



United States Department of the Interior



FISH AND WILDLIFE SERVICE
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December 3, 2014

To: Interested Parties

From: Josh Gruber, Fish Biologist, Red Bluff Fish and Wildlife Office

Subject: Biweekly report (November 19, 2014 - December 2, 2014)

Please find attached preliminary daily estimates of passage, 90% confidence intervals, and fork length ranges of juvenile salmonids sampled at Red Bluff Diversion Dam for the period November 19, 2014 through December 2, 2014. Race designation was assigned using length-at-date criteria.

This report also contains graphical displays of salmonid passage dating back to 2007 for comparison.

Please note that data contained in these reports is subject to revision as this data is preliminary and undergoing QA/QC procedures.

If you have any questions, please feel free to contact me at (530) 527-3043 ext 233.

Table 1.— Preliminary estimates of passage by brood-year (BY) and run for unmarked juvenile Chinook salmon and steelhead trout captured by rotary-screw traps at Red Bluff Diversion Dam (RK391), Sacramento River, CA, for the dates listed below. Results include estimated passage, peak river discharge volume, water temperature, turbidity, and fork length (mm) range in parentheses. A dash (-) indicates that sampling was not conducted on that date.

Date	Discharge volume (cfs) ¹	Water temperature (°C)	Water turbidity (NTU)	Estimated passage				
				BY14 Winter	BY14 Spring	BY14 ² Fall	BY14 Late-Fall	BY14 RBT
11/19/2014	5,580	13.0	8.2	1,562 (42 – 84)	0 (–)	0 (–)	980 (86 – 146)	0 (–)
11/20/2014	5,400	13.3	7.2	920 (51 – 83)	63 (32 – 36)	0 (–)	634 (85 – 143)	0 (–)
11/21/2014	5,350	13.7	6.3	1,012 (47 – 84)	0 (–)	0 (–)	696 (86 – 142)	0 (–)
11/22/2014	5,790	13.7	6.4	609 (44 – 77)	152 (31 – 36)	0 (–)	486 (88 – 138)	0 (–)
11/23/2014	7,760	12.9	–	–	–	–	–	–
11/24/2014	6,200	12.6	7.3	3,313 (45 – 87)	1,232 (31 – 43)	0 (–)	2,598 (91 – 155)	0 (–)
11/25/2014	5,560	12.7	6.0	1,619 (52 – 85)	338 (31 – 42)	0 (–)	700 (88 – 147)	0 (–)
11/26/2014	5,110	12.8	6.1	1,293 (53 – 88)	348 (32 – 40)	0 (–)	850 (90 – 136)	95 (114 – 146)
11/27/2014	5,060	12.9	5.8	1,320 (46 – 88)	281 (30 – 35)	0 (–)	477 (89 – 137)	0 (–)
11/28/2014	5,010	12.6	–	–	–	–	–	–
11/29/2014	5,110	12.8	–	–	–	–	–	–
11/30/2014	7,560	12.9	–	–	–	–	–	–
12/1/2014	8,190	12.8	–	–	–	–	–	–
12/2/2014	6,950	12.8	14.8	4,074 (46 – 90)	764 (34 – 36)	636 (32 – 33)	1,909 (95 – 150)	0 (–)
Biweekly Total²				26,144	5,333	1,272	14,660	222
<i>Biweekly Lower 90% Confidence Interval</i>				13,728	2,262	-764	7,804	-45
<i>Biweekly Upper 90% Confidence Interval</i>				38,559	8,403	3,308	21,516	488
Brood Year Total				381,019	8,469	1,272	90,432	61,457
<i>Brood year Lower 90% Confidence Interval</i>				232,389	3,521	-764	43,216	21,749
<i>Brood year Upper 90% Confidence Interval</i>				529,650	13,416	3,308	137,647	101,166

¹ Peak daily discharge values do not account for diversions at RBDD and only represent peak flows registered at the Bend Bridge Gauging station (<http://cdec2.water.ca.gov/cgi-progs/queryFx?bnd>).

² Brood Year 2014 began on 12/01/14 according to length-at-date criteria (Greene 1992); Fall Brood Year 2013 total was estimated at 33,076,794.

³ Biweekly totals may be greater than the sum of the daily estimates presented in this table if sampling was not conducted on each day of the biweekly period. A dash (-) denotes those dates. To estimate daily passage for days that were not sampled, we impute missed sample days with the weekly mean value of days sampled within the week.

Juvenile Winter Chinook Salmon Estimated Passage

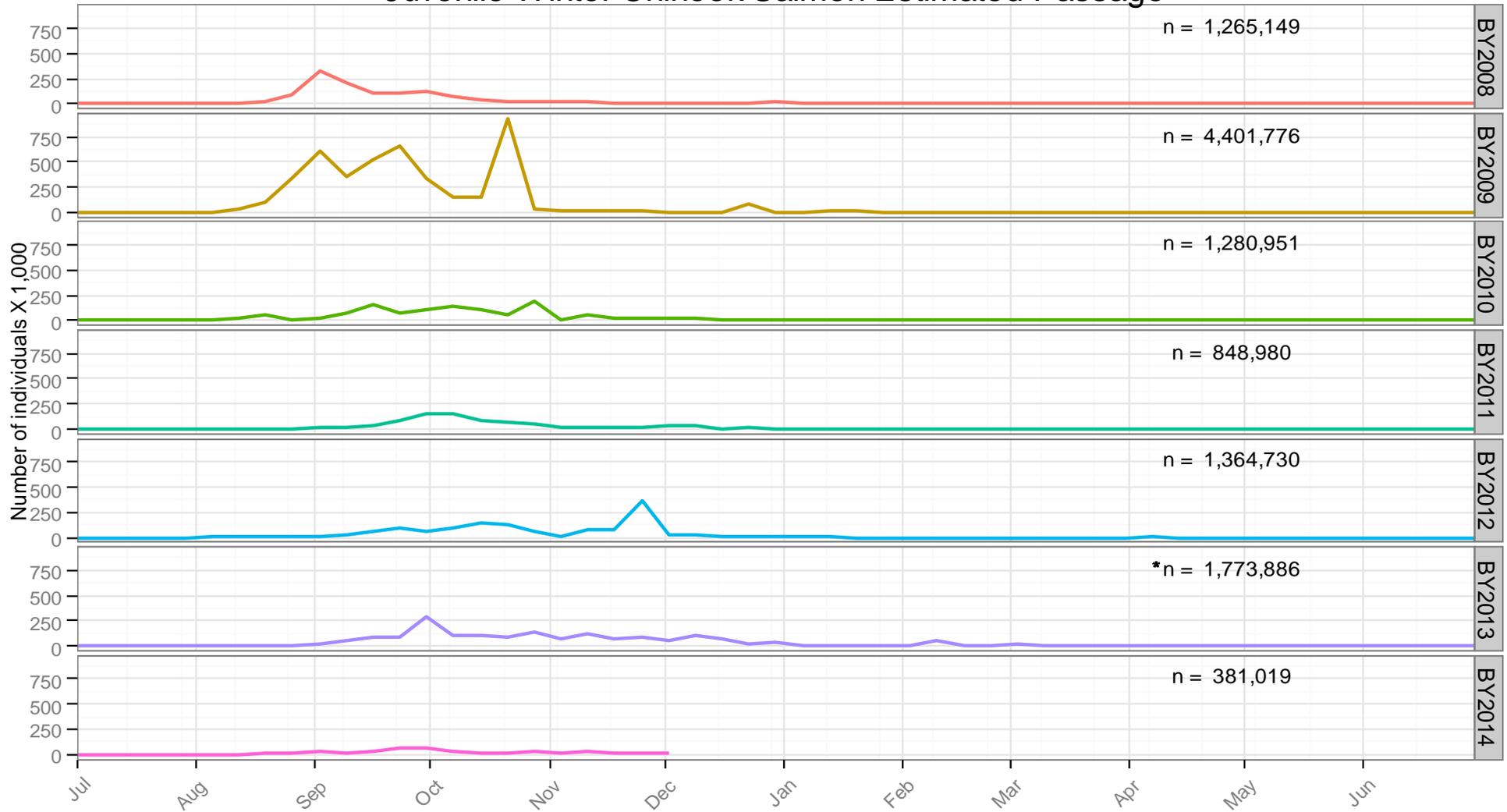


Figure 1. Weekly estimated passage of juvenile winter Chinook Salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period July 1, 2008 to present .

*Winter run passage value interpolated using a monthly mean for the period October 1, 2013 - October 17, 2013 due to government shutdown .

Juvenile Spring Chinook Salmon Estimated Passage

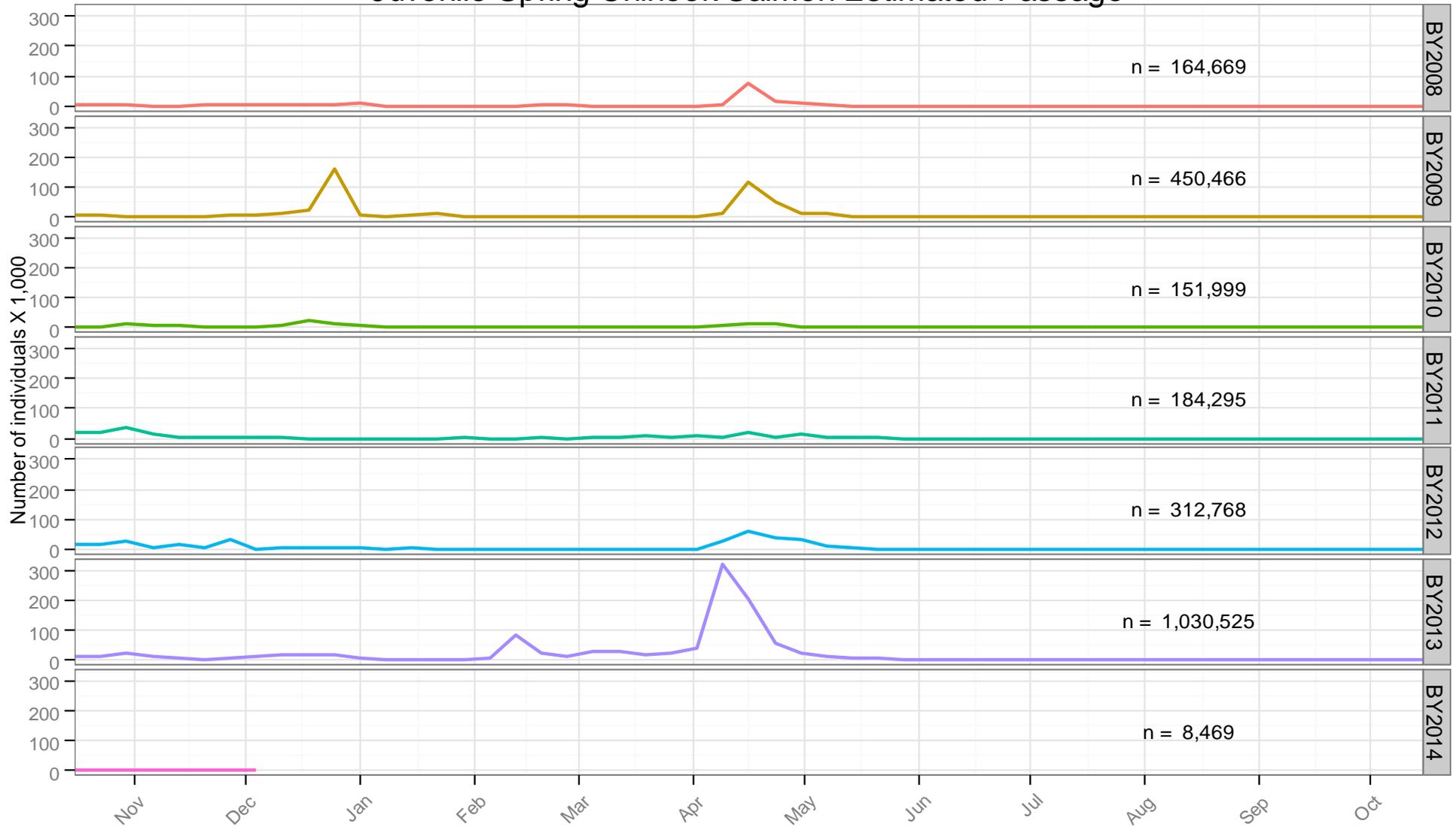


Figure 2. Weekly estimated passage of juvenile Spring Chinook Salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period October 16, 2008 to present .

Juvenile *Onchorhynchus mykiss* Estimated Passage

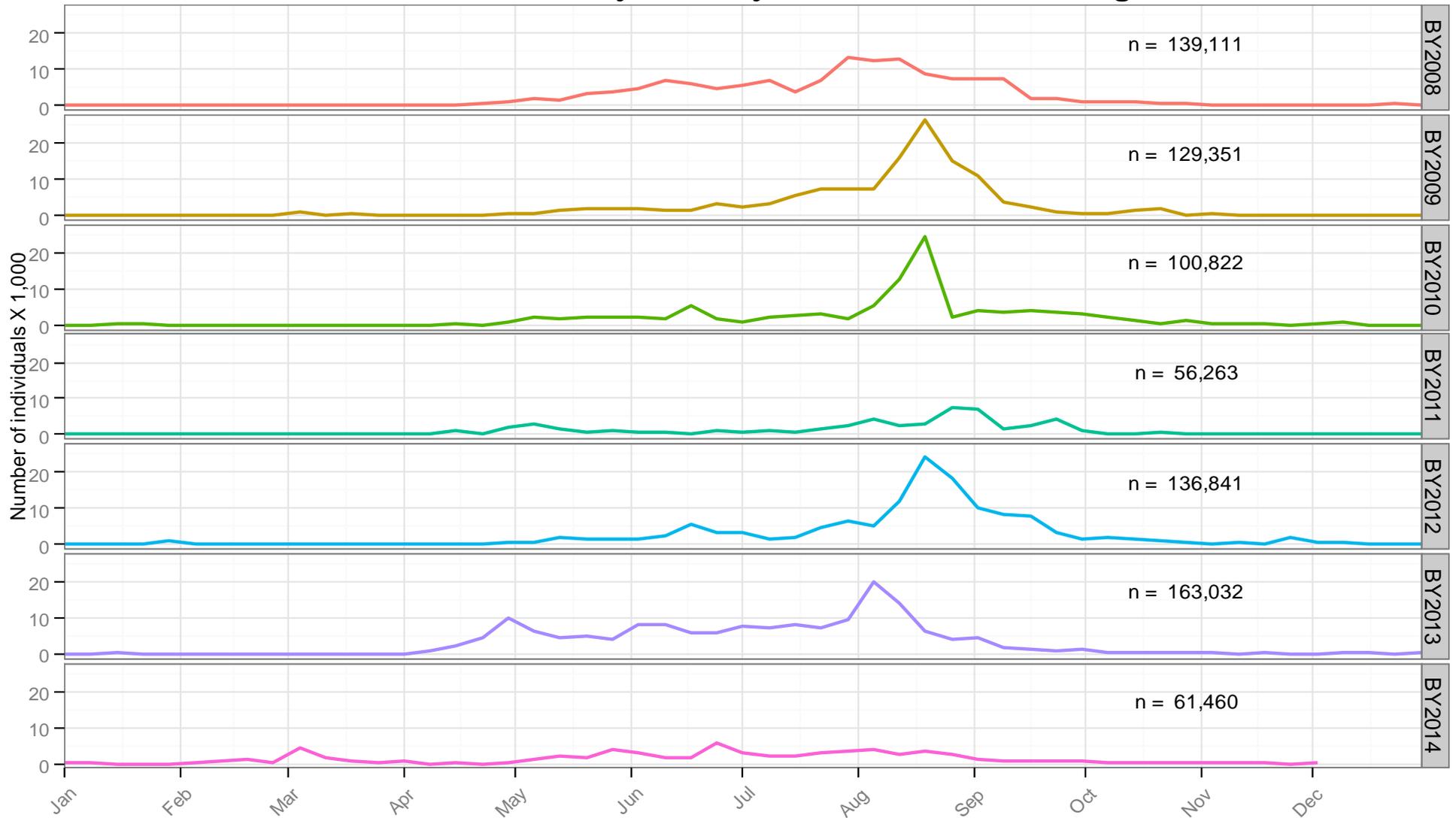


Figure 3. Weekly estimated passage of juvenile Rainbow/Steelhead trout at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period January 1, 2008 to present .

Juvenile Fall Chinook Salmon Estimated Passage

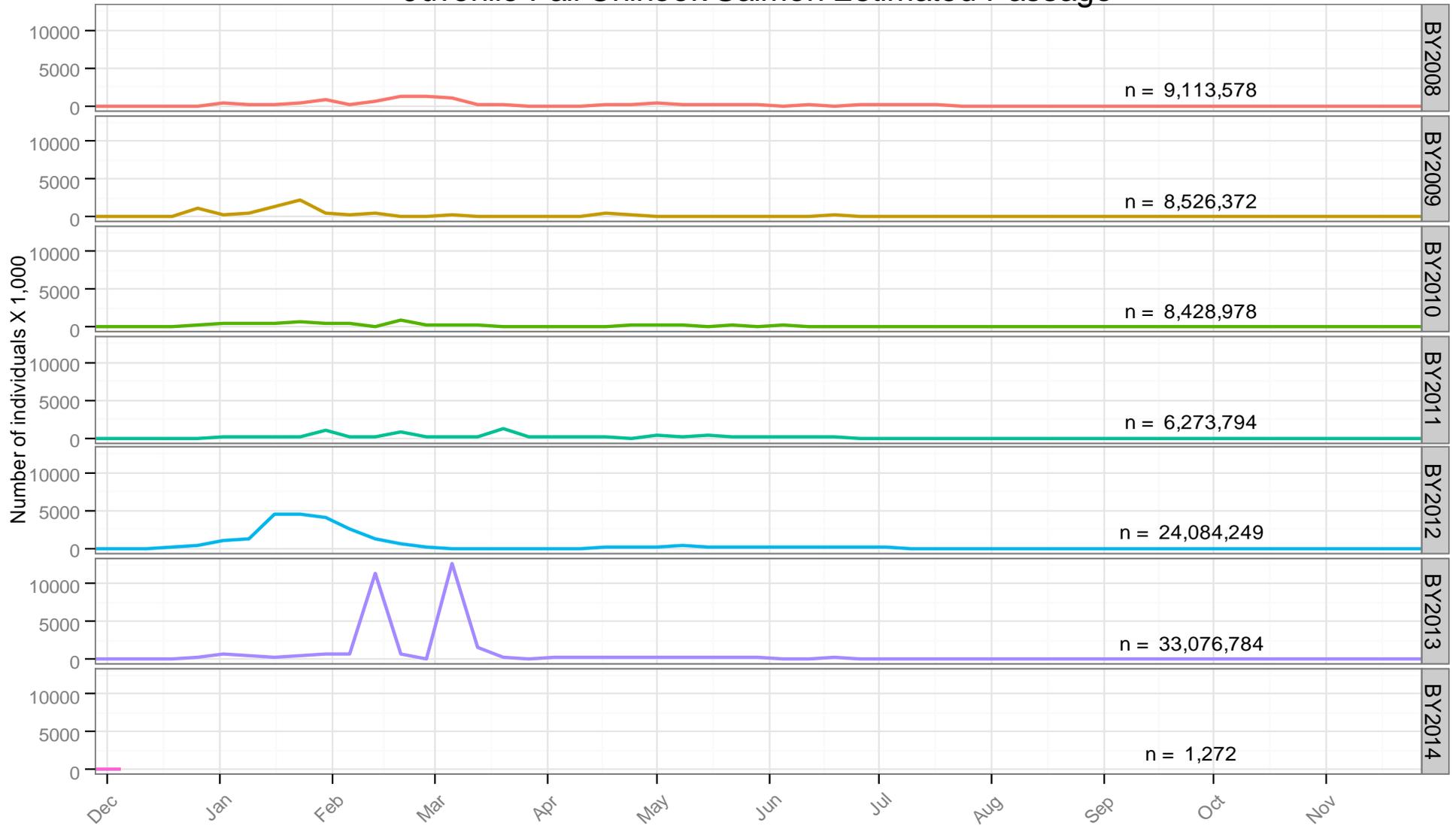


Figure 4. Weekly estimated passage of juvenile Fall Chinook Salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period December 1, 2008 to present .

Juvenile Late Fall Chinook Salmon Estimated Passage

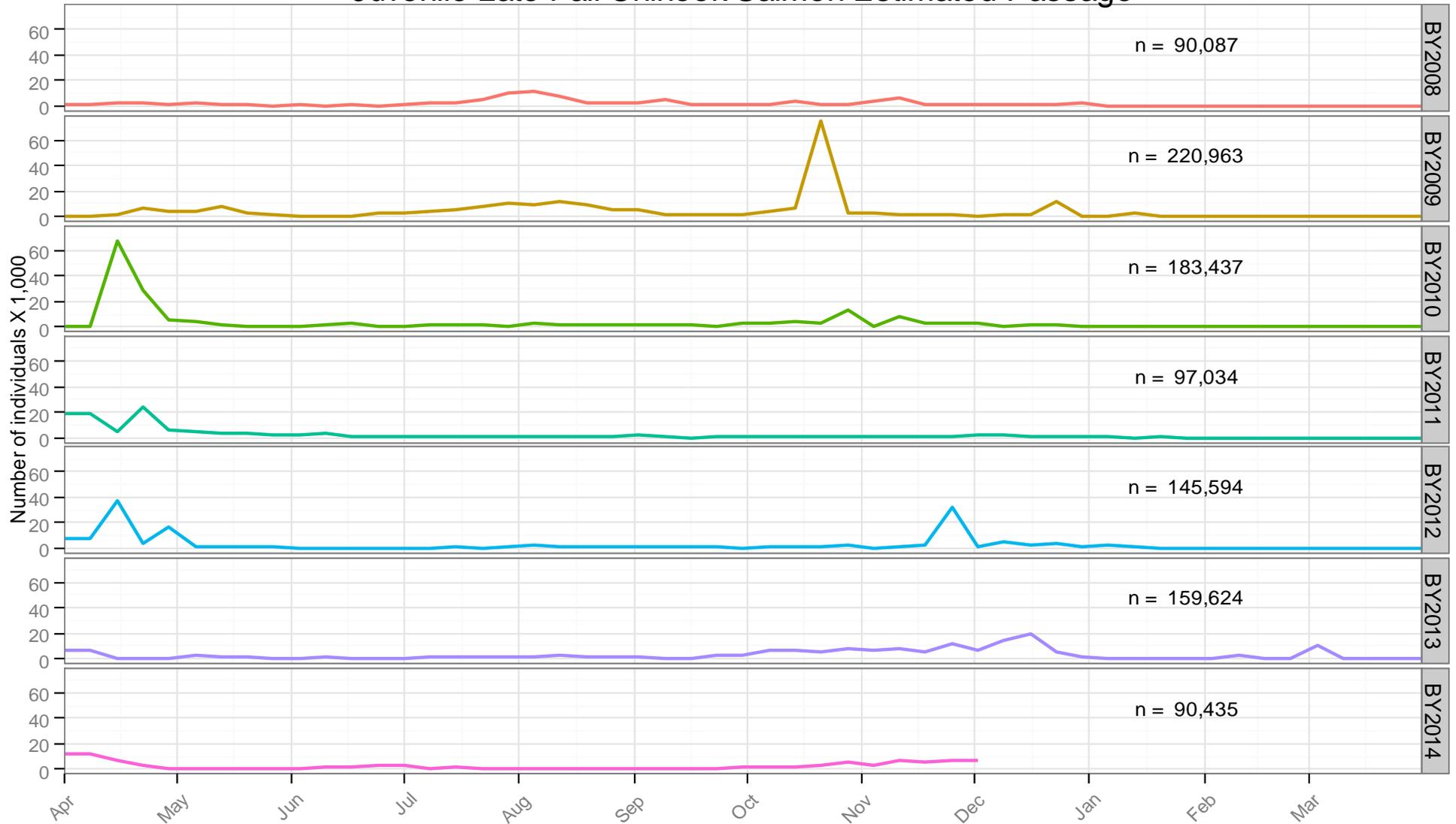


Figure 5. Weekly estimated passage of juvenile Late Fall Chinook Salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period April 1, 2008 to present .

Weekly Estimated Chinook Passage at Red Bluff Diversion Dam - All Runs Combined

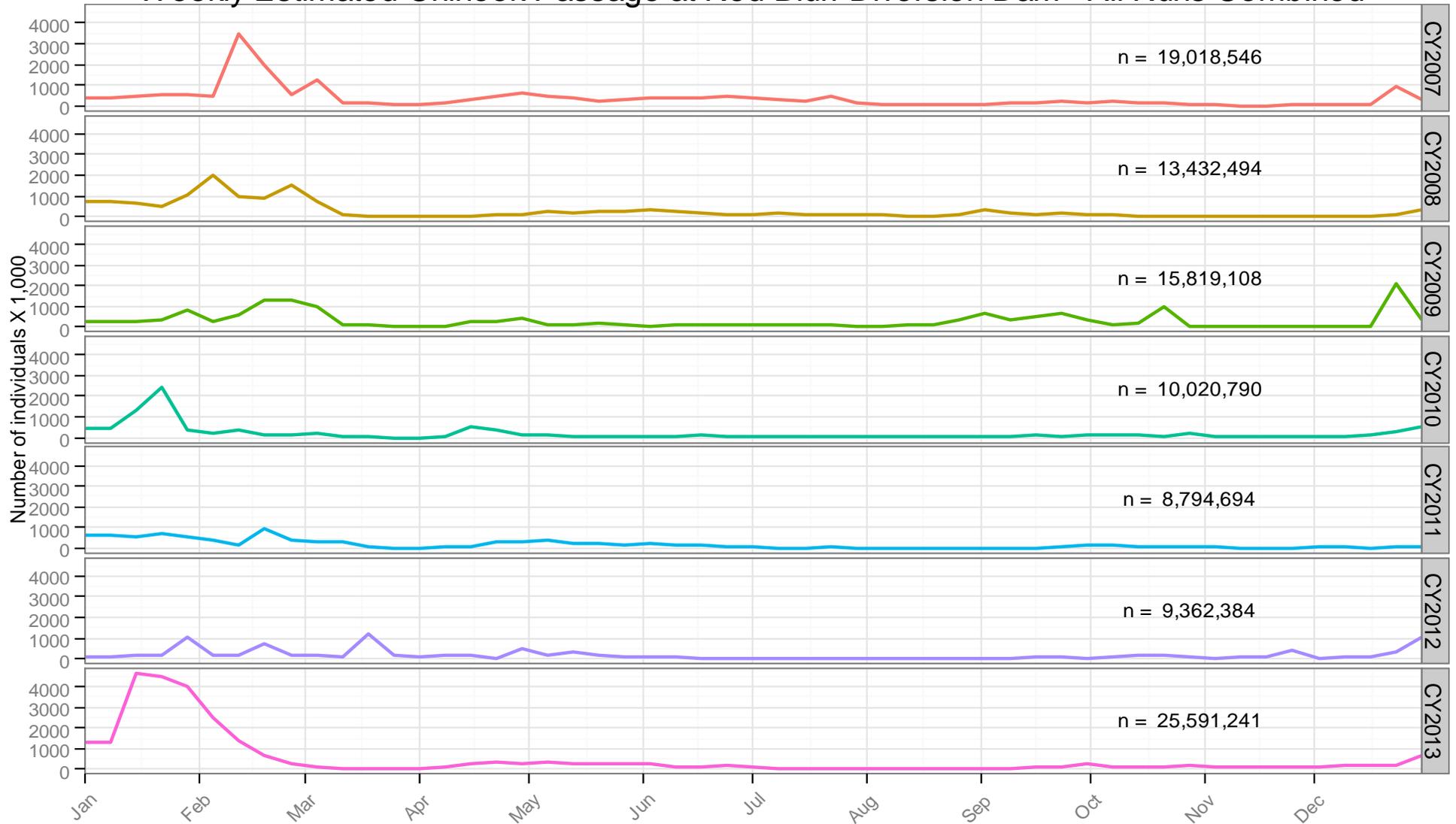


Figure 6. Weekly estimated passage of juvenile Chinook Salmon at Red Bluff Diversion Dam (RK391) by calendar year. Fish were sampled using rotary-screw traps for the period January 1, 2007 to December 31 2013