



Fish Passage Center

Weekly Report #14 - 3

April 4, 2014

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Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 4% and 342% of average at individual sub-basins over the first several days of April. Precipitation above The Dalles has been 115% of average over the first portion of April. Over the 2014 water year, precipitation has ranged between 81% and 101% of average.

Table 1. Summary of April precipitation and cumulative October through April 2, 2014, precipitation with respect to average (1971–2000), at select locations within the Columbia and Snake River Basins.

Location	Water Year 2014		Water Year 2014	
	April 1–2, 2014		October 1, 2013 to April 2, 2014	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia above Coulee	0.02	12	20.8	92
Sneke River above Ice Harbor	0.29	226	11.9	84
Columbia above The Dalles	0.16	115	14.7	84
Kootenai	0.01	7	22.4	98
Clark Fork	0.03	17	13.9	88
Flathead	0.01	4	21.7	101
Pend Oreille River Basin above Waneta Dam	0.02	11	18.1	92
Salmon River Basin	0.41	242	14.0	81
Upper Snake Tributaries	0.55	342	15.5	94
Clearwater	0.12	50	26.0	98
Willamette River above Portland	0.08	24	40.1	81

Snowpack within the Columbia Basin has been variable. Average snowpack in the Columbia River for basins above the Snake River confluence is 121% of average. For Snake River Basins, the average snowpack is 105% of average, and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 72% of average.

Table 2 displays the April 3rd ESP runoff volume forecasts for multiple reservoirs along with the March/April COE forecasts at Libby and Dworshak. The April 3rd ESP forecast at The Dalles between January and July is 107,063 Kaf (106% of average).

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

Location	April 3, 2014 5-day QPF ESP	
	% Average (1981–2010)	Runoff Volume (Kaf)
The Dalles (Jan–July)	106	107063
Grand Coulee (Jan–July)	106	62998
Libby Res. Inflow, MT (Apr–Aug)	111	6537 5505*
Hungry Horse Res. Inflow, MT (Jan–July)	111	2338
Lower Granite Res. Inflow (Apr–July)	115	22828
Brownlee Res. Inflow (Apr–July)	70	3828
Dworshak Res. Inflow (Apr–July)	127	3083 3111**

* Denotes COE March Forecast

** Denotes COE April Forecast

Grand Coulee Reservoir is at 1254.8 feet (4-3-14) and has drafted 5.8 feet over the last week. The April 10th FC Elevation at Grand Coulee is 1258.0 feet (based on March Water Supply Forecast). Outflows at Grand Coulee have ranged between 117.4 and 135.3 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2414.7 feet (4-3-14) and has drafted 5.5 feet over the previous week. The April 10th FC Elevation at Libby is 2440.9 feet (based on March Final WSF). However, the COE anticipates a significant increase in the April Water Supply forecast relative to that estimated in March, which will lower the Flood Control elevations at Libby. Daily average outflows at Libby Dam have been 15.0–26.0 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3516.3 feet (4-3-14) and has drafted 4.9 feet over the previous week. The April 10th FC Elevation at Hungry Horse is 3530.4 feet (based on March WSF). Outflows at Hungry Horse have been 9.8–11.4 Kcfs over the last week in anticipation of increasing Water Supply and decreasing Flood Control elevations.

Dworshak is currently at an elevation of 1505.5 feet (4-3-14) and has drafted 7.6 feet over the previous week. The April 10th System FC Elevation at Dworshak is 1467.2 feet (based on April Final WSF). The COE has submitted a flood control deviation request and is pending approval. The intent of the flood control deviation is to avoid excessively high outflows (i.e., 25 Kcfs) to reach flood control targets. The COE plans to maintain 20 Kcfs outflows at Dworshak until beginning the refill operation.

The Brownlee Reservoir was at an elevation of 2062.1 feet on April 3rd, 2014, holding steady over the last week. Inflows to Brownlee Dam have ranged between 12.9 and 16.4 Kcfs last week. The April 10th FC Elevation at Brownlee is 2057.7 feet (based on March WSF).

The Biological Opinion flow period began on April 3rd in the lower Snake River (Lower Granite). According to the latest available Water Supply Forecast (April 3rd, 2014), the flow objective this spring will be 100 Kcfs at Lower Granite. Flows at Lower Granite Dam were 63.4 Kcfs on April 3rd, 2014.

Spill

The 2014 fish spill program was implemented at the lower Snake River projects beginning on April 3rd. In addition to the start of the spill in the Snake, some involuntary spill occurred in the hydro system over past week due to unit outages and the necessary drafting of reservoirs to meet flood control elevations. Dworshak Dam has been spilling approximately 9 Kcfs as the project drafts to its flood control elevation. Spill for fish passage will begin on April 10th at the lower Columbia River projects.

Project	Spill Level Day/Night
Lower Granite	20 Kcfs/20 Kcfs
Little Goose	30%/30%
Lower Monumental	Gas Cap/Gas Cap
Ice Harbor	45 Kcfs/Gas Cap

Total dissolved gas measurements on the first day of planned spill did not exceed the waiver limits.

Smolt Monitoring

To date, all Smolt Monitoring Program sites are sampling for 2014, except McNary Dam. McNary Dam is expected to begin sampling on or around April 7th.

This week’s samples at Bonneville Dam were dominated by coho juveniles. The daily average passage index for coho this week was about 860, which was a significant increase over last week’s daily average passage index of only 34. This substantial increase is largely due to recent hatchery releases in the Klickitat River. Passage of subyearling and yearling Chinook also increased this week, when compared to last week. This week’s daily average passage indices for these two species were about 660 and 520 per day, respectively. As with previous weeks, over 99% of the subyearling Chinook sampled at BON this week were fry. Sockeye passage decreased this week, when compared to last week. The daily average passage index for sockeye this week was about 470 per day while last week’s daily average passage index was about 545 per day. Steelhead passage remained relatively low this week. So far, no Pacific lamprey ammocoetes have been sampled at BON. Samples of Pacific lamprey macrophthalmia decreased this week, when compared to last week. The daily average collection for Pacific lamprey macrophthalmia for this week was about 230 per day.

Sampling at John Day Dam began on March 31st, with the first sample worked up on April 1st. Of the 3 days of sampling for this year, yearling Chinook have dominated the salmonid collections. The daily passage index for yearling Chinook over the past 3 days has ranged from 535 to 592. The daily passage index for steelhead has been in the 180–255 range. Passage of subyearling Chinook, coho, and sockeye has been very

low so far this year. Both Pacific lamprey ammocoetes and macrophthalmia have been collected at John Day this year. To date, daily collections of Pacific lamprey ammocoetes have been in the 20–72 range, while that for Pacific lamprey macrophthalmia has been in the 620–1,052 range.

Sampling at Lower Granite Dam began on March 25th, with the first sample worked up on March 26th. This week's samples have been dominated by yearling Chinook and steelhead. The daily average passage index for yearling Chinook this week was about 7,100 per day and appears to be increasing. Steelhead passage has also increased throughout this week. The daily average passage index for steelhead this week was nearly 4,000 per day. Sockeye passage has increased this week, with a daily average passage index of about 1,200 per day. Given that Dworshak Dam has been spilling water for flood control since March 11th, it is highly likely that the sockeye collected at Lower Granite this week are kokanee from Dworshak reservoir. Passage of subyearling Chinook and coho at Lower Granite remained low this week and all subyearling Chinook have been fry. Finally, no lamprey juveniles have been sampled at Lower Granite Dam this year.

Little Goose and Lower Monumental dams began monitoring activities this week. However, sampling at these two sites is limited until transportation begins. This limited sampling will be every 5 days at Little Goose Dam and every 3 days at Lower Monumental Dam. During this time, the sample at Little Goose is a full 24-hour sample while that at Lower Monumental is a limited duration sample (3–4 hours) for condition fish only. So far this year, both sites have taken only one sample. In their single sample, both sites collected only yearling Chinook, sockeye, and steelhead. Steelhead were the dominant species at Little Goose Dam, with an estimated passage index of nearly 1,010. The sample at Lower Monumental Dam was dominated by both yearling Chinook and steelhead.

Rock Island Dam began sampling this week, with the first sample available on April 1st. However, collections at Rock Island Dam have been relatively low since sampling began this week. To date, all subyearling Chinook collected at Rock Island have been fry. Finally, only one Pacific lamprey macrophthalmia has been sampled so far at Rock Island.

The Grande Ronde Trap is operated by the Oregon Department of Fish and Wildlife and is located at river kilometer 2 in the Grande Ronde River. Yearling Chinook collections continued to increase this week, with a daily average collection of about 535 per day. This increase in yearling Chinook collections is at least partially due to recent hatchery releases in the Grande Ronde River, upstream of the trap. Over the past week, 58–87% of yearling Chinook collected at the trap have been of known hatchery origin. The Grande Ronde Trap continued to sample only a few steelhead juveniles this week.

The Salmon River Trap is located at river kilometer 103 and operated by Idaho Department of Fish and Game. Yearling Chinook continued to dominate the collections at the Salmon River Trap this week, with a daily average collection of about 875 per day. However, this daily average collection is actually a decrease from last week's daily average collection of nearly 1,300 per day. As with previous weeks, only a few steelhead were sampled at the Salmon River Trap this week and no juvenile lamprey were sampled this week.

The Snake River Trap is located at river kilometer 225 and operated by Idaho Department of Fish and Game. To date, the Snake River Trap has collected mostly yearling Chinook, with a few steelhead and subyearling Chinook fry. However, collections at the Snake River Trap have remained relatively low this week, with a maximum of 85 yearling Chinook in the sample from March 30th. Sampling at the Snake River Trap was suspended from the afternoon of April 1st through April 3rd, in order to minimize impacts to yearling fall Chinook that were released from Captain Johns Rapids Acclimation Pond on April 1st. Trapping resumed on the afternoon of April 3rd.

The Imnaha River Trap is located at river kilometer 7 and is operated by the Nez Perce Tribe. Sampling at the Imnaha River Trap is year-round, however the FPC typically receives data only from early March through June. Due to the remote nature of the trap, the Nez Perce Tribe is able to send collection data to the FPC only periodically. Therefore, data for the Imnaha Trap may be several days behind. To date, we have received data through April 2nd. Over the last week, collections at the Imnaha River trap have been dominated by

steelhead. The average daily collection for steelhead over the period of March 27–April 2 was about 915 per day. This daily average collection is a substantial increase from the previous week (March 20–26), which was about 18 per day. This increase in steelhead collections is largely due to an influx of hatchery fish, which began arriving at the trap on March 26th. Since March 27th, clipped steelhead have made up over 97% of the steelhead sample. Finally, collections of yearling Chinook decreased slightly this week, when compared to last week. This week's daily average collection for yearling Chinook was about 75 per day.

Hatchery Release

Snake River Zone: The Snake River Zone encompasses the Snake River and its tributaries from its confluence with the Columbia River to Hells Canyon Dam. Approximately 164,000 yearling fall Chinook were scheduled for release from Captain Johns Rapids Acclimation Pond this week. Of these, about 55% were unclipped but tagged with coded-wire tags. In addition, about 2.46 million yearling spring Chinook juveniles were scheduled for release into this zone this week. Of these, about 79% were scheduled for release into the Salmon River and its tributaries. The remaining 21% were scheduled to be released into the Clearwater (11%) and Tucannon (10%) rivers. Just over 2.0 million yearling summer Chinook were scheduled for release into this zone this week. Of these, approximately 52% were reared at McCall Hatchery and are scheduled for release into the Salmon River while 48% were reared at Pahsimeroi Hatchery and are scheduled for release into the Pahsimeroi River.

Two releases of coho juveniles were scheduled to begin this week. These releases were expected to total about 503,000 juveniles and both releases were scheduled to take place in Clear Creek, a tributary of the Clearwater River. Finally, nearly 2.1 million summer steelhead were scheduled for release to this zone this week. Of these, nearly 62% were scheduled to be released into the Salmon River, 38% were scheduled to be released into the Pahsimeroi River, and 0.1% were scheduled to be released into the Snake River, below Hells Canyon Dam.

There are several releases of yearling fall Chinook juveniles scheduled to take place over the next 2 weeks. In all, these fall Chinook releases are expected to total about 826,000 juveniles. Of these, nearly 61% are scheduled for release from Lyons Ferry Hatchery, below Little Goose Dam. The remaining 40% are scheduled for release into the Snake River at Pittsburg Landing Acclimation Facility (20%) and into the Clearwater River at Big Canyon Creek Acclimation Facility (20%). Over half of these yearling fall Chinook are unclipped but tagged with coded-wire tags. In addition, just over 2.8 million yearling spring Chinook are scheduled for release to this zone over the next 2 weeks. Of these, about 72% are scheduled to be released from Dworshak National Fish Hatchery into the Clearwater River beginning on or around April 9th. The remaining releases of yearling spring Chinook over the next 2 weeks are scheduled to occur in the Imnaha (15%) and Grande Ronde (13%) rivers. Finally, nearly 5.2 million summer steelhead are scheduled for release to this zone over the next 2 weeks. Of these, about 54% are scheduled for release into the Clearwater River and its tributaries, 29% are scheduled for release into the Salmon River and its tributaries, and 14% are scheduled for release into the Grande Ronde and its tributaries. The remaining 2% are scheduled for release from Lyons Ferry Hatchery, below Little Goose Dam.

Mid-Columbia Zone: The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. Nearly 250,000 yearling spring Chinook were scheduled to be released into the Walla Walla River this week. In addition, about 44,225 summer Chinook juveniles were scheduled for release into this zone this week. Of these, 44,000 were yearling summer Chinook that were scheduled to be released into Omak Creek, a tributary of the Okanogan River. These yearling summer Chinook were reared at Chief Joseph Hatchery, a new facility operated by the Colville Tribe. Migration year 2014 is the first year of releases from this facility. The remaining 225 summer Chinook juveniles scheduled for release this week were subyearlings that were scheduled to be released into the Methow River, as part of the WDFW Cooperative program.

There are several releases of juvenile salmonids scheduled for this zone over the next 2 weeks. Just over

1.03 million yearling spring Chinook are scheduled to be released into this zone over the next 2 weeks. Of these, about 79% are scheduled to be released into the Methow River while 21% are scheduled for release into the Wenatchee River. In addition, nearly 1.6 million yearling summer Chinook are scheduled to be released into this zone over the next 2 weeks. These releases are scheduled to take place throughout this zone, including directly into the mid-Columbia River (56%), the Entiat River (24%), the Methow River (13%), and the Okanogan River (7%).

Approximately 866,000 coho juveniles are scheduled to be released into the Yakima River zone over the next 2 weeks. These coho juveniles are part of the Yakama Tribal Program reintroducing coho to the Yakima, Methow, and Wenatchee rivers. This tribal program is expected to release approximately 2.44 million coho juveniles in 2014. Finally, nearly 597,000 summer steelhead are scheduled for release into this zone over the next 2 weeks. Of these, approximately 33% are scheduled to be released into the Methow River, 25% are scheduled to be released into the Mid-Columbia River from Ringold Springs Hatchery, 23% are scheduled to be released into the Touchet River, and 18% are scheduled to be released into the Walla Walla River.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. Two releases of yearling spring Chinook to this zone were scheduled to begin this week. The first was a release of approximately 711,000 juveniles from the Warm Springs National Fish Hatchery into the Deschutes River. The second was a release of about 150,000 juveniles to the Umatilla River. The spring Chinook juveniles released into the Umatilla River this week are 100% unclipped but are tagged with coded-wire tags.

Approximately 6.0 million subyearling fall Chinook tules are scheduled for release from Spring Creek National Fish Hatchery on or around April 11th. In addition, there are several releases of yearling spring Chinook that are scheduled to begin over the next 2 weeks. In all, these spring Chinook releases are expected to total nearly 2.62 million juveniles. Of these, approximately 43% are scheduled to be released

from Carson National Fish Hatchery into the Wind River while 38% are scheduled for release from Little White Salmon National Fish Hatchery into the Little White Salmon River. The remaining 19% are scheduled for release into the Umatilla (15%), Hood (3%), and Deschutes (1%) rivers. Finally, about 175,500 summer steelhead are scheduled for release into the Deschutes River over the next 2 weeks.

Adult Passage

Bonneville Dam uses video counts from January 1st through March 31st and direct counting after this period. Bonneville Dam counts adult salmon and steelhead year round. Lower Granite Dam uses video counts from March 1st through March 31st and direct counting after this period. Lower Granite Dam counts adult salmon and steelhead through December 30th each year. Willamette Falls also uses video counts and reports adult counts year round.

Adult counts at Bonneville Dam have been updated through 4/3/14. The 2014 adult spring Chinook count at Bonneville Dam is 777 which is about 1.6 times greater than the 2013 count of 493 and 2.4 times greater than the 10-year average count of 319. At Willamette Falls 16 adult spring Chinook have been counted so far this season.

The 2014 Bonneville Dam adult steelhead count of 2,697 is about 1.4 times greater than the 2013 count of 1,900 and 1.2 times greater than the 10-year average count of 2,286. This year's Lower Granite steelhead count of 5,762 is about 1.2 times greater than the 2013 count of 4,793 and about 1.1 times greater than the 10-year average count of 5,351. At Willamette Falls, the 2014 count for steelhead was 3,104 as of March 29th. This year's steelhead count is about 82% of the 2013 count of 3,786 and about 70% of the 10-year average count of 4,417.

Between March 1st and March 31st, a total of 76 steelhead and 10 other salmonid species were observed over the separator at the Bonneville Juvenile Monitoring Facility (JMF). 2014 Kelt passage at the Bonneville JMF can be found at: <http://www.fpc.org/adultsalmon/bonkeltcounts.htm>.

Hatchery Releases Last Two Weeks

Hatchery Release Summary									
From:	3/21/2014		to		04/03/14				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Colville Tribe	Chief Joseph Hatchery	CH1	SU	2014	44,000	04-01-14	04-15-14	Omak Creek	Okanogan River
Colville Tribe Total					44,000				
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SP	2014	1,186,000	03-25-14	04-01-14	Red River	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	CH1	SU	2014	487,000	03-24-14	03-24-14	Crooked River	S Fk Clearwater River
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2014	234,000	03-29-14	04-03-14	Knox Bridge	Salmon River (ID)
Idaho Dept. of Fish and Game	McCall Hatchery	CH1	SU	2014	814,000	03-29-14	04-03-14	Knox Bridge	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2014	2,300	03-30-14	03-30-14	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2014	547,700	03-24-14	03-30-14	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2014	800,000	03-31-14	04-10-14	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2014	143,242	04-01-14	04-14-14	Pahsimeroi Hatchery	Pahsimeroi River
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2014	834,059	04-01-14	04-14-14	Pahsimeroi Hatchery	Pahsimeroi River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2014	2,500,000	03-17-14	04-25-14	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game	Sawtooth Hatchery	CH1	SP	2014	193,000	04-01-14	04-02-14	Yankee Fk (Salmon R)	Salmon River (ID)
Idaho Dept. of Fish and Game Total					7,741,301				
Nez Perce Tribe	Dworshak NFH	CO	UN	2014	328,523	04-01-14	04-05-14	Clear Creek	Clearwater River M F
Nez Perce Tribe	Eagle Creek NFH	CO	UN	2014	175,030	04-01-14	04-05-14	Clear Creek	Clearwater River M F
Nez Perce Tribe	Kooskia NFH	CH1	SP	2014	630,000	03-15-14	03-31-14	Clear Creek	Clearwater River M F
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2014	233,061	03-21-14	04-22-14	Lostine Accim Pond	Wallowa River
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2014	164,000	04-01-14	04-01-14	Cpt John Acclim Pond	Snake River South Fork Salmon River
Nez Perce Tribe	McCall Hatchery	CH1	SU	2014	95,000	03-26-14	03-27-14	Johnson Cr Idaho Nez Perce Tribal	
Nez Perce Tribe	Nez Perce Tribal Hatchery	CH1	SP	2014	269,000	04-01-14	04-11-14	Hatchery	Clearwater River M F
Nez Perce Tribe Total					1,894,614				
Oregon Dept. of Fish and Wildlife	Umatilla Hatchery	CH1	SP	2014	150,000	04-01-14	04-01-14	Umatilla River	Umatilla River
Oregon Dept. of Fish and Wildlife Total					150,000				
U.S. Fish and Wildlife Service	Dworshak NFH	CH1	SU	2014	487,000	03-24-14	04-05-14	Powell Acclim Pond	Lochsa River
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2014	126,000	04-03-14	04-04-14	McNabb/Salmon River	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2014	1,166,550	04-02-14	04-25-14	Sawtooth Hatchery Warm Springs	Salmon River (ID)
U.S. Fish and Wildlife Service	Warm Springs NFH	CH1	SP	2014	711,328	03-31-14	04-03-14	Hatchery	Deschutes River
U.S. Fish and Wildlife Service Total					2,490,878				
Umatilla Tribe	Carson NFH	CH1	SP	2014	249,091	04-01-14	04-01-14	Walla Walla River	Walla Walla River
Umatilla Tribe	Cascade Hatchery	CO	UN	2014	250,000	03-24-14	03-24-14	Pendelton Acclim Pond Grande Ronde Acclim	Umatilla River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2014	122,000	03-22-14	04-03-14	Pond Catherine Cr Acclim	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2014	138,000	03-21-14	04-15-14	Pond	Grande Ronde River
Umatilla Tribe Total					759,091				
Washington Dept. of Fish and Wildlife	COOP	CH0	SU	2014	225	03-30-14	03-30-14	Methow River	Methow River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2014	256,000	04-01-14	04-25-14	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Washougal Hatchery	CO	NO	2014	2,500,000	03-20-14	04-01-14	Klickitat River	Klickitat River
Washington Dept. of Fish and Wildlife Total					2,756,225				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2014	258,316	03-15-14	05-15-14	Clark Flat Acclim Pond Jack Creek Acclim	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2014	270,653	03-15-14	05-15-14	Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2014	277,151	03-15-14	05-15-14	Easton Pond	Yakima River
Yakama Tribe Total					806,120				
Grand Total					16,642,229				

Hatchery Releases Next Two Weeks

Hatchery Release Summary									
From:	4/4/2014		to		4/17/2014				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Colville Tribe Colville Tribe Total	Chief Joseph Hatchery	CH1	SU	2014	44,000	04-01-14	04-15-14	Omak Creek	Okanogan River
					44,000				
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2014	130,000	04-14-14	04-14-14	Newsome Creek	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2014	188,000	04-07-14	04-16-14	Meadow Creek - CLES Redhouse (SFk	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2014	220,000	04-11-14	04-11-14	ClearH2O R)	S Fk Clearwater River
Idaho Dept. of Fish and Game	Clearwater Hatchery	ST	SU	2014	287,000	04-15-14	04-15-14	Meadow Creek - CLES	S Fk Clearwater River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2014	93,268	04-08-14	04-08-14	Shoup Br (Salmon R)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2014	93,662	04-09-14	04-09-14	Salmon River (ID)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2014	94,165	04-07-14	04-07-14	Salmon River (ID)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2014	138,018	04-16-14	04-18-14	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2014	186,561	04-14-14	04-16-14	Squaw Creek	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2014	219,155	04-10-14	04-17-14	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2014	237,353	04-11-14	04-14-14	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2014	450,000	04-11-14	04-17-14	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Game	Niagara Springs	ST	SU	2014	800,000	03-31-14	04-10-14	Pahsimeroi River	Pahsimeroi River
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2014	143,242	04-01-14	04-14-14	Pahsimeroi Hatchery	Pahsimeroi River
Idaho Dept. of Fish and Game	Pahsimeroi Hatchery	CH1	SU	2014	834,059	04-01-14	04-14-14	Pahsimeroi Hatchery	Pahsimeroi River
Idaho Dept. of Fish and Game	Rapid River Hatchery	CH1	SP	2014	2,500,000	03-17-14	04-25-14	Rapid River Hatchery	Little Salmon River
Idaho Dept. of Fish and Game	Sawtooth Hatchery	CH1	SP	2014	180,000	04-04-14	04-04-14	Sawtooth Hatchery	Salmon River (ID)
Idaho Dept. of Fish and Game Idaho Dept. of Fish and Game Total	Sawtooth Hatchery	CH1	SP	2014	1,560,500	04-04-14	04-04-14	Sawtooth Hatchery	Salmon River (ID)
					8,354,983				
Nez Perce Tribe	Dworshak NFH	CO	UN	2014	328,523	04-01-14	04-05-14	Clear Creek	Clearwater River M F
Nez Perce Tribe	Eagle Creek NFH	CO	UN	2014	175,030	04-01-14	04-05-14	Clear Creek	Clearwater River M F
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2014	233,061	03-21-14	04-22-14	Lostine Accim Pond Big Canyon (Clearwater	Wallowa River
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2014	162,000	04-17-14	04-17-14	River)	Clearwater River M F
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2014	164,000	04-15-14	04-15-14	Pittsburg Landing Acclim Pond	Snake River
Nez Perce Tribe Nez Perce Tribe Total	Nez Perce Tribal Hatchery	CH1	SP	2014	269,000	04-01-14	04-11-14	Nez Perce Tribal Hatchery	Clearwater River M F
					1,331,614				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2014	160,000	04-11-14	04-11-14	Big Canyon Acclim.Pd (Grande Ronde)	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2014	360,000	04-10-14	04-10-14	Wallowa Acclim Pond	Wallowa River
Oregon Dept. of Fish and Wildlife	Lookingglass Hatchery	CH1	SP	2014	250,000	04-14-14	04-14-14	Lookingglass Creek	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Lookingglass Hatchery	CH1	SP	2014	420,000	04-14-14	04-14-14	Imnaha Acclim Pond	Imnaha River
Oregon Dept. of Fish and Wildlife	Opal Springs Hatchery	ST	SU	2014	5,500	04-15-14	04-15-14	Wychus Creek	Deschutes River
Oregon Dept. of Fish and Wildlife	Opal Springs Hatchery	ST	SU	2014	8,000	04-15-14	04-15-14	Crooked River (OR)	Deschutes River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	ST	SU	2014	162,000	04-08-14	04-08-14	Deschutes River	Deschutes River
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	CH1	SP	2014	5,000	04-15-14	04-15-14	Wychus Creek	Deschutes River

Hatchery Releases Next Two Weeks

Agency	Hatchery	Hatchery Release Summary					RelStart	RelEnd	RelSite	RelRiver
		From:	4/4/2014	to	4/17/2014	NumRel				
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	CH1	SP	2014	7,000	04-15-14	04-15-14	Metolius River	Deschutes River	
Oregon Dept. of Fish and Wildlife	Wizard Falls Hatchery	CH1	SP	2014	7,500	04-15-14	04-15-14	Crooked River (OR)	Deschutes River	
Oregon Dept. of Fish and Wildlife Total					1,385,000					
U.S. Fish and Wildlife Service	Carson NFH	CH1	SP	2014	1,129,229	04-16-14	04-16-14	Carson Hatchery	Wind River	
U.S. Fish and Wildlife Service	Dworshak NFH	CH1	SP	2014	2,042,652	04-09-14	04-10-14	Dworshak Hatchery	Clearwater River M F	
U.S. Fish and Wildlife Service	Dworshak NFH	CH1	SU	2014	487,000	03-24-14	04-05-14	Powell Acclim Pond	Lochsa River	
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2014	360,000	04-14-14	04-15-14	Clear Creek Redhouse (SFk ClearH20 R)	Clearwater River M F	
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2014	418,000	04-14-14	04-18-14	ClearH20 R	S Fk Clearwater River	
U.S. Fish and Wildlife Service	Dworshak NFH	ST	SU	2014	1,201,000	04-14-14	04-18-14	Dworshak Hatchery	Clearwater River M F	
U.S. Fish and Wildlife Service	Entiat Hatchery	CH1	SU	2014	385,000	04-16-14	04-16-14	Entiat Hatchery	Entiat River	
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2014	126,000	04-03-14	04-04-14	McNabb/Salmon River	Salmon River (ID)	
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2014	1,166,550	04-02-14	04-25-14	Sawtooth Hatchery Little White Salmon Hatchery	Salmon River (ID) Little White Salmon River	
U.S. Fish and Wildlife Service	Little White Salmon NFH	CH1	SP	2014	876,050	04-17-14	04-17-14	Hatchery	Little White Salmon River	
U.S. Fish and Wildlife Service	Spring Creek NFH	CH0	FA	2014	6,000,000	04-11-14	04-11-14	Spring Creek Hatchery	L Col R (D/s McN Dam)	
U.S. Fish and Wildlife Service	Willard Hatchery	CH1	SP	2014	122,800	04-15-14	04-15-14	Willard Hatchery	Little White Salmon River	
U.S. Fish and Wildlife Service	Winthrop NFH	CH1	SP	2014	560,000	04-15-14	04-30-14	Winthrop Hatchery	Methow River	
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2014	53,000	04-15-14	05-15-14	Winthrop Hatchery	Methow River	
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2014	96,000	04-15-14	05-15-14	Winthrop Hatchery	Methow River	
U.S. Fish and Wildlife Service Total					15,023,281					
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2014	130,000	04-06-14	04-15-14	Grande Ronde Acclim Pond	Grande Ronde River	
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2014	138,000	03-21-14	04-15-14	Catherine Cr Acclim Pond	Grande Ronde River	
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2014	172,100	04-16-14	04-16-14	Imeques Acclim Pond	Umatilla River	
Umatilla Tribe	Umatilla Hatchery	CH1	SP	2014	224,600	04-16-14	04-16-14	Imeques Acclim Pond	Umatilla River	
Umatilla Tribe Total					664,700					
Warm Springs Tribe	Round Butte Hatchery	CH1	SP	2014	75,000	04-09-14	04-09-14	W Fk Hood River	Hood River	
Warm Springs Tribe Total					75,000					
Washington Dept. of Fish and Wildlife	Chelan Hatchery	CH1	SU	2014	141,000	04-10-14	04-10-14	Chelan Falls	Mid-Columbia River	
Washington Dept. of Fish and Wildlife	Chelan Hatchery	CH1	SU	2014	142,000	04-10-14	04-10-14	Chelan Falls	Mid-Columbia River	
Washington Dept. of Fish and Wildlife	Chelan Hatchery	CH1	SU	2014	143,000	04-10-14	04-10-14	Chelan Falls	Mid-Columbia River	
Washington Dept. of Fish and Wildlife	Chelan Hatchery	CH1	SU	2014	147,000	04-10-14	04-10-14	Chelan Falls	Mid-Columbia River	
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	CH1	SP	2014	222,300	04-15-14	04-25-14	Chiwawa Hatchery	Wenatchee River	
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH1	FA	2014	500,000	04-08-14	04-08-14	Lyons Ferry Hatchery	Snake River	
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2014	50,000	04-15-14	04-15-14	Baileysburg Bridge	Touchet River	
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2014	90,000	04-05-14	04-15-14	Dayton Acclim Pond	Touchet River	
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2014	107,500	04-15-14	04-15-14	Walla Walla River	Walla Walla River	
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2014	117,500	04-15-14	04-15-14	Lyons Ferry Hatchery	Snake River	

Hatchery Releases Next Two Weeks

Hatchery Release Summary									
From:	4/4/2014		to		4/17/2014				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2014	210,000	04-08-14	04-30-14	Cottonwood Acclim Pond	Grande Ronde River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2014	49,162	04-15-14	04-30-14	Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SP	2014	203,330	04-15-14	04-20-14	Methow Hatchery	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SU	2014	200,000	04-15-14	04-25-14	Carlton Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	ST	SU	2014	50,000	04-10-14	04-30-14	Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Ringold Springs Hatchery	ST	SU	2014	150,000	04-10-14	04-20-14	Ringold Springs Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Similkameen Hatchery	CH1	SU	2014	115,000	04-15-14	05-10-14	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2014	256,000	04-01-14	04-25-14	Curl Lake Acclim Pond	Tucannon River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2014	320,000	04-15-14	05-15-14	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					3,213,792				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2014	258,316	03-15-14	05-15-14	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2014	270,653	03-15-14	05-15-14	Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2014	277,151	03-15-14	05-15-14	Easton Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2014	72,750	04-15-14	06-15-14	Easton Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2014	92,105	04-15-14	06-15-14	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2014	92,376	04-15-14	06-15-14	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2014	94,680	04-15-14	06-15-14	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2014	140,342	04-15-14	06-15-14	Easton Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2014	43,408	04-15-14	06-15-14	Yakama River	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2014	108,570	04-15-14	06-15-14	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2014	221,567	04-15-14	06-15-14	Prosser Acclim Pond	Yakima River
Yakama Tribe Total					1,671,918				
Grand Total					31,764,288				

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

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

Date	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
03/21/2014	136.2	0.0	141.6	8.9	146.6	5.3	144.9	0.0	152.3	20.4	151.0	48.0	161.6	31.7
03/22/2014	135.0	0.0	133.0	0.0	129.2	0.0	127.9	1.8	131.1	28.2	132.4	37.7	132.5	5.5
03/23/2014	144.8	0.0	139.7	0.0	132.2	4.1	122.1	3.0	130.2	27.7	140.3	40.1	147.8	21.8
03/24/2014	129.3	0.0	133.5	0.0	133.5	0.0	134.8	0.0	144.7	14.4	140.4	37.9	144.2	0.0
03/25/2014	121.5	0.0	130.3	0.0	130.6	0.0	129.3	0.0	135.4	13.9	136.6	37.5	141.6	0.0
03/26/2014	134.5	0.0	127.2	0.1	130.3	0.0	127.2	0.0	133.1	14.6	135.0	32.6	140.5	2.3
03/27/2014	135.0	0.0	132.1	10.4	125.6	0.0	125.6	0.0	131.3	16.0	135.2	32.2	138.1	16.4
03/28/2014	135.3	0.0	144.2	22.7	141.2	0.0	133.8	0.0	138.3	16.1	140.1	40.0	149.5	13.3
03/29/2014	124.7	0.0	123.7	6.8	128.5	0.0	124.6	0.0	139.5	29.4	136.3	33.2	142.3	21.4
03/30/2014	123.4	0.0	122.8	19.3	124.3	0.0	122.7	0.0	133.7	24.1	130.7	38.0	135.8	13.7
03/31/2014	120.0	0.0	120.5	10.9	127.9	3.1	121.7	0.0	137.4	15.7	131.7	26.6	136.7	0.0
04/01/2014	125.1	0.0	120.6	0.0	121.4	6.9	121.7	0.0	136.8	14.9	130.6	26.1	132.6	4.0
04/02/2014	117.4	0.0	117.9	0.0	110.1	14.2	112.5	0.0	121.4	27.1	120.5	30.0	127.6	0.0
04/03/2014	121.0	0.0	125.9	0.0	130.2	8.0	117.5	0.0	120.0	38.0	121.5	21.7	124.6	0.0

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

Date	Dworshak		Brownlee		Hells Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
03/21/2014	17.1	6.4	14.2	20.0	68.0	0.0	66.0	0.0	69.8	0.0	66.4	0.0	66.4	0.0
03/22/2014	19.9	9.2	13.5	14.4	57.9	0.0	55.0	0.0	58.5	0.0	60.1	0.0	60.1	0.0
03/23/2014	19.9	9.2	13.1	12.7	57.7	0.0	57.2	0.0	58.8	0.0	60.2	0.0	60.2	0.0
03/24/2014	19.9	9.2	12.4	16.1	55.8	0.0	49.4	0.0	55.0	0.0	51.7	0.0	51.7	0.0
03/25/2014	19.9	9.1	11.8	11.3	57.0	0.0	50.6	0.0	52.6	0.0	54.2	0.0	54.2	0.0
03/26/2014	19.8	9.0	11.9	12.8	56.5	0.0	54.2	0.0	55.7	0.0	56.1	0.0	56.1	0.0
03/27/2014	19.9	9.0	12.5	18.8	61.2	0.0	58.3	0.0	58.8	0.0	59.0	0.0	59.0	0.0
03/28/2014	20.0	9.0	12.9	19.7	67.4	0.0	70.6	0.0	75.5	0.0	76.6	0.0	76.6	0.0
03/29/2014	20.0	9.0	13.5	20.5	74.4	0.0	65.7	0.0	66.3	0.0	70.4	0.0	70.4	0.0
03/30/2014	20.0	8.9	14.2	17.9	90.2	0.0	87.4	0.0	92.4	0.0	94.4	0.0	94.4	0.0
03/31/2014	20.0	8.9	15.2	13.5	85.5	0.0	73.3	0.0	79.3	0.0	78.2	0.0	78.2	0.0
04/01/2014	20.1	8.9	16.1	14.0	67.7	5.0	72.0	4.4	76.9	0.0	79.8	0.0	79.8	0.0
04/02/2014	20.0	8.8	16.2	13.9	68.4	0.0	66.6	0.1	72.2	0.0	76.0	0.2	76.0	0.2
04/03/2014	19.9	8.7	---	18.6	63.4	20.3	64.6	19.3	65.3	27.9	67.5	50.8	67.5	50.8

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

Date	McNary		John Day		The Dalles		Bonneville			
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
03/21/2014	253.2	59.2	246.7	5.0	241.7	0.0	247.5	27.0	99.3	108.9
03/22/2014	230.6	37.0	232.1	0.0	233.0	0.0	260.2	38.0	101.7	108.1
03/23/2014	210.2	16.9	218.0	0.0	215.3	0.0	242.4	19.1	100.8	110.2
03/24/2014	210.6	22.3	208.4	0.0	206.2	0.0	223.5	1.2	100.9	109.0
03/25/2014	196.3	9.6	197.3	0.0	196.2	0.0	215.6	1.2	94.9	107.0
03/26/2014	207.6	21.9	214.4	0.0	211.7	0.0	221.3	1.2	99.8	107.8
03/27/2014	205.2	34.9	203.9	0.0	204.2	0.0	224.4	1.2	99.4	111.4
03/28/2014	227.1	52.2	220.6	0.0	218.1	0.0	238.8	11.5	101.5	113.4
03/29/2014	226.7	52.0	212.3	0.0	204.5	0.0	231.1	2.5	103.2	113.0
03/30/2014	240.2	65.0	230.5	0.0	228.2	0.0	250.4	21.5	103.5	113.0
03/31/2014	243.8	68.7	242.1	0.0	238.3	0.0	262.7	33.5	103.2	113.7
04/01/2014	221.5	87.8	223.5	0.0	221.2	0.0	243.9	33.2	83.8	114.4
04/02/2014	217.8	82.8	217.0	0.0	217.2	0.0	234.9	26.8	83.8	112.0
04/03/2014	217.7	79.8	211.5	0.0	211.2	0.0	239.5	26.3	84.5	116.3

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
3/21	101.0	104.5	104.7	24	---	---	---	0	99.7	99.9	100.1	24	98.5	98.8	98.8	24	---	---	---	0
3/22	104.7	104.9	105.1	24	---	---	---	0	99.9	100.3	100.4	24	98.8	99.3	99.5	24	---	---	---	0
3/23	104.9	105.0	105.1	24	---	---	---	0	100.0	100.2	100.4	24	99.1	99.3	99.5	24	---	---	---	0
3/24	104.7	104.9	105.0	24	---	---	---	0	100.3	100.7	101.0	24	99.3	99.8	100.1	24	---	---	---	0
3/25	105.3	105.5	105.7	24	---	---	---	0	102.1	102.6	102.8	24	101.0	101.7	101.8	24	---	---	---	0
3/26	105.7	106.2	106.4	24	---	---	---	0	102.9	103.1	103.2	24	101.8	102.1	102.2	24	---	---	---	0
3/27	105.8	106.7	107.6	24	---	---	---	0	102.7	102.9	103.1	24	101.4	101.7	101.9	24	---	---	---	0
3/28	104.8	104.8	104.9	21	---	---	---	0	102.3	102.6	102.8	24	101.0	101.2	101.4	24	---	---	---	0
3/29	104.9	104.9	105.0	24	---	---	---	0	103.0	103.2	103.3	24	101.8	102.0	102.3	24	---	---	---	0
3/30	104.7	104.8	104.9	24	---	---	---	0	103.3	103.5	103.9	24	101.8	102.1	102.3	24	---	---	---	0
3/31	104.6	104.7	104.9	24	---	---	---	0	103.4	104.0	104.3	24	101.7	102.2	102.5	24	---	---	---	0
4/1	104.8	104.9	105.2	24	---	---	---	0	104.5	105.0	105.4	24	102.5	102.8	103.0	24	---	---	---	0
4/2	107.2	109.6	111.1	24	---	---	---	0	104.7	105.0	105.2	24	102.4	102.6	102.7	24	---	---	---	0
4/3	111.1	111.3	112.1	23	---	---	---	0	105.0	105.3	105.7	23	102.7	103.0	103.1	23	---	---	---	0

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
3/21	---	---	---	0	101.4	101.6	101.9	20	103.1	103.6	104.0	20	105.4	105.7	105.8	24	106.7	106.9	107.2	24
3/22	---	---	---	0	100.7	101.0	101.5	21	100.9	101.5	102.3	21	104.9	105.1	105.3	24	106.6	108.0	112.5	24
3/23	---	---	---	0	99.8	100.0	100.5	20	101.1	102.0	104.0	20	102.7	103.1	104.0	24	105.5	106.5	108.7	24
3/24	---	---	---	0	100.0	100.3	100.5	21	100.4	100.8	101.2	21	102.1	102.5	103.1	24	103.0	103.8	104.4	24
3/25	102.8	102.8	103.7	8	101.7	102.2	102.6	21	101.9	102.5	102.9	21	103.6	103.7	103.8	24	104.6	104.8	105.1	24
3/26	102.1	102.5	102.7	24	102.5	102.8	103.2	22	102.8	103.2	103.7	22	103.2	103.4	103.6	24	104.2	104.5	104.7	24
3/27	105.0	105.3	105.7	24	102.1	102.4	102.6	20	102.1	102.7	103.1	20	102.7	102.9	103.3	24	103.7	103.9	104.2	24
3/28	106.8	106.8	107.0	8	101.8	102.0	102.2	21	101.9	102.3	102.4	21	102.3	102.4	102.6	24	103.3	103.5	103.7	24
3/29	---	---	---	0	103.0	103.3	103.7	18	103.1	103.6	104.1	18	102.5	102.8	102.9	24	103.4	103.6	103.7	24
3/30	---	---	---	0	102.3	102.7	103.0	21	102.7	103.2	103.7	21	102.6	102.8	103.0	24	103.3	103.5	103.6	24
3/31	---	---	---	0	102.9	103.7	103.9	20	103.7	105.1	106.6	20	103.2	103.6	103.8	24	103.9	104.2	104.5	24
4/1	---	---	---	0	103.9	104.2	104.6	22	106.1	106.9	107.6	22	103.3	103.6	103.7	24	104.0	104.3	104.5	24
4/2	---	---	---	0	103.2	103.5	103.8	24	107.6	110.0	113.5	24	104.8	105.7	106.1	24	105.0	105.7	106.4	24
4/3	---	---	---	0	103.3	103.7	103.8	22	105.4	106.7	108.0	22	105.7	106.0	106.6	23	106.1	106.4	107.0	23

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>					
	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>				
3/21	106.3	107.8	132.3	20	107.5	108.6	132.6	20	---	---	---	0	113.7	114.5	116.2	24	113.7	114.6	115.4	24
3/22	104.6	105.0	105.5	24	105.9	107.6	113.7	24	---	---	---	0	112.6	115.9	116.5	24	114.9	115.5	116.0	24
3/23	103.4	104.1	106.0	24	105.3	107.1	112.0	24	---	---	---	0	112.9	115.4	117.4	24	113.8	116.0	117.3	24
3/24	102.2	102.6	104.0	23	103.3	103.8	105.4	23	---	---	---	0	112.2	114.2	115.3	24	113.2	114.0	115.3	24
3/25	103.2	103.9	104.2	24	104.2	104.9	105.4	24	105.6	105.6	106.2	13	112.5	113.2	113.6	24	116.0	116.6	117.0	24
3/26	102.8	103.0	103.1	24	104.1	104.2	104.4	24	105.0	105.4	105.7	24	110.4	112.5	114.5	24	113.6	113.9	114.7	24
3/27	102.3	102.5	102.9	24	103.6	103.8	104.1	24	104.3	104.6	104.8	24	108.8	110.7	111.7	24	109.4	111.8	113.3	24
3/28	102.7	104.0	126.1	24	104.2	105.5	128.4	24	103.5	103.6	103.8	24	110.3	110.7	111.8	24	109.5	111.0	111.5	24
3/29	102.0	102.3	102.4	24	104.1	105.0	105.8	24	103.8	104.0	104.3	24	109.4	110.6	112.6	24	110.5	110.8	111.5	24
3/30	101.9	102.3	102.7	24	104.1	105.1	110.0	24	104.1	104.7	105.2	24	110.1	111.4	111.8	24	108.3	109.6	110.0	24
3/31	102.6	103.4	103.8	24	104.2	104.8	105.1	24	104.6	105.7	107.1	24	107.9	110.0	110.9	24	110.6	111.8	112.4	24
4/1	103.1	103.4	103.6	24	104.6	104.8	105.0	24	105.0	105.4	105.6	24	108.4	109.9	111.2	24	108.7	109.6	110.1	24
4/2	103.1	103.9	104.6	24	106.8	109.6	110.6	24	---	---	---	0	---	---	---	0	---	---	---	0
4/3	104.8	105.0	105.2	23	110.6	111.0	111.4	23	---	---	---	0	---	---	---	0	---	---	---	0

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

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

Date	Priest R. Dnst				Pasco				Dworshak				Clrwr-Peck				Anatone			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
3/21	---	---	---	0	---	---	---	0	110.9	111.2	111.6	24	105.3	105.8	106.1	24	101.3	102.0	102.7	24
3/22	---	---	---	0	---	---	---	0	115.0	115.6	115.9	24	108.3	109.1	109.6	24	101.4	102.2	103.1	24
3/23	---	---	---	0	---	---	---	0	115.3	115.5	116.4	24	108.6	109.0	109.3	24	101.5	102.2	103.0	24
3/24	110.3	110.3	112.3	12	---	---	---	0	115.7	115.9	116.0	24	109.2	109.8	110.3	24	101.7	102.7	103.5	24
3/25	113.5	114.2	114.7	24	---	---	---	0	116.7	116.9	117.3	24	110.0	110.3	110.8	24	102.0	102.4	103.0	24
3/26	111.3	111.9	113.4	24	---	---	---	0	116.9	117.1	117.4	24	110.0	110.4	110.7	24	101.7	102.3	103.1	24
3/27	109.9	110.7	111.4	24	---	---	---	0	116.8	117.0	117.3	24	109.4	109.4	109.8	13	101.1	101.1	101.8	13
3/28	109.8	110.5	111.6	24	---	---	---	0	116.5	116.7	117.1	24	---	---	---	0	102.1	102.1	102.4	11
3/29	111.5	112.4	113.2	24	---	---	---	0	116.7	116.9	117.2	24	---	---	---	0	101.6	102.0	102.3	24
3/30	109.1	110.1	111.0	24	---	---	---	0	116.6	116.8	117.2	24	---	---	---	0	101.3	101.7	102.1	24
3/31	109.5	110.4	111.1	24	---	---	---	0	116.6	116.8	117.1	24	---	---	---	0	101.5	102.2	102.8	24
4/1	107.9	109.1	110.9	24	---	---	---	0	117.1	117.3	117.9	24	108.4	108.4	108.7	5	101.4	101.8	102.5	24
4/2	---	---	---	0	---	---	---	0	116.8	117.0	117.5	24	108.2	108.7	109.0	24	101.2	101.8	102.3	24
4/3	---	---	---	0	---	---	---	0	116.4	116.6	116.8	23	108.6	109.2	109.7	23	101.6	102.5	103.2	23

Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clrwr-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		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
3/21	102.7	103.8	104.6	24	101.9	102.1	102.3	24	101.5	101.8	102.1	24	103.8	104.3	104.7	24	103.5	104.0	104.5	24
3/22	104.0	106.0	107.0	24	101.9	102.2	102.3	24	101.5	101.8	102.0	24	102.3	102.5	102.6	24	102.1	102.4	102.5	24
3/23	105.0	106.1	107.3	24	102.1	102.2	102.3	24	101.7	101.9	102.0	24	102.3	102.6	103.4	24	101.9	102.1	102.4	24
3/24	105.4	107.0	108.0	24	102.7	103.2	104.0	24	102.4	103.0	103.5	24	101.9	102.1	102.4	24	102.1	102.7	102.9	24
3/25	106.2	107.1	107.7	24	104.8	105.1	105.5	24	105.0	106.0	110.7	24	103.6	104.0	104.3	24	103.7	104.1	104.2	24
3/26	106.5	107.5	108.0	24	105.9	106.0	106.0	24	105.6	105.9	107.5	24	104.5	105.0	105.5	24	104.1	104.3	104.7	24
3/27	105.6	106.1	106.8	24	105.7	105.9	106.2	24	105.6	106.0	107.6	24	103.9	104.1	104.3	24	103.4	103.7	103.8	24
3/28	105.2	105.9	106.3	24	104.6	104.8	105.0	24	104.2	104.3	104.5	24	103.3	103.5	103.8	24	102.9	103.1	103.3	24
3/29	105.4	106.1	106.9	24	104.0	104.3	104.6	24	103.8	103.9	104.2	24	104.1	104.3	104.6	24	103.6	103.9	105.0	24
3/30	104.1	104.5	105.0	24	103.2	103.3	103.4	24	102.8	102.9	103.1	24	104.0	104.2	104.5	24	103.7	103.8	104.0	24
3/31	105.0	106.3	107.1	24	103.7	104.3	104.7	24	103.5	104.1	104.7	24	104.1	104.4	104.6	24	103.8	104.3	104.9	24
4/1	105.6	106.4	107.2	24	103.9	104.1	104.5	24	105.6	107.5	116.8	24	104.2	104.4	104.6	24	105.4	107.1	116.5	24
4/2	105.4	106.3	107.1	24	103.3	103.4	103.6	24	103.0	103.2	103.5	24	103.6	103.8	103.9	24	102.9	103.1	103.4	24
4/3	105.6	106.9	107.8	23	103.3	103.5	103.7	23	111.3	111.7	112.1	23	103.3	103.8	104.4	23	108.7	109.2	109.5	23

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

Date	Lower Mon.				L. Mon. Tlwr				Ice Harbor				Ice Harbor Tlwr				McNary-Oregon			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
3/21	104.6	105.0	105.6	24	105.0	105.4	106.0	24	105.9	106.1	106.3	24	105.3	105.8	105.9	24	---	---	---	0
3/22	103.3	103.6	104.3	24	103.8	104.0	104.9	24	106.5	106.8	107.1	24	106.1	106.5	106.7	24	---	---	---	0
3/23	102.8	103.0	103.3	24	103.4	103.5	103.6	24	106.4	106.6	107.0	24	105.9	106.2	106.4	24	---	---	---	0
3/24	102.2	102.4	102.8	24	102.9	103.2	103.9	24	106.0	106.2	106.5	24	105.6	106.0	106.2	24	---	---	---	0
3/25	103.1	103.3	103.6	24	103.7	104.0	104.1	24	106.8	106.9	107.1	24	106.2	106.4	106.5	24	---	---	---	0
3/26	103.1	103.2	103.3	24	103.9	104.1	105.0	24	106.4	106.4	106.5	24	105.8	106.0	106.3	24	---	---	---	0
3/27	102.3	102.7	102.9	24	103.0	103.3	103.5	24	105.0	105.4	105.9	24	104.8	105.5	106.3	24	---	---	---	0
3/28	101.7	101.9	102.1	24	102.5	102.8	103.0	24	103.7	103.7	103.9	24	103.4	103.6	104.0	24	---	---	---	0
3/29	101.9	102.0	102.1	24	102.8	103.0	103.2	24	103.2	103.4	103.6	24	102.8	103.0	103.3	24	---	---	---	0
3/30	101.5	101.6	101.8	24	102.4	102.5	102.6	24	102.7	102.8	102.9	24	102.3	102.4	102.6	24	---	---	---	0
3/31	102.0	102.4	102.6	24	102.9	103.4	103.5	24	102.8	103.2	103.5	24	102.7	103.3	103.6	24	---	---	---	0
4/1	102.9	103.0	103.1	24	103.8	104.1	104.3	24	103.6	103.7	103.9	24	103.2	103.3	103.4	24	---	---	---	0
4/2	102.6	102.7	103.0	24	103.4	103.6	104.1	24	103.3	103.5	103.6	24	103.1	103.3	104.2	24	---	---	---	0
4/3	102.8	103.6	104.2	23	116.9	117.5	117.7	23	103.5	103.8	104.1	23	114.6	115.4	115.9	23	---	---	---	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	Avg	AVG	High	hr
3/21	107.0	107.8	109.1	24	112.5	113.2	115.4	24	104.8	105.0	105.1	24	106.4	108.0	110.8	24	104.9	105.2	105.4	24
3/22	109.4	110.0	110.6	24	111.6	112.0	112.4	24	105.2	105.7	106.3	24	105.3	105.7	106.0	24	104.5	104.9	105.1	24
3/23	110.4	110.9	111.3	24	110.9	111.1	111.8	24	105.8	106.2	106.6	24	105.9	106.2	106.6	24	105.1	105.3	105.4	24
3/24	110.8	111.0	111.3	24	111.7	112.0	112.3	24	106.8	107.4	108.0	24	106.9	107.7	108.3	24	105.7	106.2	106.8	24
3/25	111.7	111.9	112.2	24	111.5	112.4	112.7	24	109.5	110.0	110.3	24	109.5	110.0	110.3	24	107.9	108.3	108.4	24
3/26	112.5	112.9	113.1	24	113.0	113.1	113.3	24	110.6	111.0	111.2	24	110.6	110.9	111.1	24	109.1	109.4	109.5	24
3/27	110.6	111.9	112.7	24	112.8	113.8	117.4	24	110.3	110.5	110.7	24	110.2	110.5	110.6	24	109.0	109.3	109.5	24
3/28	108.4	108.6	108.7	24	112.3	113.6	115.6	24	109.8	110.0	110.0	24	109.6	109.7	109.8	24	108.8	109.0	109.1	24
3/29	107.0	107.3	107.9	24	111.6	112.5	113.2	24	109.7	109.9	110.0	24	109.4	109.6	109.7	24	108.8	109.0	109.1	24
3/30	106.2	106.3	106.6	24	112.5	113.1	113.4	24	108.5	108.7	109.1	24	108.2	108.3	108.6	24	107.9	108.1	108.5	24
3/31	106.5	106.9	107.3	24	113.9	114.4	114.9	24	108.4	108.8	109.0	24	108.1	108.5	108.7	24	107.8	108.3	108.6	24
4/1	106.4	106.8	107.0	24	115.7	116.6	117.4	24	108.3	108.6	108.8	24	107.9	108.1	108.4	24	107.2	107.7	108.3	24
4/2	106.9	107.1	107.4	24	115.5	115.7	116.0	24	107.4	107.6	108.0	24	107.0	107.3	107.6	24	105.8	106.1	106.2	24
4/3	106.8	106.9	107.6	23	115.0	115.7	116.0	23	106.9	107.1	107.3	23	106.4	106.7	106.9	23	105.9	106.1	106.2	23

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	Avg	Avg	High	hr
3/21	105.4	105.6	105.8	24	106.1	106.4	106.6	24	107.2	107.7	108.6	24	107.4	108.2	109.3	24	---	---	---	0
3/22	104.7	105.0	105.2	24	105.2	105.5	105.7	24	107.0	107.4	107.7	24	106.3	107.4	108.1	24	---	---	---	0
3/23	105.2	105.3	105.5	24	104.9	105.0	105.1	24	105.7	106.0	106.4	24	106.0	106.6	107.0	24	---	---	---	0
3/24	106.0	106.4	106.7	24	105.0	105.4	105.8	24	105.5	106.1	106.3	24	105.2	105.6	105.9	24	---	---	---	0
3/25	107.9	108.3	108.4	24	106.5	107.0	107.2	24	106.8	107.2	107.4	24	105.9	106.3	106.6	24	---	---	---	0
3/26	109.0	109.4	109.6	24	107.2	107.5	107.8	24	107.6	107.8	108.0	24	106.5	106.8	107.1	24	110.9	111.0	112.5	13
3/27	109.1	109.4	109.5	24	107.3	107.5	107.6	24	107.6	107.8	108.0	24	106.6	106.9	107.5	24	110.3	110.7	111.1	24
3/28	108.8	108.9	109.0	24	107.5	107.7	107.8	21	107.7	107.9	108.1	21	106.4	106.5	106.7	21	111.3	112.1	112.8	21
3/29	108.8	108.9	109.0	24	108.0	108.1	108.2	24	108.0	108.1	108.3	24	107.1	107.3	107.4	24	110.9	111.5	112.7	24
3/30	107.9	108.2	108.5	24	107.4	107.6	107.8	24	107.7	107.9	108.0	24	107.2	107.9	108.3	24	112.3	112.8	112.9	24
3/31	107.9	108.3	108.5	24	107.7	107.9	108.1	24	108.3	108.5	108.8	24	107.2	107.6	108.1	19	113.4	113.8	114.1	24
4/1	107.4	107.9	108.3	24	107.3	107.5	107.8	24	107.9	108.1	108.2	24	---	---	---	0	112.8	113.4	113.5	24
4/2	106.1	106.3	106.3	24	105.8	106.0	106.3	24	106.9	107.1	107.3	24	106.7	106.8	107.2	14	111.6	112.1	112.2	24
4/3	106.2	106.4	106.6	23	105.8	106.0	106.2	23	106.6	106.8	107.1	23	106.1	106.4	106.7	23	111.8	112.2	112.4	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 4/4/2014 7:20

Two-Week Summary of Passage Indices

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

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

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

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

COMBINED YEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
03/21/2014 *	5,013	118	66	50	---	---	---	---	---	---	465
03/22/2014 *	1,840	117	98	43	---	---	---	---	---	---	531
03/23/2014	453	91	84	4	---	---	---	---	---	---	446
03/24/2014 *	332	83	106	1	---	---	---	---	---	---	438
03/25/2014	216	49	73	8	---	---	---	---	---	---	269
03/26/2014 *	414	34	144	0	1,530	---	---	---	---	---	218
03/27/2014 *	788	39	252	0	3,170	---	---	---	---	---	410
03/28/2014 *	716	53	627	0	4,680	---	---	---	---	---	389
03/29/2014 *	438	58	444	4	5,620	---	---	---	---	---	361
03/30/2014 *	1,758	142	118	85	6,920	---	---	---	---	---	589
03/31/2014 *	1,300	115	102	52	7,650	---	---	---	---	---	515
04/01/2014 *	718	71	334	0	6,650	---	35	7	---	592	801
04/02/2014 *	723	51	1,568	---	9,056	372	---	10	---	535	422
04/03/2014 *	---	---	552	---	9,384	---	---	14	---	560	574
04/04/2014	---	---	---	---	---	---	---	---	---	---	---
Total:	14,709	1,021	4,568	247	54,660	372	35	31	0	1,687	6,428
# Days:	13	13	14	12	9	1	1	3	0	3	14
Average:	1,131	79	326	21	6,073	372	35	10	0	562	459
YTD	18,669	1,849	4,789	261	54,660	372	35	31	0	1,687	16,172

COMBINED SUBYEARLING CHINOOK											
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
03/21/2014 *	0	0	0	0	---	---	---	---	---	---	667
03/22/2014 *	0	0	0	1	---	---	---	---	---	---	655
03/23/2014	0	0	0	1	---	---	---	---	---	---	499
03/24/2014 *	0	0	0	0	---	---	---	---	---	---	404
03/25/2014	0	0	0	4	---	---	---	---	---	---	348
03/26/2014 *	0	0	0	9	10	---	---	---	---	---	467
03/27/2014 *	0	0	0	0	30	---	---	---	---	---	253
03/28/2014 *	0	0	0	1	20	---	---	---	---	---	389
03/29/2014 *	0	0	0	3	20	---	---	---	---	---	804
03/30/2014 *	0	0	0	0	20	---	---	---	---	---	851
03/31/2014 *	0	0	0	3	250	---	---	---	---	---	584
04/01/2014 *	0	0	0	1	200	---	0	33	---	28	926
04/02/2014 *	0	0	0	---	701	0	---	2	---	0	600
04/03/2014 *	---	---	0	---	274	---	---	14	---	5	508
04/04/2014	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	23	1,525	0	0	49	0	33	7,955
# Days:	13	13	14	12	9	1	1	3	0	3	14
Average:	0	0	0	2	169	0	0	16	0	11	568
YTD	0	0	1	24	1,525	0	0	49	0	33	27,248

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)	
03/21/2014	*	0	0	0	0	---	---	---	---	---	20	
03/22/2014	*	0	0	0	0	---	---	---	---	---	89	
03/23/2014		0	0	0	0	---	---	---	---	---	18	
03/24/2014	*	0	0	0	0	---	---	---	---	---	34	
03/25/2014		0	0	0	0	---	---	---	---	---	32	
03/26/2014	*	0	0	0	0	---	---	---	---	---	16	
03/27/2014	*	0	0	0	0	10	---	---	---	---	32	
03/28/2014	*	0	0	0	0	20	---	---	---	---	109	
03/29/2014	*	0	0	0	0	20	---	---	---	---	525	
03/30/2014	*	0	0	0	0	20	---	---	---	---	933	
03/31/2014	*	0	0	0	0	0	---	---	---	---	945	
04/01/2014	*	0	0	0	0	0	---	0	---	4	1,299	
04/02/2014	*	0	0	0	---	0	0	---	5	---	1,102	
04/03/2014	*	---	---	0	---	0	---	---	0	---	1,098	
04/04/2014		---	---	---	---	---	---	---	---	---	---	
Total:		0	0	0	0	70	0	0	5	0	4	6,252
# Days:		13	13	14	12	9	1	1	3	0	3	14
Average:		0	0	0	0	8	0	0	2	0	1	447
YTD		0	0	0	0	70	0	0	5	0	4	6,864

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)	
03/21/2014	*	3	32	3	3	---	---	---	---	---	20	
03/22/2014	*	3	12	5	0	---	---	---	---	---	53	
03/23/2014		0	14	2	4	---	---	---	---	---	18	
03/24/2014	*	0	11	0	1	---	---	---	---	---	17	
03/25/2014		0	8	0	2	---	---	---	---	---	63	
03/26/2014	*	0	21	1	0	260	---	---	---	---	16	
03/27/2014	*	0	357	1	5	260	---	---	---	---	0	
03/28/2014	*	0	1,267	1	17	530	---	---	---	---	78	
03/29/2014	*	0	619	1	11	380	---	---	---	---	33	
03/30/2014	*	2	1,337	18	11	2,760	---	---	---	---	82	
03/31/2014	*	0	1,357	10	13	6,700	---	---	---	---	52	
04/01/2014	*	2	1,017	14	15	4,300	---	29	---	252	53	
04/02/2014	*	0	443	7	---	6,199	1,009	---	0	---	180	
04/03/2014	*	---	---	2	---	7,024	---	---	3	---	255	
04/04/2014		---	---	---	---	---	---	---	---	---	---	
Total:		10	6,495	65	82	28,413	1,009	29	5	0	687	616
# Days:		13	13	14	12	9	1	1	3	0	3	14
Average:		1	500	5	7	3,157	1,009	29	2	0	229	44
YTD		26	6,651	77	88	28,413	1,009	29	5	0	687	707

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)	
03/21/2014	*	0	0	0	0	---	---	---	---	---	323	
03/22/2014	*	0	0	0	0	---	---	---	---	---	390	
03/23/2014	*	0	0	0	0	---	---	---	---	---	660	
03/24/2014	*	0	0	0	0	---	---	---	---	---	741	
03/25/2014	*	0	0	0	0	---	---	---	---	---	569	
03/26/2014	*	0	0	0	0	470	---	---	---	---	638	
03/27/2014	*	0	0	0	0	370	---	---	---	---	489	
03/28/2014	*	0	0	0	0	690	---	---	---	---	513	
03/29/2014	*	0	0	0	0	1,180	---	---	---	---	476	
03/30/2014	*	0	0	0	0	1,440	---	---	---	---	393	
03/31/2014	*	0	0	0	0	1,400	---	---	---	---	670	
04/01/2014	*	0	0	0	0	1,200	---	2	0	---	623	
04/02/2014	*	0	0	0	---	1,294	124	---	15	---	35	389
04/03/2014	*	---	---	0	---	933	---	---	62	---	5	213
04/04/2014	*	---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	8,977	124	2	77	0	72	7,087
# Days:		13	13	14	12	9	1	1	3	0	3	14
Average:		0	0	0	0	997	124	2	26	0	24	506
YTD		0	0	0	0	8,977	124	2	77	0	72	7,746

COMBINED LAMPREY JUVENILES												
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR [†] (Samp)	LGS (Coll)	LMN (Coll)	RIS (Coll)	MCN (Coll)	JDA (Coll)	BO2 (Coll)	
03/21/2014	*	0	0	0	0	---	---	---	---	---	336	
03/22/2014	*	0	0	0	0	---	---	---	---	---	376	
03/23/2014	*	0	0	0	0	---	---	---	---	---	464	
03/24/2014	*	0	0	0	0	---	---	---	---	---	504	
03/25/2014	*	0	0	0	0	---	---	---	---	---	472	
03/26/2014	*	0	0	0	0	0	---	---	---	---	448	
03/27/2014	*	0	0	0	0	0	---	---	---	---	344	
03/28/2014	*	0	0	0	0	0	---	---	---	---	288	
03/29/2014	*	0	0	0	0	0	---	---	---	---	296	
03/30/2014	*	0	0	0	0	0	---	---	---	---	320	
03/31/2014	*	0	0	0	0	0	---	---	---	---	192	
04/01/2014	*	0	0	0	0	0	---	0	0	---	1,124	200
04/02/2014	*	0	0	0	---	0	0	---	0	---	640	216
04/03/2014	*	---	---	0	---	0	---	---	1	---	935	104
04/04/2014	*	---	---	---	---	---	---	---	---	---	---	---
Total:		0	0	0	0	0	0	0	1	0	2,699	4,560
# Days:		13	13	14	12	9	1	1	3	0	3	14
Average:		0	0	0	0	0	0	0	0	0	900	326
YTD		1	0	0	0	0	0	0	1	0	2,699	9,148

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:

Sample counts (Samp) are provided for juvenile lamprey at LGR. See note below for details †.

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.

† In 2013 it was confirmed that juvenile lamprey can escape the sample tank at LGR which would lead to unreliable estimates of collection. Therefore, only sample counts are provided in this report.

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.

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.

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

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

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

4/4/14 7:13 AM

03/21/14 TO 04/04/14

Site	Data	Species					Grand Total	
		CH0	CH1	CO	ST	SO		
LGR	Sum of NumberCollected	16,452		50		10	16	16,528
	Sum of NumberBarged	0		0		0	0	0
	Sum of NumberBypassed	0		0		4	0	4
	Sum of Numbertrucked	16,418		58		6	14	16,496
	Sum of SampleMorts	21		0		0	2	23
	Sum of FacilityMorts	5		0		0	0	5
	Sum of ResearchMorts	0		0		0	0	0
	Sum of TotalProjectMorts	26		0		0	2	28
LGS	Sum of NumberCollected	962			2	6	1	971
	Sum of NumberBarged	0			0	0	0	0
	Sum of NumberBypassed	4			0	0	0	4
	Sum of Numbertrucked	946			2	6	1	955
	Sum of SampleMorts	8			0	0	0	8
	Sum of FacilityMorts	4			0	0	0	4
	Sum of ResearchMorts	0			0	0	0	0
	Sum of TotalProjectMorts	12			0	0	0	12
Total Sum of NumberCollected		17,414		50	2	16	17	17,499
Total Sum of NumberBarged		0		0	0	0	0	0
Total Sum of NumberBypassed		4		0	0	4	0	8
Total Sum of Numbertrucked		17,364		58	2	12	15	17,451
Total Sum of SampleMorts		29		0	0	0	2	31
Total Sum of FacilityMorts		9		0	0	0	0	9
Total Sum of ResearchMorts		0		0	0	0	0	0
Total Sum of TotalProjectMorts		38		0	0	0	2	40

YTD Transportation Summary

Source: Fish Passage Center

Updated:

4/4/14 7:13 AM

TO: 04/04/14

Site	Data	Species						Grand Total
		CH0	CH1	CO	SO	ST	LU	
LGR	Sum of NumberCollected	493,555	1,865,260	48,078	42,772	1,444,903		3,894,568
	Sum of NumberBarged	437,793	1,554,582	47,807	42,574	1,087,929		3,170,685
	Sum of NumberBypassed	13,697	308,258	210	54	356,608		678,827
	Sum of NumberTrucked	40,922	138	1	112	19		41,192
	Sum of SampleMorts	740	174	3	17	40		974
	Sum of FacilityMorts	357	2,066	57	15	259		2,754
	Sum of ResearchMorts	38	52	0	0	47		137
	Sum of TotalProjectMorts	1,135	2,292	60	32	346		3,865
LGS	Sum of NumberCollected	453,102	1,026,511	36,889	22,635	1,174,713		2,713,850
	Sum of NumberBarged	426,163	979,239	36,685	22,607	1,108,345		2,573,039
	Sum of NumberBypassed	348	46,698	200	2	66,202		113,450
	Sum of NumberTrucked	25,744	0	4	18	31		25,797
	Sum of SampleMorts	379	14	0	4	11		408
	Sum of FacilityMorts	468	560	0	4	124		1,156
	Sum of ResearchMorts	0	0	0	0	0		0
	Sum of TotalProjectMorts	847	574	0	8	135		1,564
LMN	Sum of NumberCollected	170,106	470,899	8,000	8,064	459,593	1	1,116,663
	Sum of NumberBarged	151,939	469,284	7,999	8,058	458,179	0	1,095,459
	Sum of NumberBypassed	13,438	1,079	0	2	1,144	151	15,814
	Sum of NumberTrucked	3,393	2	0	0	17	0	3,412
	Sum of SampleMorts	455	16	0	0	18	0	489
	Sum of FacilityMorts	362	518	1	4	235	0	1,120
	Sum of ResearchMorts	0	0	0	0	0	0	0
	Sum of TotalProjectMorts	817	534	1	4	253	0	1,609
MCN	Sum of NumberCollected	1,779,323	1,098,880	43,803	314,637	255,352		3,491,995
	Sum of NumberBarged	0	0	0	0	0		0
	Sum of NumberBypassed	1,778,752	1,098,057	43,799	314,387	255,297		3,490,292
	Sum of NumberTrucked	0	0	0	0	0		0
	Sum of SampleMorts	389	62	1	34	8		494
	Sum of FacilityMorts	182	761	3	216	47		1,209
	Sum of ResearchMorts	0	0	0	0	0		0
	Sum of TotalProjectMorts	571	823	4	250	55		1,703
Total Sum of NumberCollected		2,896,086	4,461,550	136,770	388,108	3,334,561	1	11,217,076
Total Sum of NumberBarged		1,015,895	3,003,105	92,491	73,239	2,654,453	0	6,839,183
Total Sum of NumberBypassed		1,806,235	1,454,092	44,209	314,445	679,251	151	4,298,383
Total Sum of NumberTrucked		70,059	140	5	130	67	0	70,401
Total Sum of SampleMorts		1,963	266	4	55	77	0	2,365
Total Sum of FacilityMorts		1,369	3,905	61	239	665	0	6,239
Total Sum of ResearchMorts		38	52	0	0	47	0	137
Total Sum of TotalProjectMorts		3,370	4,223	65	294	789	0	8,741

Cumulative Adult Passage at Mainstem Dams Through: 04/03

DAM	END DATE	Spring Chinook						Summer Chinook						Fall Chinook					
		2014		2013		10-Yr Avg.		2014		2013		10-Yr Avg.		2014		2013		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	04/03	777	10	493	6	319	0	0	0	0	0	0	0	0	0	0	0	0	0
TDA	04/03	182	-1	75	2	102	0	0	0	0	0	0	0	0	0	0	0	0	0
JDA	04/03	65	10	48	2	60	0	0	0	0	0	0	0	0	0	0	0	0	0
MCN	04/03	1	0	14	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0
IHR	04/03	-1	0	12	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0
LMN	04/03	1	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
LGS	04/03	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LGR	04/03	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRD		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WAN		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RRH		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WFA	03/29	16	0	22	0	78	0	0	0	0	0	0	0	0	0	0	0	0	0

DAM	END DATE	Coho						Sockeye			Steelhead					Lamprey			
		2014		2013		10-Yr Avg.		2014	2013	10-Yr Avg.	2014	2013	10-Yr Avg.	Wild 2014	Wild 2013	10-Yr Avg.	2014	2013	10-Yr Avg.
BON	04/03	5	-2	0	0	0	0	2	0	0	2697	1900	2286	859	572	586	0	-1	0
TDA	04/03	0	0	0	0	0	0	0	0	0	43	171	1378	18	85	464	0	0	0
JDA	04/03	0	1	0	0	0	0	0	0	0	2420	161	3042	896	81	653	-1	0	0
MCN	04/03	0	0	1	0	1	0	0	0	0	44	425	3897	25	181	1099	1	0	0
IHR	04/03	0	0	0	0	0	0	0	0	0	612	1811	2474	202	555	547	0	0	0
LMN	04/03	0	0	0	0	0	0	0	0	0	136	288	4095	89	158	1541	0	0	0
LGS	04/03	0	0	0	0	0	0	0	0	0	152	216	4054	99	116	1040	0	0	0
LGR	04/03	0	0	0	0	0	0	0	0	0	5762	4793	5351	2361	1806	1457	0	0	0
PRD		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WAN		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RRH		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WFA	03/29	9	0	2	0	0	0	0	0	0	3104	3786	4417	0	0	0	0	0	0

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