



Fish Passage Center

Weekly Report #15-9

May 15, 2015

Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 28% and 117% of average at individual sub-basins over May. Precipitation above The Dalles has been 68% of average over May. Over the 2015 water year, precipitation has ranged between 68% and 102% of average.

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

Location	Water Year 2015 May 1-14, 2015		Water Year 2015 October 1, 2014 to May 14, 2015	
	Observed (inches)	% Average	Observed (inches)	% Average
	Columbia Above Coulee	0.60	40	26.8
Snake River above Ice Harbor	0.80	78	13.0	77
Columbia above The Dalles	0.76	68	17.7	86
Kootenai	0.49	31	27.5	102
Clark Fork	0.54	38	15.2	78
Flathead	0.46	28	24.4	95
Pend Oreille River Basin above Waneta Dam	0.48	32	20.7	87
Salmon River Basin	0.99	74	16.9	80
Upper Snake Tributaries	1.54	117	13.6	68
Clearwater	0.80	45	27.0	86
Willamette River above Portland	0.99	56	16.9	84

Snowpack within the Columbia Basin has been well below average. Average snowpack in the Columbia River for basins above the Snake River confluence is 37% of average. For Snake River Basins the average snowpack is 21% of average. And for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 2% of average.

Table 2 displays the May 14th ESP runoff volume forecasts for multiple reservoirs along with the May COE forecasts at Libby and Dworshak. The May 14th ESP forecast at The Dalles between April and August is 62,956 Kaf (72% of average).

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

Location	May 14, 2015 5-day QPF ESP	
	% Average (1981-2010)	Runoff Volume (Kaf)
The Dalles (Apr-Aug)	72	62,956
Grand Coulee (Apr-Aug)	79	44,801
Libby Res. Inflow, MT (Apr-Aug)	82 92*	4,828 5,396*
Hungry Horse Res. Inflow, MT (Apr-Aug)	79	1,539
Lower Granite Res. Inflow (Apr-July)	56	11,172
Brownlee Res. Inflow (Apr-July)	45	2,481
Dworshak Res. Inflow (Apr-July)	55 54*	1,337 1,325*

* Denotes COE May Forecast

Grand Coulee Reservoir is at 1,248.5 feet (5-14-15) and has drafted 1.4 feet over the last week. Outflows at Grand Coulee have ranged between 73.7 and 112.0 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2422.6 feet (5-14-15) and has refilled 0.4 feet over the previous week. Daily average outflows at Libby Dam have been 13.2-14.5 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3,539.6 feet (5-14-15) and drafted 0.4 feet over the last week. Outflows at Hungry Horse have been 7.5 Kcfs over the last week.

Dworshak is currently at an elevation of 1,588.7 feet (5-14-15) and refilled 3.3 feet over the last week. Outflows have been decreased from 9.5 Kcfs to 1.5 Kcfs over the last week. At the May 13, 2015, TMT, future operations at Dworshak were decided to remain at 1.5 Kcfs through May 15, 2015, followed by a daily ramp up to 5 Kcfs, 7.5 Kcfs, then down to 5.0 Kcfs, and back to minimum outflows of 1.5 Kcfs on May 19th, 2015.

The Brownlee Reservoir was at an elevation of 2,059.1 feet on May 14, 2015, and has refilled 3.5 feet over the last week. Outflow from Hells Canyon have ranged between 6.7 and 8.7 Kcfs over the last four days.

The Biological Opinion flow period began on April 3rd in the lower Snake River (Lower Granite). According to the April Final Water Supply Forecast (April 8, 2015), the flow objective this spring will be 85 Kcfs at Lower Granite. Flows at Lower Granite Dam have averaged 55.5 Kcfs over the last week and 51.6 Kcfs between April 3 and May 14, 2015.

Based on the April Final Water Supply Forecast, the Spring Biological Opinion Flow Objectives (which began April 10th) will be 220 Kcfs at McNary Dam and 135 Kcfs at Priest Rapids Dam. Over the last week, flows at McNary Dam averaged 166.9 Kcfs and Priest Rapids Dam flows were 105.3 Kcfs. Between April 10 and May 14, flows at McNary Dam averaged 166.7 Kcfs and Priest Rapids Dam flows were 108.6 Kcfs.

Spill

The 2015 fish spill program was implemented at the lower Snake River projects beginning on April 3rd, and beginning April 10th at the middle Columbia River projects.

All of the lower Snake River projects have spilled at the 2015 Fish Operations Plan (FOP) levels over the past week. On April 28th the “test-like” conditions, where spill alternates between 30% instantaneous and 45 Kcfs/Gas Cap, were initiated at Ice Harbor Dam. The net effect of this operation is a decrease in spill levels during the “test-like” period.

Project	Spill Level Day/Night
Lower Granite	20 Kcfs/20 Kcfs
Little Goose	30%/30%
Lower Monumental	Gas Cap/Gas Cap
Ice Harbor	April 3-27: 45 Kcfs/Gas Cap April 28–June 20: 30%/30% vs. 45 kcfs/Gas Cap

Since spill began on April 10th, spill for fish passage at the middle Columbia River projects occurred at the following amounts described in the 2015 FOP (the testing of two spill levels at John Day Dam began on April 28th).

Project	Spill Level Day/Night
McNary	40%/40%
John Day	April 10-April 28: 30%/30% April 28–June 15: 30%/30% and 40%/40%
The Dalles	40%/40%
Bonneville	100 Kcfs/100 Kcfs

Total dissolved gas (TDG) measurements exceeded the waiver limits (115%) at the Ice Harbor Dam forebay monitor May 9 through May 13, 2015. At Ice Harbor Dam, the forebay gage often reads higher than the upstream gage and higher than the downstream gage at the project, and it is unlikely that these occurrences are related to spill. Spill at Lower Monumental was 23.3 Kcfs early last week and was increased slightly to 23.7 Kcfs late in the week (May 14, 2015). **Note:** The State of Oregon and the State of Washington use different methodologies to estimate the 12-hour average TDG. For Oregon, the 12-hour average is based on the 12 highest hourly TDG measurements in a single calendar day (not necessarily consecutive). For Washington, the 12-hour average is based on 12-hour rolling averages. The highest of the rolling averages is what is reported as the 12-hour average for a given day. The location of a TDG monitor will dictate which of these methodologies is used for compliance monitoring. The Washington methodology will apply to all the lower Snake River projects, as well as the middle Columbia River forebay monitors. On any given day the compliance of the tailrace monitors at the middle Columbia River projects will be determined using either the Washington or Oregon methodology, whichever is the most restrictive, and spill will be decreased if needed.

Monitoring for signs of gas bubble trauma (GBT) occurred at Lower Granite, Little Goose, Lower Monumental, McNary, Bonneville and Rock Island dams over the past week. Over the past week one percent of the sample was observed with minor signs of GBT (at Little Goose Dam on 5/11 and at Rock Island Dam on 5/12 and 5/14). These levels are far below the 15% criteria for action to be taken.

Smolt Monitoring

All Smolt Monitoring Program sites continued sampling for 2015 this week.

This week's samples at Bonneville Dam (BON) were dominated by yearling Chinook and steelhead juveniles. This week's daily average passage index for yearling Chinook was nearly 50,000 per day, which is a decrease compared to last week's daily average passage index of 63,000 per day. Steelhead passage increased this week, when compared to the previous week. This week's daily average passage indices were about 66,000 for steelhead compared to 19,000 last week. Coho indices declined this week with the average daily index for this week at 9,900 compared to 16,500 last week. Sockeye passage remained relatively low this week, but has continued to increase since May 5th when passage began to increase. The passage index for sockeye over the last week averaged about 1,500 compared to 400 per day last week. Subyearling Chinook passage decreased this week. This decrease in passage, from an average index of 10,000 per day down to 3,000 per day, is a result of the April 27th release of subyearling fall Chinook tules from Spring Creek NFH completing their out-migration through the BON pool. Finally, no Pacific lamprey juveniles were encountered in this week's samples.

Yearling Chinook continued to dominate this week's salmonid collections at John Day Dam (JDA). The daily average passage index for yearling Chinook this week was about 18,000 fish per day, which is an increase over last week's daily average passage index of about 11,400. Steelhead passage increased this week, when compared to the previous week. This week's daily average passage index for steelhead was about 5,800 per day, whereas that for last week was just over 3,700 per day. Coho and sockeye passage also increased this week. This week's daily average

passage indices for these two species were about 880 and 2,200 per day, respectively. Last week's passage indices were about 860 for coho and 700 for sockeye. Subyearling Chinook collections were very low in this week's samples. Finally, Pacific lamprey macrophthalmia were encountered most days this week, with a daily average collection of about 100 per day. This is an increase over last week's daily average collection of 70 macrophthalmia per day.

Since McNary Dam (MCN) is no longer a transportation site, sampling is every other day for the entire SMP season. This week's samples at MCN were dominated by yearling Chinook, with a daily average passage index of 108,000 fish per day. This is a decrease compared to last week's daily average passage index of about 133,000 per day. Steelhead and coho passage also decreased this week when compared to the previous week. This week's daily average passage index for steelhead was about 30,000 per day. Last week's daily average passage index were about 35,000 for steelhead. This week's daily average passage index for coho was about 3,000 per day. Last week's daily average passage indices were about 1,400 for coho. Sockeye passage decreased this week. This week's daily average passage index for sockeye was about 3,200 whereas that for last week was nearly 5,300 per day. Subyearling Chinook were also encountered in this week's samples but in relatively low numbers. Finally, no lamprey juveniles were encountered in this week's samples.

After high passage numbers at Lower Granite Dam (LGR) from April 25th to April 27th, yearling Chinook and steelhead passage decreased substantially for about 8 to 10 days. These decreases in passage coincide with decreasing flows in the Snake River and decreased outflows from Dworshak Dam. Outflows from Dworshak Dam were decreased from 9.5 Kcfs to 7.5 Kcfs on April 24th and again on May 2nd to about 5 Kcfs. After continued low passage numbers at LGR, the Salmon Managers requested that outflows from Dworshak Dam be increased to 9.5 Kcfs for four days, at the same time that flows in the Snake River were expected to increase. The requested operation of 9.5 Kcfs outflows began at about 0200 on May 5th and ran through May 9th when outflows were gradually decreased to 5 Kcfs and then to 2.5 Kcfs. As a result of the increased outflows from Dworshak Dam and

increasing flows in the Snake River, passage numbers for yearling Chinook and steelhead increased for several days. The passage indices for yearling Chinook and steelhead on May 7th were nearly 112,000 and 46,000, respectively. These passage indices are much larger than the previous seven days, which averaged about 32,500 per day for yearling Chinook and 22,500 for steelhead. Passage indices peaked during the higher discharge from Dworshak which continued from May 5th to May 8th. Indices for yearling Chinook and steelhead declined substantially after that period. In response to the higher discharge period from Dworshak indices for steelhead and Chinook averaged 70,000 and 37,000 respectively. After the flows were reduced from Dworshak Dam, indices for steelhead and yearling Chinook averaged 34,000 and 27,000 respectively.

Passage of subyearling Chinook fry and coho at LGR increased this week. This week's daily average passage indices for these species were about 500 and 2,000 per day, respectively. Last week's daily average passage indices were 230 for subyearling Chinook and 775 for coho. After several weeks of zero sockeye/kokanee in the sample, LGR began encountering sockeye on May 2nd. All of the sockeye encountered up until May 12th were unclipped and likely of wild/natural origin, as hatchery sockeye releases into Redfish Lake Creek began last week. On May 13th all sockeye in the sample were clipped indicating hatchery origin fish had begun arriving. And on May 14th clipped sockeye made up nearly 90% of the sample. The daily average passage index for sockeye this week was about 450 per day. Finally, no lamprey juveniles were encountered in this week's samples. PIT-tag detections in the bypass at Lower Granite Dam of 623 sockeye beginning on May 10th confirm that the clipped sockeye were released at Red Fish Lake Trap on May 5th and May 6th.

Sampling at Little Goose Dam (LGS) was limited to a 24-hour sample every other day from April 2nd to April 30th. Little Goose Dam began collecting fish for transportation on May 1st and, therefore, collections at LGS are daily for the rest of the season. Yearling Chinook continued to dominate the samples at LGS this week. The daily average passage index for yearling Chinook at LGS was about 49,000 fish per day this week, which is an increase over last week's daily average of nearly 43,500 per day. Steelhead passage also increased this week, when compared to

the previous week. This week's daily average passage index for steelhead at LGS was about 36,600 fish per day whereas that for last week was about 27,000 per day. The daily average passage indices appeared to peak during and after the increased outflows from Dworshak Dam. The yearling Chinook indices reached 60,000 per day on May 7th and May 10th while the steelhead index peaked at 59,000 on May 9th. Coho passage also increased this week, with a daily average passage index of about 850 fish per day. Sockeye were encountered on five days this week compared to only one day (May 6th), last week. Finally, small numbers of subyearling Chinook were encountered this week and no Pacific lamprey macropthalmia were encountered.

Sampling at Lower Monumental Dam (LMN) was limited to a 24-hour sample every third day from April 4th to April 13th and every other day from April 15th to May 1st. At 1500 on May 1st, LMN began collecting fish for transportation and, therefore, collections at LMN are daily for the rest of the season. This week's samples at LMN were dominated by yearling Chinook, with a daily average passage index of nearly 75,000 fish per day, which is an increase over last week's daily average passage index of nearly 54,600 yearling Chinook per day. Steelhead passage at LMN also decreased slightly this week when compared to last week. This week's daily average passage index for steelhead at LMN was nearly 27,000 per day, whereas that for last week was nearly 30,000 per day. Indices for yearling Chinook and steelhead also peaked coincident with the recent flow increases from Dworshak Dam. The yearling Chinook indices peaked at 141,000 on May 9th and the steelhead index peaked at 41,000 also on May 9th. Coho passage also increased this week, when compared to the previous week. This week's daily average passage index for coho at LMN was about 1,700, whereas that for last week was less than 200 per day. Increasing numbers of subyearling Chinook were sampled this week at LMN with a daily index of 3,300 reported for May 14th. Three unclipped sockeye, which are likely kokanee, were sampled in the past week, whereas no lamprey juveniles were encountered in this week's samples at LMN.

This week's samples at Rock Island Dam (RIS) continued to be dominated by yearling Chinook, with a daily average passage index of about 380 fish per day. This is a decrease compared to last week's daily

average passage index of about 520 yearling Chinook per day. Steelhead passage increased this week when compared to last week. This week's daily average passage index for steelhead at RIS was about 350 per day, whereas that for last week was about 200 per day. Coho passage continued to be on a gradual upward trend. The daily average passage index for coho this week was about 220 fish per day. Last week's daily average passage index was 60 fish per day. Sockeye passage increased this week compared to last week. Finally, three lamprey juveniles were encountered in this week's samples a RIS.

The Grande Ronde Trap (GRN) is operated by the Oregon Department of Fish and Wildlife and is located at river kilometer 2 in the Grande Ronde River. Due to increased collections of subyearling Chinook fry (presumably fall Chinook), sampling at GRN was suspended from April 22nd through April 29th. The SMP received increased handling quotas for subyearling Chinook at GRN from NOAA and trapping resumed on April 29th for the April 30th sample. Since April 30th, collections of yearling Chinook, steelhead, and subyearling Chinook have been very low. However, collections of yearling Chinook increased to over 200 on May 14th and at the same time collections of subyearling Chinook also increased to 60. Increased collections appear to have occurred as flows in the Grande Ronde River increased from 2 kcfs to nearly 3 kcfs May 13th and May 14th.

The Salmon River Trap at Whitebird (WTB) is located at river kilometer 103 and operated by Idaho Department of Fish and Game. Sampling at WTB in 2015 has been modified to weekdays only. Due to continued high numbers of hatchery yearling Chinook collections, trapping efforts remained modified up through last week in an effort to reduce handling of listed hatchery stocks. The reduction in sampling effort involved fishing in an area of the river where the trap was less efficient and reducing the sample period to 12 hours per day, instead of the intended 24 hours. This week sampling was increased to 24 hours per day. Collections this week were relatively similar for yearling Chinook and steelhead. This week's daily average collections were 40 for yearling Chinook and about 28 for steelhead. These are both decreases from last week's daily average collections of about 173 and 118 per day, respectively. Of the yearling Chinook that

were collected this week, approximately 75% were known to be hatchery origin. The trap encountered its first sockeye of the season in the May 4th sample. This single sockeye smolt was clipped, indicating it was from the recent releases of hatchery sockeye to Redfish Lake Creek. In the past week sockeye collections increased to a maximum of 26 fish on May 13th. This trap will likely maintain some level of sampling effort over the next week or so.

The Snake River Trap at Lewiston (LEW) is located at river kilometer 225 and operated by Idaho Department of Fish and Game. After a period of limited sampling (April 23–24) and suspended sampling (April 25–26), sampling at LEW has been under normal conditions since April 26th for the April 27th sample. Subyearling Chinook predominated in this week's samples at LEW. This week's daily average collection for subyearling Chinook was about 104 per day, which is an increase from last week's daily average collection of about 44. This week's daily average collection for steelhead was about 96 per day, which is a decrease from last week's daily average collection of about 590. The daily average collection for yearling Chinook at LEW was about 12 fish per day, which is also a decrease over last week. The first sockeye of the season was encountered in the April 30th sample. Small numbers of sockeye have been encountered in the past two weeks with the highest number collected on May 8th when 8 sockeye smolts were counted. Finally, a few coho were collected at LEW this week.

The Imnaha River Trap (IMN) is located at river kilometer 7 and is operated by the Nez Perce Tribe. Sampling at IMN 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 IMN may be several days behind. To date, we have received data through May 8th. Over the last week of available data (May 2–May 8), collections at IMN have been dominated by steelhead, with a daily average collection of about 750 fish per day. This is an increase over the daily average collection from the previous week of data (April 25–May 1), which was about 630 per day. Since May 2nd, approximately 70% of the steelhead collection at IMN has been of known hatchery origin. Yearling Chinook passage decreased substantially over

the May 2nd through May 8th period, when compared to the previous 7-day period. From May 2nd to May 8th, the daily average yearling Chinook collection was about 320, whereas that for the April 25th through May 1st period was about 640 per day. For the period of April 25–May 1, the yearling Chinook catch at IMN was about 71% known hatchery origin, whereas that for the May 2nd to May 8th period was only 66%. This decrease in known hatchery origin yearling Chinook indicates that recent hatchery releases upstream of IMN have mostly moved through the system, therefore explaining the decrease in yearling Chinook passage over the same period.

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. To date, the Fish Passage Center has not received complete preliminary hatchery release data from the Nez Perce Tribe for 2015 releases. Therefore, release estimates discussed for this zone are likely underestimates, as they do not include all releases conducted by the tribe. Release data from the Nez Perce Tribe will be entered into our database as soon as we receive them.

Approximately 3.1 million subyearling fall Chinook juveniles were scheduled for release into the Snake River Zone this week. These fall Chinook juveniles were released from Pittsburg Landing Acclimation Facility on the Snake River and just below Hells Canyon Dam. No other new releases were scheduled for this zone this week.

Approximately 1.67 million subyearling fall Chinook juveniles are scheduled for release into the Snake River Zone over the next 2 weeks. Of these 1.67 million, about 13% were scheduled for release from Lyons Ferry Hatchery, which is located between Little Goose and Lower Monumental dams. The remaining 87% were scheduled to be released above Lower Granite Dam, into the Clearwater, Snake, and Grande Ronde rivers. There are no other releases scheduled for this zone over the next 2 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. To date, the Fish Passage Center has not received complete preliminary hatchery release data from the Colville Tribe for 2015 releases. Therefore, release estimates discussed for this zone are likely underestimates, as they do not include all releases conducted by the tribe, including releases from the new Chief Joseph Hatchery. Release data from the Colville Tribe will be entered into our database as soon as we receive them.

The only new releases that were scheduled for this zone this week were of subyearling fall Chinook and subyearling summer Chinook. In all, about 19,750 subyearling fall Chinook were scheduled for release this week. These releases were scheduled to take place directly to the Columbia River above McNary Dam (13%) and in the Yakima (86%) and Wenatchee (1%) rivers. The subyearling summer Chinook releases were expected to total only 450 fish and were split between the Methow (50%) and Okanogan (50%) rivers. All of these releases are part of the WDFW Cooperative program.

There are two releases scheduled for this zone over the next 2 weeks. The first of these releases is of about 4,000 subyearling fall Chinook to the Columbia River above McNary Dam. The other release is of about 484,000 subyearling summer Chinook from Wells Hatchery that is scheduled to begin on or around May 25th.

Lower Columbia Zone: The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. There were only two new releases scheduled for this zone this week. The first of these releases was a release of about 600,000 subyearling fall Chinook to the Umatilla River that was scheduled to begin on or around May 14th. The other release was of about 12,500 winter steelhead to Hood River that was also scheduled to begin on or around May 14th. There are no new releases scheduled for this zone over the next 2 weeks.

Adult Passage

Adult counts at Bonneville Dam have been updated through May 14th. Daily adult spring Chinook counts at Bonneville Dam ranged from 2,181 to 3,770 salmon per day. As of May 14th, a total of 181,981 spring Chinook have been counted at Bonneville Dam. In 2014, 153,634 adult spring Chinook were counted at Bonneville Dam for the same time period. The 2015 adult spring Chinook count at Bonneville Dam is about 1.2 times greater than the 2014 count and 1.7 times greater than the 10-year average count of 105,269. The 2015 spring Chinook jack count of 6,662 is about 42.1% of the 2014 count of 15,835 and 50.3% of the 10-year average count of 13,241. At Willamette Falls, 29,199 adult spring Chinook have been counted so far this year. In 2014, 8,307 adult spring Chinook were counted at Willamette Falls. This year's count is about 3.5 times greater than the 2014 count and 2.8 times greater than the 10-year average count of 10,541. As of May 14th, a total of 157,504 adult spring Chinook have been counted at The Dalles Dam and 121,088 have been counted at McNary Dam. The Dalles Dam 2015 adult spring Chinook count is 1.4 times greater than 2014 and 2.2 times greater than the 10-year average count. The 2015 McNary Dam adult spring Chinook count is about 1.6 times greater than the 2014 count and 2.7 times greater than the 10-year average count.

The 2015 Bonneville Dam adult steelhead count of 4,500 has 24 more fish than the 2014 count of 4,476 and has 378 more fish than the 10-year average count of 4,122. The 2015 Bonneville Dam adult wild steelhead count of 2,351 is about 1.8 times greater than the 2014 count of 1,254 and 2 times greater than the 10-year average count of 1,152. At upriver sites, adult steelhead continue to move through the hydro system to reach their tributaries and spawning sites. The majority of these fish over-wintered in pools and will complete their trip to their spawning grounds in March through early May. Daily adult steelhead counts at Lower Granite Dam ranged from 13 to 34 adults per day last week. This year's Lower Granite steelhead count of 9,126 is about 1.2 times greater than the 2014 count of 7,353 and has 425 more fish than the 10-year average count of 8,701. The 2015 Lower Granite Dam

adult wild steelhead count of 4,297 is 1.3 times greater than the 2014 count of 3,391 and is about 1.4 times greater than the 10-year average count of 3,176. At Willamette Falls, the 2015 count for steelhead was 5,002 as of May 9th. This year's steelhead count is about 70.6% of the 2014 count of 6,383 and about 58.9% of the 10-year average count of 8,494.

Hatchery Releases Last Two Weeks

Hatchery Release Summary									
From:	5/2/2015		to		05/15/15				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Grant County PUD	Little White Salmon NFH	CH1	SP	2015	65,000	05-01-15	05-07-15	White River	Wenatchee River
Grant County PUD Total					65,000				
Idaho Dept. of Fish and Game	Oxbow-Oregon	SO	UN	2015	76,000	05-07-15	05-07-15	Redfish Lake Creek	Salmon River (ID)
Idaho Dept. of Fish and Game	Sawtooth Hatchery	SO	UN	2015	134,000	05-04-15	05-05-15	Redfish Lake Creek	Salmon River (ID)
Idaho Dept. of Fish and Game	Springfield Hatchery	SO	UN	2015	210,000	05-06-15	05-07-15	Redfish Lake Creek	Salmon River (ID)
Idaho Dept. of Fish and Game Total					420,000				
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2015	420,000	05-11-15	05-11-15	Pittsburg Landing Acclim Pond	Snake River
Nez Perce Tribe Total					420,000				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	CH0	FA	2015	1,000,000	05-11-15	05-11-15	Hells Canyon Dam	Snake River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2015	120,000	05-04-15	05-04-15	Wallowa Acclim Pond	Wallowa River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2015	160,000	05-08-15	05-08-15	Big Canyon Acclim. Pd (Grande Ronde)	Grande Ronde River
Oregon Dept. of Fish and Wildlife Total					1,280,000				
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2015	20,000	04-15-15	05-15-15	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service	Winthrop NFH	ST	SU	2015	80,000	04-15-15	05-15-15	Winthrop Hatchery	Methow River
U.S. Fish and Wildlife Service Total					100,000				
Umatilla Tribe	Umatilla Hatchery	CH0	FA	2015	600,000	05-14-15	05-19-15	Reith Bridge	Umatilla River
Umatilla Tribe Total					600,000				
Warm Springs Tribe	Oak Springs Hatchery	ST	WI	2015	12,500	05-14-15	05-14-15	Parkdale Acclim Pond	Hood River
Warm Springs Tribe Total					12,500				
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	CH1	SP	2015	42,000	04-20-15	05-20-15	Nason Creek	Wenatchee River
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2015	175	05-15-15	05-31-15	Wenatchee River	Wenatchee River
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2015	2,575	05-15-15	05-31-15	Above McNary Dam	Mid-Columbia River
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2015	17,000	05-15-15	05-31-15	Yakama River	Yakima River
Washington Dept. of Fish and Wildlife	COOP	CH0	SU	2015	225	05-15-15	05-15-15	Methow River	Methow River
Washington Dept. of Fish and Wildlife	COOP	CH0	SU	2015	225	05-15-15	05-15-15	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	ST	SU	2015	85,000	04-20-15	05-31-15	Dayton Acclim Pond	Touchet River
Washington Dept. of Fish and Wildlife	Methow Hatchery	CH1	SU	2015	185,000	04-05-15	05-15-15	Carlton Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Methow Hatchery	ST	SU	2015	95,000	04-30-15	05-05-15	Methow Hatchery	Methow River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2015	320,000	04-15-15	05-15-15	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2015	160,000	05-01-15	05-31-15	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					907,200				
Yakama Tribe	Cascade Hatchery	CO	UN	2015	131,335	05-06-15	05-06-15	Butcher Creek Acclim. Pond	Wenatchee River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2015	215,311	03-15-15	05-15-15	Easton Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2015	216,338	03-15-15	05-15-15	Clark Flat Acclim Pond	Yakima River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2015	217,163	03-15-15	05-15-15	Jack Creek Acclim Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2015	98,105	04-15-15	06-01-15	Stiles Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2015	143,770	04-15-15	06-01-15	Holmes Pond	Yakima River
Yakama Tribe	Eagle Creek NFH	CO	UN	2015	236,749	04-15-15	06-01-15	Easton Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	71,382	04-15-15	06-01-15	Yakama River	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	90,000	04-15-15	06-01-15	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	100,210	04-15-15	06-01-15	Lost Creek Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	103,375	04-15-15	06-01-15	Stiles Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CO	UN	2015	250,000	04-15-15	06-01-15	Prosser Acclim Pond	Yakima River
Yakama Tribe	Willard Hatchery	CO	UN	2015	42,184	05-06-15	05-06-15	Methow River	Methow River
Yakama Tribe	Willard Hatchery	CO	UN	2015	48,824	05-06-15	05-06-15	Methow River	Methow River
Yakama Tribe	Willard Hatchery	CO	UN	2015	82,777	05-06-15	05-06-15	Twisp Acclim Pond	Methow River
Yakama Tribe	Willard Hatchery	CO	UN	2015	99,123	05-06-15	05-06-15	Rolfings Acclim Pond	Wenatchee River
Yakama Tribe Total					2,146,646				
Grand Total					5,951,346				

Hatchery Releases Next Two Weeks

Hatchery Release Summary									
From:			5/16/2015	to	5/28/2015				
Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2015	525,000	05-20-15	05-20-15	Cpt John Acclim Pond	Snake River
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2015	525,000	05-21-15	05-21-15	Big Canyon (Clearwater River)	Clearwater River M F
Nez Perce Tribe Total					1,050,000				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	CH0	FA	2015	400,000	05-18-15	05-18-15	Grande Ronde River	Grande Ronde River
Oregon Dept. of Fish and Wildlife Total					400,000				
Umatilla Tribe	Umatilla Hatchery	CH0	FA	2015	600,000	05-14-15	05-19-15	Reith Bridge	Umatilla River
Umatilla Tribe Total					600,000				
Washington Dept. of Fish and Wildlife	Chiwawa Hatchery	CH1	SP	2015	42,000	04-20-15	05-20-15	Nason Creek	Wenatchee River
Washington Dept. of Fish and Wildlife	COOP	CH0	FA	2015	4,000	05-20-15	05-20-15	Above McNary Dam	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Lyons Ferry Hatchery	CH0	FA	2015	220,000	05-18-15	05-18-15	Lyons Ferry Hatchery	Snake River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH0	SU	2015	484,000	05-25-15	05-31-15	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					750,000				
Wildlife Total									
Grand Total					2,800,000				

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
05/01/2015	104.7	0.0	103.4	0.0	117.1	8.4	113.3	0.0	124.1	11.7	117.6	19.2	120.3	25.3
05/02/2015	102.7	0.0	106.2	0.0	113.6	8.0	111.3	0.0	122.3	10.5	112.1	12.6	105.8	27.5
05/03/2015	93.4	0.0	95.5	0.0	108.2	8.0	101.6	0.0	109.4	9.8	119.8	17.2	119.3	29.6
05/04/2015	103.8	0.0	100.7	0.0	111.1	8.0	107.5	0.0	113.7	11.8	126.7	14.1	132.5	26.7
05/05/2015	75.3	0.0	76.1	0.0	90.9	7.1	87.9	0.0	94.6	10.1	106.0	13.4	111.2	24.4
05/06/2015	70.4	0.0	74.3	0.0	88.7	6.9	85.3	0.0	91.1	9.1	98.5	16.1	93.9	20.5
05/07/2015	81.6	0.0	77.2	0.0	90.4	6.9	82.2	0.0	87.1	9.5	100.5	17.7	103.6	25.4
05/08/2015	73.7	0.0	74.1	0.0	84.1	6.2	80.6	0.0	84.4	9.0	88.0	17.4	87.2	23.6
05/09/2015	79.2	0.0	83.3	0.0	90.4	6.5	85.9	0.0	91.0	9.0	87.9	14.3	83.6	23.7
05/10/2015	78.0	0.0	73.3	0.0	78.2	6.2	75.4	0.0	81.3	8.7	81.3	13.6	83.0	25.9
05/11/2015	88.2	0.0	96.3	0.0	101.3	8.1	97.4	0.0	103.0	11.3	92.1	14.4	86.9	25.4
05/12/2015	112.0	0.0	112.4	0.0	124.0	8.8	113.8	1.6	119.9	10.3	122.1	28.6	120.8	28.7
05/13/2015	106.0	0.0	105.9	0.0	123.1	8.6	123.2	4.6	128.7	12.1	135.7	20.1	133.7	32.5
05/14/2015	106.8	0.0	108.0	0.0	121.3	9.0	115.7	0.0	125.6	12.5	145.0	19.9	141.8	27.9

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

Date	Dworshak		Brownlee Inflow	Hells Canyon	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill		Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/01/2015	7.3	0.0	---	8.6	52.9	20.2	50.1	15.0	51.1	26.1	53.1	42.9
05/02/2015	5.1	0.0	---	8.5	53.7	20.1	53.5	15.9	54.8	25.3	55.7	44.6
05/03/2015	5.1	0.0	---	8.5	54.7	20.2	52.3	15.6	53.0	24.6	53.1	42.8
05/04/2015	5.1	0.0	---	8.6	55.9	20.3	52.8	15.7	55.1	23.0	56.9	46.0
05/05/2015	9.5	0.0	---	8.6	62.8	20.3	62.2	18.6	61.7	23.3	63.1	50.0
05/06/2015	9.7	0.0	---	8.6	67.2	20.3	64.8	19.4	65.1	23.2	65.5	48.0
05/07/2015	9.7	0.0	---	8.5	65.7	20.3	64.2	19.2	65.2	23.9	68.1	50.1
05/08/2015	9.6	0.0	---	8.6	65.0	20.3	63.2	18.9	63.6	23.3	63.6	26.3
05/09/2015	5.2	0.0	---	8.6	57.2	20.2	53.7	16.1	53.3	23.3	52.8	15.8
05/10/2015	1.6	0.0	---	8.5	53.0	20.2	50.8	15.2	53.1	23.2	52.9	15.8
05/11/2015	1.5	0.0	---	8.5	51.3	20.2	50.8	15.2	51.4	23.3	52.3	15.5
05/12/2015	1.5	0.0	---	8.6	52.9	20.2	50.3	15.1	51.7	23.4	52.4	36.8
05/13/2015	1.5	0.0	---	8.5	51.5	20.4	51.1	15.3	50.1	23.5	51.5	41.3
05/14/2015	1.5	0.0	---	6.5	57.8	20.3	54.7	16.4	57.3	23.7	57.6	23.9

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		
05/01/2015	178.7	71.9	165.0	63.3	150.2	59.9	163.3	100.4	0.0	50.5
05/02/2015	179.5	72.1	185.0	55.4	167.4	67.0	174.3	100.1	0.0	61.8
05/03/2015	179.0	72.1	177.0	56.4	164.2	65.6	188.1	99.3	0.0	76.5
05/04/2015	189.5	76.0	185.1	73.9	163.6	65.4	191.5	99.3	0.0	79.9
05/05/2015	170.9	68.6	165.4	62.8	148.2	59.3	175.2	99.1	0.0	63.7
05/06/2015	172.3	69.1	170.1	51.3	157.6	63.2	171.9	99.2	0.0	60.3
05/07/2015	179.9	71.9	171.7	54.6	158.3	63.3	172.1	99.4	0.0	60.3
05/08/2015	162.3	65.3	169.0	67.5	153.3	61.2	172.6	99.9	0.0	60.2
05/09/2015	162.7	65.4	159.4	61.4	145.4	58.2	157.3	99.9	0.0	45.0
05/10/2015	144.5	58.1	143.2	42.9	133.5	53.3	146.4	100.3	0.0	33.7
05/11/2015	144.6	58.1	142.0	45.0	127.9	51.2	145.8	100.4	0.0	33.0
05/12/2015	173.3	69.8	166.2	65.8	151.1	60.5	176.6	99.7	0.0	64.4
05/13/2015	187.7	75.4	186.2	71.1	170.6	68.3	184.0	99.3	0.0	72.3
05/14/2015	193.1	77.5	193.3	57.9	175.9	70.3	192.9	99.3	0.0	81.2

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											
	05/07/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/14/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Little Goose Dam											
	05/04/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/11/15	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
Lower Monumental Dam											
	05/06/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/13/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	05/04/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/06/15	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/12/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/14/15	Chinook + Steelhead	17*	0	0			0	0	0	0
Bonneville Dam											
	05/02/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/05/15	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/09/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/12/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	05/01/15	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/05/15	Chinook + Steelhead	100	2	2	2.00%	0.00%	2	0	0	0
	05/07/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/12/15	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	05/14/15	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	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 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>				
5/1	101.7	102.7	103.7	24	---	---	---	0	107.4	107.8	108.3	24	106.2	106.9	107.4	24	107.5	108.0	108.5	24
5/2	100.7	101.1	101.6	24	---	---	---	0	107.2	107.5	107.9	24	105.7	106.0	106.3	24	107.4	107.7	108.1	24
5/3	100.9	101.4	102.1	24	---	---	---	0	106.9	107.2	107.5	24	105.1	105.5	105.9	24	106.9	107.3	107.7	24
5/4	101.3	101.6	102.1	24	---	---	---	0	108.2	108.9	109.8	24	106.3	107.2	107.7	24	107.2	107.6	107.8	24
5/5	101.1	101.4	101.8	24	---	---	---	0	107.3	107.9	110.6	24	106.4	107.0	110.2	24	106.7	106.8	107.1	18
5/6	101.8	103.1	103.8	24	---	---	---	0	106.5	106.8	107.2	24	105.5	105.8	106.3	24	106.4	106.4	106.7	10
5/7	102.2	102.7	103.2	24	---	---	---	0	106.7	107.0	107.4	24	105.8	106.3	106.7	24	106.4	106.5	106.7	13
5/8	102.0	102.3	102.6	24	---	---	---	0	106.7	106.9	107.0	24	105.9	106.5	106.8	24	106.5	106.6	106.9	16
5/9	102.1	102.4	102.8	24	---	---	---	0	106.5	106.7	106.9	24	105.4	105.9	106.4	24	106.6	106.7	107.1	14
5/10	101.9	102.3	102.6	24	---	---	---	0	107.2	107.5	108.1	24	106.4	107.3	107.6	24	107.2	107.4	107.6	17
5/11	100.7	101.1	102.1	24	---	---	---	0	108.1	108.7	109.6	24	106.6	106.9	107.1	24	108.3	108.8	109.2	19
5/12	103.3	104.1	104.6	24	---	---	---	0	108.3	108.7	109.2	24	106.9	107.0	107.1	24	108.0	108.1	108.2	13
5/13	104.1	104.3	104.6	24	---	---	---	0	108.7	108.9	109.4	24	106.7	106.9	107.3	24	108.1	108.1	108.1	1
5/14	104.0	104.2	104.4	23	---	---	---	0	108.3	108.4	108.7	23	106.7	106.9	107.1	23	107.1	107.1	107.3	10

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>				
5/1	107.2	107.9	109.2	23	107.8	108.3	108.9	24	109.2	110.0	110.6	24	107.7	108.3	108.7	24	107.8	108.3	108.5	24
5/2	106.9	107.2	107.7	24	107.1	107.5	108.0	24	108.4	108.8	109.4	24	108.8	109.1	109.3	24	108.6	109.0	109.3	24
5/3	106.5	106.9	107.6	21	107.6	108.4	109.1	24	108.7	109.6	110.5	24	109.0	109.2	109.5	24	108.7	109.1	109.5	24
5/4	106.8	107.3	107.9	24	107.7	108.4	108.9	24	109.0	109.8	110.4	24	109.2	109.5	109.8	24	109.1	109.4	109.7	24
5/5	106.7	107.3	108.6	24	106.3	106.5	106.8	24	107.4	107.7	107.9	24	108.7	108.8	109.1	24	108.3	108.5	108.7	24
5/6	106.2	106.7	107.6	24	105.8	106.2	106.5	24	107.2	107.6	108.0	24	107.7	107.9	108.2	24	107.4	107.7	108.0	24
5/7	106.0	106.5	107.0	24	106.1	106.8	107.5	24	106.8	107.4	108.2	24	107.2	107.6	108.0	24	106.9	107.3	107.6	24
5/8	106.2	107.0	108.3	24	106.4	106.9	107.5	24	107.3	108.0	108.7	24	107.6	108.1	108.5	24	107.2	107.6	107.8	24
5/9	106.0	106.3	106.6	24	106.4	106.9	107.3	24	107.3	107.9	108.3	24	107.3	107.6	108.0	24	107.1	107.3	107.5	24
5/10	106.7	107.2	107.5	24	107.3	108.3	109.8	24	108.0	109.0	109.2	24	107.8	108.3	109.2	24	107.3	107.8	108.1	24
5/11	107.7	108.2	109.4	24	107.9	108.4	109.0	24	109.3	109.9	110.4	24	108.9	109.3	109.7	24	108.6	109.0	109.4	24
5/12	107.4	107.6	107.8	24	107.5	107.7	107.9	24	109.0	109.3	109.7	24	108.8	109.0	109.1	24	108.8	109.0	109.6	24
5/13	107.7	108.2	108.8	20	106.7	107.0	107.2	24	108.2	108.4	108.7	24	108.8	109.2	109.4	24	109.9	111.2	115.5	24
5/14	---	---	---	0	106.8	107.3	107.9	23	108.1	108.8	109.4	23	108.3	108.4	108.6	23	108.1	108.3	108.6	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>				
5/1	107.2	107.5	107.8	24	109.9	110.9	111.7	24	108.3	109.2	109.9	24	110.4	110.8	111.2	24	107.9	108.8	109.6	24
5/2	107.6	108.4	108.9	24	110.5	111.7	112.6	24	108.8	110.0	110.6	24	109.3	110.5	111.6	24	108.7	109.2	109.9	24
5/3	108.2	108.8	109.0	24	111.0	112.1	113.0	24	110.0	110.9	113.2	19	110.4	110.5	110.9	19	108.2	108.7	109.8	19
5/4	108.4	108.8	109.2	24	111.7	112.7	113.8	24	110.0	110.7	111.7	24	110.3	110.3	111.0	10	110.6	111.3	112.5	24
5/5	107.5	107.7	107.9	24	110.9	112.4	113.4	24	108.4	108.6	108.8	24	109.3	109.8	110.4	24	108.8	109.0	109.2	24
5/6	106.9	107.1	107.4	24	109.7	111.3	114.7	24	108.0	108.3	108.7	24	110.0	110.6	111.3	24	107.7	108.0	108.5	24
5/7	106.8	107.1	107.3	24	110.4	111.7	113.9	24	108.9	110.0	111.8	24	111.2	111.7	112.9	24	109.2	110.4	111.7	24
5/8	106.7	107.0	107.2	24	109.8	111.5	114.4	24	109.6	109.9	110.2	24	111.6	112.0	112.4	24	110.9	111.3	111.9	24
5/9	106.8	107.2	107.5	24	109.5	111.2	112.6	24	109.7	110.7	111.1	24	110.2	111.0	112.3	24	111.3	112.0	112.6	24
5/10	107.1	107.4	107.7	24	110.1	111.4	113.4	24	110.8	111.4	112.2	24	110.3	110.7	111.0	24	111.5	112.0	112.7	24
5/11	107.9	108.3	108.6	24	111.3	112.7	114.7	24	110.9	111.9	112.8	24	111.0	111.3	111.6	24	110.7	111.2	111.6	24
5/12	107.2	107.9	108.2	24	110.7	112.0	114.3	22	110.4	110.7	111.5	24	112.8	114.6	119.3	24	110.4	110.7	111.1	24
5/13	107.9	108.4	110.2	24	111.3	112.3	114.1	24	---	---	---	0	---	---	---	0	---	---	---	0
5/14	107.4	107.9	108.4	23	111.0	112.0	112.9	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	<u>Priest R. Dnst</u>			<u>Pasco</u>			<u>Dworshak</u>			<u>Clwrtr-Peck</u>			<u>Anatone</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</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>				
5/1	111.1	111.7	113.2	24	---	---	---	0	97.1	97.7	98.0	24	---	---	---	0	103.6	104.7	105.7	24
5/2	111.8	112.2	112.4	24	---	---	---	0	98.3	98.9	99.5	24	---	---	---	0	103.2	103.9	104.6	24
5/3	112.3	112.7	113.1	19	---	---	---	0	98.3	99.0	99.6	24	---	---	---	0	103.5	104.6	105.4	24
5/4	112.5	112.8	113.7	24	---	---	---	0	98.9	99.7	100.3	24	---	---	---	0	104.0	105.0	105.9	22
5/5	110.9	111.1	111.2	24	---	---	---	0	97.1	97.4	97.9	24	---	---	---	0	103.5	104.2	104.9	23
5/6	109.9	110.9	111.0	24	---	---	---	0	96.9	97.4	97.9	24	---	---	---	0	103.5	104.1	105.1	21
5/7	111.4	111.8	112.0	24	---	---	---	0	97.2	97.5	97.9	24	---	---	---	0	104.1	105.0	105.8	24
5/8	112.1	112.5	112.9	24	---	---	---	0	97.3	97.8	98.1	24	---	---	---	0	104.2	105.1	105.9	24
5/9	112.2	112.6	113.2	24	---	---	---	0	98.0	98.7	99.4	24	---	---	---	0	103.8	104.8	105.5	24
5/10	113.4	113.9	114.4	24	---	---	---	0	102.8	105.3	106.8	24	---	---	---	0	104.1	105.2	106.0	24
5/11	112.9	113.3	113.4	24	---	---	---	0	105.3	107.8	109.5	24	---	---	---	0	103.9	104.6	105.2	24
5/12	112.3	112.7	114.5	24	---	---	---	0	107.2	108.3	110.2	24	---	---	---	0	103.4	104.1	104.8	24
5/13	---	---	---	0	---	---	---	0	106.8	107.6	108.8	24	---	---	---	0	103.0	103.6	104.2	24
5/14	---	---	---	0	---	---	---	0	105.4	106.3	107.7	23	---	---	---	0	103.9	105.0	106.2	22

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clwrtr-Lewiston</u>			<u>Lower Granite</u>			<u>L. Granite Tlwr</u>			<u>Little Goose</u>			<u>L. Goose Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</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>				
5/1	101.7	103.3	104.5	24	104.2	104.8	105.1	24	111.0	111.3	111.8	24	110.0	110.8	111.4	24	111.9	112.5	112.8	24
5/2	101.8	103.3	104.6	24	103.4	103.7	104.3	24	110.6	110.8	111.1	24	110.2	110.6	110.9	24	111.7	111.9	112.1	24
5/3	101.8	103.6	104.9	24	103.0	103.5	103.7	24	110.2	110.4	110.5	24	110.2	110.8	111.2	24	112.0	112.5	113.1	24
5/4	102.0	103.8	105.1	24	103.9	104.2	104.5	24	110.5	111.0	112.1	24	111.6	112.2	113.1	24	112.3	112.7	113.3	24
5/5	101.3	102.3	103.2	24	102.8	103.0	103.1	24	110.0	110.3	110.9	24	111.4	111.6	112.0	24	111.4	111.7	111.9	24
5/6	100.9	102.2	103.3	24	102.6	102.7	102.9	24	109.6	109.8	110.5	24	110.4	110.8	111.2	24	110.8	111.0	111.2	24
5/7	101.5	103.1	104.3	24	102.4	102.4	102.5	24	109.6	109.9	111.1	24	109.9	110.4	110.7	24	110.7	110.9	111.2	24
5/8	101.6	103.2	104.5	24	102.4	102.5	102.7	24	109.7	110.1	110.8	24	109.7	110.0	110.4	24	110.7	110.9	111.3	24
5/9	101.8	103.6	105.0	24	102.2	102.3	102.4	24	110.0	110.3	110.6	24	109.6	109.9	110.7	24	111.2	111.7	112.0	24
5/10	102.4	104.3	105.6	24	103.0	103.5	104.1	24	110.5	111.1	112.0	24	110.6	111.4	112.2	24	111.7	112.1	112.3	24
5/11	102.2	103.5	104.7	24	103.9	104.2	104.3	24	111.1	111.4	112.5	24	111.0	111.2	111.5	24	111.9	112.1	112.3	24
5/12	102.3	103.7	105.2	24	104.1	104.3	104.5	23	110.8	111.1	111.9	23	110.0	110.3	110.6	24	111.7	111.9	112.1	24
5/13	101.6	102.3	103.2	24	103.9	104.0	104.3	24	110.8	111.2	111.7	24	109.4	109.6	110.2	24	111.3	111.5	111.6	24
5/14	102.7	104.4	105.8	23	103.6	103.8	104.2	23	110.4	110.6	111.1	23	109.4	109.9	110.1	23	111.3	111.6	111.8	23

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>#</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>				
5/1	112.6	112.9	113.3	24	118.2	118.5	119.1	24	117.8	118.2	119.0	24	113.9	114.6	115.5	24	---	---	---	0
5/2	112.0	112.2	112.3	24	117.5	118.0	118.6	24	116.6	116.7	117.1	24	114.1	114.9	115.3	24	---	---	---	0
5/3	112.4	112.6	112.9	24	116.7	117.7	118.5	24	117.3	117.5	118.0	24	113.6	114.3	115.2	24	---	---	---	0
5/4	112.6	112.8	113.0	24	115.5	117.5	118.1	24	117.9	118.1	118.5	24	114.4	115.0	115.5	24	---	---	---	0
5/5	111.9	112.1	112.3	24	116.6	117.1	118.1	24	116.4	116.7	117.1	24	114.5	115.4	116.8	24	---	---	---	0
5/6	111.6	111.7	111.8	24	116.5	116.9	117.3	24	114.8	115.0	115.7	24	115.6	116.0	116.3	24	---	---	---	0
5/7	111.4	111.6	111.9	24	116.5	117.3	118.7	24	113.8	114.1	114.5	24	115.5	115.8	116.2	24	---	---	---	0
5/8	111.7	111.9	112.1	24	116.9	117.5	117.9	24	114.5	114.8	115.0	24	115.4	115.8	116.2	24	---	---	---	0
5/9	111.5	111.7	111.9	24	116.8	117.4	118.0	24	114.9	115.1	115.4	24	113.2	114.0	115.0	24	---	---	---	0
5/10	111.7	112.1	112.4	24	116.4	117.4	118.3	24	115.4	115.8	116.0	24	113.0	113.9	115.6	24	---	---	---	0
5/11	112.3	112.4	112.6	24	116.7	117.3	118.3	24	116.3	116.4	116.6	24	112.9	113.5	116.0	24	---	---	---	0
5/12	112.4	112.6	112.8	24	116.4	116.9	118.0	24	116.3	116.4	116.7	24	113.3	114.0	114.6	24	---	---	---	0
5/13	111.9	112.6	113.0	24	115.7	116.2	116.7	24	114.4	115.3	116.4	24	112.8	113.2	115.4	24	---	---	---	0
5/14	111.0	111.3	111.5	23	116.6	117.2	117.5	23	112.9	113.1	113.3	23	114.6	115.3	115.5	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>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>hr</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>	<u>hr</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
5/1	111.5	111.8	112.4	24	115.6	116.3	117.1	24	108.2	108.6	109.1	24	113.2	113.6	114.5	24	111.4	112.4	112.9	24
5/2	111.1	111.6	112.4	24	115.5	115.9	116.2	24	109.1	110.3	111.3	24	114.4	114.6	115.0	24	110.7	110.9	111.3	24
5/3	111.6	112.1	112.7	24	115.0	115.6	116.3	24	111.0	111.4	111.9	24	114.2	114.6	114.9	24	111.8	112.3	112.6	24
5/4	111.5	111.9	112.4	24	113.9	114.8	115.9	23	111.0	111.4	111.6	24	113.2	114.3	115.0	24	111.8	112.2	112.4	24
5/5	110.1	110.5	111.3	24	112.6	114.1	115.5	24	109.4	109.8	110.1	24	112.9	113.8	114.5	24	109.4	109.7	110.4	24
5/6	109.1	109.2	109.4	24	113.1	114.4	115.0	24	109.6	109.8	110.1	24	114.4	114.6	114.9	24	109.4	109.9	110.3	24
5/7	108.8	109.4	110.3	24	114.3	115.6	116.4	23	109.7	110.2	110.4	24	114.2	114.7	115.1	24	110.1	110.9	111.3	24
5/8	110.6	111.4	112.1	24	116.5	117.3	117.4	24	110.4	110.8	111.7	24	111.6	112.0	112.5	24	111.8	112.4	112.6	24
5/9	112.1	113.0	114.4	24	116.6	116.9	117.1	24	110.2	110.4	110.7	24	112.0	112.6	113.2	24	112.5	112.9	113.1	24
5/10	112.8	113.6	115.3	24	116.4	116.7	117.0	24	110.1	110.5	111.6	24	111.2	112.1	112.9	24	112.9	113.4	113.9	24
5/11	113.2	113.5	114.0	24	116.2	116.5	116.7	24	108.5	108.8	109.4	24	110.1	111.0	111.3	24	109.8	110.7	111.4	24
5/12	112.2	112.4	112.6	24	115.2	116.0	116.9	24	108.3	108.9	109.2	24	110.0	110.2	111.4	14	107.8	108.2	108.8	24
5/13	109.2	110.4	111.9	24	113.9	114.3	115.0	24	108.6	108.8	109.1	24	112.5	113.7	115.3	18	109.3	109.4	109.6	24
5/14	107.9	108.3	109.4	23	114.6	114.9	115.4	23	109.4	109.8	110.3	23	114.2	114.4	114.7	23	111.8	112.7	113.3	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>24 h</u>	<u>12 h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>			<u>24h</u>	<u>12h</u>		
	<u>Avg</u>	<u>Avg</u>	<u>High</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>hr</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>	<u>hr</u>		<u>Avg</u>	<u>Avg</u>	<u>High</u>	
5/1	115.9	116.9	117.7	24	111.4	111.9	112.2	24	116.8	117.2	117.4	24	116.9	117.9	118.8	24	116.8	117.1	117.5	24
5/2	115.9	116.3	116.7	24	111.1	111.4	111.9	24	116.4	117.1	117.6	24	114.5	116.3	117.5	24	116.7	117.0	117.3	24
5/3	116.4	117.2	117.6	24	112.5	113.8	114.2	24	116.5	117.1	117.6	24	115.1	116.6	117.3	24	116.4	116.5	116.7	24
5/4	116.4	117.0	117.6	24	113.6	114.3	114.5	24	116.3	116.7	117.2	24	114.4	115.1	115.9	24	116.8	117.1	117.3	24
5/5	115.2	115.4	115.7	24	110.5	110.9	111.7	24	115.5	115.8	116.4	24	112.7	113.6	114.3	24	116.0	116.1	116.2	24
5/6	115.4	116.0	116.3	24	110.0	110.1	110.2	24	115.3	115.5	115.7	24	113.0	113.8	114.7	24	116.0	116.2	116.3	24
5/7	115.9	116.6	116.9	24	111.0	111.9	112.4	24	115.9	116.4	116.8	24	113.9	115.9	117.1	24	116.2	116.3	116.4	24
5/8	116.9	117.4	117.7	24	113.3	114.2	114.5	24	116.8	117.6	118.2	24	115.0	116.9	117.8	24	116.4	116.4	116.5	24
5/9	117.2	117.9	118.3	24	114.9	115.6	116.1	24	117.4	118.3	118.9	24	116.0	117.6	118.7	24	116.9	117.1	117.3	24
5/10	116.9	117.9	118.4	24	115.4	115.8	116.2	24	117.3	117.9	118.1	24	116.9	117.7	118.4	24	117.1	117.2	117.4	24
5/11	115.1	115.6	116.1	24	111.8	112.5	113.8	24	116.8	117.2	117.5	24	113.8	114.5	115.6	24	117.0	117.0	117.1	24
5/12	114.3	114.8	115.5	24	109.4	109.7	110.2	24	115.8	116.5	117.0	24	114.5	115.1	115.7	24	116.4	116.8	117.0	24
5/13	115.4	116.0	116.3	24	108.7	109.1	109.5	24	115.0	115.4	115.8	24	112.4	113.9	114.9	24	116.2	116.4	116.6	24
5/14	117.1	118.3	118.7	23	111.0	112.2	113.5	23	115.7	116.2	116.4	23	113.7	115.1	116.2	23	116.4	116.7	117.0	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center

Updated: 5/15/2015 7:09

* 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/currentsmptsubmitdata.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)	
05/01/2015	*	191	326	18	27	16,960	---	13,538	334	49,003	13,603	35,904
05/02/2015	*	---	93	6	37	28,720	30,405	21,119	781	---	4,682	46,621
05/03/2015	*	---	348	1	17	42,264	40,583	13,695	470	119,491	10,861	60,804
05/04/2015	*	175	324	7	47	35,810	27,887	43,334	586	---	14,433	51,716
05/05/2015	*	303	303	2	39	37,332	20,318	90,584	738	264,748	12,262	73,204
05/06/2015	*	178	493	4	29	42,233	82,041	134,961	371	---	10,249	101,787
05/07/2015	*	125	422	11	88	111,806	60,098	65,063	375	98,383	13,685	69,728
05/08/2015	*	85	247	12	31	89,351	36,392	87,780	381	---	11,484	66,182
05/09/2015	*	---	---	4	20	39,633	40,942	140,953	369	112,609	8,596	46,655
05/10/2015	*	---	fa	6	4	42,497	60,203	79,546	406	---	10,206	44,095
05/11/2015	*	39	---	7	3	31,802	55,112	86,395	392	113,310	11,409	30,417
05/12/2015	*	30	---	7	5	34,044	54,129	38,269	431	---	16,296	51,411
05/13/2015		50	---	43	5	26,464	55,211	64,484	504	99,302	31,994	59,640
05/14/2015	*	39	---	205	17	30,777	41,829	26,821	348	---	35,825	54,111
05/15/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		1,215	2,556	333	369	609,693	605,150	906,542	6,486	856,846	205,585	792,275
# Days:		10	8	14	14	14	13	14	14	7	14	14
Average:		122	320	24	26	43,550	46,550	64,753	463	122,407	14,685	56,591
YTD		39,953	64,071	7,190	1,005	1,694,322	980,158	1,024,938	12,065	1,036,261	395,099	1,176,026

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)	
05/01/2015	*	0	1	2	14	330	---	0	8	342	0	45,480
05/02/2015	*	---	0	12	8	653	0	0	11	---	0	9,467
05/03/2015	*	---	1	67	14	319	0	193	17	342	0	6,779
05/04/2015	*	0	0	12	21	0	0	0	25	---	0	1,976
05/05/2015	*	0	0	19	40	156	0	0	17	0	0	452
05/06/2015	*	0	1	10	62	148	0	0	26	---	0	3,712
05/07/2015	*	0	0	6	146	0	0	316	40	0	0	5,066
05/08/2015	*	0	0	7	79	0	143	0	11	---	0	3,097
05/09/2015	*	---	---	4	143	0	0	0	35	342	0	1,650
05/10/2015	*	---	---	14	84	625	287	0	18	---	0	3,003
05/11/2015	*	0	---	6	288	1,172	0	0	18	0	36	1,791
05/12/2015	*	0	---	14	62	498	0	750	13	---	114	3,928
05/13/2015		0	---	25	27	974	575	776	18	1,022	167	2,110
05/14/2015	*	0	---	60	45	162	286	3,353	28	---	0	4,017
05/15/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		0	3	258	1,033	5,037	1,291	5,388	285	2,048	317	92,528
# Days:		10	8	14	14	14	13	14	14	7	14	14
Average:		0	0	18	74	360	99	385	20	293	23	6,609
YTD		1	39	746	1,356	16,479	1,311	5,652	4,644	5,006	328	1,424,553

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)	
05/01/2015 *	0	0	0	4	330	---	407	30	342	267	7,779	
05/02/2015 *	---	0	0	3	163	574	199	56	---	1,054	10,848	
05/03/2015 *	---	0	0	3	0	0	0	50	511	1,949	13,530	
05/04/2015 *	0	0	0	1	0	573	345	54	---	804	18,118	
05/05/2015 *	0	0	0	6	937	143	346	72	3,396	711	20,109	
05/06/2015 *	0	0	0	0	295	931	0	66	---	544	30,867	
05/07/2015 *	0	0	0	3	3,698	2,862	0	105	1,360	682	14,414	
05/08/2015 *	0	0	0	6	1,453	1,433	0	127	---	307	11,999	
05/09/2015 *	---	---	0	3	2,642	2,863	1,349	143	2,054	806	9,497	
05/10/2015 *	---	---	0	1	1,562	3,440	2,112	156	---	746	9,878	
05/11/2015 *	0	---	0	0	502	1,148	1,886	236	4,793	586	4,175	
05/12/2015 *	0	---	0	1	1,495	862	1,876	315	---	534	8,135	
05/13/2015	0	---	0	1	3,085	2,300	3,104	366	2,385	1,640	14,800	
05/14/2015 *	0	---	0	2	3,564	2,578	1,341	372	---	1,568	10,869	
05/15/2015	---	---	---	---	---	---	---	---	---	---	---	
Total:	0	0	0	34	19,726	19,707	12,965	2,148	14,841	12,198	185,018	
# Days:	10	8	14	14	14	13	14	14	7	14	14	
Average:	0	0	0	2	1,409	1,516	926	153	2,120	871	13,216	
YTD	0	0	0	42	25,670	22,172	13,167	2,253	17,888	23,309	400,582	

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)	
05/01/2015 *	216	733	6	513	26,125	---	21,680	225	11,451	3,538	7,783	
05/02/2015 *	---	235	4	1,043	19,419	28,109	47,021	238	---	1,756	5,886	
05/03/2015 *	---	626	1	792	16,905	25,149	26,039	228	32,685	2,379	12,591	
05/04/2015 *	119	509	1	778	17,201	30,964	39,708	149	---	2,335	11,777	
05/05/2015 *	184	478	0	601	23,430	13,877	29,215	204	56,385	2,971	24,176	
05/06/2015 *	131	1,217	0	250	36,622	26,583	21,536	213	---	5,047	26,345	
05/07/2015 *	94	1,191	1	150	46,088	37,775	17,687	237	40,119	8,010	42,852	
05/08/2015 *	62	1,007	2	69	39,859	49,148	30,868	241	---	7,676	59,989	
05/09/2015 *	---	---	0	132	30,532	58,697	41,477	265	35,599	6,715	88,353	
05/10/2015 *	---	---	1	47	16,561	55,328	33,438	326	---	6,477	119,925	
05/11/2015 *	38	---	1	31	49,879	39,323	23,014	423	28,757	6,039	64,411	
05/12/2015 *	29	---	0	43	19,430	19,574	13,507	453	---	3,855	42,485	
05/13/2015	21	---	2	241	25,328	21,277	15,250	442	25,585	4,652	44,820	
05/14/2015 *	25	---	19	111	19,762	13,181	29,168	490	---	4,860	40,406	
05/15/2015	---	---	---	---	---	---	---	---	---	---	---	
Total:	919	5,996	38	4,801	387,141	418,985	389,608	4,134	230,581	66,310	591,799	
# Days:	10	8	14	14	14	13	14	14	7	14	14	
Average:	92	750	3	343	27,653	32,230	27,829	295	32,940	4,736	42,271	
YTD	2,472	23,473	447	11,029	1,116,847	724,275	448,022	5,191	283,556	97,073	671,936	

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)
05/01/2015 *	0	0	0	0	0	---	0	27	3,415	0	0
05/02/2015 *	---	0	0	0	163	0	0	47	---	156	307
05/03/2015 *	---	0	0	1	159	0	0	51	6,638	401	0
05/04/2015 *	1	0	0	0	0	0	0	41	---	498	0
05/05/2015 *	0	0	0	1	0	0	0	16	7,472	1,381	678
05/06/2015 *	0	0	0	0	295	72	0	55	---	1,669	804
05/07/2015 *	0	0	1	0	284	0	316	63	3,739	898	1,170
05/08/2015 *	4	0	0	1	291	0	322	65	---	1,904	1,162
05/09/2015 *	---	---	0	0	587	286	337	55	4,107	1,074	0
05/10/2015 *	---	---	0	0	0	287	0	62	---	1,138	1,461
05/11/2015 *	2	---	1	0	335	0	0	76	1,027	2,153	1,194
05/12/2015 *	6	---	0	1	166	575	0	116	---	2,214	1,666
05/13/2015	26	---	1	2	487	288	0	89	4,430	3,874	3,410
05/14/2015 *	23	---	0	8	1,296	859	0	137	---	3,606	1,654
05/15/2015	---	---	---	---	---	---	---	---	---	---	---
Total:	62	0	3	14	4,063	2,367	975	900	30,828	20,966	13,506
# Days:	10	8	14	14	14	13	14	14	7	14	14
Average:	6	0	0	1	290	182	70	64	4,404	1,498	965
YTD	62	0	3	15	4,262	2,407	1,051	3,063	54,795	21,563	14,936

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)
05/01/2015 *	0	0	0	0	0	---	0	0	0	133	0
05/02/2015 *	---	0	0	0	0	0	0	0	---	75	0
05/03/2015 *	---	0	0	0	0	0	0	0	0	80	0
05/04/2015 *	0	0	0	0	0	0	0	0	---	50	0
05/05/2015 *	0	0	0	0	0	0	0	0	0	25	0
05/06/2015 *	0	0	0	0	0	400	0	0	---	100	8
05/07/2015 *	0	0	0	0	0	0	0	0	0	25	0
05/08/2015 *	0	0	0	0	0	0	0	0	---	80	0
05/09/2015 *	---	---	0	0	0	0	0	1	0	0	0
05/10/2015 *	---	---	0	0	0	0	0	0	---	25	0
05/11/2015 *	0	---	0	0	0	0	0	0	0	58	0
05/12/2015 *	0	---	0	0	0	0	0	0	---	125	0
05/13/2015	0	---	0	0	0	0	0	1	0	417	0
05/14/2015 *	0	---	0	0	0	0	0	1	---	50	0
05/15/2015	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	0	400	0	3	0	1,243	8
# Days:	10	8	14	14	14	13	14	14	7	14	14
Average:	0	0	0	0	0	31	0	0	0	89	1
YTD	0	2	0	0	10	3,480	140	8	315	4,748	2,801

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:

5/15/15 7:06 AM

		05/01/15 TO 05/15/15					
		Species					
Site	Data	CH0	CH1	CO	ST	SO	Grand Total
LGR	Sum of NumberCollected	3,100	398,850	12,800	249,650	2,600	667,000
	Sum of NumberBarged	2,947	397,260	12,776	233,563	2,587	649,133
	Sum of NumberBypassed	142	9,299	139	21,800	0	31,380
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	1	7	0	7	2	17
	Sum of FacilityMorts	10	200	1	101	11	323
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	11	207	1	108	13	340
LGS	Sum of NumberCollected	900	422,219	13,750	292,412	1,650	730,931
	Sum of NumberBarged	898	422,154	13,750	292,336	1,650	730,788
	Sum of NumberBypassed	2	0	0	0	0	2
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	7	0	1	0	8
	Sum of FacilityMorts	0	58	0	75	0	133
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	65	0	76	0	141
LMN	Sum of NumberCollected	3,100	529,766	7,100	220,334	600	760,900
	Sum of NumberBarged	3,094	522,849	6,900	209,464	600	742,907
	Sum of NumberBypassed	6	6,650	200	10,649	0	17,505
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	32	0	23	0	55
	Sum of FacilityMorts	0	235	0	198	0	433
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	267	0	221	0	488
Total Sum of NumberCollected		7,100	1,350,835	33,650	762,396	4,850	2,158,831
Total Sum of NumberBarged		6,939	1,342,263	33,426	735,363	4,837	2,122,828
Total Sum of NumberBypassed		150	15,949	339	32,449	0	48,887
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		1	46	0	31	2	80
Total Sum of FacilityMorts		10	493	1	374	11	889
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		11	539	1	405	13	969

YTD Transportation Summary

Source: Fish Passage Center

Updated:

5/15/15 7:06 AM

TO: 05/15/15

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	11,390	1,099,642	16,400	2,760	703,758	1,833,950
	Sum of NumberBarged	3,339	424,442	12,900	2,587	250,925	694,193
	Sum of NumberBypassed	8,027	674,921	3,499	160	452,708	1,139,315
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	14	40	0	2	17	73
	Sum of FacilityMorts	10	239	1	11	108	369
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	24	279	1	13	125	442
LGS	Sum of NumberCollected	920	684,223	15,470	1,690	505,650	1,207,953
	Sum of NumberBarged	898	422,154	13,750	1,650	292,336	730,788
	Sum of NumberBypassed	22	261,966	1,720	40	213,220	476,968
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	17	0	0	4	21
	Sum of FacilityMorts	0	86	0	0	90	176
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	103	0	0	94	197
LMN	Sum of NumberCollected	3,210	583,704	7,200	630	246,481	841,225
	Sum of NumberBarged	3,094	522,849	6,900	600	209,464	742,907
	Sum of NumberBypassed	116	60,572	300	30	36,794	97,812
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	37	0	0	25	62
	Sum of FacilityMorts	0	236	0	0	198	434
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	273	0	0	223	496
Total Sum of NumberCollected		15,520	2,367,569	39,070	5,080	1,455,889	3,883,128
Total Sum of NumberBarged		7,331	1,369,445	33,550	4,837	752,725	2,167,888
Total Sum of NumberBypassed		8,165	997,459	5,519	230	702,722	1,714,095
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		14	94	0	2	46	156
Total Sum of FacilityMorts		10	561	1	11	396	979
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		24	655	1	13	442	1,135

Cumulative Adult Passage at Mainstem Dams Through: 05/14

DAM	END DATE	Spring Chinook						Summer Chinook						Fall Chinook					
		2015		2014		10-Yr Avg.		2015		2014		10-Yr Avg.		2015		2014		10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	05/14	181,981	6,662	153,634	15,835	105,269	13,241	0	0	0	0	0	0	0	0	0	0	0	0
TDA	05/14	157,504	5,309	110,693	10,729	72,038	9,497	0	0	0	0	0	0	0	0	0	0	0	0
JDA	05/14	133,104	4,893	92,225	8,378	58,765	7,717	0	0	0	0	0	0	0	0	0	0	0	0
MCN	05/14	121,088	3,365	73,387	4,761	44,885	4,428	0	0	0	0	0	0	0	0	0	0	0	0
IHR	05/14	90,543	1,512	53,540	3,088	29,141	2,564	0	0	0	0	0	0	0	0	0	0	0	0
LMN	05/14	82,705	2,159	47,990	2,426	24,199	1,676	0	0	0	0	0	0	0	0	0	0	0	0
LGS	05/14	75,920	2,036	40,586	1,813	17,949	1,280	0	0	0	0	0	0	0	0	0	0	0	0
LGR	05/14	70,874	1,469	35,154	1,019	15,064	871	0	0	0	0	0	0	0	0	0	0	0	0
PRD	05/13	15,953	333	11,429	180	5,582	79	0	0	0	0	0	0	0	0	0	0	0	0
WAN	05/13	14,895	186	0	0	4,526	81	0	0	0	0	0	0	0	0	0	0	0	0
RIS	05/13	16,250	110	4,744	24	3,265	56	0	0	0	0	0	0	0	0	0	0	0	0
RRH	05/13	5,864	50	2,183	11	966	10	0	0	0	0	0	0	0	0	0	0	0	0
WEL	05/13	3,616	44	849	6	399	11	0	0	0	0	0	0	0	0	0	0	0	0
WFA	05/09	29,199	858	8,307	120	10,541	173	0	0	0	0	0	0	0	0	0	0	0	0

DAM	END DATE	Coho						Sockeye			Steelhead						Lamprey		
		2015		2014		10-Yr Avg.		2015	2014	10-Yr Avg.	10-Yr		Wild 2015	Wild 2014	10-Yr Avg.	2015	2014	10-Yr Avg.	
		Adult	Jack	Adult	Jack	Adult	Jack				2015	2014							2015
BON	05/14	0	0	5	-2	0	0	1	9	0	4,500	4,476	4,122	2,351	1,254	1,152	27	9	37
TDA	05/14	0	0	0	0	0	0	0	0	0	339	560	2,269	166	167	900	0	0	0
JDA	05/14	0	0	0	1	0	1	-1	4	0	511	2,881	4,761	322	1,109	1,705	50	12	5
MCN	05/14	0	0	0	0	1	0	-1	0	0	669	625	5,184	410	333	1,755	15	8	2
IHR	05/14	0	0	0	0	0	0	0	0	0	1,053	1,620	4,903	671	764	1,510	3	2	0
LMN	05/14	0	0	0	0	0	0	0	1	0	3,374	5,040	6,548	1,820	1,573	2,111	0	0	0
LGS	05/14	0	0	0	0	0	0	0	0	0	1,447	1,434	3,005	975	961	1,414	1	0	0
LGR	05/14	0	0	0	0	0	0	0	0	0	9,126	7,353	8,701	4,297	3,390	3,176	0	0	0
PRD	05/13	0	0	0	0	0	0	0	2	0	29	100	39	0	0	0	5	0	0
WAN	05/13	0	0	0	0	0	0	1	0	0	49	0	89	0	0	0	2	0	0
RIS	05/13	0	0	0	0	0	0	0	0	0	112	250	96	83	134	54	0	0	0
RRH	05/13	0	0	0	0	0	0	0	0	0	101	229	314	71	146	231	0	0	0
WEL	05/13	0	0	0	0	0	0	0	0	0	23	89	47	17	55	33	0	0	2
WFA	05/09	1	0	9	0	0	0	0	0	0	5,002	7,086	8,494	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.