

STATUS REPORT - PINNIPED PREDATION AND DETERRENT ACTIVITIES AT BONNEVILLE DAM, 2013

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

February 7, 2013

This is the first weekly status report for 2013 and summarizes all pinniped predation monitoring and deterrent activities at Bonneville Dam from January 1 through February 6, 2013 (unless otherwise noted). Regular daylight observations began January 4 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/2013/>.

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 2013 evaluation will be available in the fall of this year.

PINNIPED ABUNDANCE

California sea lions (*Zalophus californianus* – CSL) have remained scarce so far this year (Figure 1), with only one observed on three separate days. We were unable to identify the CSL, and no predation was observed by any CSL yet. Steller sea lions (*Eumetopias jubatus* - SSL) are just slightly less abundant than the past two years (figures 1 and 2). The maximum number of SSL seen any day so far this year was 21 and only 1 for CSL (Figure 1). We have documented approximately 28 different SSL’s visiting the dam so far. All of the SSL are confirmed as seen in past years, although there may be some new individuals we have not confirmed yet.

A few SSL have been observed hauling out inside the end of the corner collector outfall, but mostly they are resting in the water in large pods in the spillway. The traps have been closed since early January.

PREDATION DATA

Unexpanded numbers for fish observed taken in the Bonneville Dam tailrace for 2013 (through February 6) are:

<i>Prey</i>	<i>California Sea Lions</i>	<i>Steller Sea Lions</i>	<i>Total</i>
Chinook	0	1	1
Steelhead	0	20	20
Sturgeon	0	239	239
Lamprey	0	4	4
Shad	0	64	64
Smolt	0	0	0
Other	0	0	0
Unknown	0	46	46

It is likely that most of the unknown fish caught by Steller sea lions were sturgeon. The Steller sea lions are catching many of the fish at the downstream range of our viewing area, making fish identification very difficult. Most sturgeon have been caught in the spillway tailrace, followed by the powerhouse 2 tailrace, while relatively few are caught at powerhouse 1 (Figure 3). Sturgeon catch (expanded for weekends only) is less than the previous three years at this time (Figure 4), most taken being in the 2 to 4 foot range. Few fish are passing the count stations (225 steelhead and 0 Chinook) from January 1 through February 5, lower than the last three years. Total salmonid catch through February 6 (33 expanded by interpolating for weekends) is fewer than the past six years (2012 – 79, 2011 – 78, 2010 – 80, 2009 – 61, 2008 – 50, 2007 - 70), all by Steller sea lions. Prior to 2006, no salmonids were observed caught by early February.

DETERRENTS/TRAPPING

Hazing by USDA (land) will begin on March 1 and will continue until the end of May, seven days a week. CRITFC will begin hazing from boats March 4.

The states have not conducted any trapping and do not plan to until early March due to funding issues.

OTHER ITEMS OF INTEREST

We observed SSL and CSL predation on late fall salmon species and sturgeon beginning on October 1st last year. 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 345 hours in 2012, 315 hours in 2011). Fewer salmonids were consumed in 2012 compared to 2011 (Table 1), but fewer salmonids passed the dam in 2012 as well (60,715 in 2012; 83,542 in 2011). Adjusted estimate of salmonid predation was 0.6% of salmonids passing for both years. Sturgeon predation was less this past

fall than seen in 2011 (Table 1 and Figure 5). We were able to identify 12 SSL individuals, four CSL individuals, and one harbor seal in 2012.

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

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

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.

CSL sightings upstream of Bonneville Dam between June 1 and December 31, 2012 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, 2013.

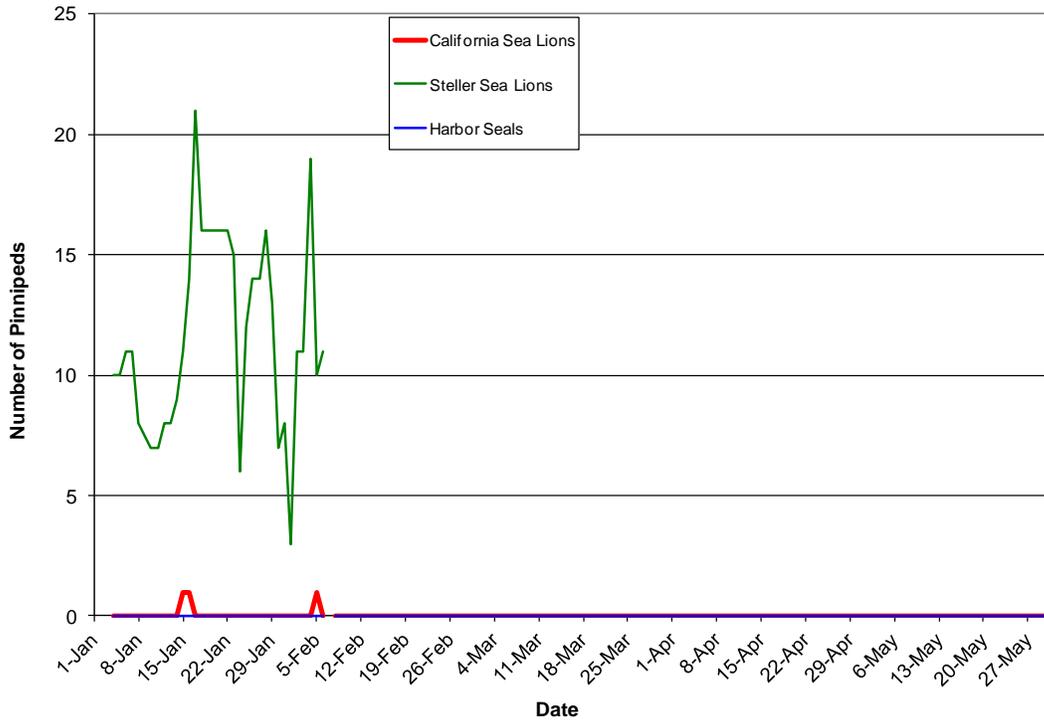


Figure 2. Average daily presence of pinnipeds, by species, to date (February 6) for each year at Bonneville Dam.

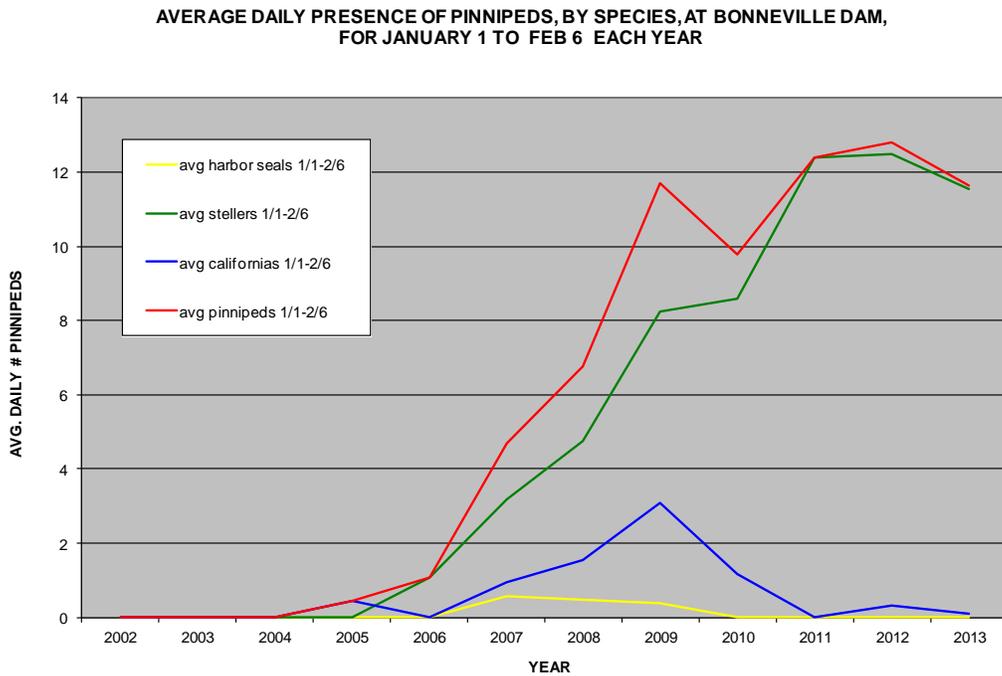


Figure 3. Distribution of prey taken by Pinnipeds by location at Bonneville Dam, through February 6, 2013.

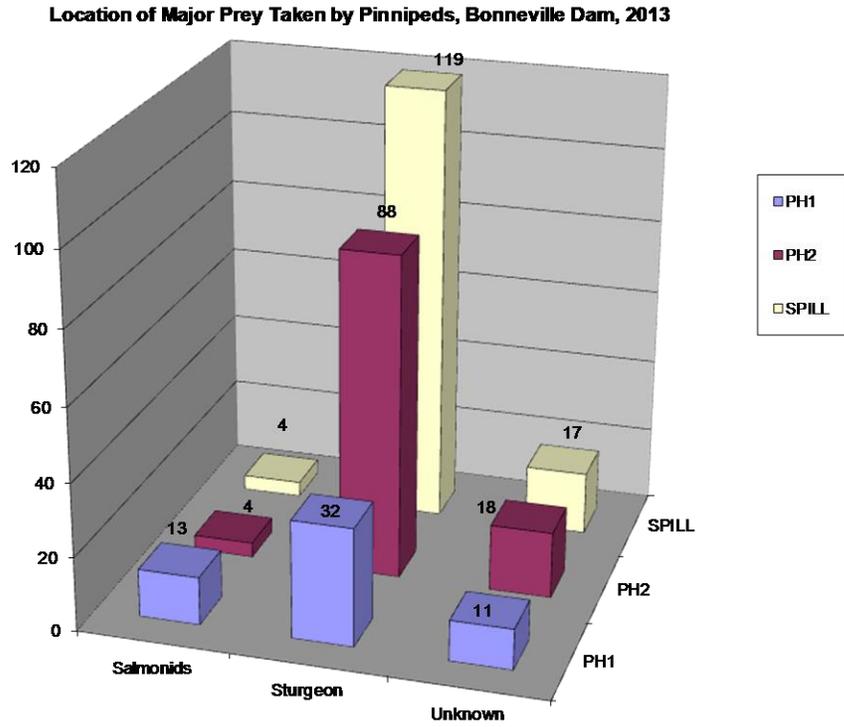


Figure 4. Daily cumulative sturgeon catch (interpolated for weekends) at Bonneville Dam, 2006-2013.

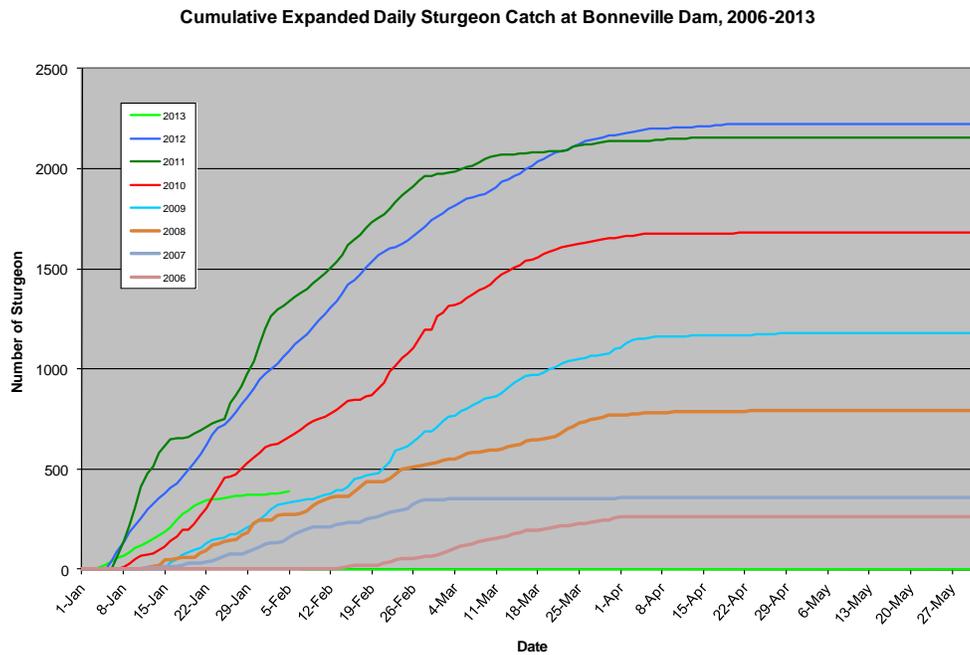


Figure 5. Cumulative adjusted estimate of white sturgeon predation by Pinnipeds at Bonneville Dam, October 1 through December 31, 2011 and 2012.

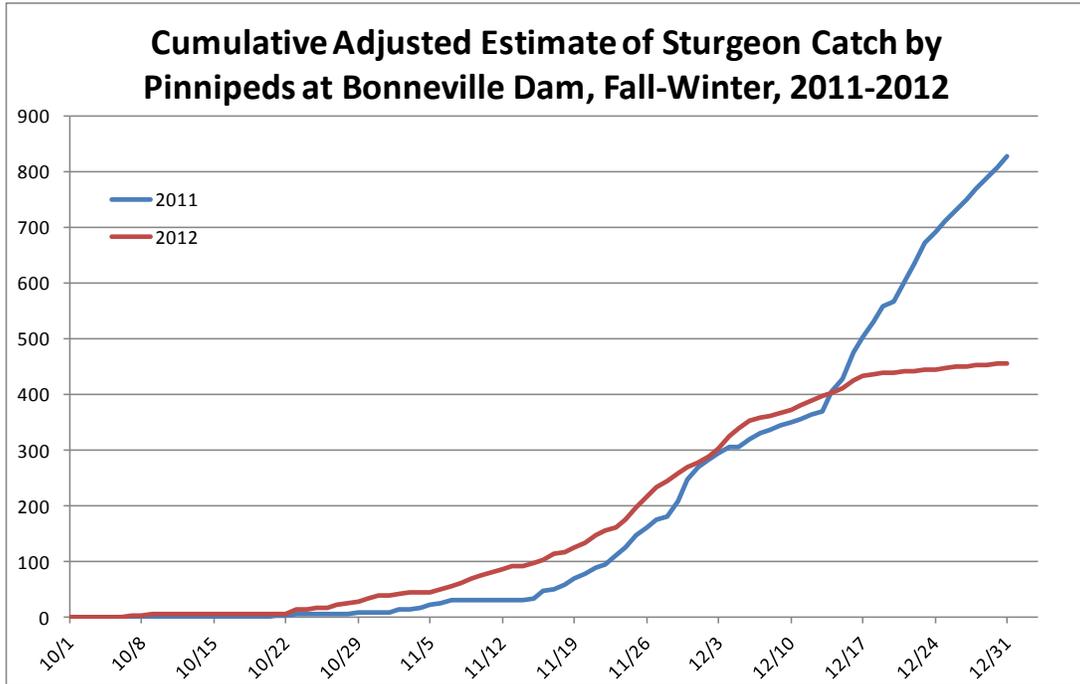


Figure 6. Average percentage of late fall daily salmonid passage taken by pinnipeds and the average cumulative percentage of the passage at Bonneville Dam, 2011 and 2012.

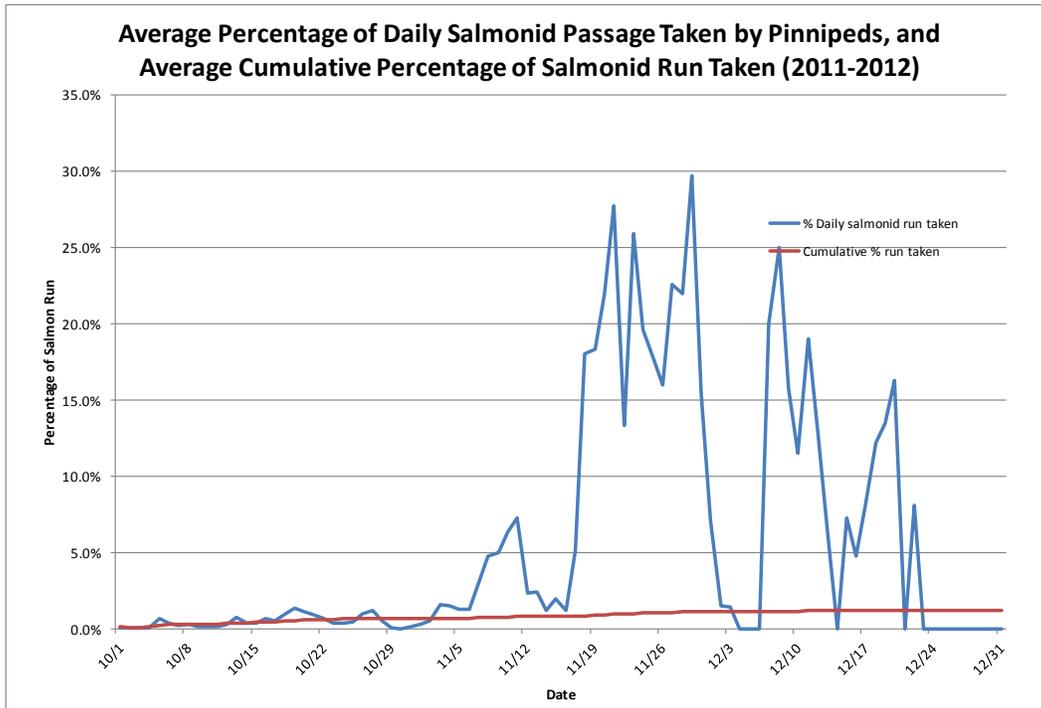


Figure 7. Daily salmonid predation by pinnipeds and salmonid passage in the late fall (averaged 2011-2012).

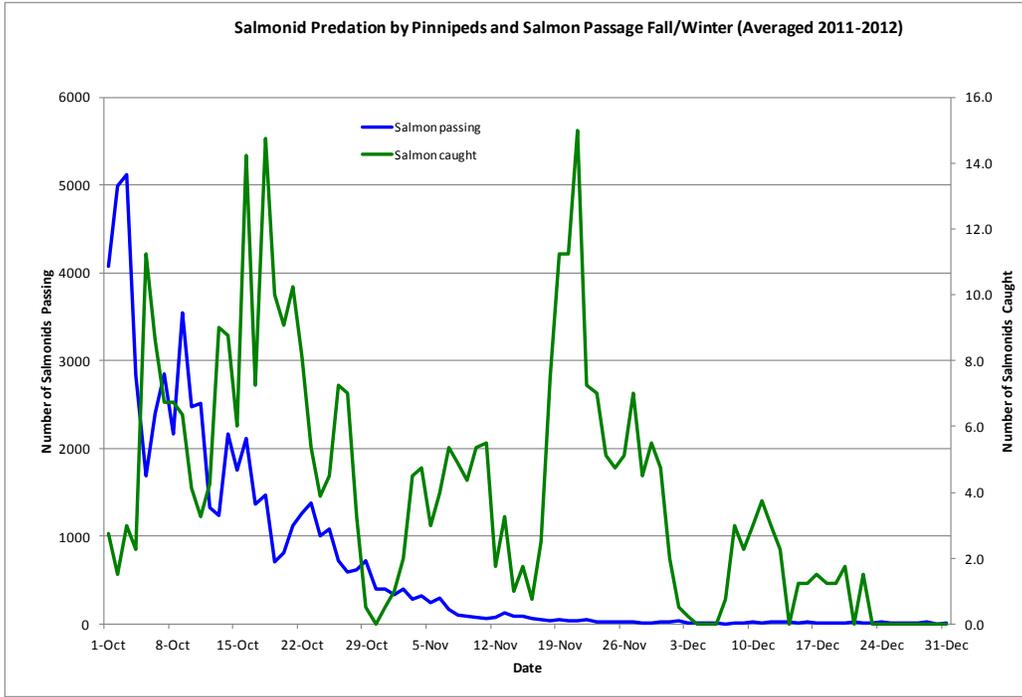


Figure 5. C014 resting on rocks upstream of Bonneville Dam in 2012.

