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Fish Passage Center

Weekly Report #15–8

May 8, 2015

Summary of Events

Water Supply

Precipitation throughout the Columbia Basin has varied between 1% and 113% of average at individual sub-basins over early May. Precipitation above The Dalles has been 33% of average over early May. Over the 2015 water year, precipitation has ranged between 66% and 105% 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 1–6, 2015		Water Year 2015 October 1, 2014 to May 6, 2015	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	0.27	42	26.5	103
Snake River Above Ice Harbor	0.12	27	12.3	75
Columbia Above The Dalles	0.16	33	17.1	86
Kootenai	0.18	27	27.2	105
Clark Fork	0.04	6	14.7	79
Flathead	0.01	1	24.0	96
Pend Oreille River Basin above Waneta Dam	0.03	4	20.3	89
Salmon River Basin	0.13	23	16.0	79
Upper Snake Tributaries	0.64	113	12.7	66
Clearwater	0.05	7	26.3	86
Willamette River above Portland	0.07	9	46.0	83

Snowpack within the Columbia Basin has been well below average. Average snowpack in the Columbia River for basins above the Snake River confluence is 40% of average. For Snake River Basins the average snowpack is 25% of average. And for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 2% of average.

Table 2 displays the May 7th ESP runoff volume forecasts for multiple reservoirs along with the May COE forecasts at Libby and Dworshak. The May 7th ESP forecast at The Dalles between April and August is 62,398 Kaf (71% of average).

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

Location	May 7, 2015 5-day QPF ESP	
	% Average (1981–2010)	Runoff Volume (Kaf)
The Dalles (Apr–Aug)	71	62,398
Grand Coulee (Apr–Aug)	80	45,498
Libby Res. Inflow, MT (Apr–Aug)	84 92*	4,933 5,396*
Hungry Horse Res. Inflow, MT (Apr–Aug)	82	1,595
Lower Granite Res. Inflow (Apr–July)	53	10,598
Brownlee Res. Inflow (Apr–July)	42	2,289
Dworshak Res. Inflow (Apr–July)	57 54*	1,374 1,325*

* Denotes COE May Forecast

Grand Coulee Reservoir is at 1,249.7 feet (5-7-15) and has drafted 1.1 feet over the last week. Outflows at Grand Coulee have ranged between 70.6 and 104.7 Kcfs over the last week. Grand Coulee is drafted below flood control for drum gate maintenance (1,255 feet).

The Libby Reservoir is currently at elevation 2,422.1 feet (5-7-15) and has refilled 0.9 feet over the previous week. Daily average outflows at Libby Dam have been 10.3–12.5 Kcfs over the last week.

Hungry Horse is currently at an elevation of 3,540.0 feet (5-7-15) and refilled 1.4 feet over the last week. Outflows at Hungry Horse have increased from 5.5 to 7.2 Kcfs over the last week.

Dworshak is currently at an elevation of 1,585.8 feet (5-7-15) and drafted 0.3 feet over the last week. Outflows have been 5.1–9.5 Kcfs over the last week. At TMT on May 6, 2015, future operations at Dworshak were decided to remain at 9.5 Kcfs through May 8, 2015, followed by a daily step down to 5 Kcfs, 2.5 Kcfs, and then possibly minimum outflows of 1.5–1.6 Kcfs.

The Brownlee Reservoir was at an elevation of 2,055.4 feet on May 7, 2015, and has refilled 0.9 feet over the last week. Outflow from Hells Canyon have ranged between 8.5 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 58.9 Kcfs over the last week and 50.9 Kcfs between April 3 and May 7, 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 178.6 Kcfs and Priest Rapids Dam flows were 112.4 Kcfs. Between April 10 and May 7, flows at McNary Dam averaged 166.6 Kcfs and Priest Rapids Dam flows were 109.5 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. The gas cap at Lower Monumental Dam decreased again over the past week in response to the TDG levels measured at the Ice Harbor forebay. The forebay monitor reading at Ice Harbor is more likely a function of water temperature than the TDG level at the upstream project. 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. 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. However, in response, spill was reduced from 26 Kcfs to 23–24 Kcfs at Lower Monumental Dam. **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 McNary Dam on 5/6 and at Bonneville Dam on 5/5. On 5/5, 2% of the sample was observed with minor signs of GBT at Rock Island Dam. 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 juveniles. This week's daily average passage index for yearling Chinook was nearly 63,000 per day, which is an increase over last week's daily average passage index of nearly 27,000 per day. Coho and steelhead passage also increased this week when compared to the previous week. This week's daily average passage indices were about 16,500 for coho and nearly 19,000 for steelhead. Last week's daily average passage indices were about 9,500 and 8,800 per day, respectively. Sockeye passage remained relatively low this week, until May 5th when passage began to increase. The passage index for sockeye over the last three days has ranged from about 680 to nearly 1,200 and seems to be increasing. Subyearling Chinook passage decreased this week. This decrease in passage 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, Pacific lamprey macropthalmia were encountered in only one of this week's samples (May 6th).

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 11,400 fish per day, which is a decrease over last week's daily average passage index of about 13,400. Steelhead passage increased this week when compared to the previous week. This week's daily average passage index for steelhead was about 3,700 per day, whereas that for last week was just over 2,500 per day. Coho and sockeye passage also increased this week. Last week's daily average passage indices for these two species were about 860 and 700 per day, respectively. Last week's passage indices were about 530 for coho and 50 for sockeye. No subyearling Chinook fry were encountered in this week's samples. Finally, Pacific lamprey macropthalmia were encountered every day this week, with a daily average collection of about 70 fish per day. This is a slight increase over last week's daily average collection of almost 50 macropthalmia per day.

Since McNary Dam (MCN) is no longer a transportation site, sampling is done 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 nearly 133,000 fish per day. This is a substantial increase over last week's daily average passage index of about only about 40,000 per day. Steelhead and coho passage also increased this week when compared to the previous week. This week's daily average passage indices for steelhead and coho were about 35,000 and 1,400 per day, respectively. Last week's daily average passage indices were about 8,800 for steelhead and less than 100 for coho. Sockeye passage decreased this week. This week's daily average passage index for sockeye was about 5,300 whereas that for last week was nearly 6,500 per day. Subyearling Chinook fry 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 is expected to run through May 9th where outflows will gradually decrease 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 have increased in recent 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 of subyearling Chinook fry and coho at LGR also increased this week. This week's daily average passage indices for these species were about 230 and 775 per day, respectively. Last week's daily average passage indices were 140 for subyearling Chinook and 650 for coho. After several weeks of zero sockeye/ kokanee in the sample, LGR began encountering sockeye on May 2nd. All of the sockeye encountered in this week's samples were unclipped and likely of wild/ natural origin, as hatchery sockeye releases into Redfish Lake Creek just began this week. The daily average passage index for sockeye this week was about 130 per day. Finally, no lamprey juveniles were encountered in this week's samples.

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 every day 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 43,500 fish per day this week, which is a decrease over last week's daily average of nearly 66,000 per day. Steelhead passage also decreased this week when compared to the previous week. This week's daily average passage index for steelhead at LGS was about 27,050 fish per day whereas that of last week was about 56,250 per day. Despite these decreases in daily average passage indices, it appears that the increased outflows from Dworshak Dam and increasing flows in the Snake River have caused an increase in yearling Chinook and steelhead passage at LGS in recent days. Coho passage also increased this week, with a daily average passage index of about 850 fish per day. Sockeye were encountered one day this week (May 6th), with an estimated passage index of 72 fish. Finally, no subyearling Chinook were encountered this week and Pacific lamprey macropthalmia were only encountered once this week, on May 6th. The estimated collection for Pacific lamprey macropthalmia on May 6th was 400.

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 every day 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 53,000 fish per day, which is an increase over last week's daily average passage index of nearly 25,000 yearling Chinook per day. Steelhead passage at LMN also increased this week when compared to last week. This week's daily average passage index for steelhead at LMN was nearly 31,000 per day, whereas that for last week was nearly 14,000 per day. These increases in yearling Chinook and steelhead passage are also likely a result of the increased outflows from Dworshak Dam and increasing flows in the Snake River this week. 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 200, whereas that for last week was less than 100 per day. Finally, very few subyearling Chinook and no sockeye or 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 520 fish per day. This is an increase over last week's daily average passage index of about 450 yearling Chinook per day. Steelhead passage also increased this week when compared to last week. This week's daily average passage index for steelhead at RIS was about 215 per day, whereas that for last week was about 125 per day. Coho passage appears to be on a gradual upward trend. The daily average passage index for coho this week was about 60 fish per day. Last week's daily average passage index was less than 10 fish per day. Steelhead passage also seems to have increased this week while sockeye passage decreased slightly. Finally, no lamprey juveniles were encountered in this week's samples at 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, the trap was positioned in a location where it is less efficient at catching fish, which influences the low sample counts since April 30th. Collections over the next few days will be assessed to determine when/if the trap can be moved to a more efficient location.

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 this week in an effort to reduce handling of listed hatchery stocks. The reduction in effort this week involved fishing in an area of the river where the trap is less efficient and reducing the sample period to 12 hours per day, instead of the intended 24 hours. Collections this week were relatively similar for yearling Chinook and steelhead. This week's daily average collections were nearly 200 for yearling Chinook and about 130 for steelhead. These are both decreases from last week's daily average collections of about 250 and 165 per day, respectively. Of all the yearling Chinook that were collected this week, approximately 90% were of known 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. This trap will likely maintain some level of reduced 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. Steelhead dominated this week's samples at LEW. This week's daily average collection for steelhead was about 590 per day, which is a decrease from last week's daily average collection of about 730. The daily average collection for yearling Chinook at LEW was about 40 fish per day, which is also a slight decrease over last week. Subyearling Chinook collections increased this week, with a daily average collection of about 44 per day. The first sockeye of the season was encountered in the April 30th sample. One sockeye was also encountered in each of the May 3rd and May 5th samples. 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 4th. Over the last week of available data (April 28–May 4), collections at IMN have been dominated by steelhead, with a daily average collection of about 550 fish per day. This is an increase over the daily average collection from the previous week of data (April 21–27), which was about 450 per day. Since April 28th, approximately 76% of the steelhead collection at IMN has been of known hatchery origin. Yearling Chinook passage decreased substantially over the April 28–May 4 period, when compared to the previous 7-day period. From April 28th to May 4th, the daily average yearling Chinook collection was about 320, whereas that for the April 21–27 period was about 1,270 per day. For the period of April 21–27, the yearling Chinook catch at IMN was about 81% known hatchery origin, whereas that for the April 28–May 4 period was only 68%. 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 420,000 sockeye smolts were scheduled for release into Redfish Lake Creek this week. These sockeye juveniles were reared at Oxbow Hatchery in Oregon, and Sawtooth and Springfield hatcheries in Idaho. This is first year of Springfield Hatchery sockeye releases. In future years, Springfield Hatchery will become the primary sockeye rearing facility in Idaho, as Sawtooth Hatchery will no longer produce sockeye. In addition, about 280,000 summer steelhead juveniles were scheduled to be released into the Grande Ronde River and its tributaries this week.

Approximately 3.1 million subyearling fall Chinook juveniles are scheduled for release into the Snake River Zone over the next 2 weeks. Beginning on or around May 11th, about 1.42 million subyearling fall Chinook will be released directly to the Snake River above Lower Granite Dam, including Pittsburg Landing Acclimation Facility and just below Hells Canyon Dam. The remaining 1.67 million are scheduled for release the following week, beginning on or around May 18th. Of these 1.67 million, about 13% are scheduled for release from Lyons Ferry Hatchery, which is located between Little Goose and Lower Monumental dams. The remaining 87% are 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 to begin in this zone this week were of coho. In all, just over 404,000 coho juveniles were scheduled to be released into the Wenatchee (57%) and Methow (43%) rivers this week. These new releases are in addition to the many volitional releases of juvenile coho that are ongoing from previous weeks.

The only new releases that are scheduled for this zone over the next 2 weeks are of subyearling fall Chinook and subyearling summer Chinook. In all, about 23,750 subyearling fall Chinook are scheduled for release over the next 2 weeks. These releases are scheduled to take place directly to the Columbia River above McNary Dam (28%) and in the Yakima (72%) and Wenatchee (1%) rivers. The subyearling summer Chinook releases are expected to total only 450 fish and are going to be split between the Methow (50%) and Okanogan (50%) rivers. All of these releases are part of the WDFW Cooperative program.

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

Adult Passage

Adult counts at Bonneville Dam have been updated through May 7th. Daily adult spring Chinook counts at Bonneville Dam ranged from 770 to 2,696 adult salmon per day. As of May 7th, a total of 162,939 spring Chinook have been counted at Bonneville Dam. In 2014, 130,268 adult spring Chinook were counted at Bonneville Dam for the same time period. The 2015 adult spring Chinook count at Bonneville Dam is about 1.3 times greater than the 2014 count and 2.1 times greater than the 10-year average count of 77,833. The 2015 spring Chinook jack count of 3,519 is about 52.4% of the 2014 count of 6,720 and 70.6% of the 10-year average count of 4,985. At Willamette Falls, 21,877 adult spring Chinook have been counted so far this year. In 2014, 6,260 adult spring Chinook were counted

at Willamette Falls. This year's count is about 3.5 times greater than the 2014 count and 3 times greater than the 10-year average count of 7,284. As of May 7th, a total of 137,715 adult spring Chinook have been counted at The Dalles Dam and 103,167 have been counted at McNary Dam. The Dalles Dam 2015 adult spring Chinook count is 1.6 times greater than 2014 and 2.9 times greater than the 10-year average count. The 2015 McNary Dam adult spring Chinook count is about 2.1 times greater than the 2014 count and 4.2 times greater than the 10-year average count.

The 2015 Bonneville Dam adult steelhead count of 4,348 has 186 more fish than the 2014 count of 4,162 and has 585 more fish than the 10-year average count of 3,763. The 2015 Bonneville Dam adult wild steelhead count of 2,318 is about 1.9 times greater than the 2014 count of 1,221 and 2.1 times greater than the 10-year average count of 1,088. 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 12 to 30 adults per day last week. This year's Lower Granite steelhead count of 9,063 is about 1.3 times greater than the 2014 count of 7,242 and has 494 more fish than the 10-year average count of 8,569. The 2015 Lower Granite Dam adult wild steelhead count of 4,249 is 1.3 times greater than the 2014 count of 3,316 and is about 1.4 times greater than the 10-year average count of 3,085. At Willamette Falls, the 2015 count for steelhead was 4,741 as of May 3rd. This year's steelhead count is about 74.3% of the 2014 count of 6,383 and about 62.8% of the 10-year average count of 7,545.

Hatchery Releases Last Two Weeks

Hatchery Release Summary

From: 4/25/2015 to 05/08/15

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	Magic Valley Hatchery	ST	SU	2015	189,423	04-22-15	04-28-15	Yankee Fk (Salmon R)	Salmon River (ID)
Idaho Dept. of Fish and Game	Magic Valley Hatchery	ST	SU	2015	288,569	04-23-15	04-29-15	Yankee Fk (Salmon R)	Salmon River (ID)
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					**897,992**				
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	Irrigon Hatchery Complex	ST	SU	2015	215,000	03-31-15	04-30-15	L Sheep Acclim Pond	Imnaha River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	ST	SU	2016	300,000	04-30-15	04-30-15	Crooked River (OR)	Deschutes River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	ST	SU	2016	300,000	04-30-15	04-30-15	Wychus Creek	Deschutes River
Oregon Dept. of Fish and Wildlife	Umatilla Hatchery	ST	SU	2015	50,800	04-29-15	04-29-15	Thornhollow Acclim Pond	Umatilla River
Oregon Dept. of Fish and Wildlife Total					**1,145,800**				
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2015	61,357	04-30-15	04-30-15	East Fk Salmon River	Salmon River (ID)
U.S. Fish and Wildlife Service	Hagerman NFH	ST	SU	2015	1,342,274	04-06-15	04-30-15	Sawtooth Hatchery	Salmon River (ID)
U.S. Fish and Wildlife Service	Spring Creek NFH	CH0	FA	2015	4,036,472	04-27-15	04-27-15	Spring Creek Hatchery	L Col R (D/s McN Dam)
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					**5,540,103**				
Warm Springs Tribe	Oak Springs Hatchery	ST	WI	2015	12,500	04-30-15	04-30-15	Parkdale Acclim Pond	Hood River
Warm Springs Tribe	Oak Springs Hatchery	ST	WI	2015	25,000	04-30-15	04-30-15	E Fk Irrig Dist Sand Trap	Hood River
Warm Springs Tribe Total					**37,500**				
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	Chiwawa Hatchery	CH1	SP	2015	144,000	04-15-15	04-30-15	Chiwawa Hatchery	Wenatchee River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	CH1	SP	2015	475,000	04-30-15	04-30-15	Dryden Acclim Pond	Wenatchee River
Washington Dept. of Fish and Wildlife	Eastbank Hatchery	ST	SU	2015	238,000	04-25-15	05-01-15	Chiwawa Hatchery	Wenatchee 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	SP	2015	30,000	04-20-15	04-30-15	Twisp Acclim Pond	Methow 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	48,000	04-01-15	04-30-15	Twisp 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	Similkameen Hatchery	CH1	SU	2015	205,892	04-15-15	05-01-15	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2015	90,000	04-25-15	05-01-15	Klickitat River	Klickitat 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					**2,117,892**				
Yakama Tribe	Cascade Hatchery	CO	UN	2015	55,432	05-01-15	05-01-15	Coulter Creek	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2015	101,376	05-01-15	05-01-15	Wenatchee River	Wenatchee River
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	Klickitat Hatchery	CO	NO	2015	1,000,000	05-01-15	05-01-15	Klickitat Hatchery	Klickitat River
Yakama Tribe	Marion Drain Hatchery	CH0	FA	2015	111,000	04-30-15	04-30-15	Nelson Springs	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2015	480,000	04-30-15	04-30-15	Prosser Acclim Pond	Yakima River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2015	600,000	05-01-15	05-01-15	Prosser Acclim 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					**4,494,454**				
Grand Total					**14,298,741**				

Hatchery Releases Next Two Weeks

Hatchery Release Summary

From: 5/9/2015 to 5/21/2015

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
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	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					1,470,000				
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	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 Total					1,400,000				
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	4,000	05-20-15	05-20-15	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	CH0	FA	2015	220,000	05-18-15	05-18-15	Lyons Ferry Hatchery	Snake 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	Wells Hatchery	CH1	SU	2015	320,000	04-15-15	05-15-15	Wells Hatchery	Mid-Columbia River
Washington Dept. of Fish and Wildlife Total					791,200				
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 Total					648,812				
Grand Total					5,022,512				

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

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

	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
04/24/2015	89.7	0.0	93.3	0.0	104.0	8.8	101.2	0.0	108.9	9.8	108.1	19.3	106.1	28.0
04/25/2015	74.6	0.0	74.1	0.0	86.6	7.6	85.2	0.0	90.2	9.8	98.9	19.4	99.9	27.7
04/26/2015	71.1	0.0	62.6	0.0	79.2	6.1	79.8	0.0	86.1	9.0	99.4	18.6	102.6	27.2
04/27/2015	85.3	0.0	88.7	0.0	98.8	7.4	94.1	0.0	97.3	9.8	105.0	17.7	105.7	25.1
04/28/2015	84.1	0.0	85.7	0.0	95.6	7.8	95.9	0.0	103.1	10.1	110.8	17.9	108.6	26.5
04/29/2015	78.3	0.0	77.6	0.0	78.3	5.5	76.7	0.0	80.1	9.5	77.1	14.8	82.7	23.5
04/30/2015	94.7	0.0	95.4	0.0	102.7	8.3	95.2	0.0	100.6	9.5	95.9	9.8	89.5	23.6
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	88.6	6.9	82.2	0.0	87.1	9.5	100.5	17.7	103.6	25.4

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

	Dworshak		Brownlee	Hells Canyon	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
Date	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
04/24/2015	7.5	0.0	---	8.2	53.7	20.3	52.1	15.6	54.2	28.0	55.8	43.6
04/25/2015	7.5	0.0	---	8.2	56.2	20.4	54.8	16.4	54.6	27.9	55.7	45.2
04/26/2015	7.5	0.0	---	8.2	53.8	20.3	52.7	15.7	53.3	28.0	54.1	43.6
04/27/2015	7.5	0.0	---	8.5	50.2	20.3	45.4	13.6	47.4	28.0	48.5	38.2
04/28/2015	7.5	0.0	---	8.6	50.0	20.3	50.5	15.1	53.4	27.2	54.7	43.0
04/29/2015	7.5	0.0	---	8.6	47.7	20.2	45.0	13.4	47.0	26.1	47.0	36.9
04/30/2015	7.5	0.0	---	8.6	51.0	20.4	50.3	15.0	52.2	26.2	51.2	41.0
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	54.6	20.0	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

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

	McNary		John Day		The Dalles		Bonneville			
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
04/24/2015	159.8	63.9	157.9	47.4	143.4	57.4	146.3	100.3	0.0	33.6
04/25/2015	157.4	63.3	150.7	45.2	139.4	55.8	154.7	100.1	0.0	42.1
04/26/2015	159.4	64.0	156.3	46.9	141.4	56.6	158.5	100.2	0.0	46.0
04/27/2015	167.6	67.1	179.7	53.7	166.8	67.0	186.7	99.7	0.0	74.6
04/28/2015	165.5	66.4	160.4	48.1	146.9	58.6	161.1	99.0	0.0	49.7
04/29/2015	145.9	58.5	150.1	47.4	136.3	54.5	155.9	99.4	0.0	44.1
04/30/2015	128.7	51.5	135.0	54.1	119.8	48.1	146.5	99.2	0.0	34.8
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

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											
	04/30/15	Chinook + Steelhead	99*	0	0			0	0	0	0
	05/07/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Little Goose Dam											
	04/27/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/04/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	04/30/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/06/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	04/28/15	Chinook + Steelhead	100	1	1	1.00%	0.00%	1	0	0	0
	04/30/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	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
Bonneville Dam											
	04/25/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	04/28/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	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
Rock Island Dam											
	04/29/15	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	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

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

	Hungry H. Dnst				Boundary				Grand Coulee				Grand C. Tlwr				Chief Joseph			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
4/24	101.6	102.1	103.0	24	---	---	---	0	108.3	108.6	109.7	24	106.8	107.0	107.1	24	106.9	107.1	107.3	24
4/25	101.1	101.3	101.8	24	---	---	---	0	108.0	108.4	109.3	24	106.5	106.8	107.0	24	106.6	106.8	106.9	24
4/26	99.7	100.2	101.0	24	---	---	---	0	106.6	106.8	107.0	24	105.5	105.7	106.1	24	105.5	105.8	106.0	24
4/27	100.2	100.4	100.9	24	---	---	---	0	107.0	107.5	107.9	24	105.8	106.3	106.9	24	105.4	106.0	106.1	24
4/28	100.8	101.5	102.5	24	---	---	---	0	107.9	108.4	109.3	24	106.6	107.3	107.7	24	107.0	107.7	108.0	24
4/29	101.2	101.5	101.8	24	---	---	---	0	107.1	107.5	108.0	24	105.9	106.1	106.5	24	107.2	107.5	107.8	24
4/30	101.2	101.9	102.5	24	---	---	---	0	106.5	106.7	106.9	24	105.0	105.4	105.6	24	106.9	107.2	107.4	24
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	23	---	---	---	0	106.7	107.0	107.4	23	105.8	106.3	106.7	23	106.4	106.4	106.7	12

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

	Chief J. Dnst				Wells				Wells Dwnstrm				Rocky Reach				Rocky R. Tlwr			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
4/24	106.8	107.0	107.4	24	106.3	106.4	106.7	22	107.7	107.9	108.6	22	107.2	107.3	107.5	24	107.4	107.5	107.8	24
4/25	106.3	106.7	107.0	24	105.7	106.1	106.7	24	107.1	107.6	108.0	24	106.7	106.9	107.2	24	106.9	107.0	107.2	24
4/26	105.6	106.3	107.1	24	105.0	105.5	106.2	24	105.8	106.2	106.6	24	105.8	105.9	106.1	24	105.9	106.1	106.3	24
4/27	105.0	105.4	105.7	24	105.4	106.2	106.6	24	106.5	107.2	107.6	24	105.9	106.4	106.6	24	106.3	106.7	107.0	24
4/28	106.8	107.8	108.5	24	106.9	107.6	108.3	24	107.9	108.7	109.5	24	107.1	107.5	107.6	24	107.3	107.6	107.9	24
4/29	107.3	107.7	108.0	24	106.3	106.7	107.0	24	107.1	107.6	108.0	24	106.9	107.1	107.4	24	106.7	106.9	107.2	24
4/30	106.7	107.0	107.4	24	106.7	107.2	107.4	24	108.1	108.8	109.0	24	107.0	107.4	107.7	24	107.1	107.7	108.0	24
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	23	106.0	106.7	107.5	21	106.7	107.4	108.2	21	107.2	107.5	108.0	23	106.9	107.3	107.6	23

Total Dissolved Gas Saturation at Mid Columbia River Sites

	Rock Island				Rock I. Tlwr				Wanapum				Wanapum Tlwr				Priest Rapids			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
4/24	106.2	106.5	106.9	24	109.2	110.4	112.0	24	107.7	108.0	108.3	24	110.6	110.9	112.5	24	108.0	108.2	108.4	24
4/25	105.6	105.8	106.2	24	109.4	110.5	111.3	24	107.1	107.3	107.5	24	110.7	111.1	111.8	24	108.0	108.3	108.6	24
4/26	104.9	105.1	105.2	24	107.8	109.0	110.4	24	106.4	106.8	107.1	24	109.2	109.4	109.7	24	107.2	107.3	107.7	24
4/27	105.5	106.0	106.3	24	109.1	110.4	112.7	24	107.7	109.3	110.6	24	108.8	109.1	109.5	24	108.7	109.3	109.7	24
4/28	106.5	107.0	107.3	24	109.7	110.7	111.9	24	108.7	109.7	111.4	24	109.8	110.0	110.3	24	109.6	109.9	110.5	24
4/29	105.8	106.0	106.4	24	109.8	111.3	113.3	24	105.2	105.7	106.6	24	108.3	109.1	110.7	24	107.1	107.5	108.5	24
4/30	106.3	106.9	107.6	24	110.1	112.2	115.6	24	105.8	106.6	107.9	24	107.3	108.3	109.7	24	106.2	107.0	107.9	24
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	---	---	---	0	---	---	---	0	---	---	---	0
5/7	106.7	107.0	107.3	23	110.4	111.7	113.9	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

	Priest R. Dnst				Pasco				Dworshak				Clrwtr-Peck				Anatone			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
4/24	111.8	112.1	112.3	24	---	---	---	0	97.8	98.1	98.6	24	100.3	100.7	101.3	24	109.9	110.8	110.9	24
4/25	111.8	112.1	112.6	24	---	---	---	0	97.7	98.0	98.4	24	100.1	100.7	101.2	24	111.4	111.8	112.0	24
4/26	111.2	111.5	112.0	24	---	---	---	0	97.0	97.3	97.6	24	99.8	100.6	101.3	24	111.4	111.6	111.9	24
4/27	111.5	112.0	112.5	24	---	---	---	0	96.4	96.8	97.2	24	99.9	101.1	101.9	24	111.2	111.5	111.8	24
4/28	112.3	112.8	113.4	24	---	---	---	0	96.8	97.3	97.8	24	99.4	99.4	99.9	7	110.7	111.0	111.3	24
4/29	111.1	111.8	112.3	24	---	---	---	0	96.5	96.8	97.4	24	---	---	---	0	110.1	110.3	110.6	24
4/30	110.4	111.1	111.8	24	---	---	---	0	96.2	96.7	97.0	24	---	---	---	0	106.8	108.9	110.3	20
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	---	---	---	0	---	---	---	0	96.9	97.4	97.9	24	---	---	---	0	103.5	104.1	105.1	21
5/7	---	---	---	0	---	---	---	0	97.2	97.5	97.9	23	---	---	---	0	104.1	105.0	105.8	23

Total Dissolved Gas Saturation Data at Snake River Sites

	Clrwtr-Lewiston				Lower Granite				L. Granite Tlwr				Little Goose				L. Goose Tlwr			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
4/24	101.1	102.2	103.0	24	102.9	103.2	103.9	24	110.5	110.8	111.2	24	112.3	112.6	113.1	24	112.0	112.1	112.3	24
4/25	100.6	101.8	102.6	24	101.9	102.1	102.6	24	110.3	110.7	111.0	24	111.1	111.4	111.8	24	111.4	111.8	112.1	24
4/26	100.9	102.6	103.9	24	100.7	100.9	101.6	24	110.2	110.8	111.2	24	109.5	110.0	110.4	24	111.0	111.4	111.8	24
4/27	101.4	103.2	104.5	24	100.8	101.4	101.9	24	110.8	111.4	112.7	24	109.2	110.0	110.9	24	111.7	112.2	112.5	24
4/28	102.3	104.2	105.6	24	101.9	102.3	102.7	24	111.2	111.6	112.4	24	111.0	111.4	111.9	24	112.0	112.2	112.6	24
4/29	100.9	102.0	103.0	24	101.2	101.4	101.6	24	111.3	111.5	111.8	24	109.5	109.7	110.5	22	111.5	111.8	112.1	24
4/30	101.1	102.9	104.2	24	102.1	102.6	103.0	24	111.4	111.7	112.2	24	109.1	109.8	110.4	24	111.4	111.8	112.5	24
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	101.6	103.1	104.3	23	102.4	102.4	102.5	23	109.5	109.8	110.0	23	109.9	110.4	110.7	23	110.7	110.9	111.2	23

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

	Lower Mon.				L. Mon. Tlwr				Ice Harbor				Ice Harbor Tlwr				McNary-Oregon			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
4/24	113.4	113.8	114.2	24	118.2	118.7	119.1	24	115.8	116.1	117.1	24	113.9	114.7	115.2	24	---	---	---	0
4/25	112.0	112.4	112.7	24	118.2	118.6	119.0	24	114.8	115.0	115.4	24	114.4	114.8	115.2	24	---	---	---	0
4/26	110.2	110.6	111.3	24	117.7	117.9	118.4	24	113.7	113.8	114.1	24	114.3	114.8	115.6	24	---	---	---	0
4/27	110.5	111.3	112.0	24	117.8	118.0	118.5	24	114.9	116.1	118.2	24	113.7	114.1	114.4	24	---	---	---	0
4/28	111.7	112.0	112.3	24	117.9	118.5	119.3	24	117.2	117.7	118.8	24	114.3	115.3	116.2	24	---	---	---	0
4/29	111.1	111.9	112.0	24	116.4	116.8	117.2	24	117.6	117.9	118.5	24	113.0	113.6	113.9	24	---	---	---	0
4/30	112.1	112.3	112.6	24	117.2	117.8	119.5	24	117.6	117.9	118.2	24	113.3	113.9	114.3	24	---	---	---	0
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	23	116.5	117.3	118.7	23	113.8	114.0	114.5	23	115.6	115.8	116.2	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

	McNary-Wash				McNary Tlwr				John Day				John Day Tlwr				The Dalles			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr
4/24	107.8	108.3	108.7	24	115.3	115.7	116.1	24	109.3	109.5	109.7	24	113.7	114.1	114.5	24	110.0	110.2	110.4	24
4/25	107.7	107.9	108.1	24	115.9	116.2	116.4	24	108.5	108.7	108.9	24	113.3	113.8	114.1	24	109.6	109.8	109.9	24
4/26	106.6	106.9	107.2	24	115.9	116.1	116.3	24	107.2	107.4	107.5	24	113.0	113.7	114.1	24	108.8	109.1	109.3	24
4/27	108.4	109.6	111.6	24	115.3	115.7	116.1	24	107.4	108.3	109.5	24	112.5	112.8	113.3	24	110.4	111.2	111.6	24
4/28	111.2	112.1	113.0	24	115.2	115.7	116.2	24	107.4	107.9	109.0	24	111.8	112.5	113.1	24	110.8	111.4	111.5	24
4/29	110.5	110.9	111.3	24	116.0	116.4	116.7	24	105.6	105.8	105.9	24	111.2	112.0	112.2	24	107.6	108.0	108.7	24
4/30	111.2	111.5	112.2	24	116.9	117.3	117.5	24	105.9	106.7	107.7	24	111.9	113.2	113.9	24	107.8	108.7	109.1	24
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	108.7	109.3	110.3	23	114.3	115.5	116.4	22	109.7	110.1	110.4	23	114.3	114.7	115.1	23	110.0	110.8	111.3	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

	The Dalles Dnst				Bonneville				Warrendale				Camas\Washougal				Cascade Island			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
4/24	115.0	115.4	115.8	24	109.9	110.4	110.7	24	116.2	116.6	116.9	24	111.9	112.9	113.3	24	117.1	117.2	117.3	24
4/25	114.3	114.9	115.3	24	111.1	111.6	112.0	24	116.8	117.2	117.5	24	114.8	116.7	117.7	24	117.2	117.5	117.6	24
4/26	113.9	114.4	114.8	24	111.0	111.2	111.5	24	116.7	117.1	117.4	24	114.7	115.9	116.5	24	116.9	117.2	117.4	24
4/27	115.3	116.1	116.6	24	111.7	112.6	113.0	24	116.7	117.0	117.5	24	115.4	116.0	116.8	24	116.8	116.9	117.2	24
4/28	115.3	116.0	116.5	24	112.7	113.1	113.5	24	116.6	117.1	118.2	24	112.9	113.6	114.1	24	117.0	117.3	117.5	24
4/29	113.4	113.8	114.1	24	111.1	111.3	111.6	24	116.9	117.5	118.0	24	114.7	116.2	117.2	24	116.9	117.1	117.4	24
4/30	113.5	114.5	115.0	24	110.3	111.1	111.4	24	117.0	117.7	118.2	24	116.1	117.4	118.1	24	117.0	117.1	117.3	24
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	23	110.9	111.8	112.4	23	115.9	116.4	116.8	23	113.9	115.8	117.1	23	116.2	116.2	116.4	23

Two-Week Summary of Passage Indices

Source: Fish Passage Center Updated: 5/8/2015 7:13

* 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/currentsmpsubmitdata.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)
04/24/2015	*	---	1,880	---	81	68,619	73,211	---	541	---	22,227	16,921
04/25/2015	*	---	974	---	---	152,216	---	25,072	361	33,166	14,926	18,504
04/26/2015	*	---	1,407	---	---	129,394	42,983	---	567	---	10,219	18,053
04/27/2015	*	177	613	---	116	49,254	---	28,489	343	35,781	11,288	26,093
04/28/2015	*	321	375	---	44	32,983	97,368	---	267	---	12,019	22,363
04/29/2015	*	330	355	---	40	23,153	---	21,154	571	52,269	13,036	44,904
04/30/2015	*	207	425	10	23	23,618	49,831	---	531	---	10,205	41,736
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	---	2	39	37,332	20,318	90,584	738	264,748	12,262	73,204
05/06/2015	*	178	---	4	29	42,233	82,041	134,961	371	---	10,249	101,787
05/07/2015	*	125	---	11	88	111,806	60,098	---	375	98,383	13,685	69,728
05/08/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		**2,007**	**7,120**	**59**	**588**	**794,362**	**524,725**	**391,946**	**6,836**	**652,841**	**173,695**	**628,338**
# Days:		**9**	**11**	**8**	**12**	**14**	**10**	**9**	**14**	**7**	**14**	**14**
Average:		**223**	**647**	**7**	**49**	**56,740**	**52,473**	**43,550**	**488**	**93,263**	**12,407**	**44,881**
YTD		**39,710**	**62,606**	**6,906**	**920**	**1,399,754**	**636,340**	**435,627**	**9,234**	**711,040**	**269,289**	**823,515**

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)
04/24/2015	*	---	0	---	0	317	0	---	29	---	0	2,224
04/25/2015	*	---	0	---	---	0	---	0	13	0	0	1,384
04/26/2015	*	---	0	---	---	313	0	---	15	---	0	1,615
04/27/2015	*	0	0	---	5	328	---	0	7	0	0	995
04/28/2015	*	0	0	---	8	0	0	---	7	---	0	486
04/29/2015	*	0	0	---	8	0	---	0	8	340	0	167,220
04/30/2015	*	0	0	12	11	0	0	---	2	---	0	164,101
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	---	19	40	156	0	0	17	0	0	452
05/06/2015	*	0	---	10	62	148	0	0	26	---	0	3,712
05/07/2015	*	0	---	6	146	0	0	---	40	0	0	5,066
05/08/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		**0**	**2**	**140**	**337**	**2,564**	**0**	**193**	**225**	**1,024**	**0**	**410,957**
# Days:		**9**	**11**	**8**	**12**	**14**	**10**	**9**	**14**	**7**	**14**	**14**
Average:		**0**	**0**	**18**	**28**	**183**	**0**	**21**	**16**	**146**	**0**	**29,354**
YTD		**1**	**38**	**616**	**628**	**13,048**	**20**	**457**	**4,503**	**3,642**	**11**	**1,404,957**

Two-Week Summary of Passage Indices

				COMBINED COHO								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
04/24/2015	*	---	0	---	0	1,268	860	---	5	---	673	10,566
04/25/2015	*	---	0	---	---	322	---	202	1	256	479	7,665
04/26/2015	*	---	0	---	---	1,253	1,146	---	10	---	191	4,874
04/27/2015	*	0	0	---	1	328	---	0	6	0	108	6,275
04/28/2015	*	0	0	---	2	340	287	---	8	---	858	10,634
04/29/2015	*	0	0	---	0	681	---	0	16	0	752	8,212
04/30/2015	*	0	0	0	4	347	0	---	17	---	647	18,024
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	6	937	143	346	72	3,396	711	20,109
05/06/2015	*	0	---	0	0	295	931	0	66	---	544	30,867
05/07/2015	*	0	---	0	3	3,698	2,862	---	105	1,360	682	14,414
05/08/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		**0**	**0**	**0**	**27**	**9,962**	**7,376**	**1,499**	**496**	**5,865**	**9,719**	**181,915**
# Days:		**9**	**11**	**8**	**12**	**14**	**10**	**9**	**14**	**7**	**14**	**14**
Average:		**0**	**0**	**0**	**2**	**712**	**738**	**167**	**35**	**838**	**694**	**12,994**
YTD		**0**	**0**	**0**	**28**	**11,367**	**7,548**	**1,499**	**538**	**8,656**	**17,122**	**331,229**

				COMBINED STEELHEAD								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
04/24/2015	*	---	476	---	788	77,706	33,237	---	36	---	2,628	2,542
04/25/2015	*	---	447	---	---	55,995	---	4,044	42	9,037	2,104	3,866
04/26/2015	*	---	851	---	---	105,270	33,812	---	70	---	2,149	696
04/27/2015	*	103	615	---	1,242	73,552	---	9,423	76	8,690	3,189	13,314
04/28/2015	*	175	465	---	420	62,565	98,412	---	179	---	3,112	8,508
04/29/2015	*	135	626	---	409	29,281	---	28,419	307	8,850	2,650	16,747
04/30/2015	*	197	661	1	843	17,366	59,568	---	158	---	2,132	16,125
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	---	0	601	23,430	13,877	29,215	204	56,385	2,971	24,176
05/06/2015	*	131	---	0	250	36,622	26,583	21,536	213	---	5,047	26,345
05/07/2015	*	94	---	1	150	46,088	37,775	---	237	40,119	8,010	42,852
05/08/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		**1,354**	**6,244**	**14**	**7,829**	**607,525**	**387,486**	**227,085**	**2,362**	**167,217**	**44,000**	**193,208**
# Days:		**9**	**11**	**8**	**12**	**14**	**10**	**9**	**14**	**7**	**14**	**14**
Average:		**150**	**568**	**2**	**652**	**43,395**	**38,749**	**25,232**	**169**	**23,888**	**3,143**	**13,801**
YTD		**2,297**	**19,580**	**422**	**10,355**	**915,496**	**467,747**	**243,613**	**2,551**	**193,615**	**56,799**	**211,547**

Two-Week Summary of Passage Indices

				COMBINED SOCKEYE								
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
04/24/2015	*	---	0	---	0	0	0	---	199	---	72	0
04/25/2015	*	---	0	---	---	0	---	0	75	7,332	47	0
04/26/2015	*	---	0	---	---	0	0	---	61	---	0	14
04/27/2015	*	0	0	---	0	0	---	0	18	9,030	0	0
04/28/2015	*	0	0	---	0	0	0	---	33	---	107	0
04/29/2015	*	0	0	---	0	0	---	0	23	3,056	72	0
04/30/2015	*	0	0	0	1	0	0	---	13	---	76	0
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	1	0	0	0	16	7,472	1,381	678
05/06/2015	*	0	---	0	0	295	72	0	55	---	1,669	804
05/07/2015	*	0	---	1	0	284	0	---	63	3,739	898	1,170
05/08/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		**1**	**0**	**1**	**3**	**901**	**72**	**0**	**722**	**40,682**	**5,377**	**2,973**
# Days:		**9**	**11**	**8**	**12**	**14**	**10**	**9**	**14**	**7**	**14**	**14**
Average:		**0**	**0**	**0**	**0**	**64**	**7**	**0**	**52**	**5,812**	**384**	**212**
YTD		**1**	**0**	**1**	**3**	**1,100**	**112**	**76**	**2,463**	**45,231**	**5,600**	**4,389**

				COMBINED LAMPREY JUVENILES								
		WTB	IMN	GRN	LEW	LGR[†]	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(Samp)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)	(Coll)
04/24/2015	*	---	0	---	0	0	0	---	0	---	0	0
04/25/2015	*	---	0	---	---	0	---	0	0	0	33	0
04/26/2015	*	---	0	---	---	0	0	---	0	---	100	0
04/27/2015	*	0	0	---	0	0	---	0	0	0	25	0
04/28/2015	*	0	0	---	0	0	0	---	0	---	100	0
04/29/2015	*	0	1	---	0	0	---	0	0	0	0	0
04/30/2015	*	0	0	0	0	0	0	---	0	---	100	0
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	25	0
05/06/2015	*	0	---	0	0	0	400	0	0	---	100	8
05/07/2015	*	0	---	0	0	0	0	---	0	0	25	0
05/08/2015		---	---	---	---	---	---	---	---	---	---	---
Total:		**0**	**1**	**0**	**0**	**0**	**400**	**0**	**0**	**0**	**846**	**8**
# Days:		**9**	**11**	**8**	**12**	**14**	**10**	**9**	**14**	**7**	**14**	**14**
Average:		**0**	**0**	**0**	**0**	**0**	**40**	**0**	**0**	**0**	**60**	**1**
YTD		**0**	**2**	**0**	**0**	**10**	**3,480**	**140**	**5**	**315**	**3,993**	**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 macropthalmia, 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: 5/8/15 7:11 AM

04/24/15 TO 05/08/15

		Species					
Site	Data	**CH0**	**CH1**	CO	ST	SO	**Grand Total**
LGR	Sum of NumberCollected	1,600	505,458	6,500	381,342	600	895,500
	Sum of NumberBarged	861	208,265	3,677	111,663	598	325,064
	Sum of NumberBypassed	739	297,085	2,823	269,633	0	570,280
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	10	0	7	0	17
	Sum of FacilityMorts	0	98	0	39	2	139
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	108	0	46	2	156
LGS	Sum of NumberCollected		366,336	5,150	270,501	50	642,037
	Sum of NumberBarged		182,506	3,550	113,434	50	299,540
	Sum of NumberBypassed		183,779	1,600	157,016	0	342,395
	Sum of Numbertrucked		0	0	0	0	0
	Sum of SampleMorts		6	0	2	0	8
	Sum of FacilityMorts		45	0	49	0	94
	Sum of ResearchMorts		0	0	0	0	0
	Sum of TotalProjectMorts		51	0	51	0	102
LMN	Sum of NumberCollected	100	225,027	800	121,273		347,200
	Sum of NumberBarged	100	182,960	500	90,906		274,466
	Sum of NumberBypassed	0	41,947	300	30,249		72,496
	Sum of Numbertrucked	0	0	0	0		0
	Sum of SampleMorts	0	14	0	14		28
	Sum of FacilityMorts	0	106	0	104		210
	Sum of ResearchMorts	0	0	0	0		0
	Sum of TotalProjectMorts	0	120	0	118		238
Total Sum of NumberCollected		1,700	1,096,821	12,450	773,116	650	1,884,737
Total Sum of NumberBarged		961	573,731	7,727	316,003	648	899,070
Total Sum of NumberBypassed		739	522,811	4,723	456,898	0	985,171
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of SampleMorts		0	30	0	23	0	53
Total Sum of FacilityMorts		0	249	0	192	2	443
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		0	279	0	215	2	496

YTD Transportation Summary

Source: Fish Passage Center Updated: 5/8/15 7:11 AM

TO: 05/08/15

		Species					
Site	Data	**CH0**	**CH1**	CO	SO	ST	**Grand Total**
LGR	Sum of NumberCollected	9,290	909,166	7,300	760	575,634	1,502,150
	Sum of NumberBarged	1,253	235,447	3,801	598	129,025	370,124
	Sum of NumberBypassed	8,024	673,550	3,499	160	446,551	1,131,784
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	13	36	0	0	13	62
	Sum of FacilityMorts	0	133	0	2	45	180
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	13	169	0	2	58	242
LGS	Sum of NumberCollected	20	444,536	5,270	90	326,714	776,630
	Sum of NumberBarged	0	182,506	3,550	50	113,434	299,540
	Sum of NumberBypassed	20	261,966	1,720	40	213,220	476,966
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	13	0	0	3	16
	Sum of FacilityMorts	0	51	0	0	57	108
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	64	0	0	60	124
LMN	Sum of NumberCollected	210	243,665	800	30	127,820	372,525
	Sum of NumberBarged	100	182,960	500	0	90,906	274,466
	Sum of NumberBypassed	110	60,572	300	30	36,794	97,806
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of SampleMorts	0	16	0	0	16	32
	Sum of FacilityMorts	0	107	0	0	104	211
	Sum of ResearchMorts	0	0	0	0	0	0
	Sum of TotalProjectMorts	0	123	0	0	120	243
Total Sum of NumberCollected		9,520	1,597,367	13,370	880	1,030,168	2,651,305
Total Sum of NumberBarged		1,353	600,913	7,851	648	333,365	944,130
Total Sum of NumberBypassed		8,154	996,088	5,519	230	696,565	1,706,556
Total Sum of NumberTrucked		0	0	0	0	0	0
Total Sum of SampleMorts		13	65	0	0	32	110
Total Sum of FacilityMorts		0	291	0	2	206	499
Total Sum of ResearchMorts		0	0	0	0	0	0
Total Sum of TotalProjectMorts		13	356	0	2	238	609

Cumulative Adult Passage at Mainstem Dams Through: 05/07

		Spring Chinook						Summer Chinook						Fall Chinook					
	END	2015		2014		10-Yr Avg.		2015		2014		10-Yr Avg.		2015		2014		10-Yr Avg.	
DAM	DATE	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	05/07	162939	3519	130268	6720	77833	4985	0	0	0	0	0	0	0	0	0	0	0	0
TDA	05/07	137715	2855	86972	3067	47337	2626	0	0	0	0	0	0	0	0	0	0	0	0
JDA	05/07	115097	2542	67405	2319	36537	1977	0	0	0	0	0	0	0	0	0	0	0	0
MCN	05/07	103167	1851	49253	1059	24746	829	0	0	0	0	0	0	0	0	0	0	0	0
IHR	05/07	73832	602	30996	686	14748	415	0	0	0	0	0	0	0	0	0	0	0	0
LMN	05/07	66113	1092	21193	389	10603	259	0	0	0	0	0	0	0	0	0	0	0	0
LGS	05/07	54129	944	14323	280	6999	194	0	0	0	0	0	0	0	0	0	0	0	0
LGR	05/07	44225	483	10771	150	5198	97	0	0	0	0	0	0	0	0	0	0	0	0
PRD	05/06	11417	119	3433	4	2236	1	0	0	0	0	0	0	0	0	0	0	0	0
WAN	05/06	8721	45	0	0	1744	3	0	0	0	0	0	0	0	0	0	0	0	0
RIS	05/06	8556	25	376	0	1098	7	0	0	0	0	0	0	0	0	0	0	0	0
RRH	05/06	2824	9	154	0	246	0	0	0	0	0	0	0	0	0	0	0	0	0
WEL	05/06	1313	4	51	0	77	2	0	0	0	0	0	0	0	0	0	0	0	0
WFA	05/03	21877	601	6260	64	7284	88	0	0	0	0	0	0	0	0	0	0	0	0

		Coho						Sockeye			Steelhead						Lamprey		
	END	2015		2014		10-Yr Avg.				10-Yr			10-Yr	Wild	Wild	10-Yr			10-Yr
DAM	DATE	Adult	Jack	Adult	Jack	Adult	Jack	2015	2014	Avg.	2015	2014	Avg.	2015	2014	Avg.	2015	2014	Avg.
BON	05/07	0	0	5	-2	0	0	1	9	0	4348	4162	3763	2318	1221	1088	1	3	2
TDA	05/07	0	0	0	0	0	0	0	0	0	319	450	2205	161	161	885	0	0	0
JDA	05/07	0	0	0	1	0	1	-1	1	0	476	2809	4677	314	1107	1678	34	0	-1
MCN	05/07	0	0	0	0	1	0	-1	0	0	642	573	5130	413	331	1735	12	4	2
IHR	05/07	0	0	0	0	0	0	0	0	0	1010	1527	4843	650	730	1483	2	0	0
LMN	05/07	0	0	0	0	0	0	0	1	0	3337	4913	6456	1795	1514	2055	0	0	0
LGS	05/07	0	0	0	0	0	0	0	0	0	1396	1316	2901	938	884	1347	0	0	0
LGR	05/07	0	0	0	0	0	0	0	0	0	9063	7242	8569	4249	3316	3085	0	0	0
PRD	05/06	0	0	0	0	0	0	0	0	0	25	83	33	0	0	0	4	0	0
WAN	05/06	0	0	0	0	0	0	0	0	0	44	0	79	0	0	0	3	0	0
RIS	05/06	0	0	0	0	0	0	0	0	0	97	223	86	70	124	49	795	0	0
RRH	05/06	0	0	0	0	0	0	0	0	0	93	200	280	65	130	205	1059	0	0
WEL	05/06	0	0	0	0	0	0	0	0	0	15	55	26	10	38	18	0	0	2
WFA	05/03	1	0	9	0	0	0	0	0	0	4741	6383	7545	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.

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