



United States Department of the Interior



FISH AND WILDLIFE SERVICE
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July 17, 2013

To: Interested Parties

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

Subject: Biweekly report (June 18, 2013 - July 1, 2013)

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 June 18, 2013 through July 1, 2013. 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 ² Winter	BY12 Spring	BY12 Fall	BY13 Late-Fall	BY13 RBT
6/18/2013	15,000	14.2	3.3	0 (-)	0 (-)	20,477 (56 – 107)	49 (53)	806 (23 – 86)
6/19/2013	14,200	13.9	2.2	0 (-)	48 (142)	16,515 (57 – 104)	47 (52)	477 (22 – 73)
6/20/2013	14,500	13.9	2.1	0 (-)	0 (-)	13,386 (58 – 125)	46 (51)	1,012 (54 – 105)
6/21/2013	14,100	14.2	2.0	0 (-)	0 (-)	28,142 (58 – 113)	0 (-)	1,002 (42 – 105)
6/22/2013	14,200	14.6	1.9	0 (-)	0 (-)	28,397 (58 – 109)	121 (55 – 56)	425 (57 – 82)
6/23/2013	14,000	14.3	–	–	–	–	–	–
6/24/2013	14,300	13.4	–	–	–	–	–	–
6/25/2013	14,300	12.9	3.0	0 (-)	0 (-)	12,713 (62 – 120)	109 (58)	438 (39 – 86)
6/26/2013	16,400	13.8	2.5	0 (-)	0 (-)	17,956 (59 – 125)	0 (-)	594 (55 – 125)
6/27/2013	16,400	14.0	3.9	0 (-)	0 (-)	36,277 (60 – 110)	220 (56 – 58)	832 (46 – 111)
6/28/2013	16,000	14.8	3.3	0 (-)	0 (-)	29,132 (60 – 118)	117 (56)	1,910 (26 – 103)
6/29/2013	15,400	15.1	2.9	0 (-)	0 (-)	16,605 (60 – 118)	253 (48 – 58)	1,636 (25 – 97)
6/30/2013	15,400	14.9	–	–	–	–	–	–
7/1/2013	15,400	14.9	2.3	0 (-)	0 (-)	10,164 (61 – 122)	177 (50 – 60)	1,115 (24 – 103)
Biweekly Total ³				0	67	293,005	1,390	12,823
<i>Biweekly Lower 90% Confidence Interval</i>				0	-75	172,966	336	6,923
<i>Biweekly Upper 90% Confidence Interval</i>				0	209	413,045	2,444	18,723
Brood Year Total				0	300,568	23,421,043	15,944	67,313
<i>Brood year Lower 90% Confidence Interval</i>				0	168,784	16,300,728	6,261	34,473
<i>Brood year Upper 90% Confidence Interval</i>				0	432,351	30,541,358	25,626	100,153

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 2013 began on 7/01/13 according to length-at-date criteria (Greene 1992); brood year 2012 total was estimated 1,296,503.

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

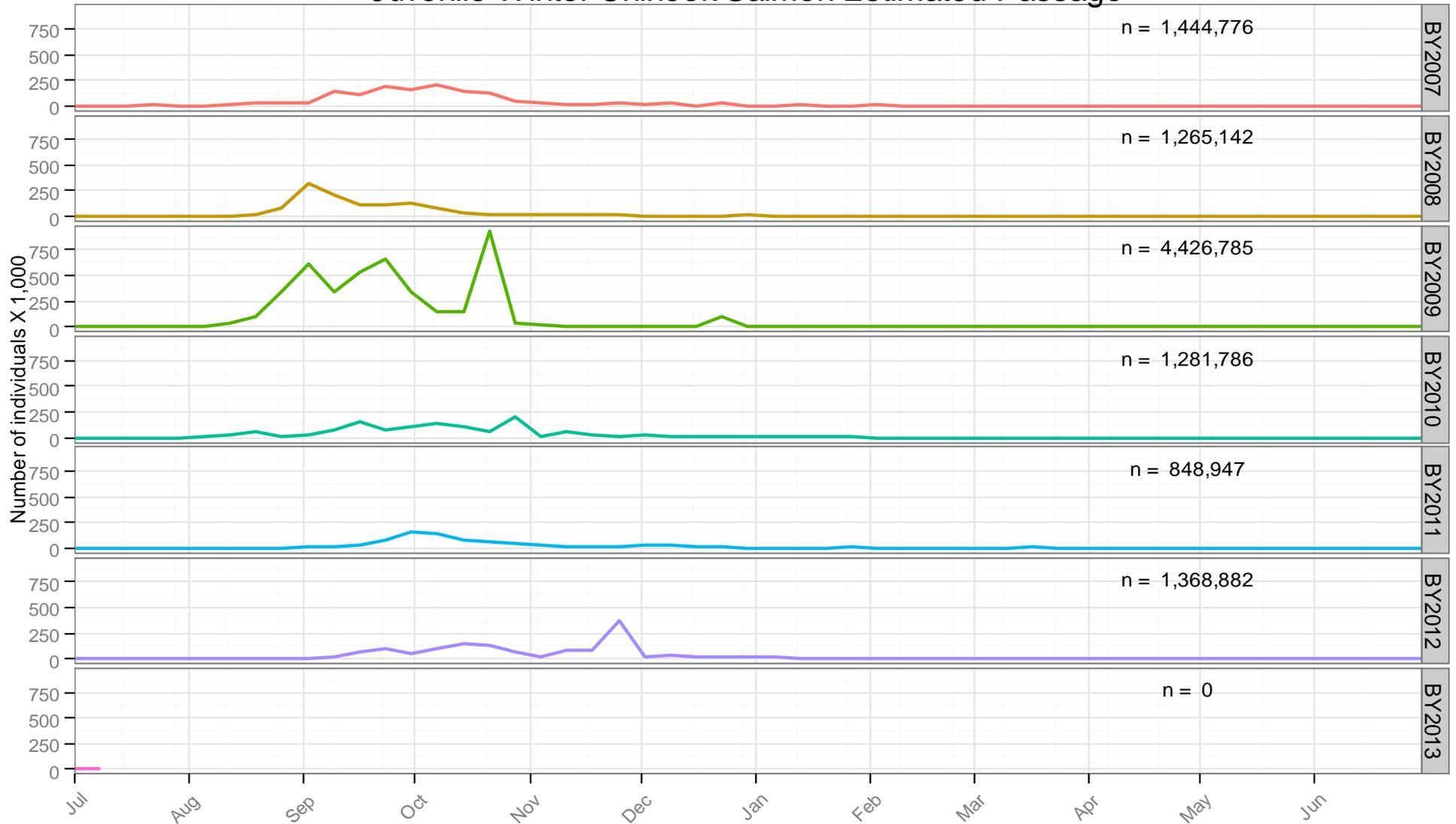


Figure 1. Weekly estimated passage of juvenile winter Chinook Salmon at Red Bluff Diversion Dam (RK391), by brood-year (BY). Fish were sampled using rotary-screw traps for the period July 1 2007 to present .

Juvenile Spring Chinook Salmon Estimated Passage

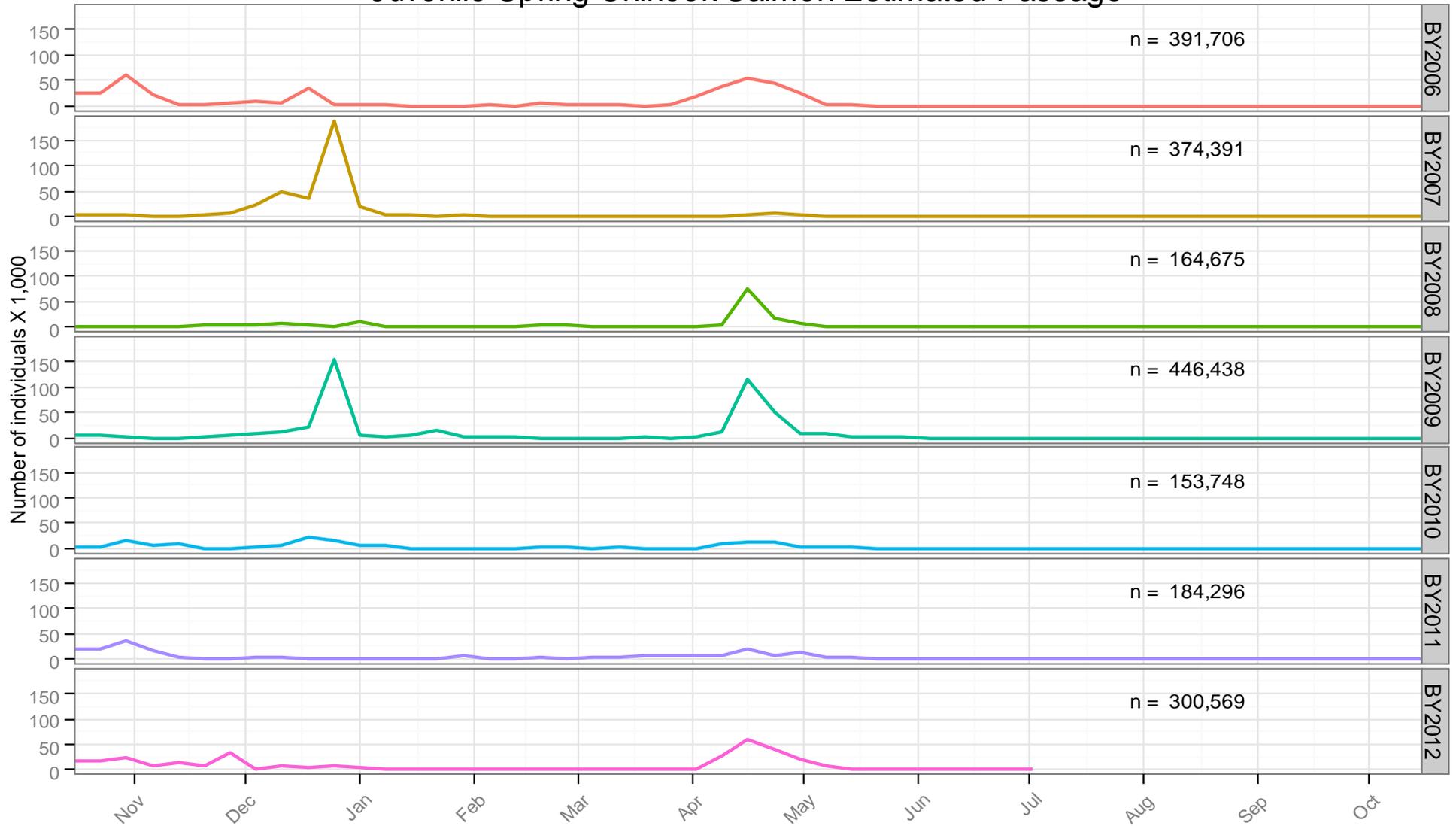


Figure 2. Weekly estimated passage of juvenile Spring Chinook Salmon at Red Bluff Diversion Dam (RK391), by brood-year (BY). Fish were sampled using rotary-screw traps for the period October 16 2006 to present .

Juvenile *Onchorhynchus mykiss* Estimated Passage

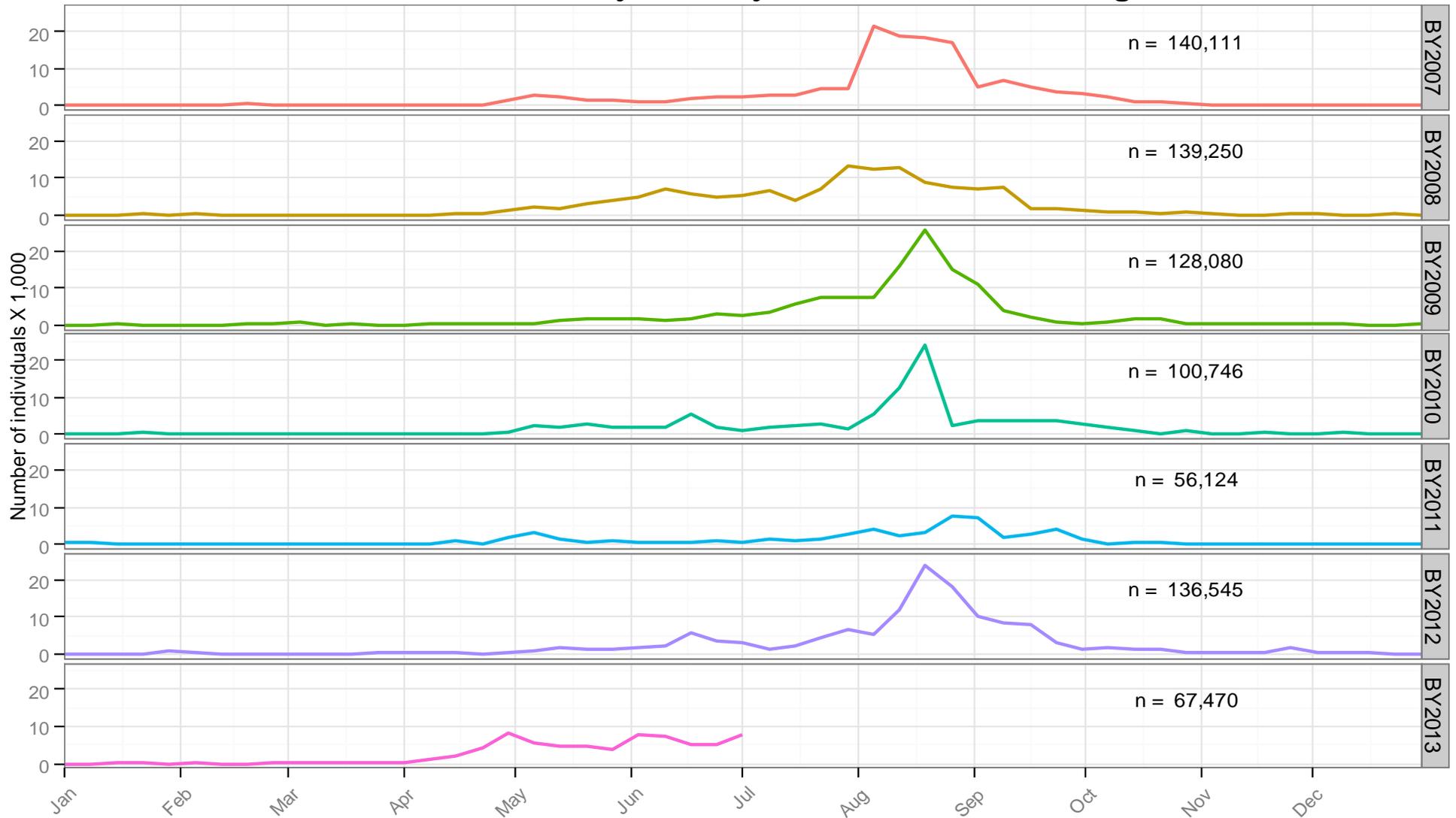


Figure 3. Weekly estimated passage of juvenile Rainbow/Steelhead trout at Red Bluff Diversion Dam (RK391), by brood-year (BY). Fish were sampled using rotary-screw traps for the period January 1 2007 to present .

Juvenile Fall Chinook Salmon Estimated Passage

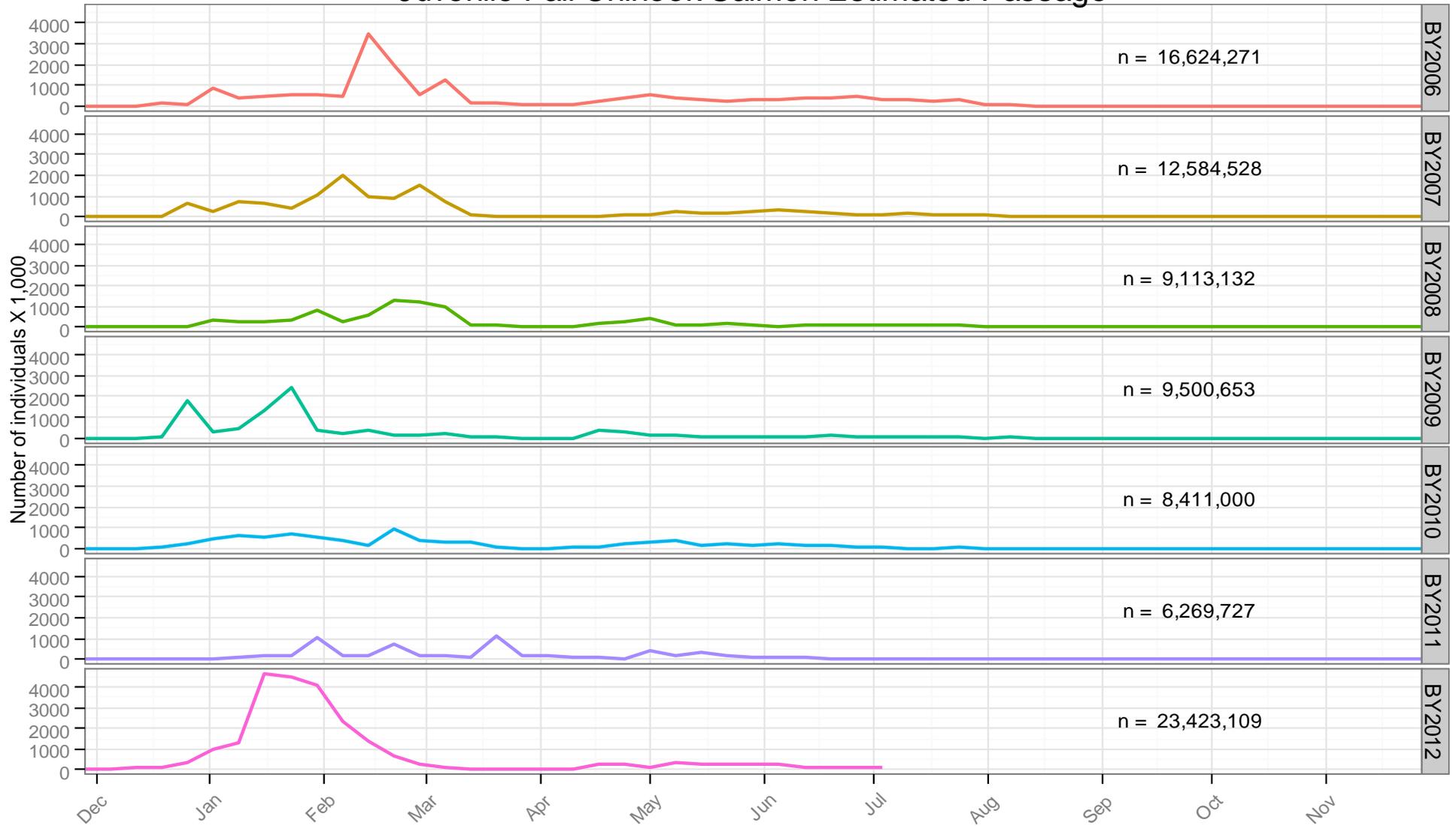


Figure 4. Weekly estimated passage of juvenile Fall Chinook Salmon at Red Bluff Diversion Dam (RK391), by brood-year (BY). Fish were sampled using rotary-screw traps for the period December 1 2006 to present .

Juvenile Late Fall Chinook Salmon Estimated Passage

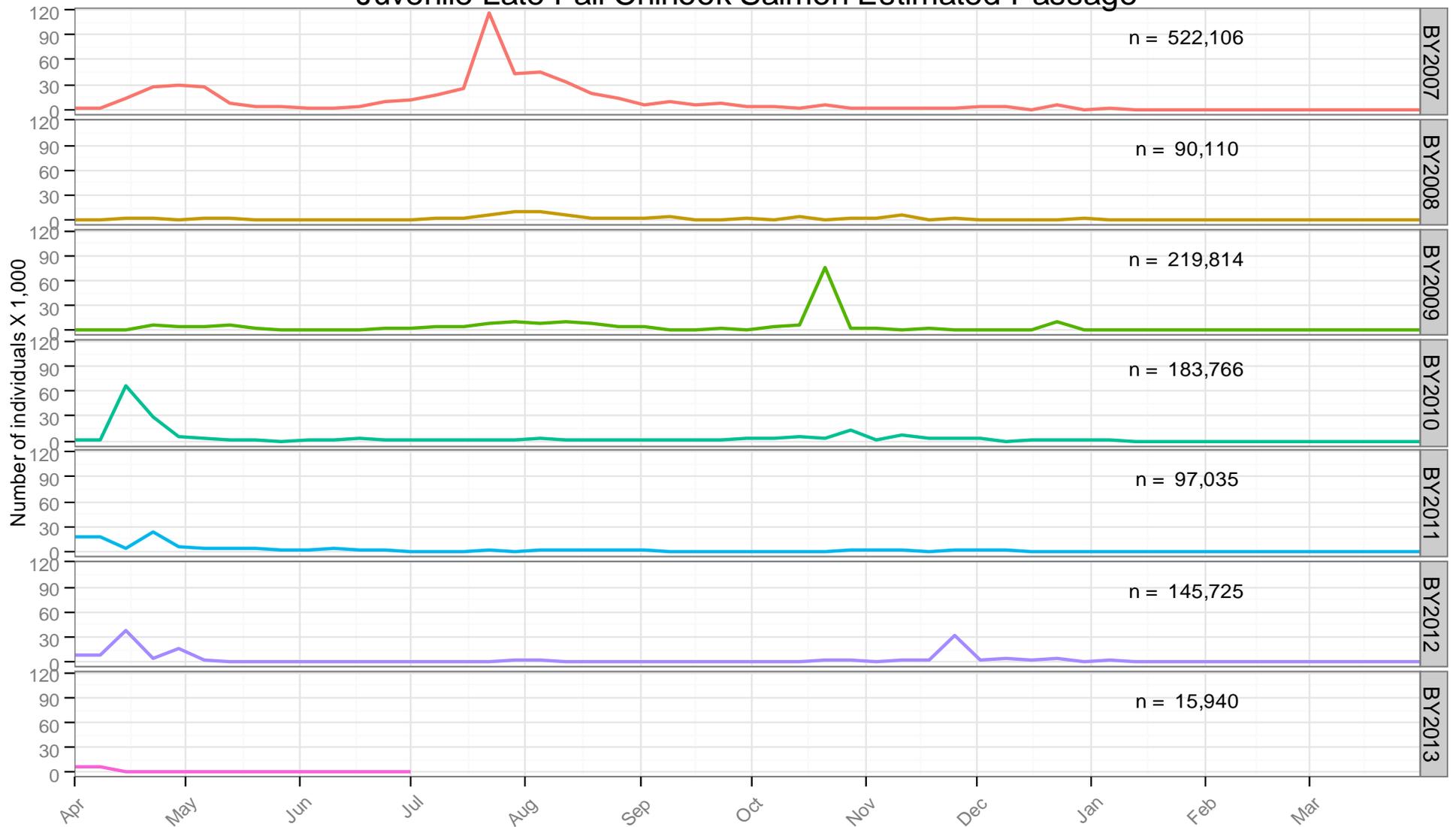


Figure 5. Weekly estimated passage of juvenile Late Fall Chinook Salmon at Red Bluff Diversion Dam (RK391), by brood-year (BY). Fish were sampled using rotary-screw traps for the period April 1 2007 to present .

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

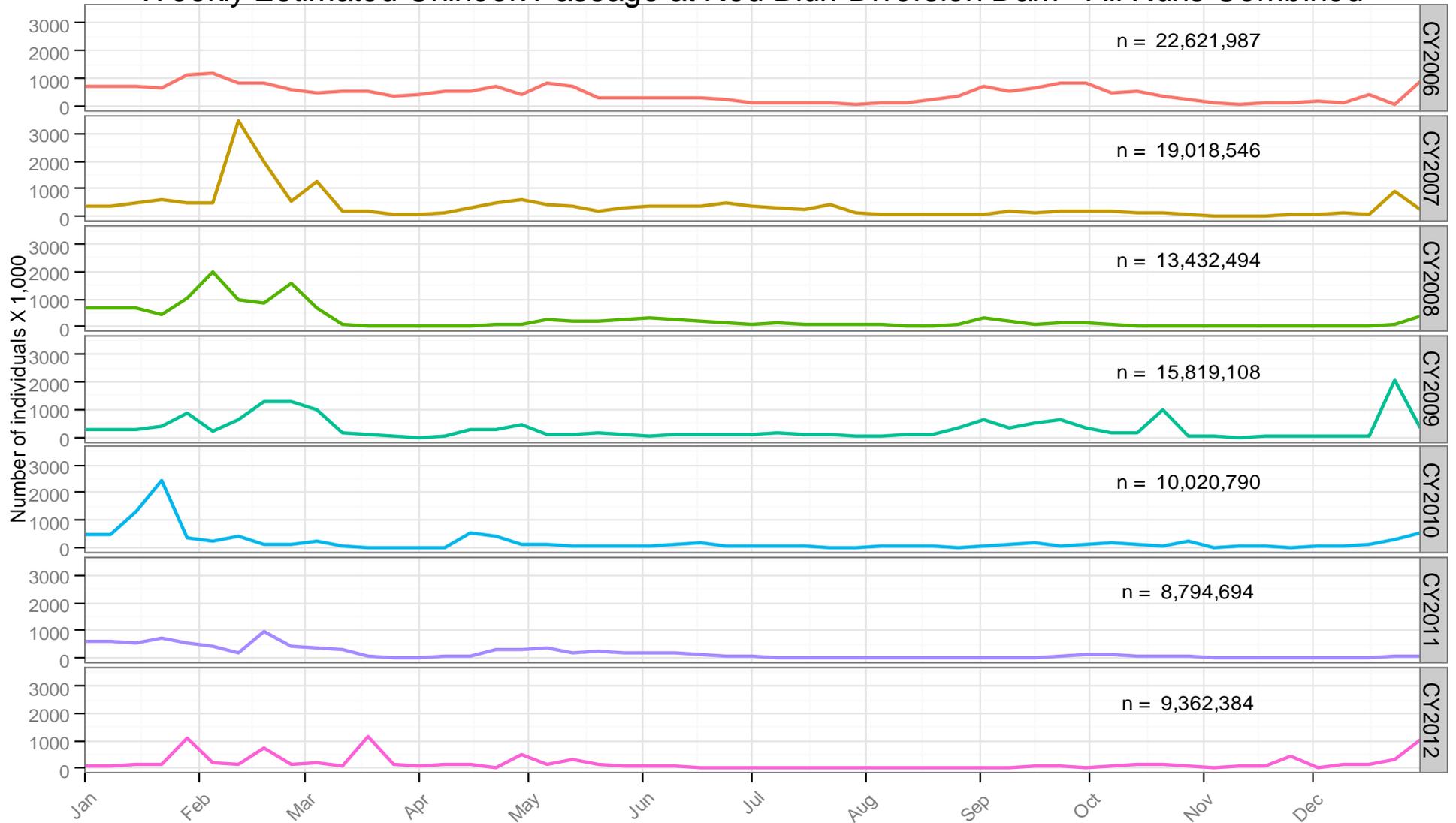


Figure 6. Weekly estimated passage of juvenile Chinook Salmon at Red Bluff Diversion Dam (RK391), by calendar year. Fish were sampled using rotary-screw traps for the period January 1 2006 to December 31 2012