

**From:** Stansell, Robert J NWP  
**Sent:** Thursday, March 06, 2014 3:52 PM  
**Subject:** First bi-weekly sea lion report from Bonneville

All,

It has been a very slow start to the 2014 pinniped predation season at Bonneville Dam. Let's keep our fingers crossed it stays that way. Fewer Steller sea lions present than the past 3 years and the fewest number of salmonids consumed to this point since 2003. Few sturgeon predations as well, and the fall sturgeon predation estimate was lower than the previous 2 years, however, fall salmonid predation was up (likely due to the large run size and many salmonids being present later in the season).

I plan on submitting this report every other week as things likely won't have changed much after just one week. Let me know if any of you wish to be taken off the email list. Thanks

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# STATUS REPORT - PINNIPED PREDATION AND DETERRENT ACTIVITIES AT BONNEVILLE DAM, 2014

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This is the first status report (**now to be every other week rather than weekly**) for 2014 and summarizes all pinniped predation monitoring and deterrent activities at Bonneville Dam from January 1 through March 5, 2014 (unless otherwise noted). Regular daylight observations began January 9 and will continue through the end of May, five days per week excluding holidays. Final predation estimates will be expanded for hours and days not observed, adjusted for “unknown” prey species take, and a night time predation factor applies at the end of the observation season and those updated figures will be presented in our annual field report. This report can be found at:

<http://www.nwd-wc.usace.army.mil/tmt/documents/fish/>.

## 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 2014 evaluation will be available in the fall of this year.*

### PINNIPED ABUNDANCE

Two California sea lions (*Zalophus californianus* – CSL) have been seen at Bonneville so far this year (Figure 1), although only briefly on two separate days. Steller sea lions (*Eumetopias jubatus* - SSL) are much less abundant than the past two years (figures 1 and 2) averaging half of what were seen the past three years. The maximum number of SSL seen any day so far this year was 12 (Figure 1). We have documented approximately 21 different SSL’s visiting the dam so far. All but 2 of the SSL have been confirmed as seen in past years, although there may be some new individuals we have not confirmed yet.

Few SSL have been observed hauling out anywhere on the project so far this winter. The traps have been closed since early January.

## **PREDATION DATA**

Unexpanded numbers for fish observed taken in the Bonneville Dam tailrace for 2014 (through March 6) are:

<i>Prey</i>	<i>California Sea Lions</i>	<i>Steller Sea Lions</i>	<i>Total</i>
<b>Chinook</b>	0	1	1
<b>Steelhead</b>	0	24	24
<b>Sturgeon</b>	0	48	48
<b>Lamprey</b>	0	0	0
<b>Shad</b>	0	2	2
<b>Smolt</b>	0	0	0
<b>Other</b>	0	0	0
<b>Unknown</b>	0	18	18

Most sturgeon were caught in the powerhouse 2 tailrace, followed by the spillway, while relatively few are caught at powerhouse 1 (Figure 3). Estimated sturgeon catch (expanded for weekends only) is the lowest seen since we began recording in 2006 (Figure 4), most having been taken in the 2 to 4 foot range. Few fish are passing the count stations (276 steelhead and 5 Chinook) from January 1 through March 4, lower than the last three years. Total salmonid catch through March 6 (38 expanded by interpolating for weekends) is fewer than all previous years (2013 – 62, 2012 – 135, 2011 – 149, 2010 – 213, 2009 – 133, 2008 – 185, 2007 – 297, 2006 - 160), all by Steller sea lions. Prior to 2006, almost no salmonids were observed caught before March.

## **DETERRENTS/TRAPPING**

Hazing by USDA (land) began on March 1 and will continue until the end of May, seven days a week. CRITFC will begin hazing from boats March 10.

SLED's were installed at the PH2 and Cascades Island main entrances on February 13. B-branch entrance SLED's were installed February 24 and PH1 SLED's on February 25.

The states have not conducted any trapping and do not plan to until California sea lions show up in bigger numbers.

## **OTHER ITEMS OF INTEREST**

We observed SSL and CSL predation on late fall salmonid species and sturgeon beginning mid-September last year (previous years began early October). The observation schedule was less rigorous than we currently have in place for the January through May season, however, it is sufficient to give us a good estimate of predation during the late fall/winter time frame (observed 536 hours in 2013, 345 hours in 2012, 315 hours in 2011). Many more salmonids were consumed in 2013 compared to 2011 or 2012 (Table 1), but many more salmonids passed the dam in 2013 as well (115,944 in 2013 compared to 60,715 in 2012 and 83,542 in 2011).

Adjusted estimate of salmonid predation was 1.0% of salmonids passing in 2013, an increase from the 0.6% for the previous two years. Sturgeon predation was less this past fall than seen in either 2011 or 2012 (Table 1 and Figure 5). We were able to identify 27 SSL individuals, three CSL individuals, and one harbor seal in the fall/winter 2013.

<b>FALL-WINTER STELLER PREDATION</b>				<b>FALL-WINTER CALIFORNIA PREDATION</b>			
	<u>2011</u>	<u>2012</u>	<u>2013</u>		<u>2011</u>	<u>2012</u>	<u>2013</u>
<b>Chinook</b>	317	95	976	<b>Chinook</b>	0	10	5
<b>Steelhead</b>	187	165	77	<b>Steelhead</b>	0	19	0
<b>Coho</b>	20	85	101	<b>Coho</b>	0	9	0
<b>Chum</b>	4	6	0	<b>Chum</b>	0	0	0
<b>Total Salmonids</b>	527	351	1154	<b>Total Salmonids</b>	0	38	5
<b>Sturgeon</b>	828	456	307	<b>Sturgeon</b>	0	0	0
<b>Lamprey</b>	8	17	2	<b>Lamprey</b>	0	0	0
<b>Shad</b>	19	12	7	<b>Shad</b>	0	0	0
<b>Smolt</b>	3	0	0	<b>Smolt</b>	0	0	0
<b>Carp</b>	10	8	10	<b>Carp</b>	0	0	0
<b>Sucker</b>	0	2	4	<b>Sucker</b>	0	0	0
<b>Bass</b>	0	2	3	<b>Bass</b>	0	0	0
<b>Pikeminnow</b>	0	2	0	<b>Pikeminnow</b>	0	0	0
<b>Other</b>	4	19	10	<b>Other</b>	0	0	0

Table 1. Adjusted estimates of prey taken by SSL and CSL between October 1 and December 31 at Bonneville Dam tailrace, 2011, 2012 and 2013.

The later portion of the fall salmonid runs are being disproportionately impacted by pinniped predation (figures 6 and 7) just as we have seen with the early portion of the spring Chinook run. The percentage of the run taken increases as the season progresses in the late fall, whereas in the spring, the opposite pattern is seen. If this coming year's fall Chinook and coho runs are as large as predicted, there could be a corresponding increase in predation seen by SSL.

CSL sightings upstream of Bonneville Dam between June 1 and December 31, 2013 were common and varied in location. This is comprised of three or possibly four CSL (B325, C014, and U95 have been confirmed). B325 has been upstream of Bonneville Dam since mid-April of 2011.

Figure 1. Daily pinniped abundance, by species, at Bonneville Dam, 2014.

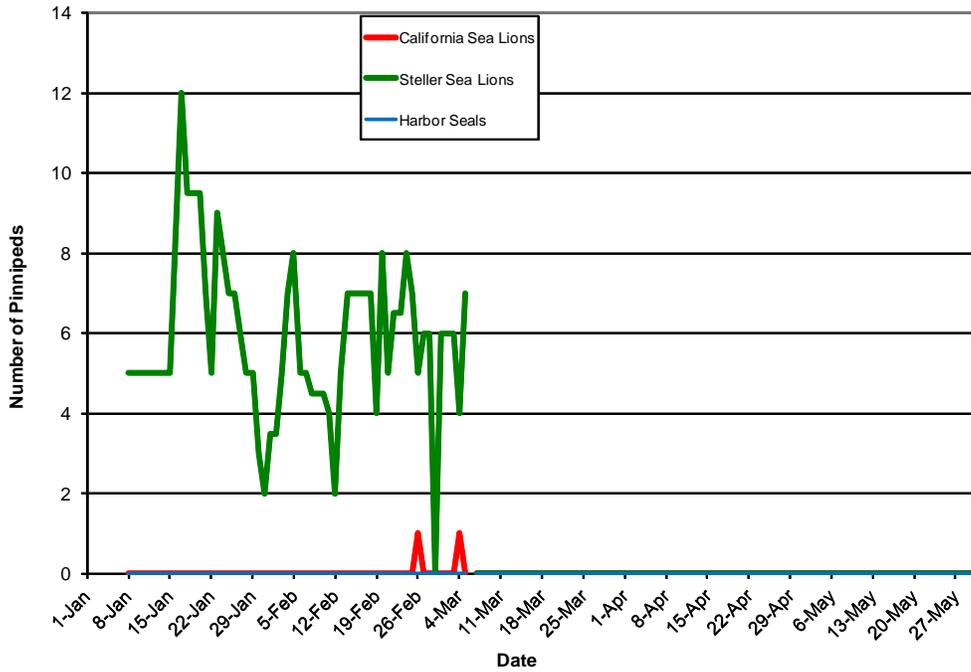


Figure 2. Average daily presence of pinnipeds, by species, to date (March 5) for each year at Bonneville Dam.

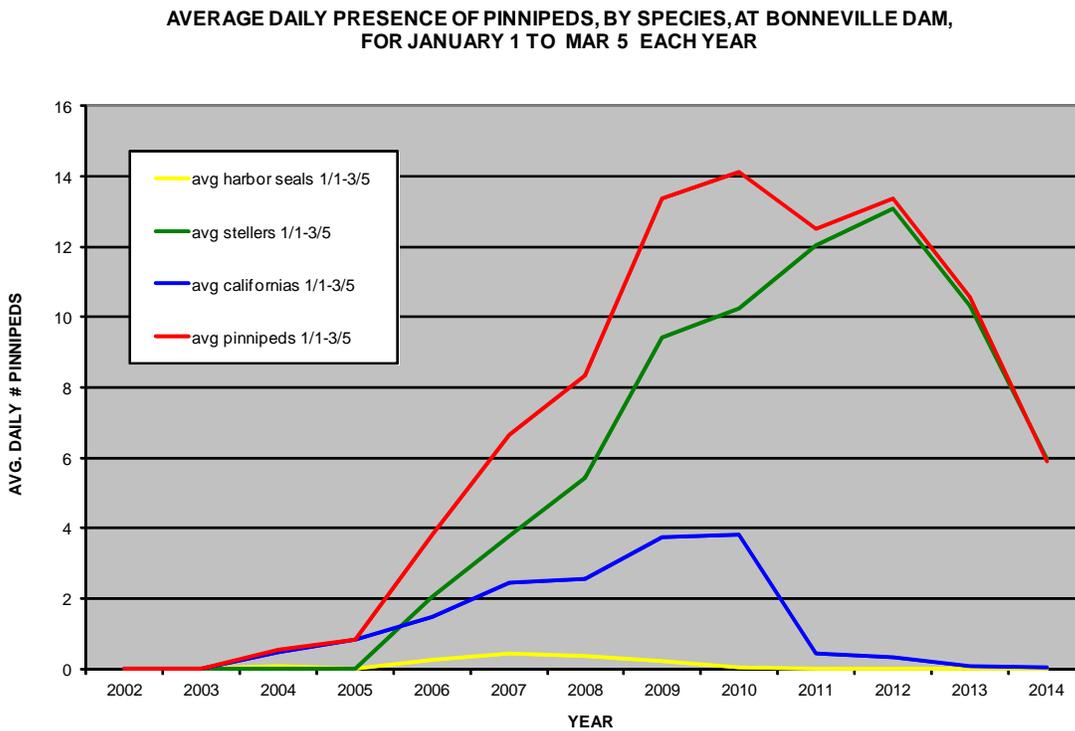


Figure 3. Distribution of prey taken by Pinnipeds by location at Bonneville Dam, through March 5, 2014.

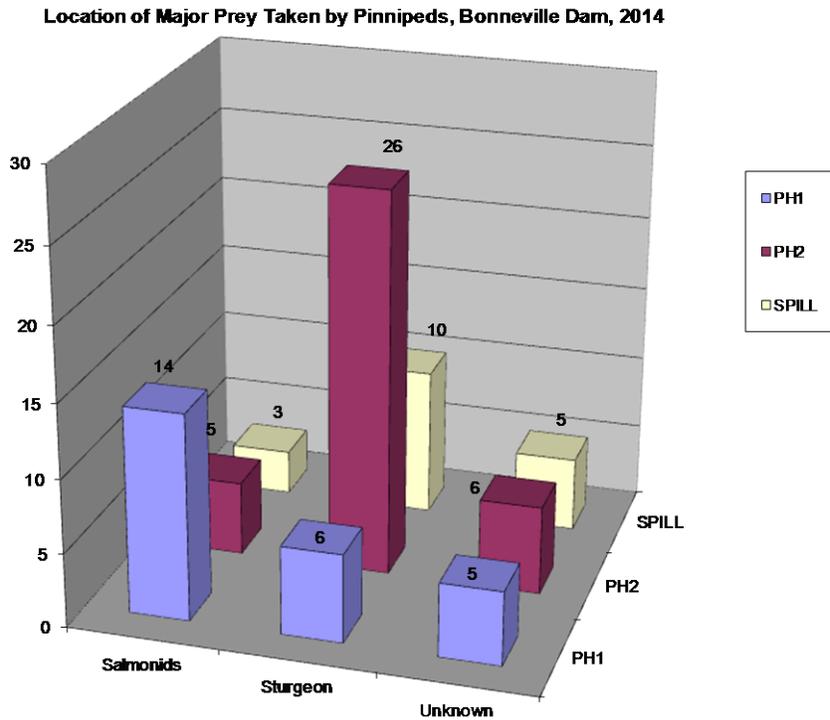


Figure 4. Daily cumulative sturgeon catch (interpolated for weekends) at Bonneville Dam, 2006-2014.

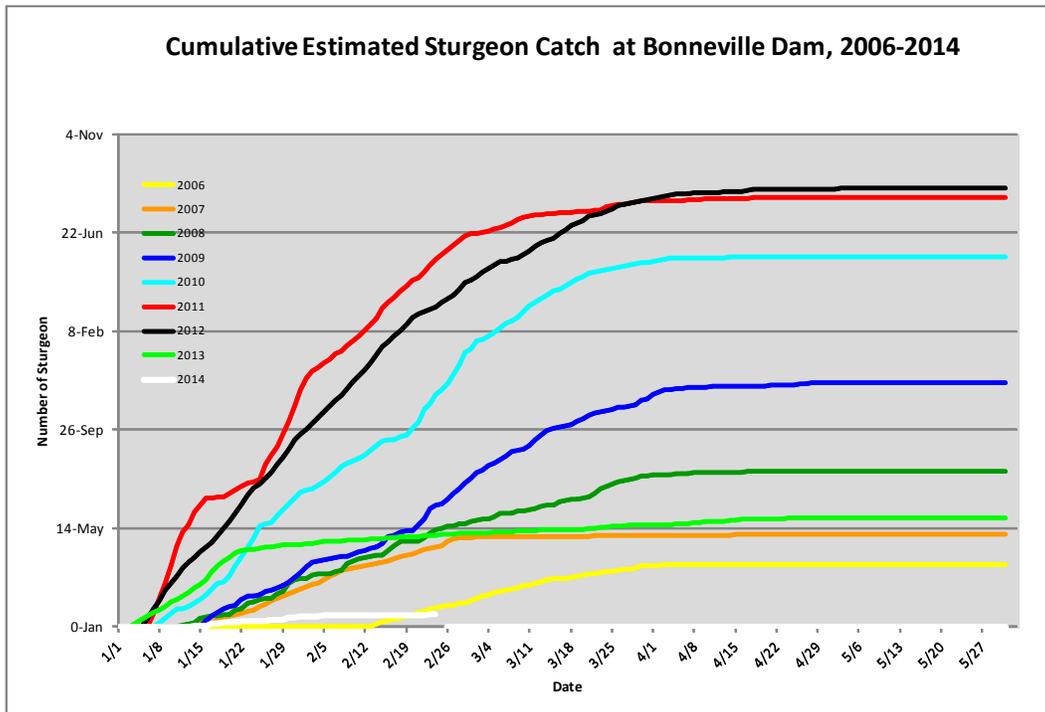


Figure 5. Cumulative adjusted estimate of white sturgeon predation by Pinnipeds at Bonneville Dam, October 1 through December 31, 2011, 2012, and 2013.

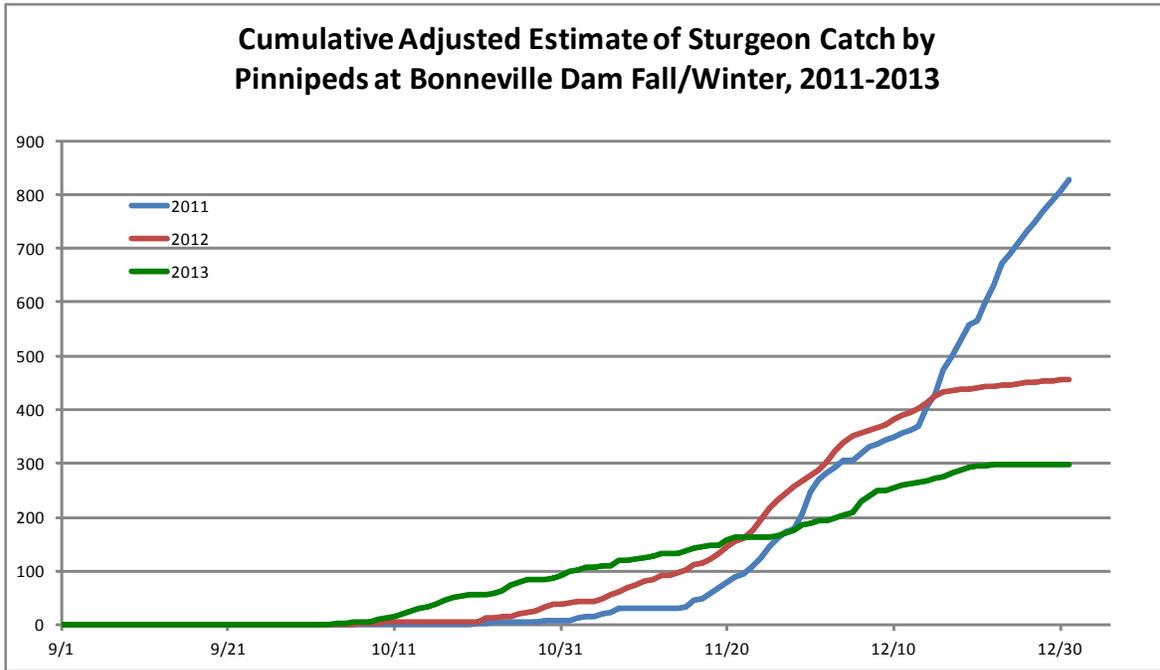


Figure 6. Average percentage of late fall daily salmonid passage taken by pinnipeds and the average cumulative percentage of the passage at Bonneville Dam, 2011 through 2013.

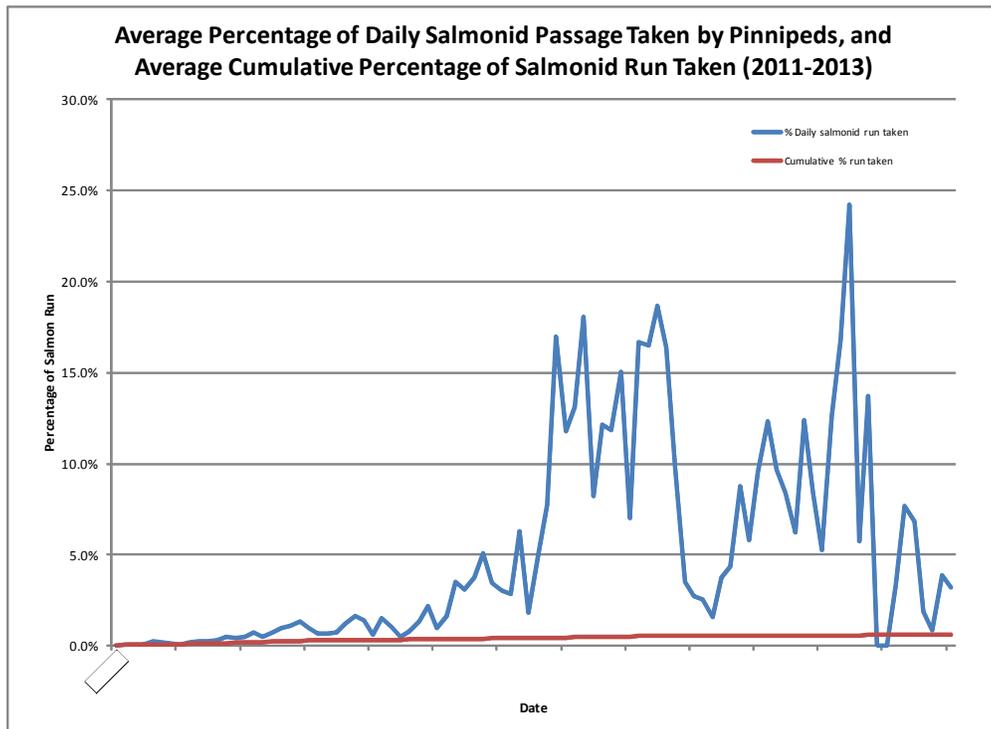


Figure 7. Daily salmonid predation by pinnipeds and salmonid passage in the late fall (averaged 2011-2013).

