

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

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This is the 14th weekly status report of 2011 and summarizes all pinniped predation monitoring and deterrent activities at Bonneville Dam from January 1 through May 11, 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 peaked, but are now decreasing this past week. We have seen as many as 31 Steller sea lions (*Eumetopias jubatus* - SSL) and 25 CSL at the dam on any one day so far this year (Figure 1). There are still fewer SSL present per day on average this year compared to last year, and the fewest average CSL per day to date since 2003 (Figures 2). CSL numbers continue to be relatively low for this time of year compared to previous years, but SSL numbers are slightly higher than typical (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	1338	500	1838
Steelhead	62	114	176
Sturgeon	3	1350	1353
Lamprey	6	1	7
Shad	3	90	93
Smolt	5	1	6
Other	0	2	2
Unknown	84	734	818

It is likely that at least 95% of the unknown fish now being observed caught by CSL and SSL are salmonids. No sturgeon were observed taken at all this past week (Figure 4). CSL predation was very high for the past two weeks (Figure 3). The Chinook run has been very strong also these past two weeks, with six days exceeding 10,000 (Figure 7). There have only been a total of six days over 10,000 Chinook per day in the previous nine years! The salmonid passage to date is now the 4<sup>th</sup> highest since 2002 (Figure 8) and climbing fast. Total salmonid catch to date (2,771 expanded by interpolating for weekends) was also climbing fast for the past two weeks, with nine straight days over 100 (Figures 5 and 6). Yet this still pales to the 21 straight days of over 100 salmonids caught in 2010. 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. About 160 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**

No trapping was conducted this past week.

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

## **OTHER ITEMS OF INTEREST**

The two CSL reported upstream of Bonneville Dam have now both been seen in the forebay laying on log booms at PH1 and swimming around PH2 (Figure 11). One was seen at Bonneville last year, the other had been seen briefly below Bonneville this year on just one day. The states will put a trap upstream soon

It is interesting that we had the latest arrival date for CSL seen since 2004, however, for the 19 CSL seen for the first time last year and returning this year, all arrived earlier than last year (mean 25 days earlier, range 4-71 days). This indicates to me that we may have begun the process all over again with a new group of CSL, where they begin to arrive earlier and earlier every year as they now know Bonneville is an easy location to catch salmonids.

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

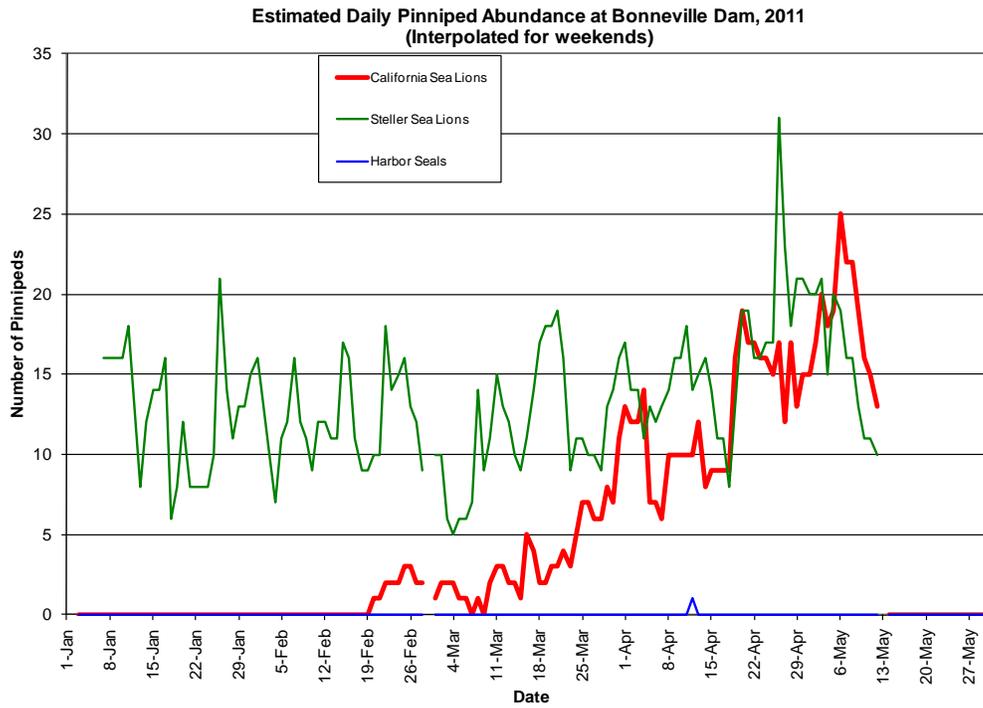


Figure 2. Average daily presence of pinnipeds, by species, to date (April 28) for each year at Bonneville Dam.

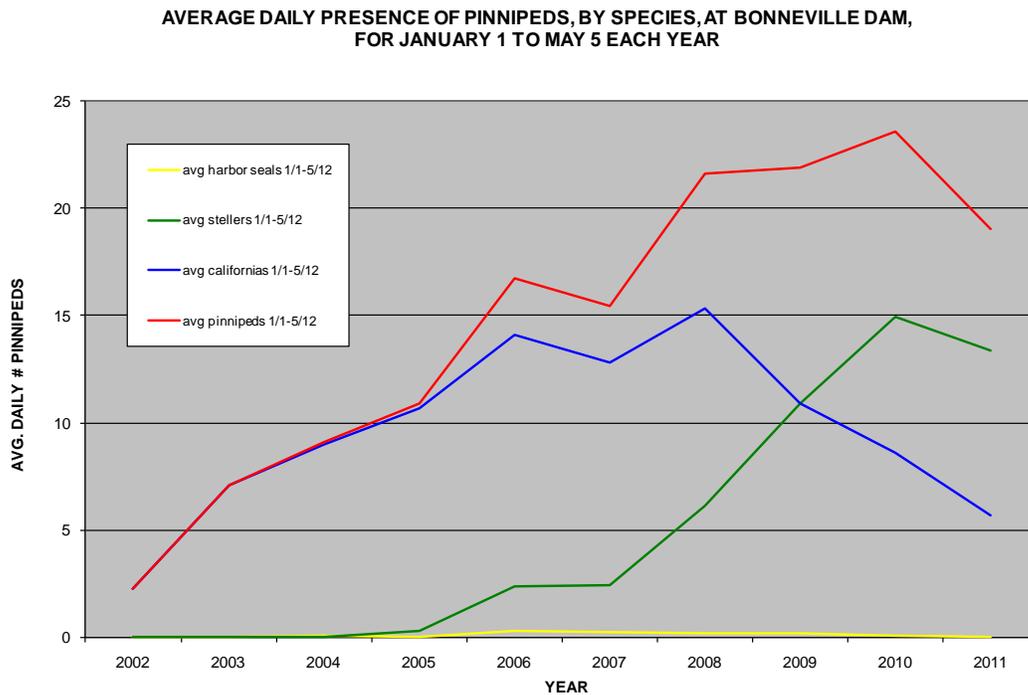


Figure 3. Major prey species taken by CSL and SSL and harbor seals, 2011.

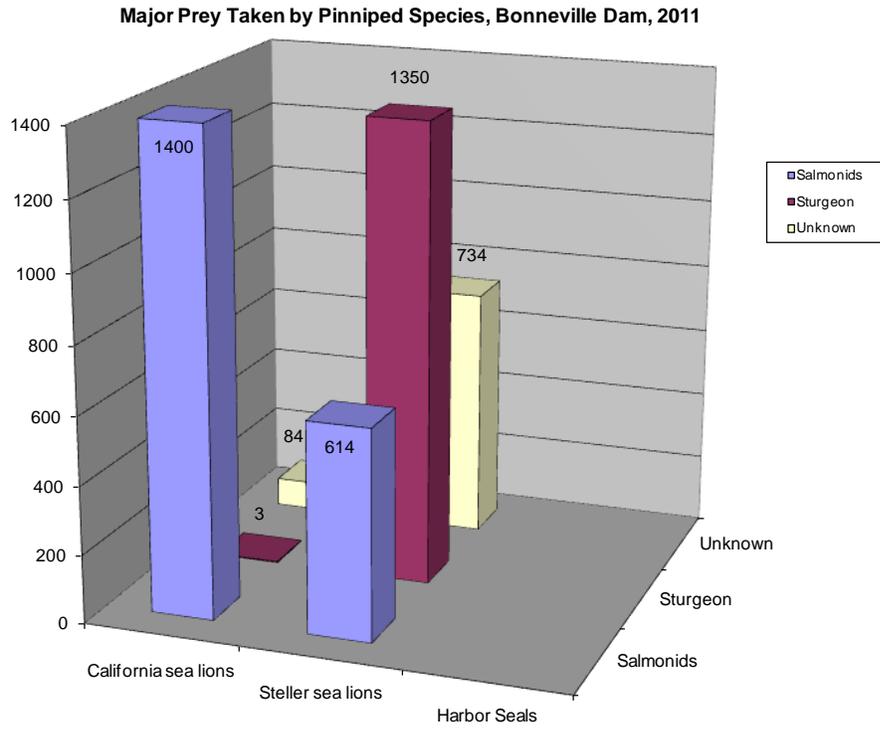


Figure 4. Daily cumulative sturgeon catch (interpolated for weekends) at Bonneville Dam, 2006-2011.

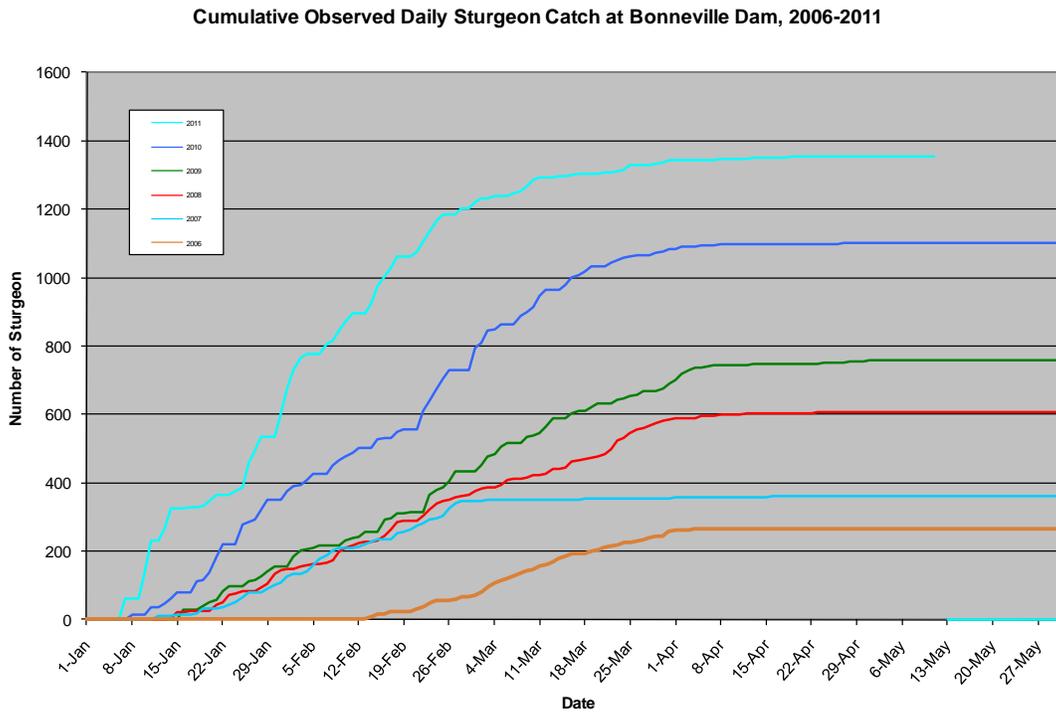


Figure 5. Daily cumulative salmonid catch (interpolated for weekends) at Bonneville Dam, 2006-2011.

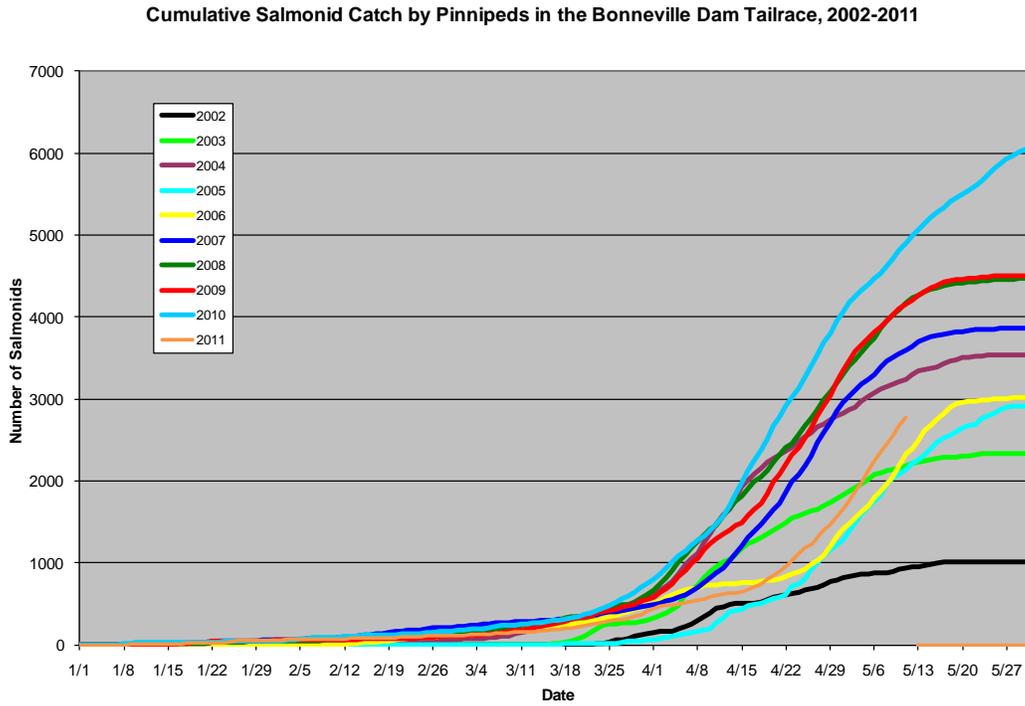


Figure 6. Daily pinniped predation estimates on salmonids for 2011 compared to daily salmonid predation estimates by pinnipeds from 2002-2010.

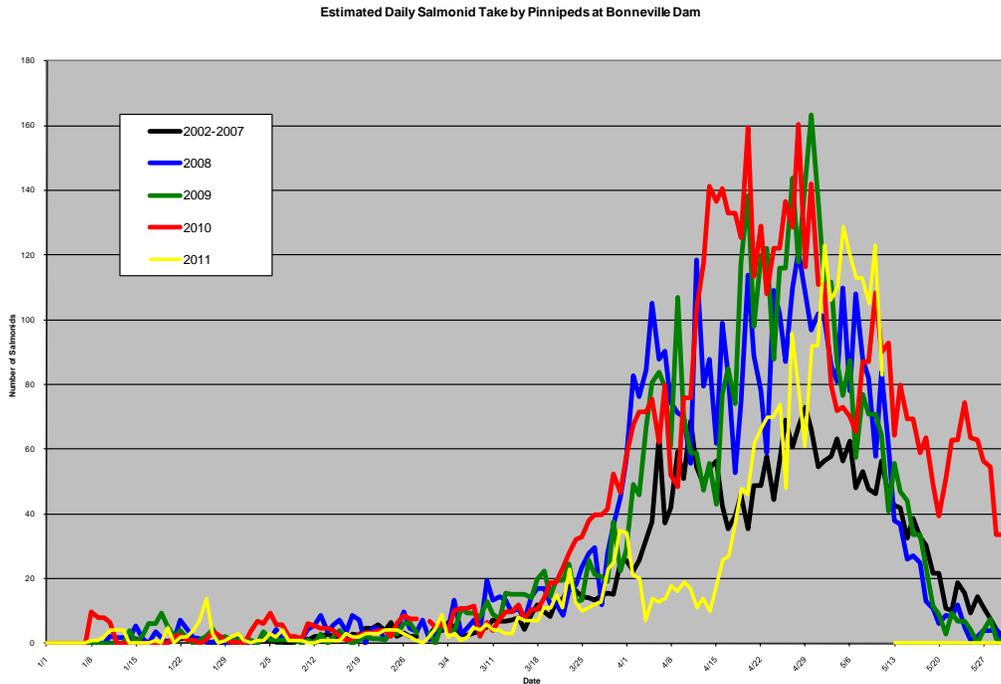


Figure 7. Daily salmonid count for Bonneville Dam, January 1, 2011 to present.

Daily Passage of Salmonids at Bonneville Dam, 2011

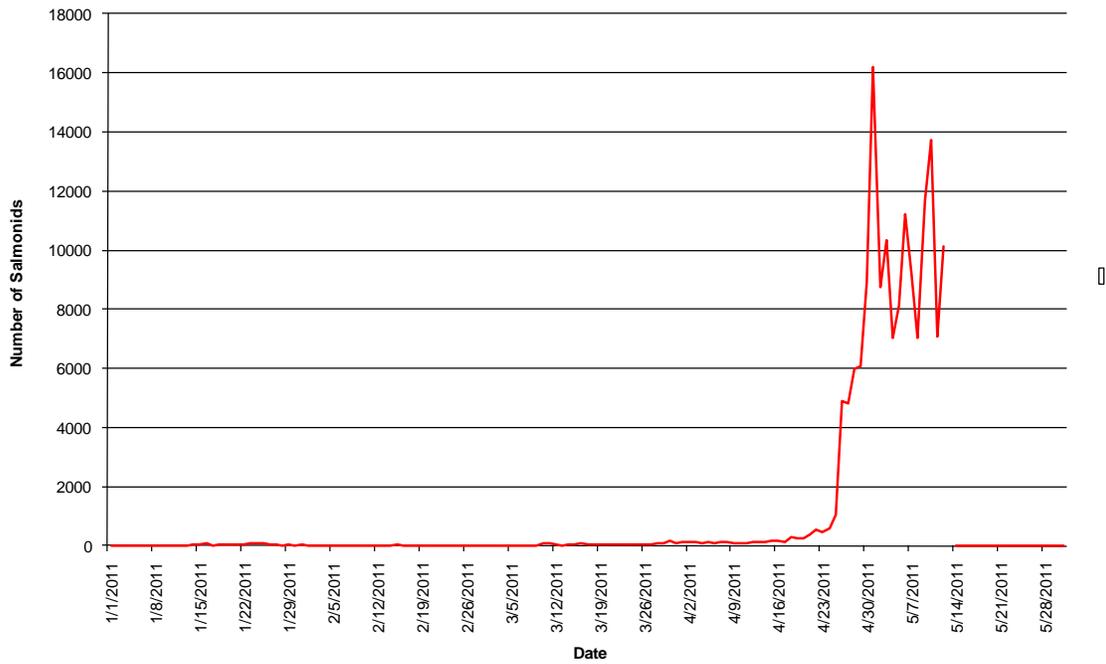


Figure 8. Cumulative salmonid passage for Bonneville Dam from January 1 to present, for the years 2002-2011.

Cumulative Salmonid Counts for Bonneville Dam, 2002-2011

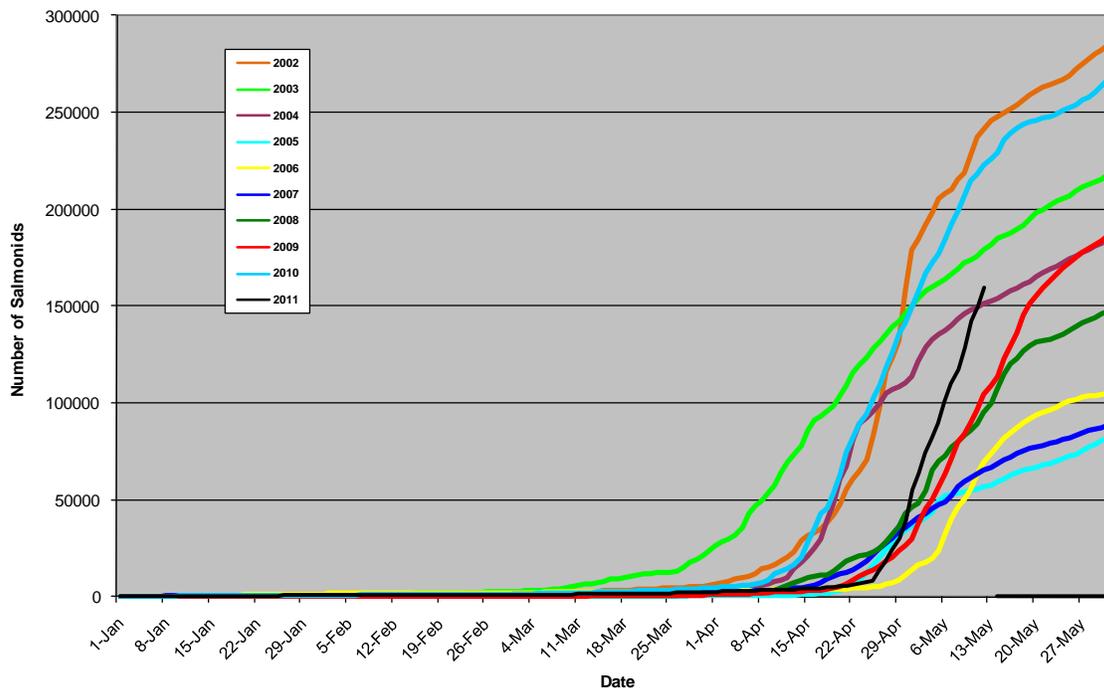


Figure 9. Daily CSL abundance at Bonneville Dam, 2003-2011.

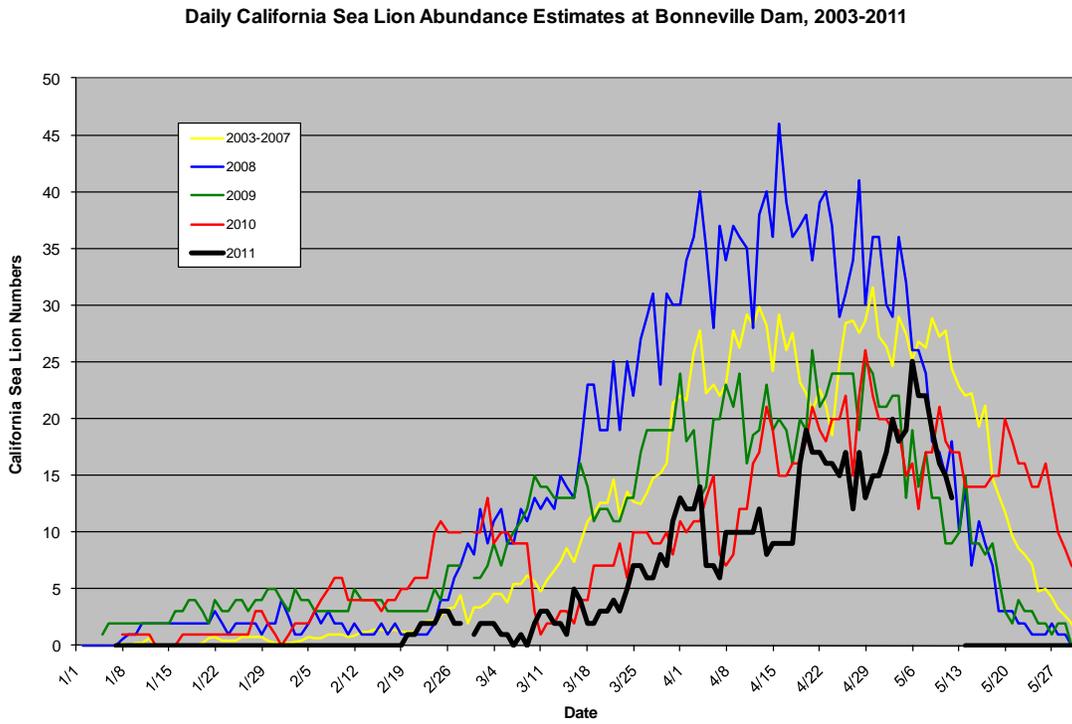


Figure 10. Daily SSL abundance at Bonneville Dam, 2003-2011.

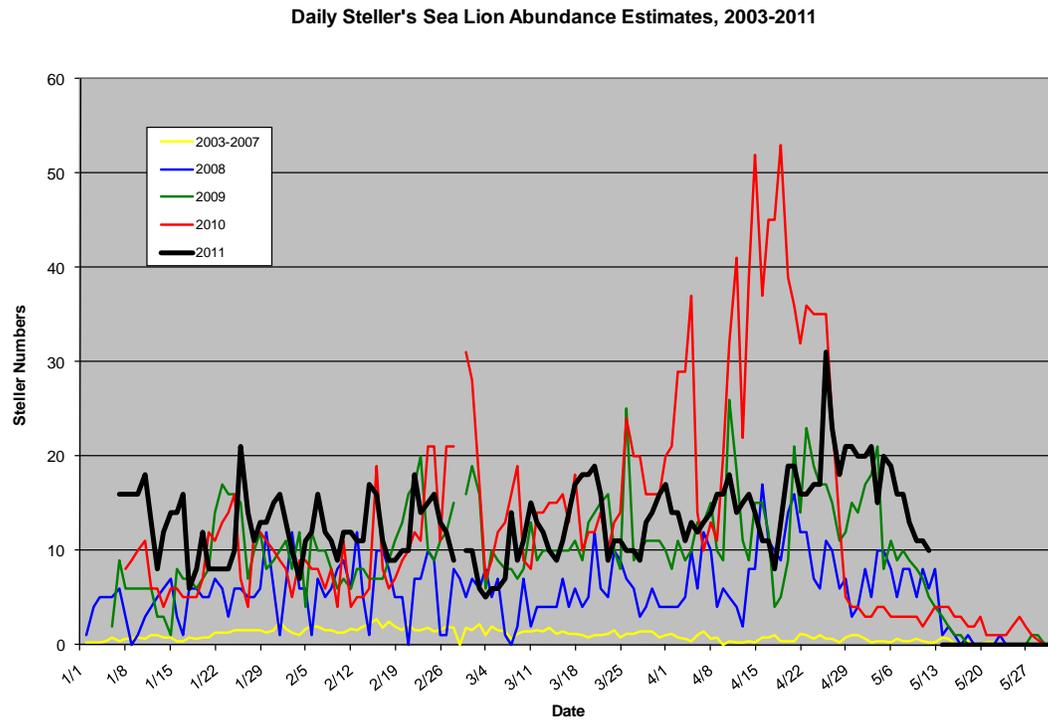


Figure 11. Two California sea lion resting on log booms in the forebay of PH1, Bonneville Dam, May 11,2011.

