

# STATUS REPORT - PINNIPED PREDATION AND DETERRENT ACTIVITIES AT BONNEVILLE DAM, 2011

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This is the 15th weekly status report of 2011 and summarizes all pinniped predation monitoring and deterrent activities at Bonneville Dam from January 1 through May 18, 2011 (unless otherwise noted). This report and earlier reports can be found at:

[http://www.nwd-wc.usace.army.mil/tmt/documents/fish/2011/sea\\_lion\\_hazing2011.html](http://www.nwd-wc.usace.army.mil/tmt/documents/fish/2011/sea_lion_hazing2011.html).

Regular daylight observations began on January 7 and will continue to the end of May, five days per week. Weekends will not be regularly monitored this year, as was the case in 2009/2010. Final predation estimates will be expanded for hours and days not observed at the end of the observation season and these updated figures will be presented in our annual field report.

## PRELIMINARY RESULTS

*All data presented here are preliminary as of the status report date. Predation figures are unexpanded (unless otherwise noted) and sea lion abundance estimates will likely change as the season progresses and data are proofed and analyzed, so please use these estimates with appropriate caution. A final report summarizing the results of the 2011 evaluation will be available in the fall of this year.*

### PINNIPED ABUNDANCE

California sea lion (*Zalophus californianus* - CSL) numbers have plummeted this past week as few remain and it appears the Steller sea lions (*Eumetopias jubatus* - SSL) have left for the season. The maximum number of SSL seen this year was 31 and 25 for CSL at the dam on any one day (Figure 1). There are fewer SSL present per day on average this year compared to last year, and the fewest average CSL per day to date since 2002 (Figures 2). CSL numbers were low overall this year compared to previous years, but SSL numbers were similar to 2009 levels (Figures 9 and 10). The highest daily abundance estimate for pinnipeds at Bonneville dam this year was 48 on April 26. We have documented over 70 different individual SSL since January 7, at least 26 of those being confirmed as seen in past years. We have now documented close to 50 individual CSL, about 28 have been seen in previous years (1 for 8 years, 1 for 7 years, 4 for 4 years, 3 for 3 years, 19 for 2 years).

## **PREDATION DATA**

Unexpanded numbers for fish observed taken in the Bonneville Dam tailrace for 2011 are:

	<u>California Sea Lions</u>	<u>Steller Sea Lions</u>	<u>Total</u>
Chinook	1477	521	1998
Steelhead	62	114	176
Sturgeon	3	1350	1353
Lamprey	11	1	12
Shad	3	90	93
Smolt	5	1	6
Other	0	2	2
Unknown	94	736	830

CSL predation was high until the beginning of this week (Figure 3). Extremely high flows, tailwater levels, and even turbidity may have caused many of the sea lions to depart slightly early this year. No sturgeon were observed taken at all this past week (Figure 4). The Chinook run has slowed down a bit but is still quite strong and should easily pass 200,000 by the end of May (Figure 7). The salmonid passage to date is now the 3<sup>rd</sup> highest since 2002 (Figure 8). Total salmonid catch to date (3,010 expanded by interpolating for weekends) has dropped this past week and it looks like the estimated predation on salmonids will be around 3,100 (Figures 5 and 6). Total salmonid catch for CSL is going to be much lower than the last few years, but SSL salmonid catch is going to be just under the estimate of last year. Most salmonids (55.2%) were caught in PH1 tailrace this year (24.1% in PH2 and 20.7% in the spillway) even though more salmonids passed the PH2 fishways (78.2%). About 177 cleptoparasitism events have been seen so far (all but two by SSL), and it seems to be far short of observations last year (over 800 when expanded for hours and days not observed).

## **DETERRENTS/TRAPPING**

The states trapped, branded, and released one CSL on May 16 (C017). Another CSL was trapped up in the forebay this morning and will also be branded (C018) and released below the dam.

Hazing by CRITFC (boats) has ended for the season. USDA (land) hazing began on February 28 and will continue until the end of May.

## **OTHER ITEMS OF INTEREST**

The two CSL reported upstream of Bonneville Dam continue to be seen in the forebay laying on log booms at PH1 and swimming around PH2 as well as getting into tribal nets upstream of the dam. As mentioned in the above section, one was trapped this morning and will be branded and released below Bonneville Dam today.

Figure 1. Daily pinniped abundance, by species, at Bonneville Dam, 2011.

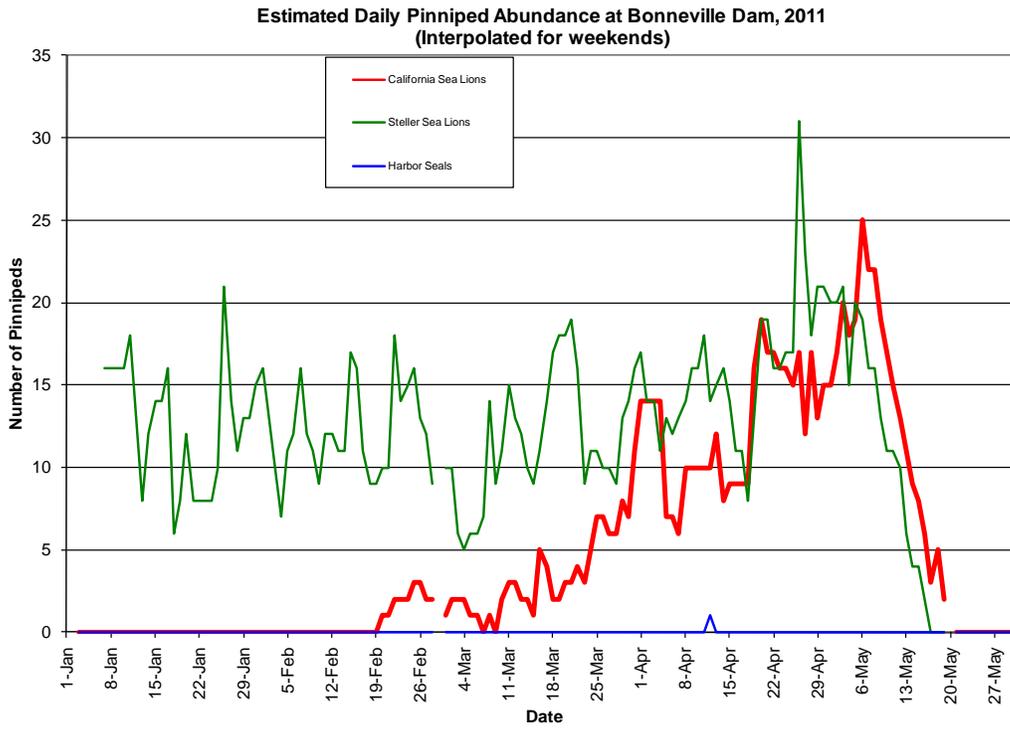


Figure 2. Average daily presence of pinnipeds, by species, to date (April 28) for each year at Bonneville Dam.

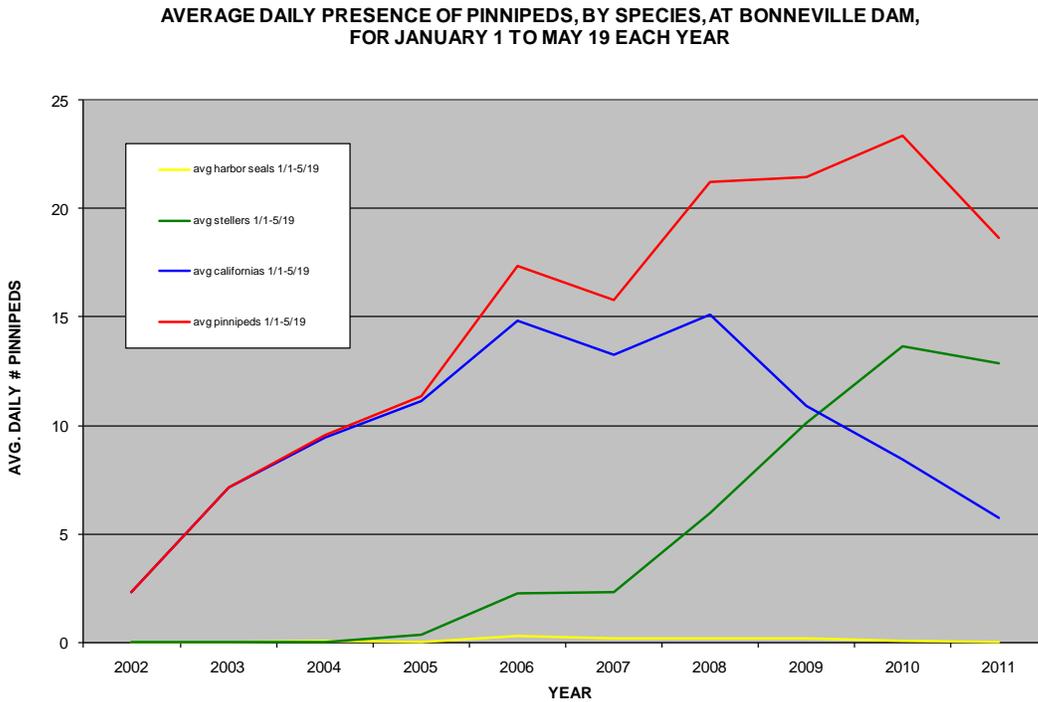


Figure 3. Major prey species taken by CSL and SSL and harbor seals, 2011.

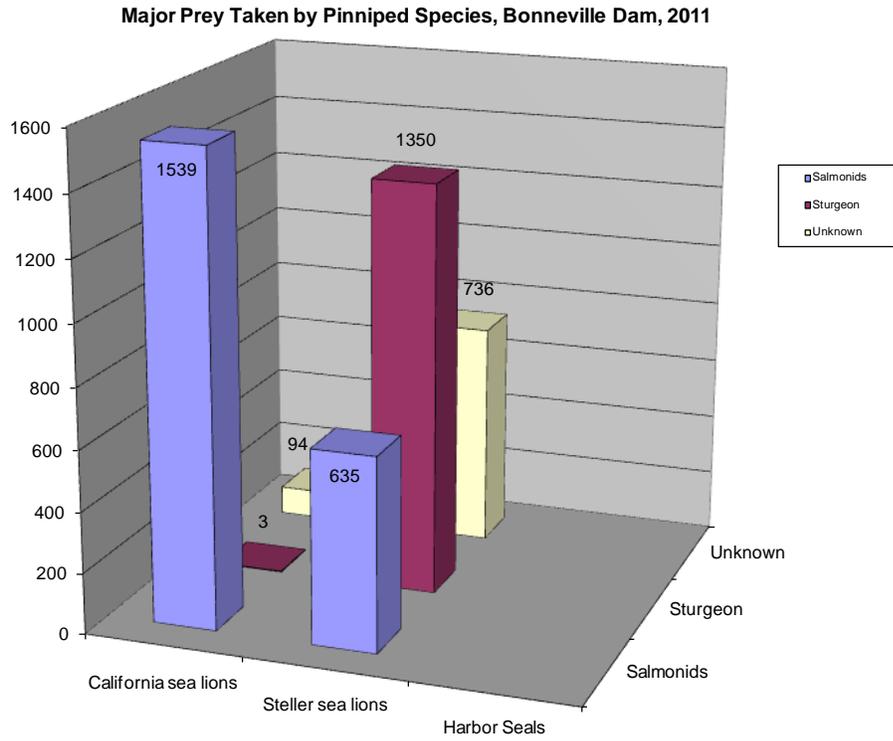


Figure 4. Daily cumulative sturgeon catch (interpolated for weekends) at Bonneville Dam, 2006-2011.

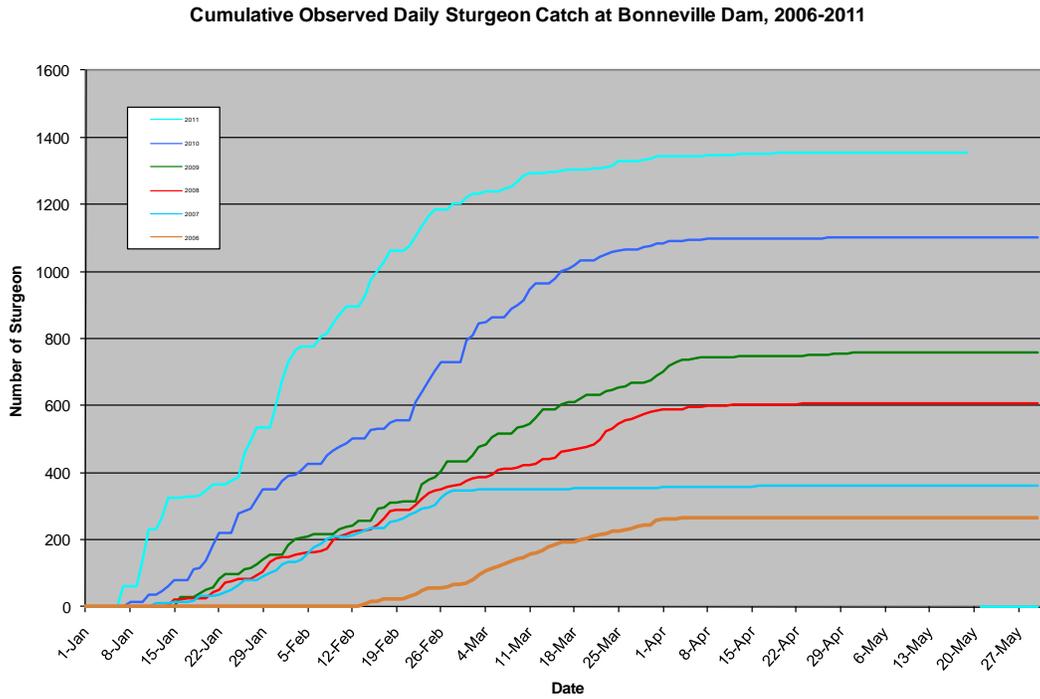


Figure 5. Daily cumulative salmonid catch (interpolated for weekends) at Bonneville Dam, 2006-2011.

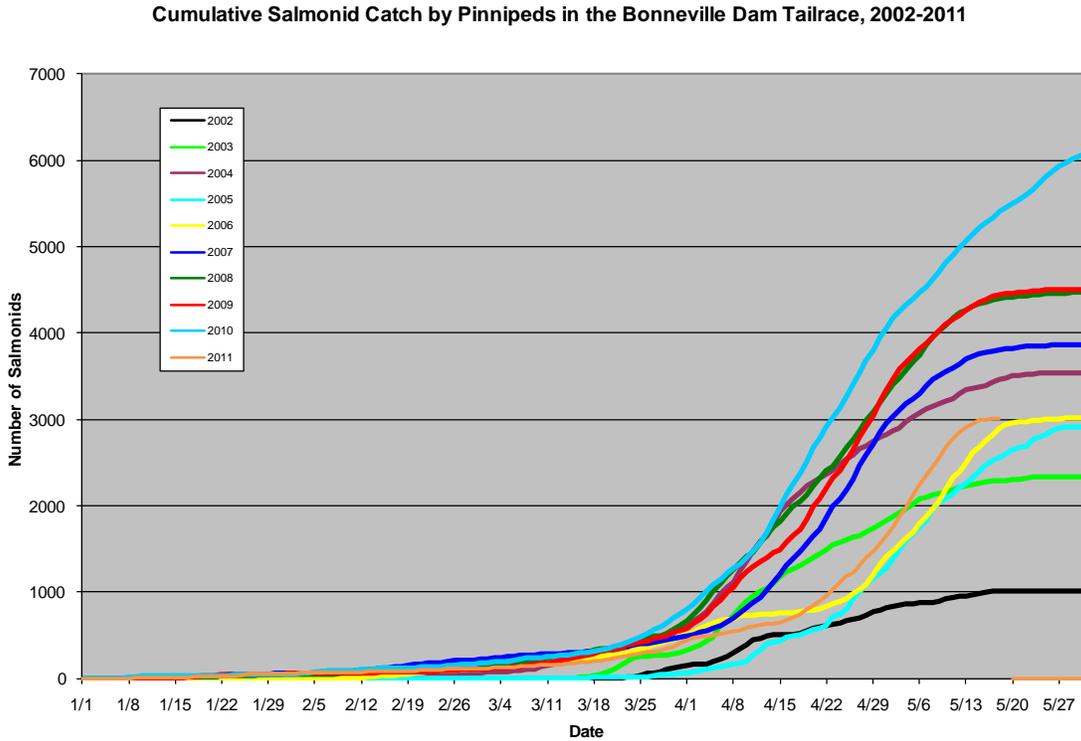


Figure 6. Daily pinniped predation estimates on salmonids for 2011 compared to daily salmonid predation estimates by pinnipeds from 2002-2010.

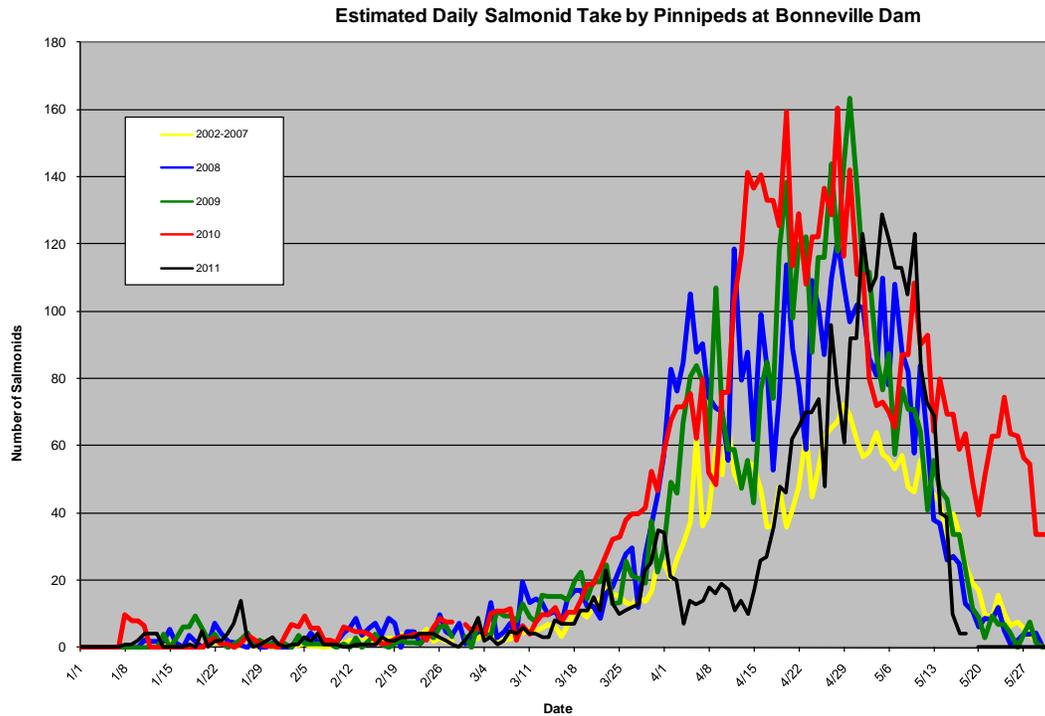


Figure 7. Daily salmonid count for Bonneville Dam, January 1, 2011 to present.

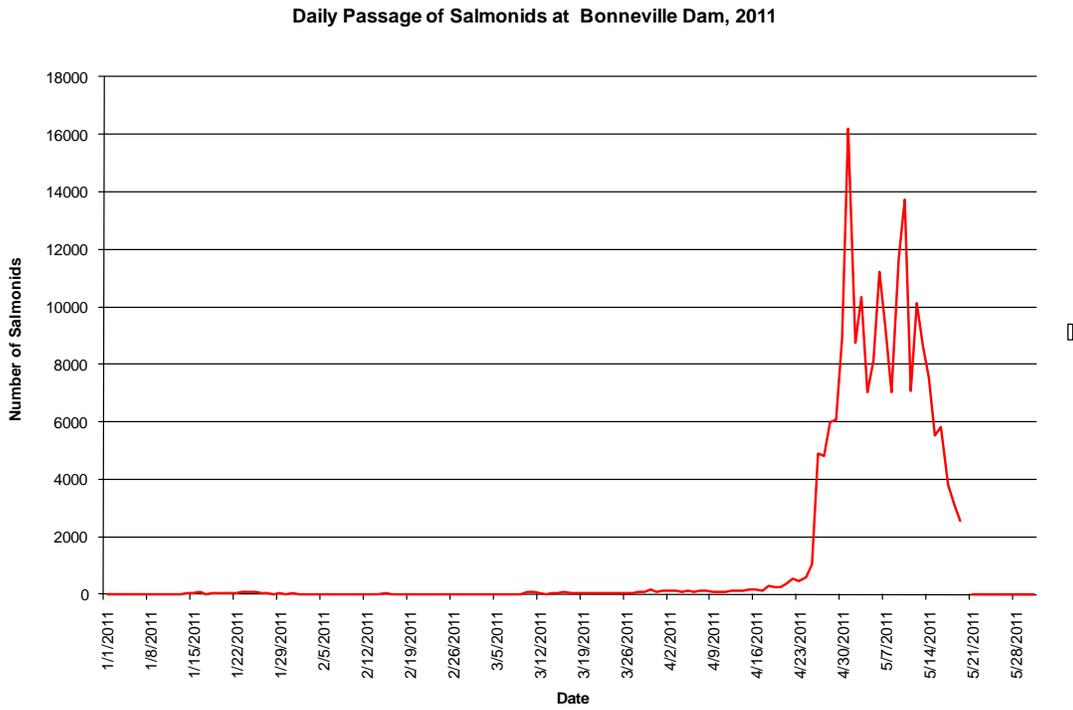


Figure 8. Cumulative salmonid passage for Bonneville Dam from January 1 to present, for the years 2002-2011.

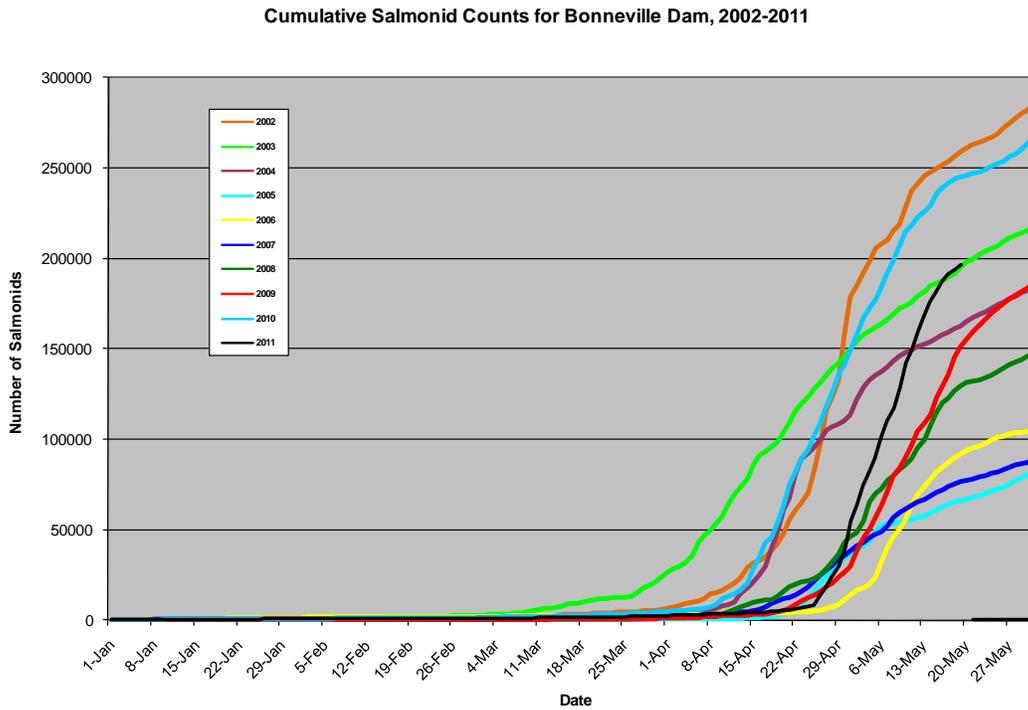


Figure 9. Daily CSL abundance at Bonneville Dam, 2003-2011.

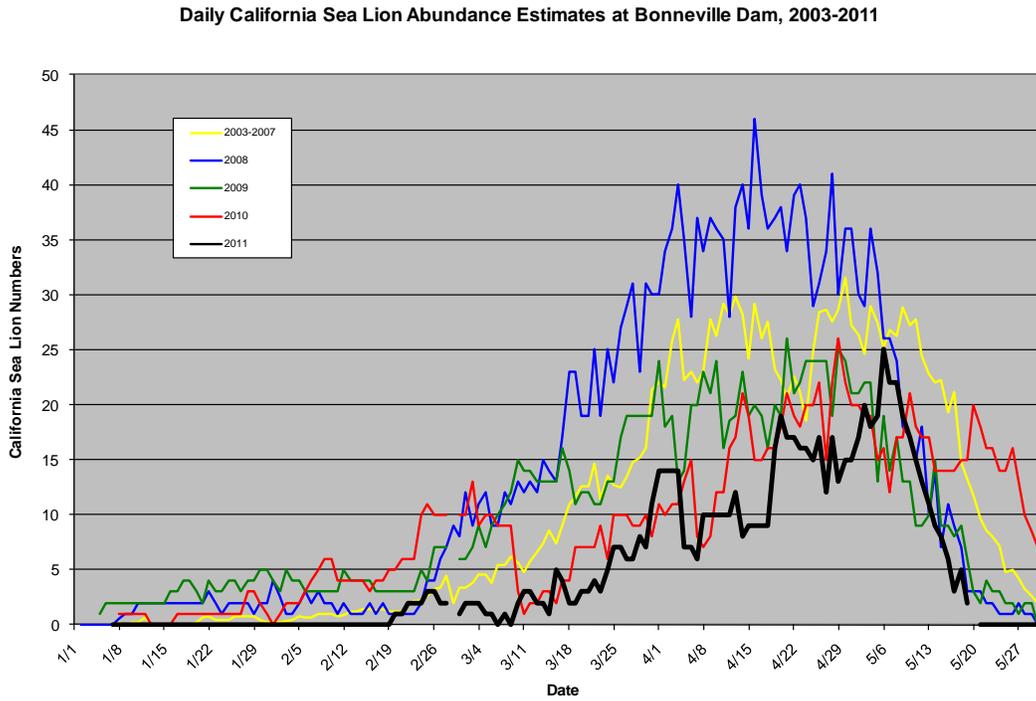


Figure 10. Daily SSL abundance at Bonneville Dam, 2003-2011.

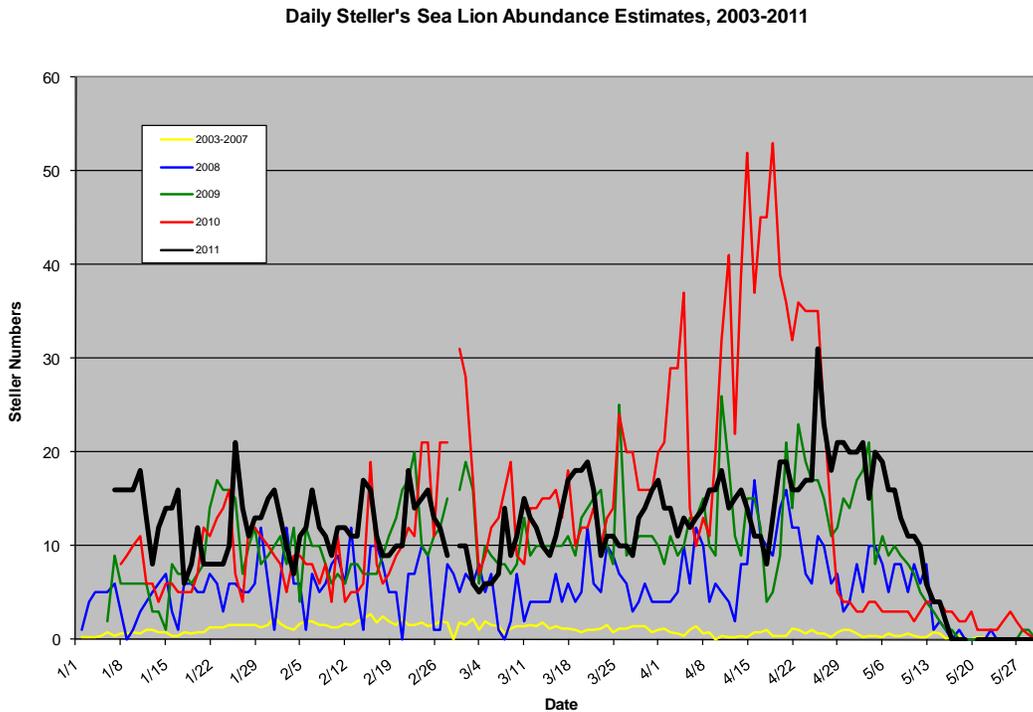


Figure 11. Distribution of prey taken by Pinnipeds by location at Bonneville Dam.

Location of Major Prey Taken by Pinnipeds, Bonneville Dam, 2011

