

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

Robert Stansell, Bjorn van der Leeuw, and Karrie Gibbons - (541) 374-8801

Fisheries Field Unit
U.S. Army Corps of Engineers
Bonneville Lock and Dam
Cascade Locks, OR 97014

May 27, 2011

This is the 16th and final weekly status report for 2011 and summarizes all pinniped predation monitoring and deterrent activities at Bonneville Dam from January 1 through May 26, 2011 (unless otherwise noted). May 27 is the final day of full observational coverage, but we will be spot observing over the next few weeks to check for the presence of any remaining sea lions. This report and earlier reports can be found at:

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 remained around three this past week (although not always the same three individuals) and it appears the Steller sea lions (*Eumetopias jubatus* - SSL) have virtually left for the season. We did not see the large influx of new younger CSL mid- to late May as we did last year. 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). The final figures will likely change a bit as we begin reviewing data and video taken during the year.

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 | 1483 | 521 | 2004 |
| Steelhead | 62 | 114 | 176 |
| Sturgeon | 3 | 1350 | 1353 |
| Lamprey | 13 | 2 | 15 |
| Shad | 3 | 90 | 93 |
| Smolt | 5 | 1 | 6 |
| Other | 0 | 2 | 2 |
| Unknown | 95 | 738 | 833 |

CSL predation was very low all this past 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 made over 205,000 as of yesterday (Figure 7). The salmonid passage to date is the 3rd highest since 2002 (Figure 8). Total salmonid catch to date (3,019 expanded by interpolating for weekends) dropped way off this past week (only 9 Chinook observed taken) and it looks like the expanded estimated predation on salmonids will be around 3,100 (adjusted estimates accounting for unknown fish and night counts will be higher) (Figures 5 and 6). This will end up being about 1.4% of the January 1 through May 31 salmonid run. 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%). No additional cleptoparasitism events were observed last week beyond the 177 already reported (all but two by SSL), and that 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 last week (C018). One CSL might still remain above Bonneville dam, although we did not observe it for the past three days.

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

There was still some CSL activity up in Tanner Creek this week, with one or more CSL being hazed out before a 26 March Bonneville Hatchery release.

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

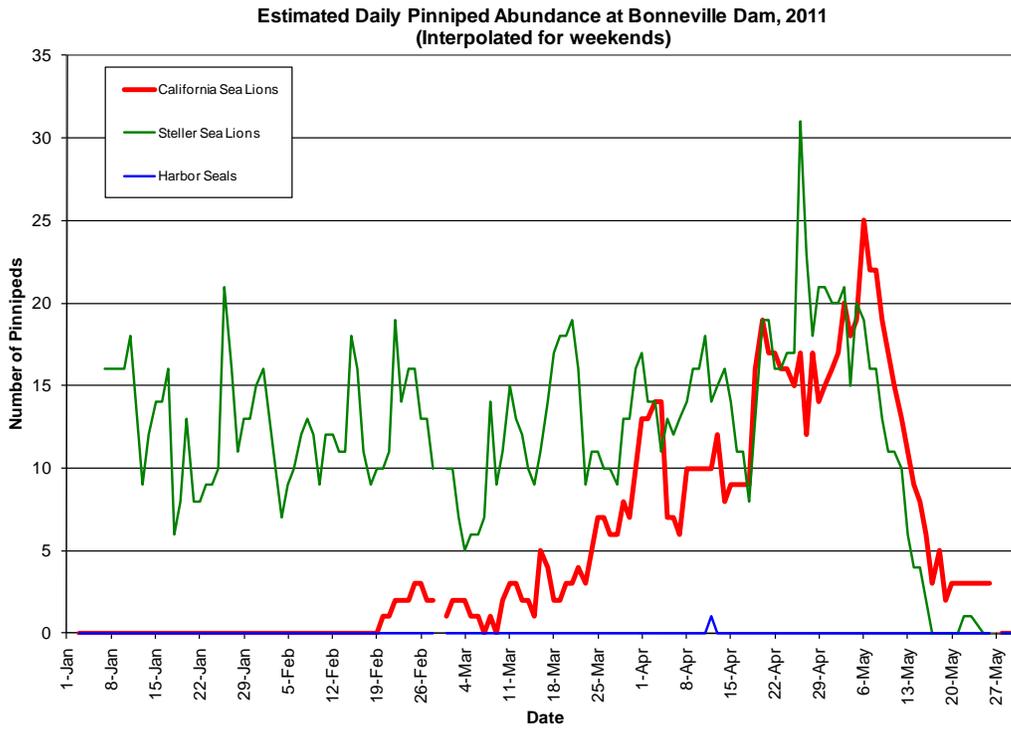


Figure 2. Average daily presence of pinnipeds, by species, to date (May 26) for each year at Bonneville Dam.

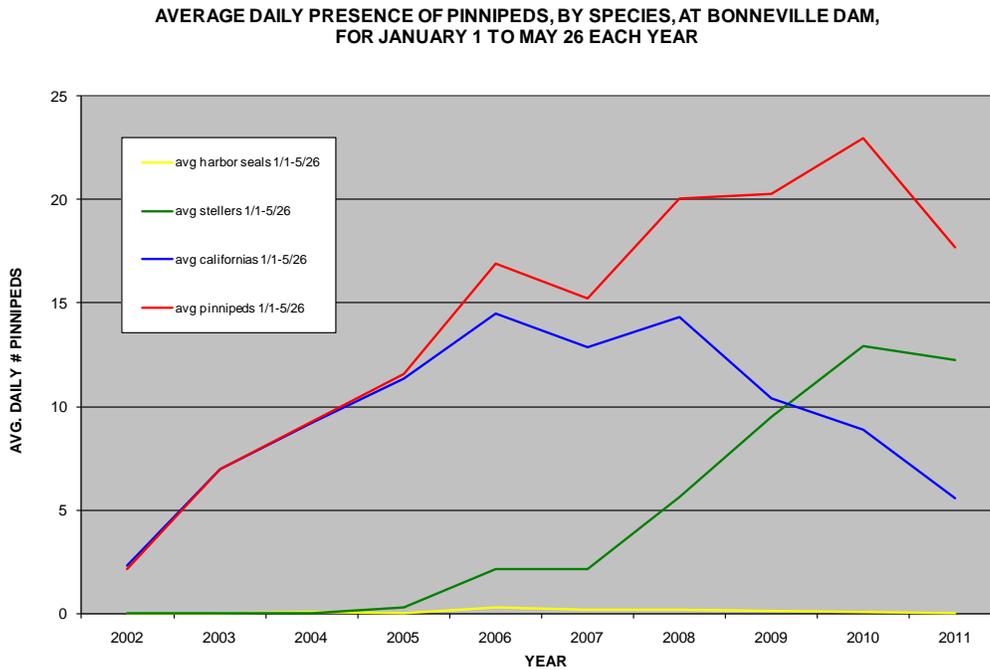


Figure 3. Major prey species taken by CSL and SSL and harbor seals, 2011.

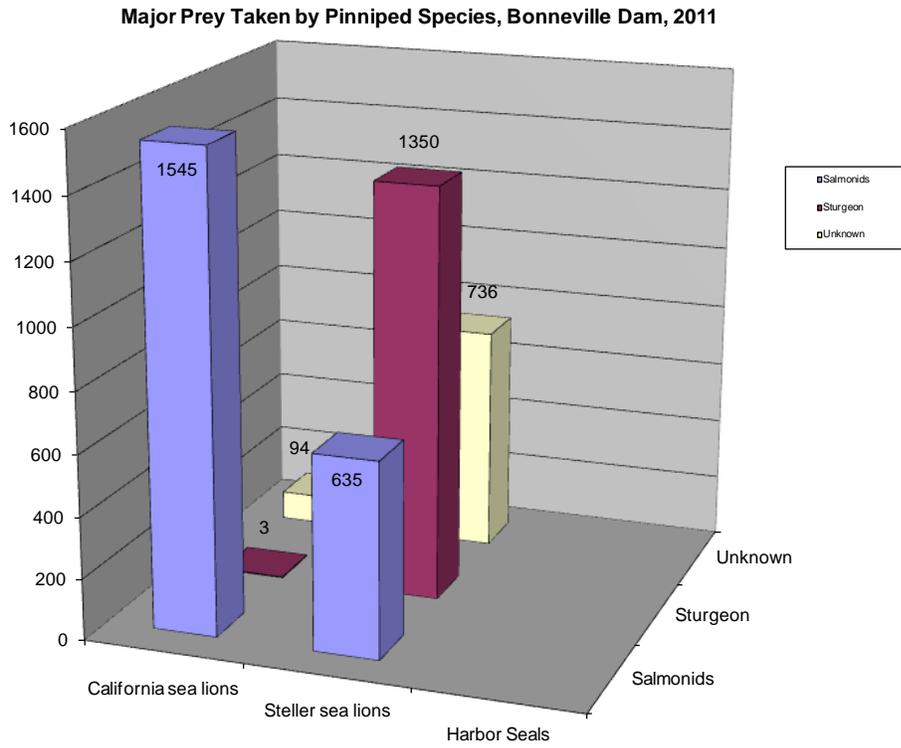


Figure 4. Daily cumulative sturgeon catch (interpolated for weekends) at Bonneville Dam, 2006-2011.

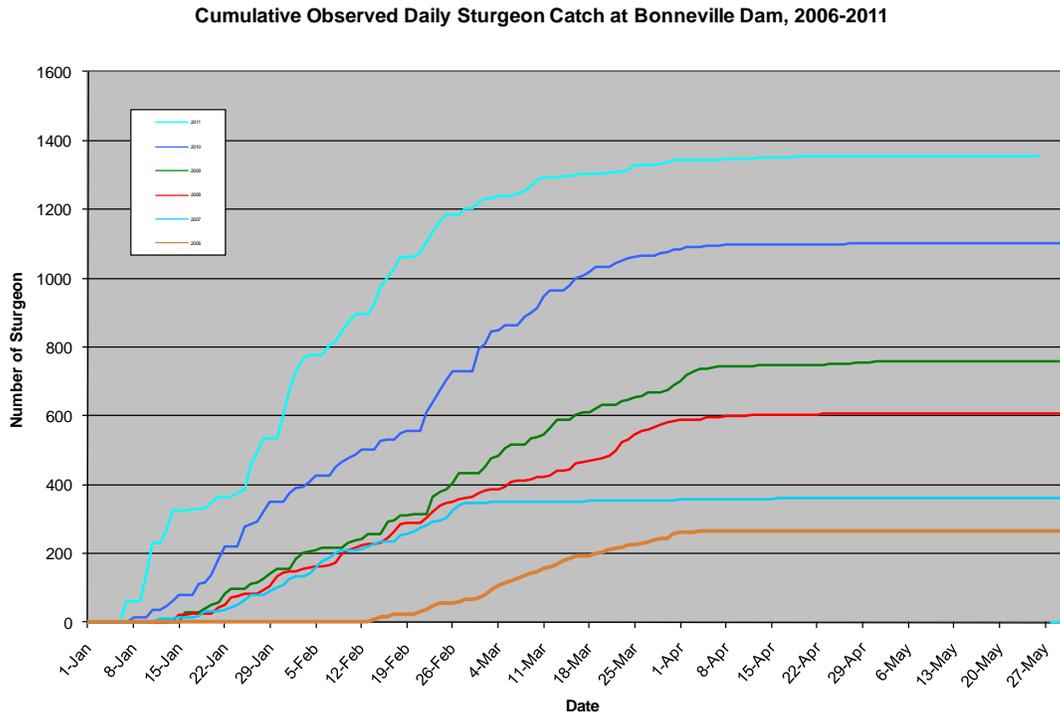


Figure 5. Daily cumulative salmonid catch (interpolated for weekends) at Bonneville Dam, 2006-2011.

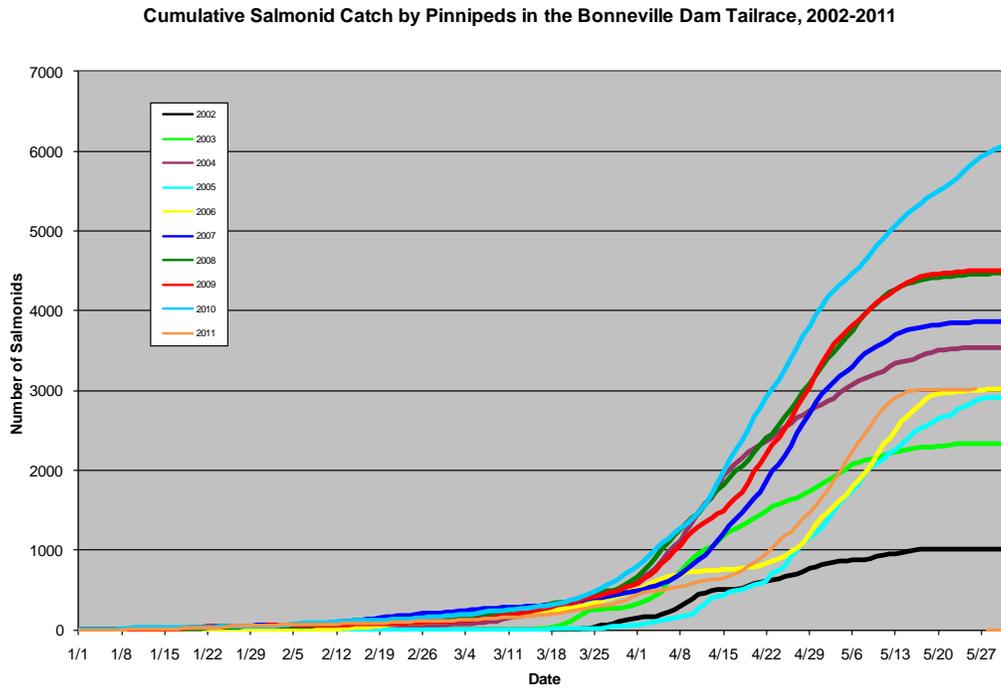


Figure 6. Daily pinniped predation estimates on salmonids for 2011 compared to daily salmonid predation estimates by pinnipeds from 2002-2010.

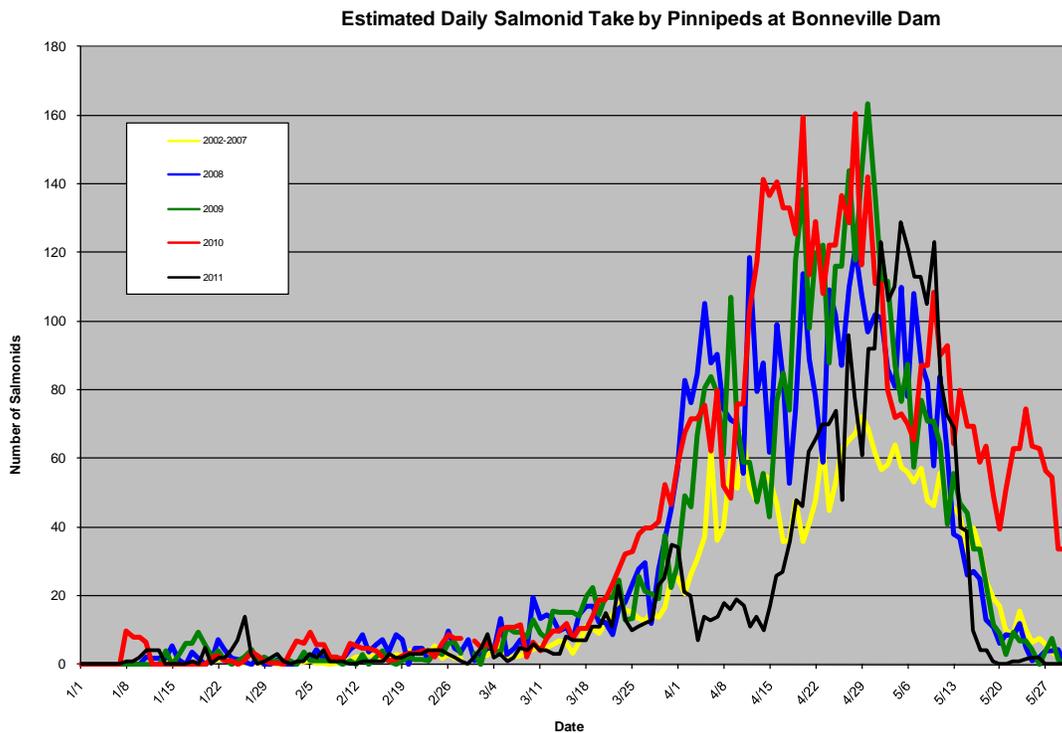


Figure 9. Daily CSL abundance at Bonneville Dam, 2002-2011.

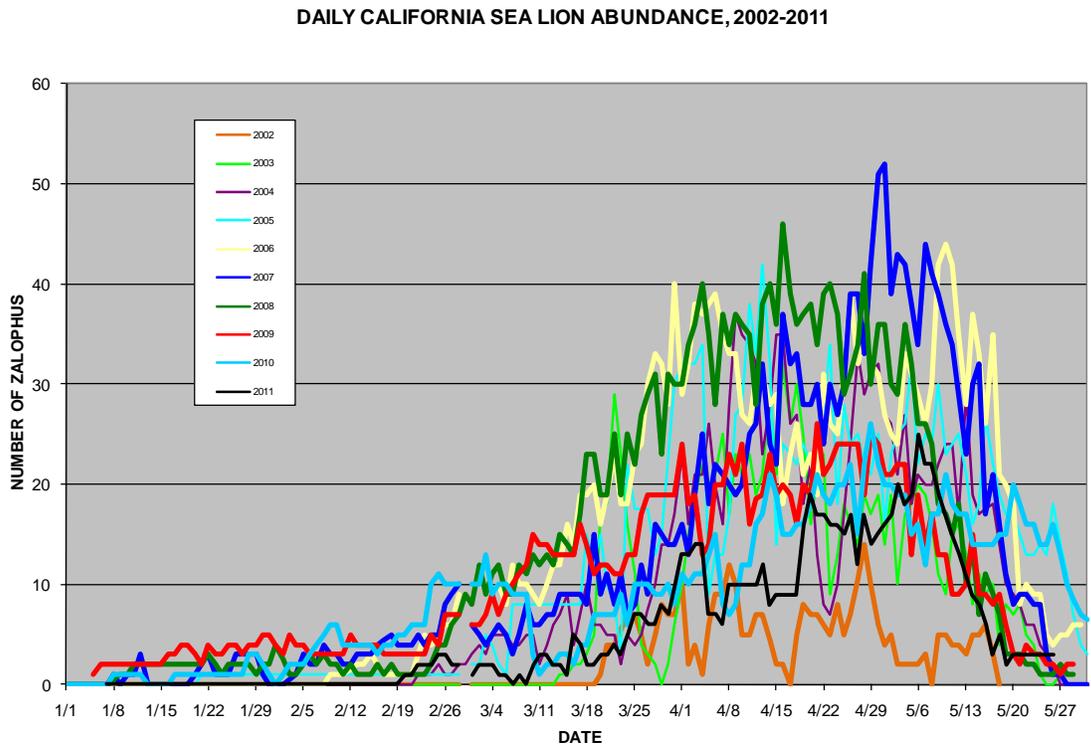


Figure 10. Daily SSL abundance at Bonneville Dam, 2002-2011.

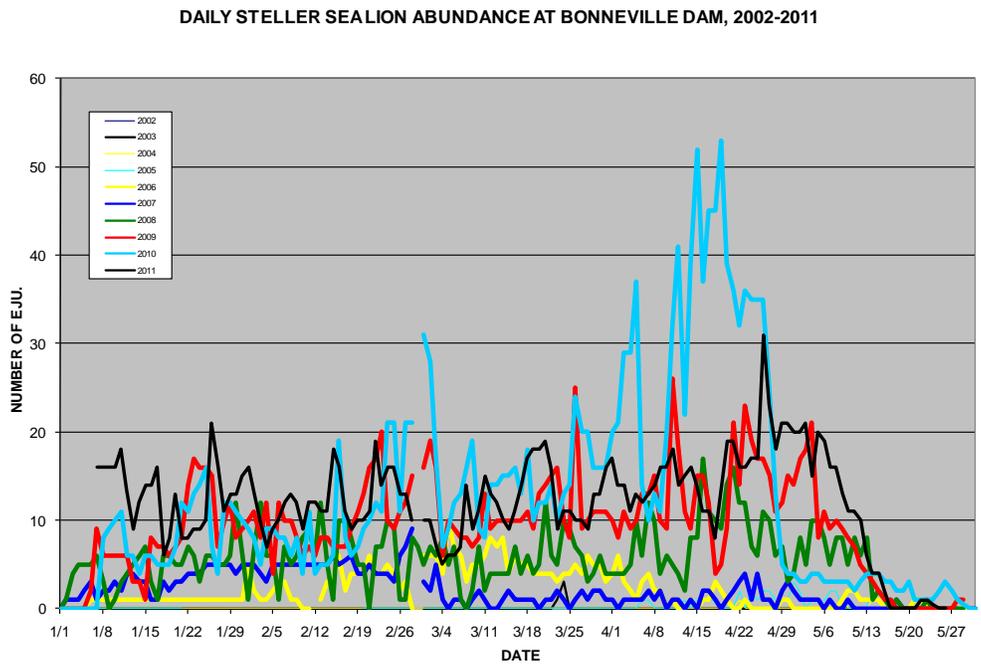


Figure 11. Distribution of prey taken by Pinnipeds by location at Bonneville Dam.
Location of Major Prey Taken by Pinnipeds, Bonneville Dam, 2011

