



Fish Passage Center

Weekly Report #12 - 12

June 1, 2012

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Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin has varied between 48% and 130% of average at individual sub-basins over May. Precipitation above The Dalles has been 79% 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 28, 2012 precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2012 May 1-28, 2012		Water Year 2012 October 1, 2011 to May 28, 2012	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	1.39	69	19.96	111
Snake River Above Ice Harbor	1.43	84	13.78	102
Columbia Above The Dalles	1.40	79	19.08	108
Kootenai	1.23	61	20.13	110
Clark Fork	1.43	77	13.47	111
Flathead	1.73	78	17.26	108
Pend Oreille/ Spokane	2.05	87	27.27	110
Central Washington	0.33	48	6.10	84
Snake River Plain	1.07	80	8.38	99
Salmon/Boise/ Payette	1.26	78	16.38	102
Clearwater	2.93	107	26.62	111
SW Washington Cascades/Cowlitz	4.44	130	63.38	102
Willamette Valley	3.70	116	57.57	108

Average snowpack in the Columbia River for basins above the Snake River confluence is 126% of average, for Snake River Basins the average snowpack is 48% 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 29th Ensemble Streamflow Prediction (ESP) runoff volume forecasts for multiple reservoirs. The May 29th forecast at The Dalles between January and July is 117,424 Kaf (109% of average).

Table 2. April 5th and May 29th ESP Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.

Location	April 5, 2012 ESP		May 29, 2012 ESP	
	% Average (1971 -2000)	Runoff Volume (Kaf)	% Average (1971 -2000)	Runoff Volume (Kaf)
The Dalles (Jan-July)	106	114135	109	117424
Grand Coulee (Jan-July)	110	69099	113	71280
Libby Res. Inflow, MT (Apr-Aug)	117	7312 6872*	117	7281 7155*
Hungry Horse Res. Inflow, MT (Jan-July)	103	2285	103	2290
Lower Granite Res. Inflow (Apr- July)	106	22825	99	21410
Brownlee Res. Inflow (Apr-July)	103	6512	84	5275
Dworshak Res. Inflow (Apr-July)	109	2874 2966*	114	3024 3226*

* Denotes COE Forecast

Grand Coulee Reservoir is at 1253.8 feet (5-30-12) and refilled 5.1 feet over the last week. Outflows at Grand Coulee have ranged between 156.2 and 195.8 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2419.9 feet (5-30-12) and has refilled 4.6 feet last week. Outflows at Libby Dam have ranged between 13.4-20.0 Kcfs last week.

Hungry Horse is currently at an elevation of 3544.2 feet (5-30-12) and has refilled 1.6 feet last week. Outflows at Hungry Horse have been 6.4 Kcfs last week.

Dworshak is currently at an elevation of 1577.2 feet (5-30-12) and has refilled 9.0 feet last week. Outflows from Dworshak have been 2.2-4.4 Kcfs over the past week.

The Brownlee Reservoir was at an elevation of 2066.1 feet on May 28th, 2012 refilling 3.2 feet last week. Over the last week, outflows at Brownlee have ranged between 10.6 and 19.2 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 92.8 Kcfs over the last week and 112.8 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 326.8 Kcfs over the last week and 340.8 Kcfs over the spring period. Flows at Priest Rapids Dam have averaged 223.9 Kcfs over the last week and 217.2 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 decreased over the past week. At Lower Granite Dam spill met the Court Ordered 20 Kcfs. At Little Goose Dam spill met the 30% of instantaneous flow level as specified in the Court Order. 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 and then slowly increased again. Spill ranged from 25 Kcfs to 28 Kcfs. 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 were relatively high in the lower Columbia River at the beginning of the week and decreased towards the latter part of the 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. Spill at John Day Dam changed to the test levels of 30%/30% versus 40%/40%. For the most part, spill test levels were met at John Day at the 30% levels, but did not always meet the 40% level. At The Dalles Dam, spill did not always meet the 40% objective, and the COE decreased spill to as low as 32% 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 early in the week, spilled just below the 100 Kcfs for four days, after which the spill was decreased based on the TDG at the Camas/Washougal monitor, which is not a required point of compliance.

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 (5/31); 0% at Little Goose (5/28), 0% at Lower Monumental (5/30), 0% at McNary (5/30), 1% at Bonneville (5/29) and 2.4% at Rock Island (5/31). 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 18,900 per day compared to over 64,000 per day last week. The daily average passage index for steelhead at BON this week was 1,900 per day. Subyearling Chinook numbers increased this week, with a daily average passage index of 6,000 per day. Sockeye passage at BON decreased this week, with a daily average passage index of 4,100 per day. The daily average passage index for sockeye juveniles at BON last week was 15,500 per day. Based on PIT-tag detection data it appears the Snake River sockeye juveniles have been passing BON over the past week. Operation of the second powerhouse was continued through Tuesday, May 29th, at the mid-range (50%) of the 1% efficiency range, to address the mortality imposed on the juvenile sockeye passing the powerhouse. While sockeye mortality decreased due to this operation, the descaling rates on sockeye remained very high. Consequently, on May 29th the salmon managers submitted an SOR requesting that the project operate at the low end (25%) of the 1% efficiency range. The Actions Agencies denied the request, but agreed to continue the operation they were implementing until June 4th, when there will be a review of the sockeye passage conditions by the salmon managers. Compared to last week, the passage index of coho decreased again this week. Finally, pacific lamprey macrophthalmia continue to be the primary lamprey juveniles collected at BON this week. One pacific ammocoete was sampled on May 25. The daily average collection for pacific lamprey this week was 139 per day.

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 28,000 whereas last week's daily average passage index was 68,000 per day. Steelhead numbers at JDA also decreased this week. The daily average passage index for steelhead this week was 9,100,

compared to 20,300 per day last week. Sockeye and coho passage at JDA also decreased this week. Subyearling Chinook passage at JDA increased this week. The daily average passage index for subyearling Chinook at JDA this week was 560, compared to 360 per day last week. Primary pacific lamprey macrophthalmia were collected at JDA this week, with over 130 per day on average in the sample, and only one or two ammocoete collected per day.

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 34,500, whereas that for last week was 87,000 per day. Passage of subyearling Chinook, steelhead, coho, and sockeye also decreased this week. Passage of pacific lamprey macrophthalmia increased this week. Macrophthalmia 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 6,200 per day, compared to 37,000 per day last week. This week's daily average passage index for steelhead at LGR was 11,900. The daily passage index for steelhead at LGR last week was 47,250. Sockeye passage at LGR decreased this week. The daily average passage index for sockeye at LGR this week was 525 per day, compared to 3,604 per day last week. Passage of the sockeye juveniles peaked at LGR on May 18th. Coho passage at LGR also decreased this week. Subyearling Chinook indices increased this past week, with average daily value at 8,500 compared to 1,900 last 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 11,500, compared to 44,800 per day last week. Compared to last week, steelhead, coho, and sockeye passage all decreased at LGS. Sockeye passage at LGS appears to have peaked on May 23rd. Subyearling Chinook passage increased at LGS this past week. Yearling Chinook passage at LMN also decreased this week. The daily average passage index for yearling Chinook at LMN this week was 5,200, compared to 24,450 per day last week. Passage of steelhead, coho, and sockeye all decreased 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 macrophthalmia over the past eight days.

During this time, collection estimates have ranged from 20 to 200 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 904 per day. The daily passage index for coho last week was 1,479 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 52 per day, compared to 49 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.

Collection activities for the Grande Ronde River Trap were officially terminated on the afternoon of May 23rd. 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 until the afternoon of May 23rd. During the last week of sampling, yearling Chinook were the dominant species at the Snake River trap.

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 259 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 Trap over the past two weeks was 7 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. All releases scheduled for this zone this week were of subyearling fall Chinook. In all, about 650,000 subyearling fall Chinook smolts were scheduled to be released this week. Of these, approximately 72% were scheduled for release into the Snake River while 38% were scheduled for release into the Clearwater River and its tributaries. Approximately 40% of Clearwater releases will be unmarked, while marking is planned for all Snake releases. Of this week's releases, 30% will be released at Lyon's Ferry Hatchery, below Little Goose Dam.

In addition to this week's scheduled releases of fall Chinook, 900,000 subyearling fall Chinook are scheduled for new release in the Snake River Zone

over the next two weeks. All of these subyearlings will be released into the Clearwater and its tributaries and 78% will be marked. Additionally, a release of 300,000 spring Chinook Parr is scheduled for 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. There were no scheduled releases for this zone this week, and 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. On or around June 1, approximately 3.3 million subyearling fall Chinook juveniles were released to the Klickitat River. There were no planned releases of juvenile salmonids for the next two weeks.

Adult Fish Passage:

Adult counts at Bonneville Dam have been updated through June 1st. Daily adult spring Chinook counts at Bonneville Dam ranged from 1,144 to 2,149 adult salmon per day. As of June 1st, using the historical counting schedule, 158,075 spring Chinook have been counted at Bonneville Dam. In 2011, 167,097 adult spring Chinook were counted at Bonneville Dam for the same time period. The 2012 adult spring Chinook count at Bonneville Dam is 94.6% of the 2011 count and 1.04 times greater than the 10 year average of 151,930. The 2012 spring Chinook jack count of 7,591 is about 14.9% of the 2011 count of 50,945 and 37.8% of the 10 year average count of 20,085. At Willamette Falls Dam 18,530 adult spring Chinook has been counted so far this year. At The Dalles Dam, 112,305 adult spring Chinook have been counted and at McNary Dam 92,027 adult spring Chinook have been counted so far this season. The Dalles Dam 2012 adult spring Chinook count is 92.3% 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 97.6% of the 2011 count, while being 1.17 times greater than the 10 year average count.

The Bonneville Dam 2012 steelhead count of 4,335 is about 1.12 times greater than the 2011 count of 3,860, while being about 95.1% of the 10 year average count of 4,556. The 2012 Bonneville wild adult steelhead count of 1,280 is about 98.3% of the 2011 count of 1,302, while being about 1.08 times greater

than the 10 year average count of 1,185. 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 1 to 5 adults per day last week. This year's Lower Granite steelhead count of 8,927 is about 72.6% of the 2011 count of 12,290 and 89.4% of the 10 year average of 9,984. The 2012 Lower Granite wild adult steelhead count of 3,939 is about 68.3% of the 2011 count of 5,764, while being about 1.25 times greater than the 10 year average count of 3,147. At Willamette Falls Dam, the 2012 count for steelhead was 15,519, as of May 28th. This year's steelhead count is about 1.13 times greater than the 2011 count of 13,779, while being and about 95.6% of the 10 year average count of 16,226.

Daily adult sockeye passage numbers at Bonneville Dam ranged between 1 and 32 last week. The 2012 adult sockeye count at Bonneville Dam of 80 is about 8.9 times greater than the 2011 count of 9 and about 1.86 times greater than the 10 year average count of 43.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

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	Lyons Ferry Hatchery	CH0	FA	2012	400,000	05-20-12	05-23-12	Pittsburg Landing Acclim Pond Big Canyon	Snake River
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2012	500,000	05-20-12	05-23-12	(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					1,650,000				
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				
Umatilla Tribe	Umatilla Hatchery	CH0	FA	2012	600,000	05-22-12	05-23-12	Umatilla River	Umatilla River
Umatilla Tribe Total					600,000				
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 Blackbird Island Acc	Wenatchee River
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	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	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					1,687,000				
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
Yakama Tribe Total					1,141,952				
Grand Total					6,695,872				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

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

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	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	06-02-12	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. Nez Perce Tribal	S Fk Clearwater River
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH0	FA	2012	500,000	06-02-12	06-15-12	Hatchery	Clearwater River M F
Nez Perce Tribe Total					1,202,782				
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 Total					425,000				
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	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 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
Yakama Tribe Total					4,441,952				
Grand Total					6,511,654				

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

Date	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/18/2012	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
05/25/2012	190.5	0.0	195.2	74.3	221.7	63.5	216.1	37.6	220.2	28.3	230.3	121.5	230.6	124.9
05/26/2012	195.8	0.0	194.4	59.2	226.2	65.7	226.7	51.0	228.5	38.3	248.8	128.3	249.8	144.2
05/27/2012	156.2	0.0	158.1	14.1	185.2	25.9	185.2	22.1	193.1	20.2	214.0	109.6	219.3	142.8
05/28/2012	167.9	0.0	167.4	10.8	188.7	28.1	180.9	15.8	187.0	38.6	195.0	91.6	198.6	99.5
05/29/2012	177.2	0.0	177.5	14.6	202.1	37.1	197.7	20.0	203.2	41.6	211.5	114.9	214.5	100.9
05/30/2012	169.5	0.0	167.3	0.0	191.0	27.6	191.8	19.7	199.1	39.8	214.8	88.1	216.1	116.3
05/31/2012	164.0	0.0	169.4	0.0	189.3	30.8	188.3	16.0	195.8	36.4	207.6	94.9	209.4	97.4

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

Date	Dworshak		Brownlee Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
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	24.2	21.3	122.1	30.4	116.5	31.3	122.3	25.4	125.8	56.7
05/25/2012	2.2	0.0	22.2	18.5	109.6	25.8	104.3	31.3	108.8	25.3	106.9	32.2
05/26/2012	2.2	0.0	19.6	17.5	96.1	20.2	91.3	27.3	94.6	25.2	95.6	30.4
05/27/2012	2.2	0.0	19.5	12.3	81.9	20.2	77.1	22.9	80.3	26.2	80.4	24.0
05/28/2012	2.3	0.0	19.8	16.1	77.5	20.1	74.1	22.2	76.1	26.5	78.6	48.3
05/29/2012	3.8	0.0	19.3	18.2	81.1	20.1	80.8	24.3	82.5	27.4	81.5	55.8
05/30/2012	4.4	0.0	19.7	21.1	81.6	20.1	78.0	23.4	78.9	27.4	82.7	58.2
05/31/2012	4.3	0.0	---	---	79.2	20.3	77.9	23.2	78.9	28.0	79.8	53.4

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
05/18/2012	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
05/25/2012	359.3	184.2	358.3	111.1	339.6	111.2	366.3	126.4	129.9	97.6
05/26/2012	330.2	161.4	342.0	132.0	330.5	112.0	371.7	133.7	127.6	98.1
05/27/2012	336.9	166.8	319.5	122.2	304.5	114.4	327.8	99.6	116.9	98.9
05/28/2012	297.5	125.6	316.9	94.6	300.6	119.6	319.2	99.6	109.9	97.2
05/29/2012	301.2	130.9	289.9	92.6	272.3	108.8	300.3	99.5	89.7	98.6
05/30/2012	295.0	121.2	310.6	124.2	297.8	119.2	320.4	99.4	108.8	99.8
05/31/2012	284.9	114.7	279.4	106.7	262.6	105.1	287.6	97.6	87.8	89.8

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>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	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
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	119.1	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
5/25	97.8	98.0	98.1	24	125.8	126.4	126.8	21	118.4	118.7	118.9	24	115.2	115.4	115.6	21	115.2	115.3	115.4	24
5/26	98.1	98.3	98.7	24	126.2	126.7	127.1	24	117.8	118.1	118.5	24	115.0	115.4	115.7	24	115.3	115.5	115.7	24
5/27	97.7	98.0	98.2	24	126.1	126.7	127.3	22	117.7	117.9	118.0	24	114.6	114.9	115.2	22	115.3	115.5	115.7	24
5/28	97.1	97.2	97.2	24	125.5	125.8	126.0	20	117.2	117.4	118.0	24	114.4	114.6	115.0	20	115.0	115.1	115.2	24
5/29	97.1	97.3	97.8	24	125.1	125.3	125.7	23	116.9	117.1	117.3	24	114.0	114.3	115.0	23	114.9	115.0	115.2	24
5/30	96.9	97.1	97.4	24	123.5	124.7	125.4	21	116.2	116.4	116.6	24	113.3	113.7	114.1	21	114.1	114.3	114.5	24
5/31	97.2	97.4	97.5	24	122.2	122.5	123.6	22	116.3	116.5	116.8	24	113.4	113.9	114.7	22	114.4	114.6	114.8	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>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	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
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
5/25	114.9	115.4	115.8	24	113.7	113.9	114.5	24	120.9	121.5	121.8	24	118.9	119.0	120.1	24	121.4	121.6	122.0	24
5/26	114.5	115.3	115.7	24	114.4	115.0	115.2	24	121.9	122.9	124.2	24	119.7	120.4	121.3	24	122.6	123.2	123.3	24
5/27	113.4	114.1	114.3	24	113.9	114.2	114.4	24	116.4	117.1	118.2	24	120.5	121.6	122.3	24	120.8	122.0	123.3	24
5/28	112.3	113.8	114.7	24	113.2	113.4	113.6	24	116.0	117.3	117.8	24	128.4	140.4	154.1	24	117.3	118.0	118.5	24
5/29	112.0	113.1	114.1	24	112.5	112.8	113.4	24	116.7	117.5	118.7	24	152.9	153.6	154.0	24	115.5	116.1	117.0	24
5/30	113.1	113.3	114.0	24	112.2	112.6	112.9	24	115.5	117.1	118.3	24	153.7	154.1	154.4	24	115.9	116.3	117.3	24
5/31	113.5	113.7	114.0	24	112.8	113.0	113.3	24	116.3	116.9	117.1	24	130.3	145.5	154.8	24	115.8	116.0	116.2	24

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>	#	<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	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
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	118.1	119.2	120.7	24	123.1	124.8	126.3	24	119.6	121.4	122.5	24
5/25	118.2	118.5	118.7	24	119.9	120.3	120.7	24	116.3	116.8	117.7	24	122.7	124.4	128.1	24	121.6	123.0	123.7	24
5/26	118.8	120.1	120.5	24	121.1	122.1	123.7	24	117.0	117.8	118.5	24	123.1	123.5	125.0	24	120.1	121.0	121.8	24
5/27	118.9	119.6	120.1	24	120.3	120.9	121.5	24	116.8	117.1	117.5	24	121.7	123.9	126.5	24	118.9	119.7	121.2	24
5/28	115.6	116.1	116.5	24	118.3	118.9	119.7	24	115.9	116.2	116.6	24	119.3	121.9	127.6	24	116.1	117.3	118.1	24
5/29	112.8	113.1	113.4	24	116.2	116.9	117.2	24	115.1	115.5	115.8	24	122.0	125.4	129.4	24	120.5	124.6	126.1	24
5/30	113.9	114.3	114.6	24	117.0	117.6	118.0	24	114.1	114.5	114.9	24	117.7	120.4	123.9	24	117.3	119.9	122.2	24
5/31	114.0	114.4	115.0	24	115.5	117.0	117.2	24	114.9	115.1	115.3	24	119.5	121.4	122.7	24	118.0	120.0	121.0	24

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

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

Date	<u>Priest R. Dnst</u>			<u>Pasco</u>			<u>Dworshak</u>			<u>Clrwtr-Peck</u>			<u>Anatone</u>			#				
	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>					
	Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg			Avg			
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	121.9	122.4	123.1	24	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
5/25	122.8	123.4	124.3	24	116.6	117.2	117.7	24	102.2	102.6	102.9	24	102.1	102.4	102.8	24	105.6	105.8	106.1	24
5/26	122.7	123.4	123.7	24	115.9	116.5	116.8	24	102.0	102.4	102.7	24	101.8	102.2	102.6	24	105.0	105.5	105.7	24
5/27	121.9	122.3	123.5	24	116.9	117.5	118.1	24	101.5	101.8	102.0	24	101.3	101.7	101.8	24	104.8	105.3	105.7	24
5/28	119.6	120.1	120.7	24	115.7	116.3	116.7	24	101.5	102.2	102.8	24	102.1	103.1	103.8	24	105.0	105.9	106.5	24
5/29	121.9	123.2	124.3	24	114.9	115.7	116.1	24	101.2	101.7	103.8	24	101.6	102.3	103.1	24	104.9	105.5	106.1	24
5/30	120.5	120.9	121.1	24	116.5	117.6	118.0	24	100.5	100.7	101.0	24	101.5	102.1	102.7	24	104.3	104.8	105.4	24
5/31	120.5	121.0	121.4	24	115.6	116.1	117.0	24	100.1	100.4	100.5	24	101.2	101.7	102.0	24	104.3	104.8	105.3	24

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwtr-Lewiston</u>			<u>Lower Granite</u>			<u>L. Granite Tlwr</u>			<u>Little Goose</u>			<u>L. Goose Tlwr</u>			#				
	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>					
	Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg			Avg			
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
5/25	102.3	103.0	103.7	24	105.7	105.8	105.9	24	112.7	114.1	114.7	24	112.7	113.1	113.6	24	114.9	115.4	115.8	24
5/26	101.8	102.5	103.0	24	105.7	105.9	106.0	24	111.0	111.3	112.1	24	111.8	112.5	112.5	24	113.8	114.2	114.5	24
5/27	101.7	102.4	103.2	24	104.4	104.7	105.1	24	110.1	110.3	110.5	24	109.1	109.7	110.0	24	112.9	113.3	113.5	24
5/28	102.4	103.7	104.6	24	103.7	103.8	103.9	24	110.2	110.6	111.0	24	108.9	109.2	109.3	24	112.9	113.1	113.3	24
5/29	102.0	102.7	103.3	24	103.5	103.7	103.8	24	110.3	110.5	110.9	24	108.2	108.6	108.8	24	112.0	112.4	112.6	24
5/30	101.7	102.6	103.5	24	103.7	103.8	104.1	24	110.0	110.2	110.8	24	108.5	109.2	109.7	24	112.5	113.2	114.2	24
5/31	101.5	102.2	102.6	24	104.3	104.4	104.5	24	110.3	110.6	110.9	24	109.6	110.0	110.2	24	112.2	113.3	113.8	24

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

Date	<u>Lower Mon.</u>			<u>L. Mon. Tlwr</u>			<u>Ice Harbor</u>			<u>Ice Harbor Tlwr</u>			<u>McNary-Oregon</u>			#				
	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>					
	Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg			Avg			
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
5/25	112.8	113.3	113.9	24	114.4	116.6	118.2	24	112.6	112.7	112.9	24	115.5	116.1	116.5	24	---	---	---	0
5/26	113.2	113.6	114.3	24	118.3	119.0	119.5	24	111.8	111.9	112.1	24	115.2	115.4	115.7	24	---	---	---	0
5/27	114.1	114.2	114.3	24	118.3	118.8	119.1	24	111.8	111.9	112.0	24	114.2	114.5	115.3	24	---	---	---	0
5/28	113.2	113.5	113.7	24	118.3	118.8	119.2	24	112.5	112.9	113.1	24	114.8	115.2	115.3	24	---	---	---	0
5/29	111.9	112.1	112.4	24	118.4	118.7	118.9	24	113.9	114.6	115.0	24	115.4	115.9	116.1	24	---	---	---	0
5/30	112.1	112.2	112.2	24	118.2	118.6	118.9	24	114.8	114.9	115.1	24	116.1	116.6	117.4	24	---	---	---	0
5/31	112.7	112.9	113.1	24	118.8	119.1	119.5	24	115.4	115.8	116.4	24	116.0	116.2	116.3	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>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr				
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
5/25	113.8	114.2	114.3	24	119.6	120.4	120.7	24	110.5	110.7	111.0	24	118.7	119.1	119.9	24	111.8	112.2	112.6	24
5/26	113.4	113.6	114.1	24	118.3	118.9	119.9	24	110.6	111.2	111.5	24	118.9	119.3	119.7	24	112.0	112.8	113.3	24
5/27	112.9	113.0	113.2	24	118.9	119.9	120.0	24	111.5	111.8	112.1	24	118.0	118.7	119.0	24	111.4	111.8	112.2	24
5/28	112.5	112.9	113.2	24	116.4	117.4	117.7	24	111.1	111.4	111.7	24	116.8	117.7	118.8	24	111.7	112.0	112.1	24
5/29	112.5	112.9	113.1	24	116.6	117.9	119.4	24	110.5	110.7	111.0	24	116.0	117.2	118.6	24	110.5	110.8	110.9	24
5/30	112.4	112.9	113.6	24	116.0	116.3	117.3	24	110.1	110.4	110.7	24	118.0	118.3	118.7	24	111.7	112.8	113.4	24
5/31	115.0	115.8	116.5	24	115.5	115.9	116.0	24	110.6	111.1	111.4	24	116.9	118.1	118.5	24	113.2	113.4	113.6	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>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
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
5/25	115.9	116.3	116.6	24	115.4	115.5	115.8	24	116.9	117.2	117.8	24	117.3	118.0	118.6	24	---	---	---	0
5/26	115.8	116.7	117.6	24	113.8	114.4	114.7	24	116.1	116.8	117.3	24	116.1	117.0	117.6	24	---	---	---	0
5/27	116.5	117.0	117.3	24	112.1	112.6	113.2	24	113.5	113.8	114.2	24	113.8	114.3	115.4	24	---	---	---	0
5/28	117.0	117.4	117.9	24	113.1	113.7	114.2	24	114.2	114.7	115.1	24	113.1	113.6	114.1	24	---	---	---	0
5/29	116.3	116.8	117.2	24	114.0	114.3	114.6	24	115.3	115.6	116.0	24	114.4	115.9	116.6	24	---	---	---	0
5/30	117.1	117.7	118.1	24	114.2	114.7	114.9	24	115.3	115.7	116.1	24	115.0	115.9	116.6	24	---	---	---	0
5/31	118.0	118.5	118.9	24	116.0	116.7	117.1	24	116.5	117.0	117.5	24	115.6	116.6	117.6	24	---	---	---	0

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 6/1/2012 8:44

Two-Week Summary of Passage Indices

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

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

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

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

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

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

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)	(INDEX)
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	*	---	8	115	757	13,065	36,470	18,965	412	86,175	67,155	41,097
05/24/2012	*	---	6	---	0	14,902	26,670	16,906	239	---	52,557	39,629
05/25/2012		---	1	---	---	13,931	29,442	18,707	134	45,464	44,220	22,378
05/26/2012	*	---	13	---	---	13,034	15,185	6,183	120	---	44,791	20,753
05/27/2012		---	---	---	---	8,049	8,947	5,080	107	45,449	42,076	20,384
05/28/2012	*	---	---	---	---	3,759	7,327	2,152	102	---	23,543	18,168
05/29/2012		---	---	---	---	2,594	6,052	1,511	96	32,249	17,595	17,045
05/30/2012	*	---	---	---	---	1,193	8,102	1,606	46	---	14,350	20,696
05/31/2012		---	---	---	---	1,095	5,866	1,465	52	15,107	9,533	12,704
06/01/2012		---	---	---	---	---	---	---	---	---	---	---
Total:		0	65	434	2,941	300,766	394,417	207,842	3,759	400,108	673,776	584,166
# Days:		0	9	6	7	14	14	14	14	7	14	14
Average:		0	7	72	420	21,483	28,173	14,846	269	57,158	48,127	41,726
YTD		58,098	10,558	26,417	13,494	4,027,976	2,236,563	731,169	25,547	2,107,515	4,192,215	2,466,633

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)	(INDEX)
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	*	---	0	5	64	2,919	1,130	198	72	2,411	482	6,318
05/24/2012	*	---	0	---	0	824	544	159	41	---	444	4,059
05/25/2012		---	0	---	---	2,897	418	229	34	2,724	168	5,787
05/26/2012	*	---	0	---	---	2,096	1,146	100	45	---	235	7,840
05/27/2012		---	---	---	---	9,135	1,073	293	31	2,698	884	5,429
05/28/2012	*	---	---	---	---	12,081	928	0	96	---	735	4,904
05/29/2012		---	---	---	---	16,249	537	151	59	2,730	771	5,129
05/30/2012	*	---	---	---	---	8,617	538	38	61	---	681	5,840
05/31/2012		---	---	---	---	8,530	3,469	214	37	1,018	433	7,384
06/01/2012		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	26	250	73,148	13,109	1,759	705	22,281	6,443	72,464
# Days:		0	9	6	7	14	14	14	14	7	14	14
Average:		0	0	4	36	5,225	936	126	50	3,183	460	5,176
YTD		0	2	67	327	116,956	16,206	1,829	1,173	133,412	23,001	2,356,112

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)	
05/18/2012	*	---	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	0	1,529	5,087	1,055	1,592	9,204	10,112	6,598
05/24/2012	*	---	0	---	0	1,722	4,625	478	739	---	11,391	5,504
05/25/2012		---	0	---	---	1,674	3,347	719	832	9,428	13,587	4,244
05/26/2012	*	---	0	---	---	1,310	1,575	568	797	---	12,045	5,811
05/27/2012		---	---	---	---	447	1,360	1,009	872	9,546	10,423	5,715
05/28/2012	*	---	---	---	---	470	1,069	1,230	1,023	---	6,335	5,466
05/29/2012		---	---	---	---	614	1,934	151	1,335	11,600	8,711	3,867
05/30/2012	*	---	---	---	---	597	1,219	385	559	---	9,059	5,290
05/31/2012		---	---	---	---	100	1,252	214	911	6,620	4,334	6,114
06/01/2012		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	9	31,002	43,741	10,930	16,678	67,108	136,463	142,458
# Days:		0	9	6	7	14	14	14	14	7	14	14
Average:		0	0	0	1	2,214	3,124	781	1,191	9,587	9,747	10,176
YTD		0	0	0	80	66,378	71,533	16,815	44,800	120,813	242,275	479,958

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)	
05/18/2012	*	---	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	*	---	565	85	31	32,106	36,458	19,274	215	7,015	13,685	5,200
05/24/2012	*	---	304	---	3	45,304	23,673	13,500	158	---	17,002	3,646
05/25/2012		---	274	---	---	29,394	75,024	9,811	207	4,842	17,209	1,543
05/26/2012	*	---	243	---	---	11,920	11,313	13,335	284	---	9,978	1,384
05/27/2012		---	---	---	---	13,351	8,372	13,949	183	2,490	12,059	3,625
05/28/2012	*	---	---	---	---	11,276	7,505	10,147	182	---	7,747	2,170
05/29/2012		---	---	---	---	7,237	8,094	4,381	140	4,435	5,768	1,105
05/30/2012	*	---	---	---	---	6,563	6,668	3,437	88	---	5,666	1,735
05/31/2012		---	---	---	---	3,518	5,757	1,923	131	2,729	5,386	1,509
06/01/2012		---	---	---	---	---	---	---	---	---	---	---
Total:		0	3,541	217	305	414,005	396,284	232,097	3,505	49,445	206,003	50,898
# Days:		0	9	6	7	14	14	14	14	7	14	14
Average:		0	393	36	44	29,572	28,306	16,578	250	7,064	14,715	3,636
YTD		2,722	17,640	2,065	2,311	3,454,456	1,350,576	557,914	15,773	525,651	2,777,876	271,041

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)	
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	0	3	2,363	4,239	1,516	435	19,947	15,472	13,699
05/24/2012	*	---	0	---	1	899	2,721	1,019	257	---	13,827	7,774
05/25/2012		---	0	---	---	837	2,092	1,079	200	13,620	12,714	5,402
05/26/2012	*	---	0	---	---	589	1,432	535	123	---	9,997	4,981
05/27/2012		---	---	---	---	767	501	293	270	8,093	6,520	5,527
05/28/2012	*	---	---	---	---	537	784	461	106	---	5,421	4,662
05/29/2012		---	---	---	---	478	645	453	110	22,861	4,128	2,683
05/30/2012	*	---	---	---	---	133	609	308	57	---	7,784	1,483
05/31/2012		---	---	---	---	332	250	122	23	12,732	4,891	4,208
06/01/2012		---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	46	28,898	24,218	11,249	4,569	141,845	183,531	137,676
# Days:		0	9	6	7	14	14	14	14	7	14	14
Average:		0	0	0	7	2,064	1,730	804	326	20,264	13,109	9,834
YTD		5	0	0	475	41,696	32,083	15,627	46,561	1,106,189	812,364	745,286

COMBINED LAMPREY JUVENILES												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR [†] (Coll)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)	
05/18/2012	*	---	0	0	0	0	0	0	---	1,000	0	
05/19/2012	*	---	0	0	0	0	0	1	1,000	1,586	429	
05/20/2012	*	---	0	0	0	0	0	2	---	1,350	0	
05/21/2012		---	0	0	0	0	0	0	1,000	944	200	
05/22/2012	*	---	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		---	0	---	0	0	75	0	2,400	5,518	50	
05/26/2012	*	---	0	---	0	0	100	0	---	3,054	100	
05/27/2012		---	---	---	0	0	0	0	1,100	5,203	200	
05/28/2012	*	---	---	---	0	8	0	0	---	6,421	125	
05/29/2012		---	---	---	0	125	200	0	2,200	3,271	200	
05/30/2012	*	---	---	---	0	50	75	1	---	2,254	149	
05/31/2012		---	---	---	0	50	40	0	1,000	2,185	150	
06/01/2012		---	---	---	---	---	---	---	---	---	---	
Total:		0	0	0	0	633	735	4	9,000	45,814	1,933	
# Days:		0	9	6	7	14	14	14	7	14	14	
Average:		0	0	0	0	45	53	0	1,286	3,272	138	
YTD		6	0	0	0	6,115	4,174	788	84	69,730	249,837	26,971

* 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

Two-Week Summary of Passage Indices

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/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:

6/1/12 8:42 AM

05/18/12 TO 06/01/12

		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
LGR	Sum of NumberCollected	54,575	210,700	21,725	298,675	20,400	606,075
	Sum of NumberBarged	48,046	205,381	21,632	286,689	20,115	581,863
	Sum of NumberBypassed	10	4,275	0	9,877	1	14,163
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	14	12	0	9	3	38
	Sum of FacilityMorts	96	186	18	45	31	376
	Sum of ResearchMorts	0	23	0	4	0	27
	Sum of TotalProjectMorts	110	221	18	58	34	441
LGS	Sum of NumberCollected	9,176	271,889	30,375	274,995	16,950	603,385
	Sum of NumberBarged	6,748	267,553	29,500	270,908	16,775	591,484
	Sum of NumberBypassed	3	0	0	0	0	3
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	11	0	4	0	15
	Sum of FacilityMorts	2	226	0	58	0	286
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	2	237	0	62	0	301
LMN	Sum of NumberCollected	1,275	155,109	7,996	171,210	8,390	343,980
	Sum of NumberBarged	1,134	152,096	7,849	167,558	8,309	336,946
	Sum of NumberBypassed	0	1,917	0	2,050	0	3,967
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	13	0	9	0	22
	Sum of FacilityMorts	1	123	7	36	1	168
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1	136	7	45	1	190
MCN	Sum of NumberCollected	10,900	190,918	33,400	23,541	69,807	328,566
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	10,899	190,859	33,400	23,533	69,795	328,486
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	1	6	0	1	5	13
	Sum of FacilityMorts	0	53	0	7	7	67
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1	59	0	8	12	80
Total Sum of NumberCollected		75,926	828,616	93,496	768,421	115,547	1,882,006
Total Sum of NumberBarged		55,928	625,030	58,981	725,155	45,199	1,510,293
Total Sum of NumberBypassed		10,912	197,051	33,400	35,460	69,796	346,619
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		15	42	0	23	8	88
Total Sum of FacilityMorts		99	588	25	146	39	897
Total Sum of ResearchMorts		0	23	0	4	0	27
Total Sum of TotalProjectMorts		114	653	25	173	47	1,012

YTD Transportation Summary

Source: Fish Passage Center

Updated:

6/1/12 8:42 AM

TO: 06/01/12

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	85,555	2,684,013	45,460	29,495	2,299,912	5,144,435
	Sum of NumberBarged	67,663	978,781	37,191	27,763	896,799	2,008,197
	Sum of NumberBypassed	11,312	1,702,758	8,163	1,422	1,400,840	3,124,495
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	20	177	1	6	54	258
	Sum of FacilityMorts	151	1,403	30	54	139	1,777
	Sum of ResearchMorts	0	71	0	0	29	100
	Sum of TotalProjectMorts	171	1,651	31	60	222	2,135
LGS	Sum of NumberCollected	11,268	1,479,354	48,676	22,344	885,554	2,447,196
	Sum of NumberBarged	8,741	1,086,299	46,199	21,474	593,905	1,756,618
	Sum of NumberBypassed	100	388,249	1,601	689	287,507	678,146
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	29	0	1	10	40
	Sum of FacilityMorts	4	678	1	5	107	795
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	4	707	1	6	117	835
LMN	Sum of NumberCollected	1,328	527,574	12,210	11,566	404,711	957,389
	Sum of NumberBarged	1,179	514,542	12,041	11,467	393,381	932,610
	Sum of NumberBypassed	8	11,552	19	13	9,655	21,247
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	59	0	2	32	93
	Sum of FacilityMorts	1	461	10	4	86	562
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	1	520	10	6	118	655
MCN	Sum of NumberCollected	60,921	1,004,537	60,100	541,037	239,682	1,906,277
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	60,910	1,004,378	60,100	540,967	239,658	1,906,013
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	11	37	0	25	10	83
	Sum of FacilityMorts	0	122	0	45	14	181
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	11	159	0	70	24	264
Total Sum of NumberCollected		159,072	5,695,478	166,446	604,442	3,829,859	10,455,297
Total Sum of NumberBarged		77,583	2,579,622	95,431	60,704	1,884,085	4,697,425
Total Sum of NumberBypassed		72,330	3,106,937	69,883	543,091	1,937,660	5,729,901
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		31	302	1	34	106	474
Total Sum of FacilityMorts		156	2,664	41	108	346	3,315
Total Sum of ResearchMorts		0	71	0	0	29	100
Total Sum of TotalProjectMorts		187	3,037	42	142	481	3,889

Cumulative Adult Passage at Mainstem Dams Through: 06/01

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	05/31	158075	7591	167097	50945	151930	20085	0	0	0	0	0	0	0	0	0	0	0	0
TDA	05/31	112305	6833	121606	37004	108365	15668	0	0	0	0	0	0	0	0	0	0	0	0
JDA	05/31	99702	6130	99441	34758	89259	14160	0	0	0	0	0	0	0	0	0	0	0	0
MCN	05/31	92027	4235	94304	24916	78476	11782	0	0	0	0	0	0	0	0	0	0	0	0
IHR	05/31	61573	2322	62593	12090	52513	6616	0	0	0	0	0	0	0	0	0	0	0	0
LMN	05/31	57583	2265	60209	11029	48746	5143	0	0	0	0	0	0	0	0	0	0	0	0
LGS	05/31	55809	2647	48968	11702	42235	5288	0	0	0	0	0	0	0	0	0	0	0	0
LGR	05/31	51180	2405	42740	9911	40157	5905	0	0	0	0	0	0	0	0	0	0	0	0
PRD	05/29	15514	666	12217	3129	13945	842	0	0	0	0	0	0	0	0	0	0	0	0
RIS	05/27	12068	285	8756	2050	10676	949	0	0	0	0	0	0	0	0	0	0	0	0
RRH	05/27	3834	137	3407	576	3782	247	0	0	0	0	0	0	0	0	0	0	0	0
WEL	05/30	3144	266	2158	644	2403	237	0	0	0	0	0	0	0	0	0	0	0	0
WFA	05/28	18530	578	18901	475	34765	585	-	-	-	-	-	-	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	80	9	43	4335	3860	4556	1280	1302	1185
TDA	0	0	0	0	0	0	15	1	12	889	1450	1577	388	756	622
JDA	0	0	0	0	0	0	2	0	4	1934	2804	2950	1257	1750	1339
MCN	-1	0	0	0	0	0	1	0	0	1755	2631	2289	988	1579	997
IHR	0	0	0	0	0	0	0	0	0	2377	3051	2648	1076	1201	952
LMN	0	0	0	0	0	0	0	0	0	3610	3879	3120	1921	2187	1466
LGS	0	0	0	0	0	0	0	0	0	3926	6202	3322	2305	3325	1491
LGR	0	0	0	0	0	0	0	0	0	8927	12290	9984	3939	5764	3147
PRD	0	0	0	0	0	0	0	2	0	89	41	32	0	0	0
RIS	0	0	0	0	0	0	0	0	1	153	68	69	105	46	42
RRH	0	0	0	0	0	0	0	0	0	682	538	274	573	476	191
WEL	0	0	0	0	0	0	0	0	0	101	121	59	79	95	38
WFA	0	0	0	0	0	0	-	-	-	15519	13779	16226	-	-	-

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: 06/01/12

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											
	05/24/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/31/12	Chinook + Steelhead	23	0	0	0.00%	0.00%	0	0	0	0
Little Goose Dam											
	05/21/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/28/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	05/23/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/30/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	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
	05/30/12	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	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
	05/26/12	Chinook + Steelhead	99	1	1	1.01%	0.00%	1	0	0	0
	05/29/12	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0