



United States Department of the Interior



FISH AND WILDLIFE SERVICE
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March 12, 2014

To: Interested Parties

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

Subject: Biweekly report (February 12, 2014 - February 25, 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 February 12, 2014 through February 25, 2014. Race designation was assigned using length-at-date criteria.

This report also contains graphical displays of salmonid passage dating back to 2006 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				
				BY13 Winter	BY13 Spring	BY13 Fall	BY13 Late-Fall	BY14 RBT
2/12/2014	6,070	10.5	7.3	2,267 (106 – 132)	9,271 (54 – 66)	322,986 (30 – 53)	0 (–)	198 (95)
2/13/2014	5,060	10.8	7.8	1,212 (74 – 107)	1,905 (56 – 73)	25,634 (33 – 54)	0 (–)	520 (88 – 97)
2/14/2014	4,960	11.1	–	1,316 (80 – 120)	1,645 (55 – 60)	37,333 (32 – 54)	0 (–)	164 (140)
2/15/2014	4,940	11.4	4.0	213 (82 – 109)	799 (56 – 70)	18,911 (30 – 55)	0 (–)	42 (120)
2/16/2014	5,280	11.1	7.1	–	–	–	–	–
2/17/2014	6,070	10.4	–	3,040 (81 – 125)	2,635 (57 – 71)	44,383 (28 – 55)	0 (–)	0 (–)
2/18/2014	4,910	9.8	–	–	–	–	–	–
2/19/2014	4,530	10.4	2.9	413 (78 – 120)	2,051 (57 – 71)	33,021 (31 – 56)	0 (–)	77 (25 – 88)
2/20/2014	4,370	10.6	2.3	1,065 (81 – 133)	2,889 (57 – 75)	15,696 (30 – 56)	0 (–)	0 (–)
2/21/2014	4,370	10.7	2.2	1,017 (79 – 141)	3,340 (58 – 76)	18,801 (30 – 57)	0 (–)	0 (–)
2/22/2014	4,060	10.9	1.8	1,255 (79 – 137)	1,678 (58 – 76)	15,084 (32 – 57)	0 (–)	51 (23 – 25)
2/23/2014	4,060	11.0	2.0	521 (87 – 134)	1,232 (59 – 74)	12,011 (31 – 58)	0 (–)	24 (92)
2/24/2014	3,970	11.2	2.2	325 (81 – 142)	687 (59 – 70)	11,738 (32 – 58)	0 (–)	80 (25 – 97)
2/25/2014	3,910	11.6	1.8	141 (88 – 112)	612 (59 – 74)	11,372 (32 – 58)	0 (–)	71 (24 – 124)
Biweekly Total²				16,004	35,246	746,669	0	1,597
<i>Biweekly Lower 90% Confidence Interval</i>				9,586	19,146	273,364	0	547
<i>Biweekly Upper 90% Confidence Interval</i>				22,422	51,346	1,219,973	0	2,646
Brood Year Total				1,739,372	270,804	15,818,263	149,062	2,665
<i>Brood year Lower 90% Confidence Interval</i>				1,130,694	139,756	3,333,233	85,831	367
<i>Brood year Upper 90% Confidence Interval</i>				2,348,051	401,852	28,303,294	212,293	4,963

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 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

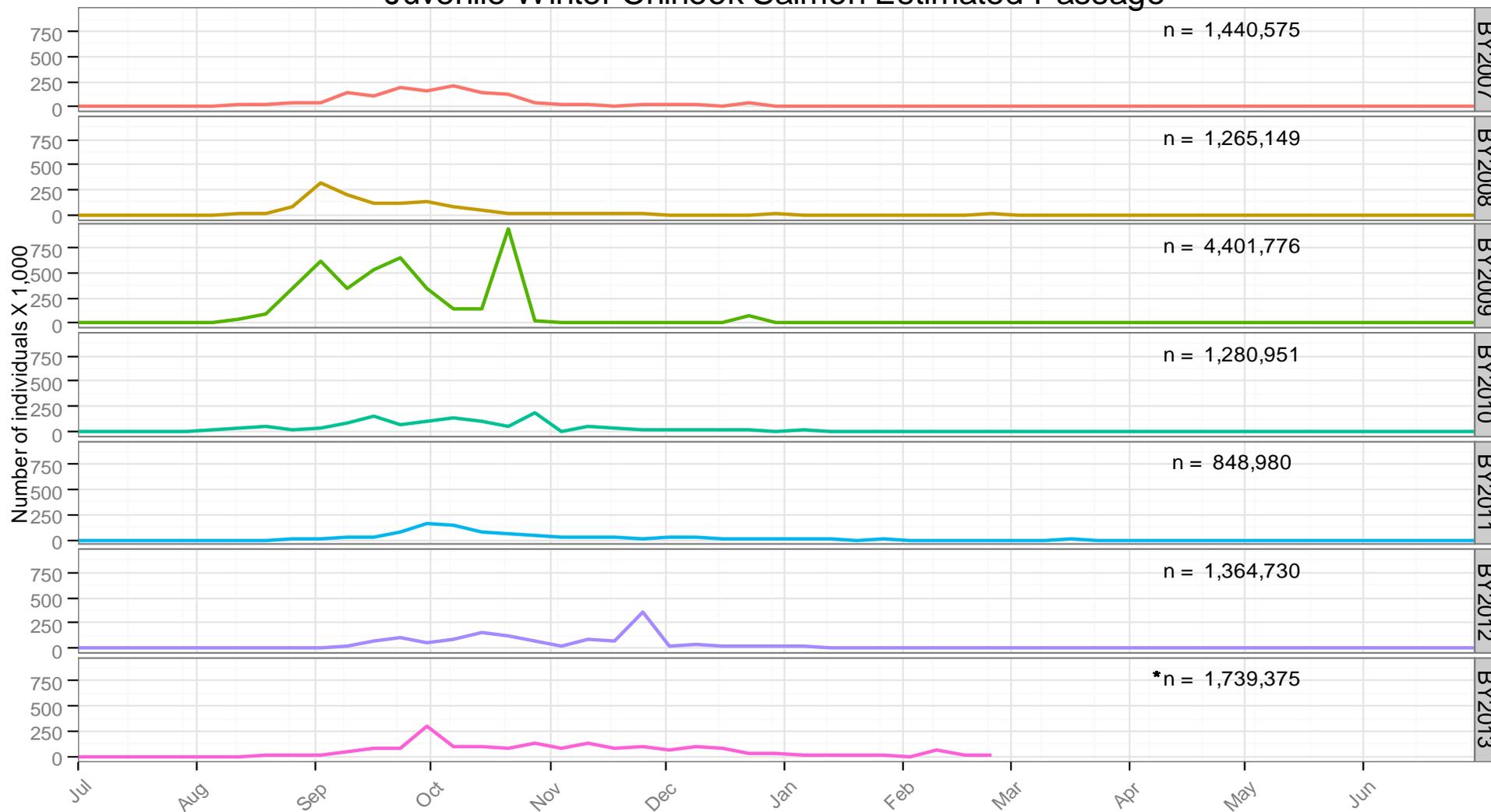


Figure 1. Weekly estimated passage of juvenile winter Chinook Salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period July 1, 2007 to present .

*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

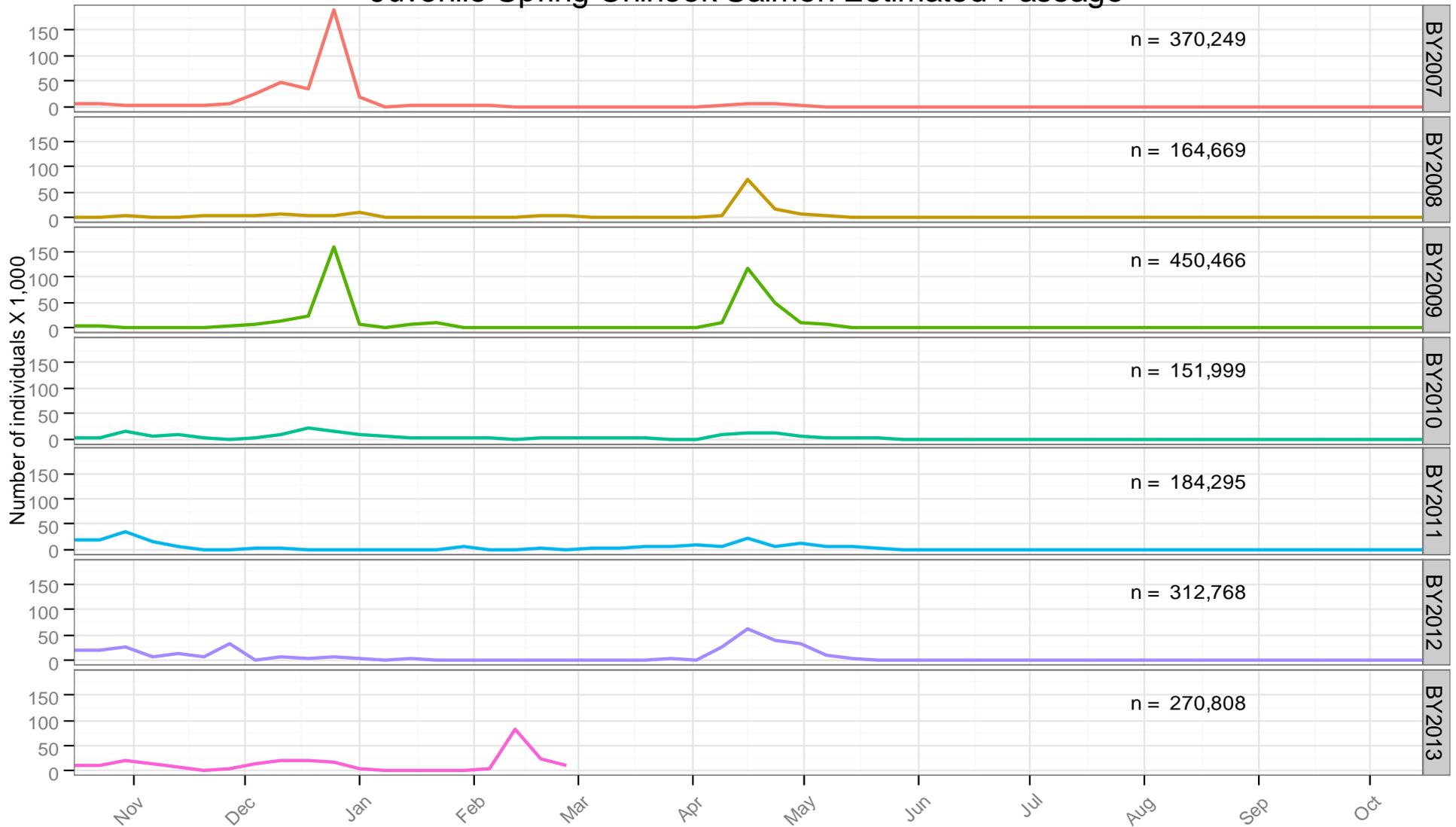


Figure 2. Weekly estimated passage of juvenile Spring Chinook Salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period October 16, 2007 to present .

Juvenile *Onchorhynchus mykiss* Estimated Passage

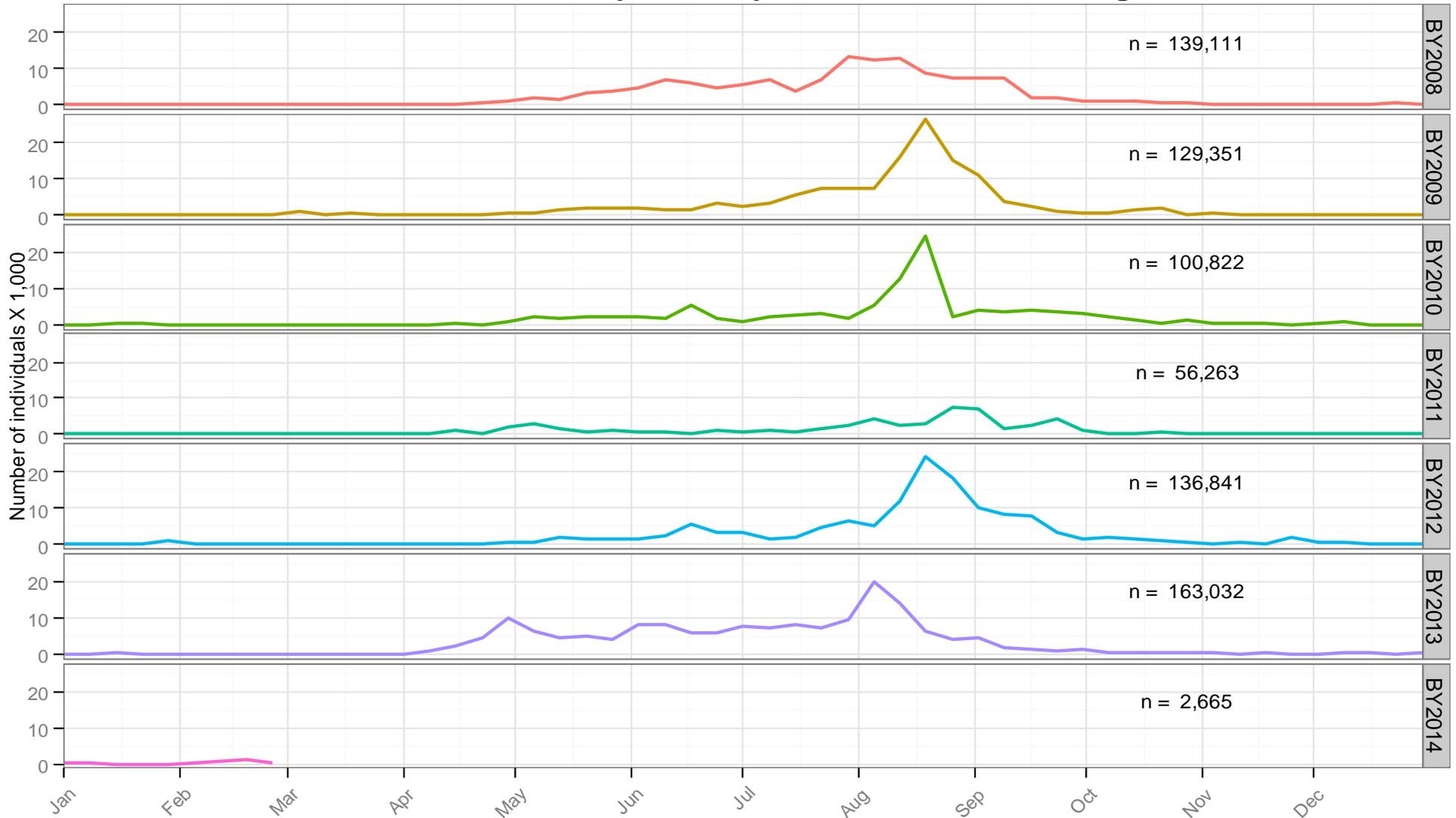


Figure 3. Weekly estimated passage of juvenile Rainbow/Steelhead trout at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period January 1, 2008 to present.

Juvenile Fall Chinook Salmon Estimated Passage

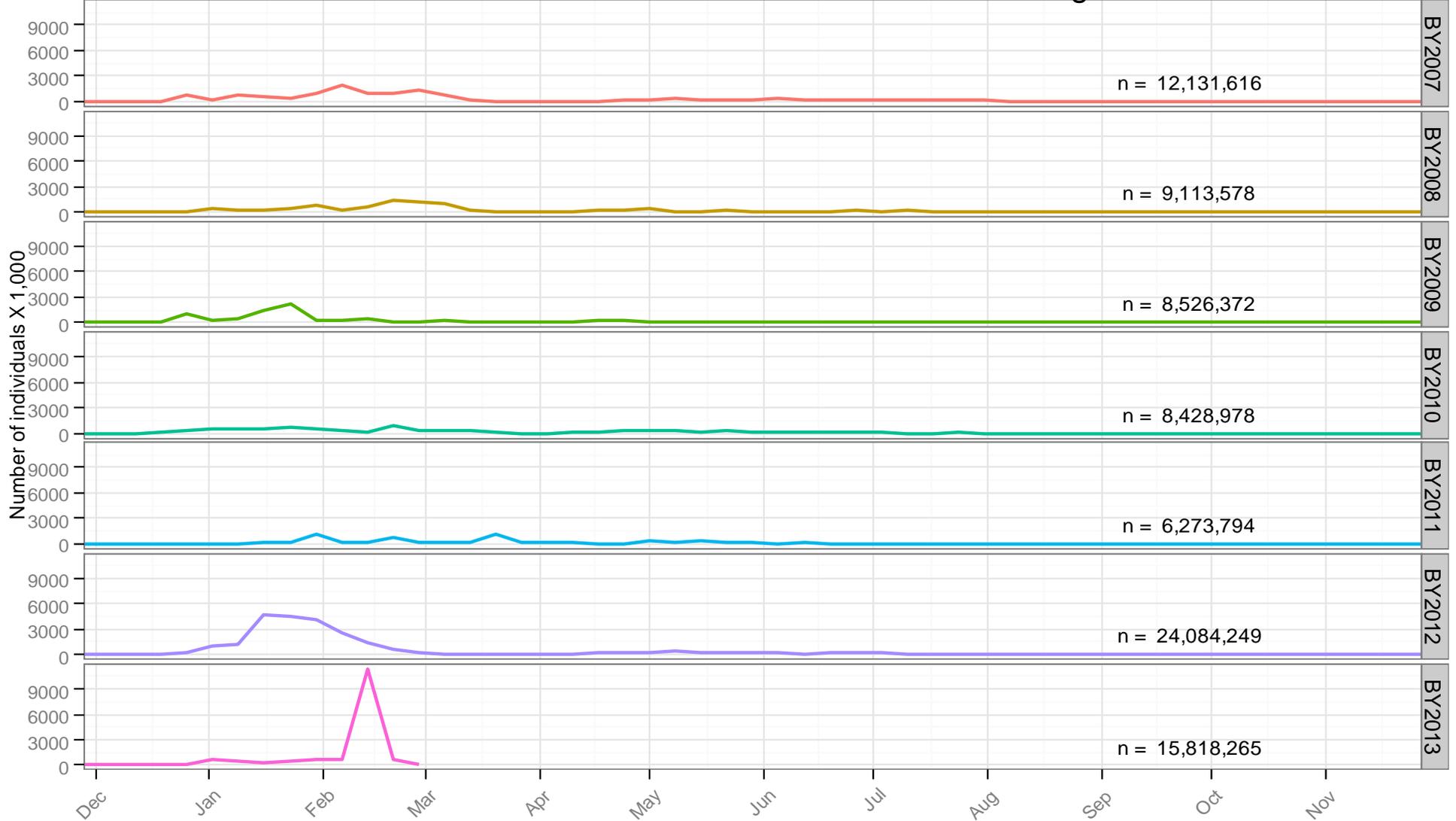


Figure 4. Weekly estimated passage of juvenile Fall Chinook Salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period December 1, 2007 to present.

Juvenile Late Fall Chinook Salmon Estimated Passage

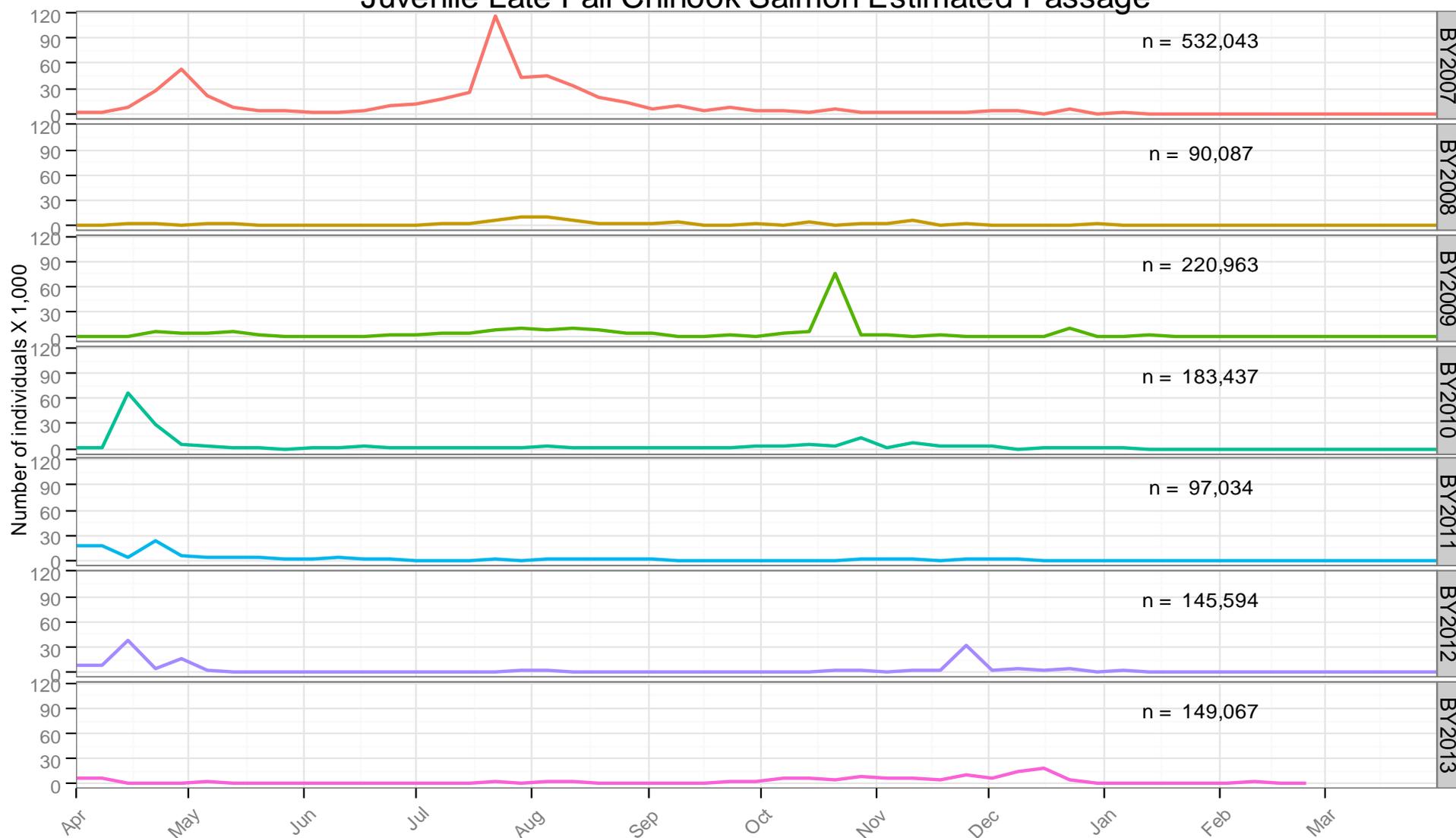


Figure 5. Weekly estimated passage of juvenile Late Fall Chinook Salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period April 1, 2007 to present .

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

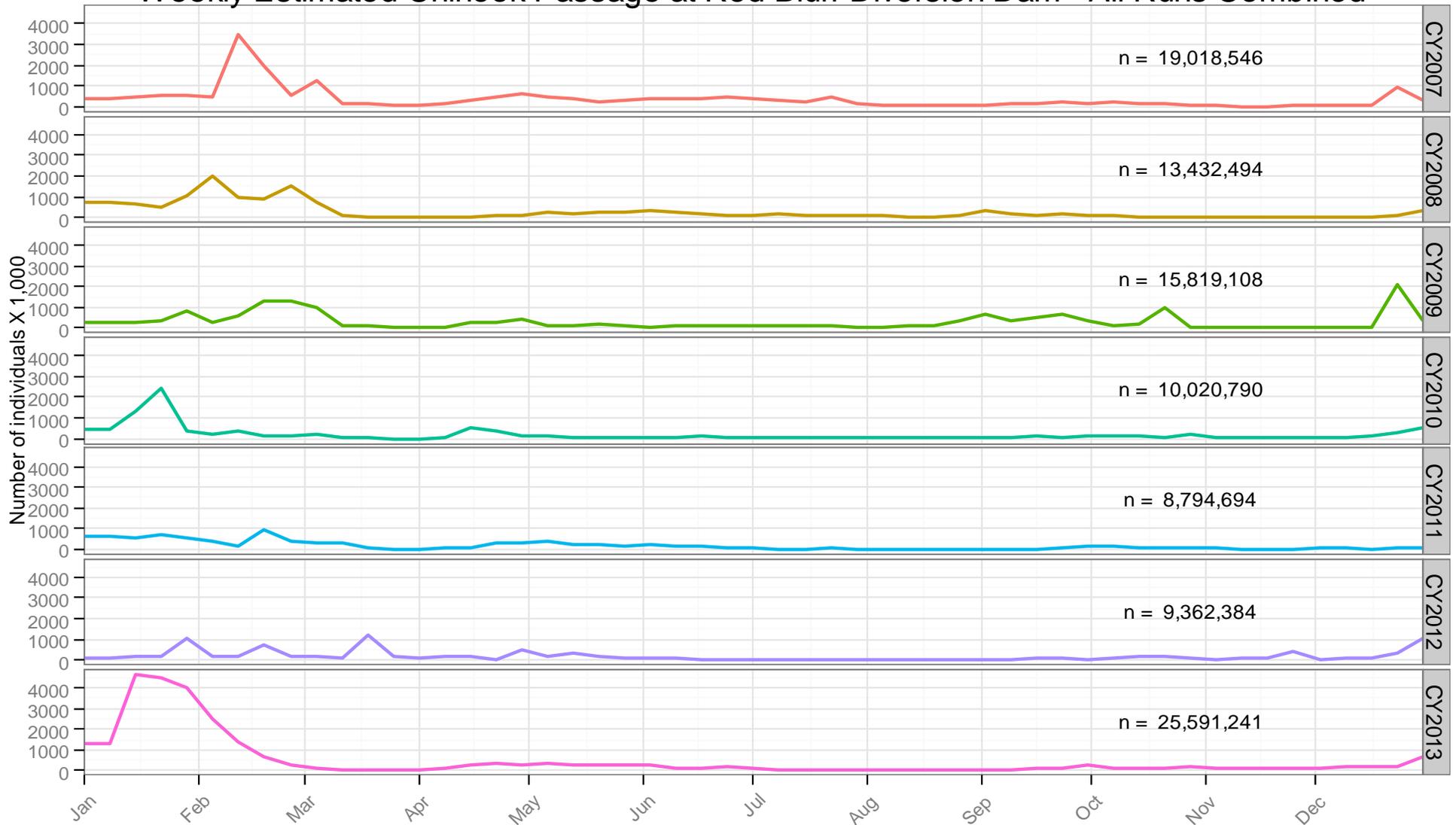


Figure 6. Weekly estimated passage of juvenile Chinook Salmon at Red Bluff Diversion Dam (RK391) by calendar year. Fish were sampled using rotary-screw traps for the period January 1, 2007 to December 31 2013