60	2,166	323	58	54	---	117	2,433
05/19/2012	*	---	0	3	52	1,717	148	80	58	3,627	246	3,158
05/20/2012	*	---	0	1	16	770	1,432	81	41	---	307	3,355
05/21/2012		---	0	3	14	2,013	859	107	32	7,073	466	5,147
05/22/2012	*	---	0	9	44	3,134	564	51	44	---	474	5,681
05/23/2012		---	---	5	64	2,919	1,130	198	72	2,411	482	6,318
05/24/2012	*	---	---	---	0	824	544	159	41	---	444	4,059
05/25/2012		---	---	---	---	---	---	---	---	---	---	5,787
Total:		**0**	**0**	**30**	**310**	**33,594**	**6,438**	**794**	**517**	**24,616**	**9,107**	**43,289**
# Days:		**1**	**12**	**13**	**14**	**14**	**14**	**14**	**14**	**7**	**14**	**15**
Average:		**0**	**0**	**2**	**22**	**2,400**	**460**	**57**	**37**	**3,517**	**651**	**2,886**
YTD		**0**	**2**	**67**	**327**	**57,351**	**8,097**	**804**	**810**	**124,242**	**19,094**	**2,319,586**

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)
05/11/2012	*	0	0	0	2	3,009	2,856	436	3,547	3,988	4,229	18,962
05/12/2012	*	---	0	0	0	1,495	858	201	3,036	---	7,886	16,504
05/13/2012	*	---	0	0	2	1,138	1,145	240	2,806	6,095	11,473	14,911
05/14/2012	*	---	0	0	0	1,021	285	545	2,409	---	4,798	23,590
05/15/2012	*	---	0	0	3	1,117	858	419	3,413	7,245	5,199	22,604
05/16/2012	*	---	0	0	3	2,883	3,430	384	3,102	---	10,016	30,612
05/17/2012	*	---	0	0	8	4,623	2,586	519	2,329	14,431	10,069	29,546
05/18/2012	*	---	0	0	7	9,745	4,356	591	2,290	---	11,612	30,138
05/19/2012	*	---	0	0	1	5,620	6,221	1,591	1,575	14,053	17,375	28,424
05/20/2012	*	---	0	0	0	2,438	5,441	730	1,689	---	7,174	13,631
05/21/2012		---	0	0	0	2,516	3,436	854	1,280	6,657	4,721	12,204
05/22/2012	*	---	0	0	1	2,220	2,819	1,355	1,184	---	9,584	9,452
05/23/2012		---	---	0	0	1,529	5,087	1,055	1,592	9,204	10,112	6,598
05/24/2012	*	---	---	---	0	1,722	4,625	478	739	---	11,391	5,504
05/25/2012		---	---	---	---	---	---	---	---	---	---	4,244
Total:		**0**	**0**	**0**	**27**	**41,076**	**44,003**	**9,398**	**30,991**	**61,673**	**125,639**	**266,924**
# Days:		**1**	**12**	**13**	**14**	**14**	**14**	**14**	**14**	**7**	**14**	**15**
Average:		**0**	**0**	**0**	**2**	**2,934**	**3,143**	**671**	**2,214**	**8,810**	**8,974**	**17,795**
YTD		**0**	**0**	**0**	**80**	**61,166**	**59,777**	**12,539**	**38,471**	**83,619**	**177,781**	**447,695**

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)
05/11/2012	*	172	867	82	51	53,954	42,561	30,161	681	13,983	50,534	13,545
05/12/2012	*	---	691	61	30	42,598	39,776	17,614	467	---	35,669	5,636
05/13/2012	*	---	767	18	58	65,653	26,050	27,982	376	9,524	36,526	8,478
05/14/2012	*	---	941	24	27	53,980	19,196	29,557	393	---	40,327	6,508
05/15/2012	*	---	1,102	44	49	42,212	30,159	18,265	410	9,077	28,711	8,072
05/16/2012	*	---	1,394	75	59	40,356	26,302	17,009	537	---	22,126	11,773
05/17/2012	*	---	962	90	81	57,504	32,254	20,009	481	19,748	22,758	8,381
05/18/2012	*	---	651	57	148	68,439	39,052	25,797	431	---	22,702	9,234
05/19/2012	*	---	300	25	15	50,578	70,203	30,870	436	20,429	28,491	8,950
05/20/2012	*	---	286	17	49	53,121	46,679	28,305	405	---	27,438	2,897
05/21/2012		---	304	19	28	48,681	30,930	36,968	435	7,505	17,416	3,406
05/22/2012	*	---	614	14	31	32,517	26,556	20,400	210	---	15,456	4,494
05/23/2012		---	---	85	31	32,106	36,458	19,274	215	7,015	13,685	5,200
05/24/2012	*	---	---	---	3	45,304	23,673	13,500	158	---	17,002	3,646
05/25/2012		---	---	---	---	---	---	---	---	---	---	1,543
Total:		**172**	**8,879**	**611**	**660**	**687,003**	**489,849**	**335,711**	**5,635**	**87,281**	**378,841**	**101,763**
# Days:		**1**	**12**	**13**	**14**	**14**	**14**	**14**	**14**	**7**	**14**	**15**
Average:		**172**	**740**	**47**	**47**	**49,072**	**34,989**	**23,979**	**403**	**12,469**	**27,060**	**6,784**
YTD		**2,722**	**16,254**	**2,065**	**2,311**	**3,371,197**	**1,227,843**	**500,931**	**14,558**	**511,155**	**2,714,063**	**259,513**

Two-Week Summary of Passage Indices

				COMBINED SOCKEYE								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
05/11/2012	*	0	0	0	5	1,003	286	517	4,147	211,377	33,897	55,338
05/12/2012	*	---	0	0	1	747	286	201	3,103	---	38,141	55,150
05/13/2012	*	---	0	0	6	1,518	286	275	2,920	76,205	36,443	70,663
05/14/2012	*	---	0	0	1	383	571	307	1,916	---	20,103	89,476
05/15/2012	*	---	0	0	81	124	1,143	354	1,317	82,242	15,389	91,626
05/16/2012	*	---	0	0	130	627	1,429	397	1,187	---	27,847	53,803
05/17/2012	*	---	0	0	66	1,300	761	154	778	113,554	33,120	36,158
05/18/2012	*	---	0	0	28	8,043	968	245	685	---	34,894	32,081
05/19/2012	*	---	0	0	4	5,464	3,999	663	450	41,710	25,782	24,739
05/20/2012	*	---	0	0	5	3,208	2,005	986	640	---	11,903	13,558
05/21/2012		---	0	0	4	2,767	1,718	1,856	777	22,882	15,998	7,892
05/22/2012	*	---	0	0	1	2,481	2,255	1,713	436	---	14,200	8,987
05/23/2012		---	---	0	3	2,363	4,239	1,516	435	19,947	15,472	13,699
05/24/2012	*	---	---	---	1	899	2,721	1,019	257	---	13,827	7,774
05/25/2012		---	---	---	---	---	---	---	---	---	---	5,402
Total:		**0**	**0**	**0**	**336**	**30,927**	**22,667**	**10,203**	**19,048**	**567,917**	**337,016**	**566,346**
# Days:		**1**	**12**	**13**	**14**	**14**	**14**	**14**	**14**	**7**	**14**	**15**
Average:		**0**	**0**	**0**	**24**	**2,209**	**1,619**	**729**	**1,361**	**81,131**	**24,073**	**37,756**
YTD		**5**	**0**	**0**	**475**	**38,023**	**25,770**	**12,376**	**45,672**	**1,048,883**	**760,909**	**721,742**

				COMBINED LAMPREY JUVENILES								
		WTB	IMN	GRN	LEW	LGR†	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)
05/11/2012	*	0	0	0	0	0	0	0	0	2,200	2,029	286
05/12/2012	*	---	0	0	0	0	0	0	0	---	1,600	286
05/13/2012	*	---	0	0	0	0	0	0	0	2,000	880	0
05/14/2012	*	---	0	0	0	0	0	0	0	---	750	286
05/15/2012	*	---	0	0	0	0	0	0	0	2,200	804	286
05/16/2012	*	---	0	0	0	0	200	0	1	---	1,001	100
05/17/2012	*	---	0	0	0	0	0	0	0	1,000	938	0
05/18/2012	*	---	0	0	0	0	0	0	0	---	1,000	0
05/19/2012	*	---	0	0	0	0	0	0	1	1,000	1,586	429
05/20/2012	*	---	0	0	0	0	0	0	2	---	1,350	0
05/21/2012		---	0	0	0	0	0	0	0	1,000	944	200
05/22/2012	*	---	0	0	0	0	200	20	0	---	2,454	0
05/23/2012		---	---	0	0	0	0	100	0	300	4,788	300
05/24/2012	*	---	---	---	0	0	200	125	0	---	5,786	30
05/25/2012		---	---	---	---	---	---	---	---	---	---	50
Total:		**0**	**0**	**0**	**0**	**0**	**600**	**245**	**4**	**9,700**	**25,910**	**2,253**
# Days:		**1**	**12**	**13**	**14**	**14**	**14**	**14**	**14**	**7**	**14**	**15**
Average:		**0**	**0**	**0**	**0**	**0**	**43**	**18**	**0**	**1,386**	**1,851**	**150**
YTD		**6**	**0**	**0**	**0**	**6,115**	**3,941**	**298**	**83**	**63,030**	**221,931**	**26,047**

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 macropthalmia, 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 = 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: 5/25/12 10:48 AM

05/11/12 TO 05/25/12

		Species					
Site	Data	**CH0**	**CH1**	CO	ST	SO	**Grand Total**
LGR	Sum of NumberCollected	25,550	529,677	29,450	512,423	22,000	1,119,100
	Sum of NumberBarged	25,455	523,543	29,429	499,754	21,957	1,100,138
	Sum of NumberBypassed	3	5,624	0	12,600	1	18,228
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	7	29	0	17	3	56
	Sum of FacilityMorts	85	455	21	38	39	638
	Sum of ResearchMorts	0	26	0	14	0	40
	Sum of TotalProjectMorts	92	510	21	69	42	734
LGS	Sum of NumberCollected	4,500	511,387	30,400	337,809	15,800	899,896
	Sum of NumberBarged	4,495	511,163	30,400	337,745	15,800	899,603
	Sum of NumberBypassed	5	0	0	0	0	5
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	8	0	4	0	12
	Sum of FacilityMorts	0	216	0	60	0	276
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	224	0	64	0	288
LMN	Sum of NumberCollected	600	270,219	7,055	249,650	7,720	535,244
	Sum of NumberBarged	600	266,502	7,046	245,909	7,719	527,776
	Sum of NumberBypassed	0	3,472	0	3,661	0	7,133
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	25	0	13	0	38
	Sum of FacilityMorts	0	220	9	67	1	297
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	245	9	80	1	335
MCN	Sum of NumberCollected	12,100	427,523	30,400	43,245	289,718	802,986
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	12,098	427,446	30,400	43,238	289,689	802,871
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	2	14	0	1	10	27
	Sum of FacilityMorts	0	63	0	6	19	88
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2	77	0	7	29	115
Total Sum of NumberCollected		42,750	1,738,806	97,305	1,143,127	335,238	3,357,226
Total Sum of NumberBarged		30,550	1,301,208	66,875	1,083,408	45,476	2,527,517
Total Sum of NumberBypassed		12,106	436,542	30,400	59,499	289,690	828,237
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		9	76	0	35	13	133
Total Sum of FacilityMorts		85	954	30	171	59	1,299
Total Sum of ResearchMorts		0	26	0	14	0	40
Total Sum of TotalProjectMorts		94	1,056	30	220	72	1,472

YTD Transportation Summary

Source: Fish Passage Center Updated: 5/25/12 10:48 AM

TO: 05/25/12

		Species					
Site	Data	**CH0**	**CH1**	CO	SO	ST	**Grand Total**
LGR	Sum of NumberCollected	40,730	2,650,518	41,485	26,695	2,236,232	4,995,660
	Sum of NumberBarged	29,329	947,148	33,295	25,219	838,788	1,873,779
	Sum of NumberBypassed	11,305	1,701,756	8,163	1,422	1,397,255	3,119,901
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	8	174	1	5	50	238
	Sum of FacilityMorts	88	1,380	26	49	114	1,657
	Sum of ResearchMorts	0	60	0	0	25	85
	Sum of TotalProjectMorts	96	1,614	27	54	189	1,980
LGS	Sum of NumberCollected	5,592	1,422,269	40,401	17,894	798,413	2,284,569
	Sum of NumberBarged	5,492	1,033,374	38,799	17,199	510,806	1,605,670
	Sum of NumberBypassed	98	388,249	1,601	689	287,507	678,144
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	25	0	1	7	33
	Sum of FacilityMorts	2	621	1	5	93	722
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2	646	1	6	100	755
LMN	Sum of NumberCollected	608	500,693	9,239	9,256	364,488	884,284
	Sum of NumberBarged	600	488,875	9,210	9,238	355,012	862,935
	Sum of NumberBypassed	8	11,311	19	13	9,365	20,716
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	59	0	2	29	90
	Sum of FacilityMorts	0	448	10	3	82	543
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	507	10	5	111	633
MCN	Sum of NumberCollected	56,121	933,132	40,300	509,734	231,963	1,771,250
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	56,110	932,997	40,300	509,669	231,943	1,771,019
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	11	35	0	23	9	78
	Sum of FacilityMorts	0	100	0	42	11	153
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	11	135	0	65	20	231
Total Sum of NumberCollected		103,051	5,506,612	131,425	563,579	3,631,096	9,935,763
Total Sum of NumberBarged		35,421	2,469,397	81,304	51,656	1,704,606	4,342,384
Total Sum of NumberBypassed		67,521	3,034,313	50,083	511,793	1,926,070	5,589,780
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		19	293	1	31	95	439
Total Sum of FacilityMorts		90	2,549	37	99	300	3,075
Total Sum of ResearchMorts		0	60	0	0	25	85
Total Sum of TotalProjectMorts		109	2,902	38	130	420	3,599

Cumulative Adult Passage at Mainstem Dams Through: 05/25

		Spring Chinook						Summer Chinook						Fall Chinook					
		2012		2011		10-Yr Avg.		2012		2011		10-Yr Avg.		2012		2011		10-Yr Avg.	
DAM	EndDate	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	**05/24**	**147506**	**6792**	**159997**	**42781**	**142363**	**17823**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TDA	**05/24**	**104630**	**6081**	**117225**	**30716**	**100630**	**13701**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
JDA	**05/24**	**91790**	**5339**	**95193**	**27883**	**83337**	**12256**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
MCN	**05/24**	**82024**	**3430**	**88427**	**18619**	**72239**	**9599**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IHR	**05/24**	**53989**	**1758**	**58986**	**8597**	**48076**	**5414**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LMN	**05/24**	**50048**	**1572**	**54287**	**6947**	**43629**	**3754**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LGS	**05/24**	**46566**	**1731**	**41134**	**6559**	**36709**	**3634**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LGR	**05/24**	**40439**	**1494**	**34718**	**4810**	**34622**	**3774**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PRD	**05/22**	**10658**	**245**	**9631**	**1099**	**12388**	**412**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
RIS	**05/21**	**6268**	**82**	**5623**	**432**	**8832**	**397**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
RRH	**05/21**	**1579**	**36**	**1712**	**89**	**2860**	**78**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
WEL	**05/23**	**827**	**45**	**1049**	**162**	**1661**	**65**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
WFA	**05/23**	**17792**	**540**	**17075**	**399**	**32072**	**476**	**-**	**-**	**-**	**-**	**-**	**-**	**0**	**0**	**0**	**0**	**0**	**0**

	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.
DAM	Adult	Jack	Adult	Jack	Adult	Jack									
BON	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**7**	**0**	**3778**	**3423**	**3877**	**1144**	**1144**	**1041**
TDA	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**797**	**1395**	**1437**	**374**	**746**	**598**
JDA	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1848**	**2756**	**2822**	**1222**	**1737**	**1323**
MCN	**-1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1704**	**2590**	**2222**	**980**	**1579**	**987**
IHR	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2350**	**3046**	**2636**	**1074**	**1202**	**951**
LMN	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3576**	**3842**	**3101**	**1914**	**2170**	**1462**
LGS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3911**	**6178**	**3309**	**2298**	**3308**	**1488**
LGR	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8905**	**12256**	**9967**	**3919**	**5741**	**3139**
PRD	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**82**	**40**	**26**	**0**	**0**	**0**
RIS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**145**	**66**	**64**	**98**	**44**	**40**
RRH	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**668**	**500**	**263**	**562**	**445**	**185**
WEL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**90**	**109**	**55**	**71**	**81**	**36**
WFA	**0**	**0**	**0**	**0**	**0**	**0**	**-**	**-**	**-**	**14147**	**12691**	**14953**	**-**	**-**	**-**

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: 05/25/12

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
Lower Granite Dam											
	05/17/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/24/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Little Goose Dam											
	05/14/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/21/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
Lower Monumental Dam											
	05/16/12	Chinook + Steelhead	101	0	0	0.00%	0.00%	0	0	0	0
	05/23/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	05/14/12	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0
	05/18/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/20/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/24/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	05/12/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/15/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/19/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/23/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
Rock Island Dam											
	05/15/12	Chinook + Steelhead	100	2	1	1.00%	0.00%	1	0	0	0
	05/17/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/22/12	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0
	05/24/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0