

STATUS REPORT - PINNIPED PREDATION AND DETERRENT ACTIVITIES AT BONNEVILLE DAM, 2012

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 25, 2012

This is the thirteenth and final weekly status report for 2012 and summarizes all pinniped predation monitoring and deterrent activities at Bonneville Dam from January 1 through May 23, 2012 (unless otherwise noted). Regular daylight observations began January 6 and will continue through the end of May, five days per week excluding holidays. Additional observations will occur at reduced level in June if any sea lions are still present. 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/2012/>.

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 2012 evaluation will be available in the fall of this year.

PINNIPED ABUNDANCE

Stellar sea lions (*Eumetopias jubatus* - SSL) disappeared completely this past week and California sea lions (*Zalophus californianus* – CSL) numbers dropped as well (Figure 1) as spring Chinook passage also began to slow. Average daily SSL numbers are similar to last year (Figure 2). The maximum number of Pinnipeds seen any day this year was 38 (on April 25). The maximum number of SSL seen any day so far this year was 29 and 14 for CSL (Figure 1). Average CSL numbers present per day this year is lower than last year (Figures 2), which is the lowest for CSL since 2002. This is undoubtedly influenced by the removal of several CSL which would otherwise be adding to the daily abundance estimates and by up to four CSL in the forebay. We have documented about 70 different SSL's visiting the dam so far and 40 CSL. At least 34 of the SSL are confirmed as seen in past years, and 25 of the CSL. SSL outnumbered CSL almost every day this year until the past two weeks. Surprisingly, no harbor seals were observed this year at Bonneville Dam.

PREDATION DATA

Unexpanded numbers for fish observed taken in the Bonneville Dam tailrace for 2012 (through May 23) are:

<i>Prey</i>	<i>California Sea Lions</i>	<i>Steller Sea Lions</i>	<i>Total</i>
Chinook	508	498	1006
Steelhead	60	150	210
Sturgeon	0	1341	1341
Lamprey	30	6	36
Shad	3	26	29
Smolt	0	0	0
Other	0	0	0
Unknown	39	284	323

Most Chinook predation has occurred in powerhouse 1 (Figure 3). No sturgeon were caught during the past week. Sturgeon predation, now expanded for all hours and weekends not observed, is more than last years' estimate (Figure 4). However, when adjusted for additional unknown prey taken, the figure is less than last year (2,497 for 2012 and 3,003 for 2011). The Chinook run seems to have slowed considerably, having peaked two weeks ago. To date 5,347 steelhead and 154,313 Chinook have passed the count station windows at Bonneville Dam from January 1 through May 24. The cumulative salmonid count slowed again this past week (Figure 9). Chinook predation this week dropped dramatically from the previous week. Our most comprehensive estimate of total salmonid catch by sea lions through May 23 (2,347 expanded by interpolating for weekends and hours missed and adjusted for unidentified prey and night predation factors) is lower than any year after 2002 (Figure 5). Predation on salmonids, by CSL in particular, continues to be far lower than any previous year monitored (Figure 6). On the other hand, SSL predation on salmonids is higher than for any previous year (Figure 7) and SSL predation on salmonids was higher than that for CSL for the first year ever (Figure 8), which is not surprising when looking at the abundance figures for each species. Although the data is still preliminary, it appears the overall predation expanded estimate will be about 1.3% of the January 1 through May 31 salmonid run, with CSL contributing 0.6% and SSL contributing 0.7%. The final adjusted estimate (for unidentified prey and night time predation) will be slightly higher.

DETERRENTS/TRAPPING

Hazing by USDA (land) began on March 1 and will continue until the end of May, seven days a week. CRITFC began hazing from boats March 5th and ended May 18th.

The states did not trap any sea lions this week.

Figure 1. Daily pinniped abundance, by species, at Bonneville Dam, 2012.

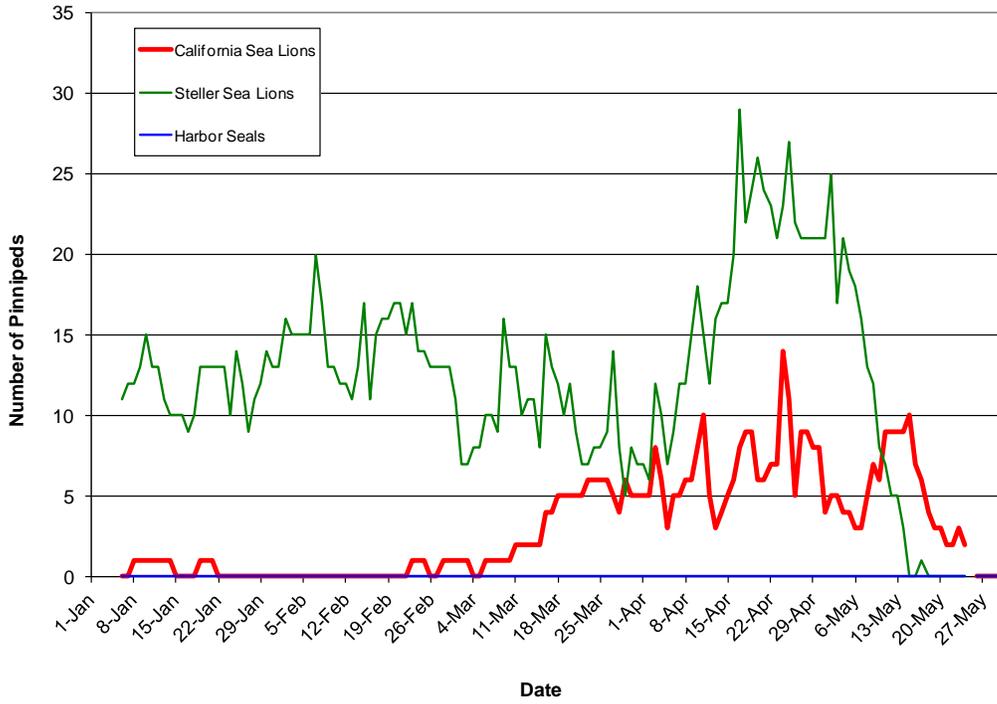


Figure 2. Average daily presence of pinnipeds, by species, to date (May 24) for each year at Bonneville Dam.

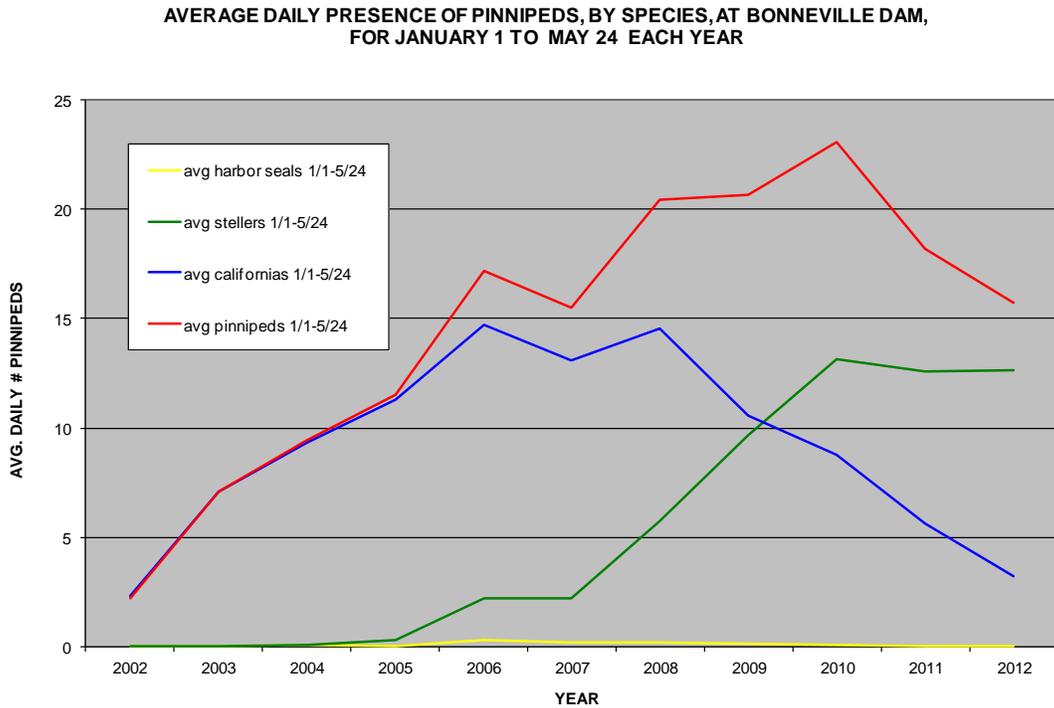


Figure 3. Distribution of prey taken by Pinnipeds by location at Bonneville Dam, through May 23, 2012.

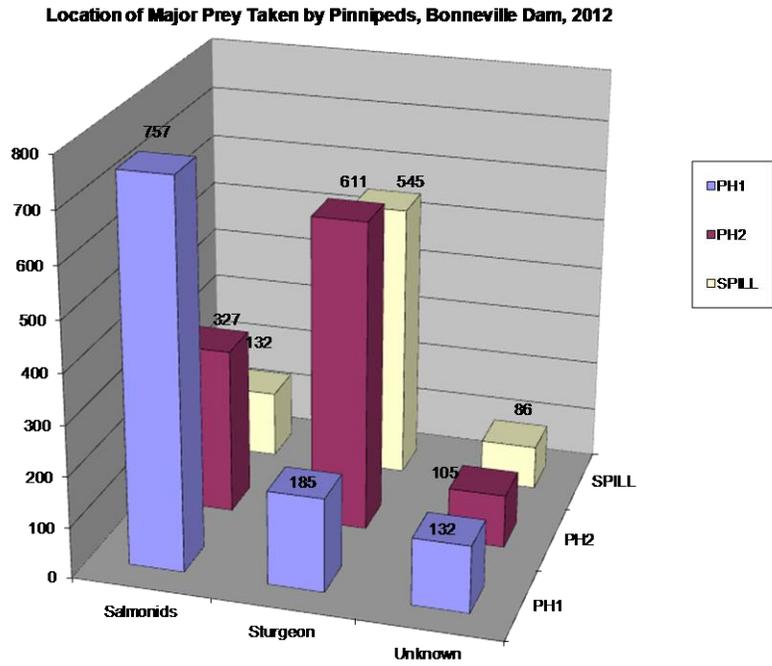


Figure 4. Daily cumulative sturgeon catch (now interpolated for weekends and hours not observed) at Bonneville Dam, 2006-2012.

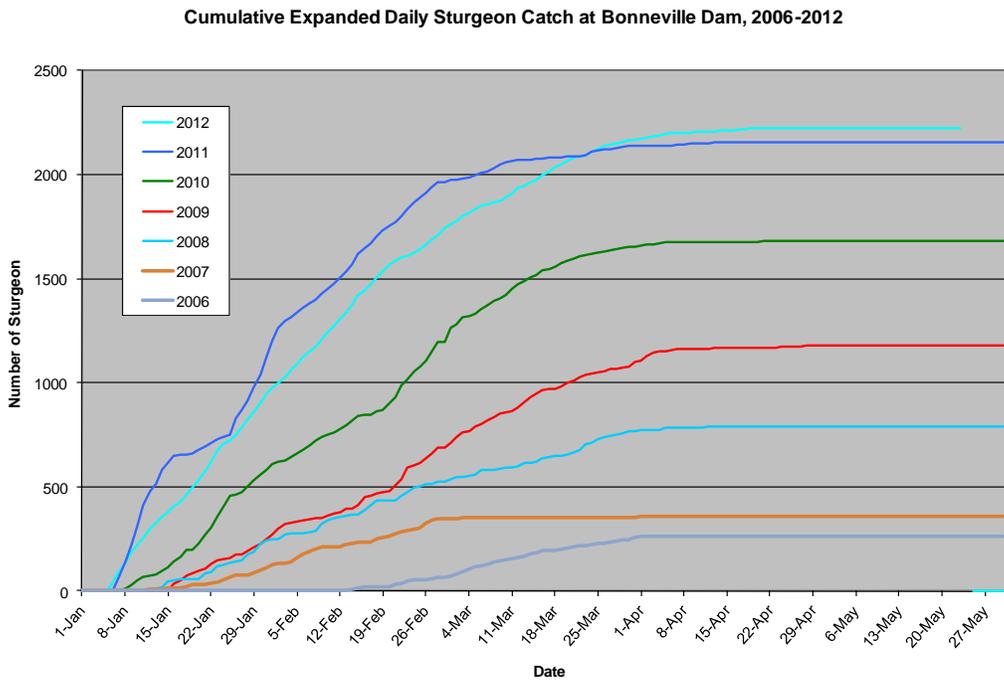


Figure 5. Adjusted estimate (expanded for unidentified prey and night predation factors) of predation for salmonids and sturgeon by CSL and SSL each year at Bonneville Dam. Data for 2012 still preliminary.

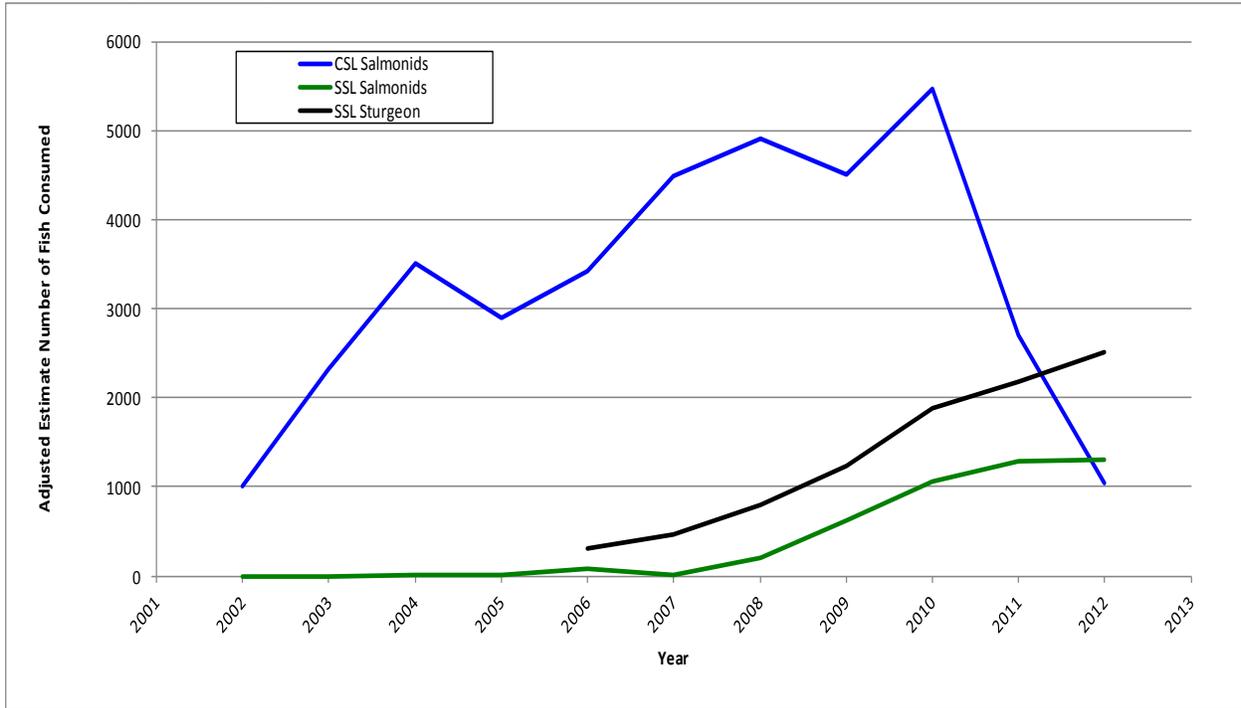


Figure 6. Cumulative estimated salmonid catch by CSL at Bonneville Dam, 2002-2012.

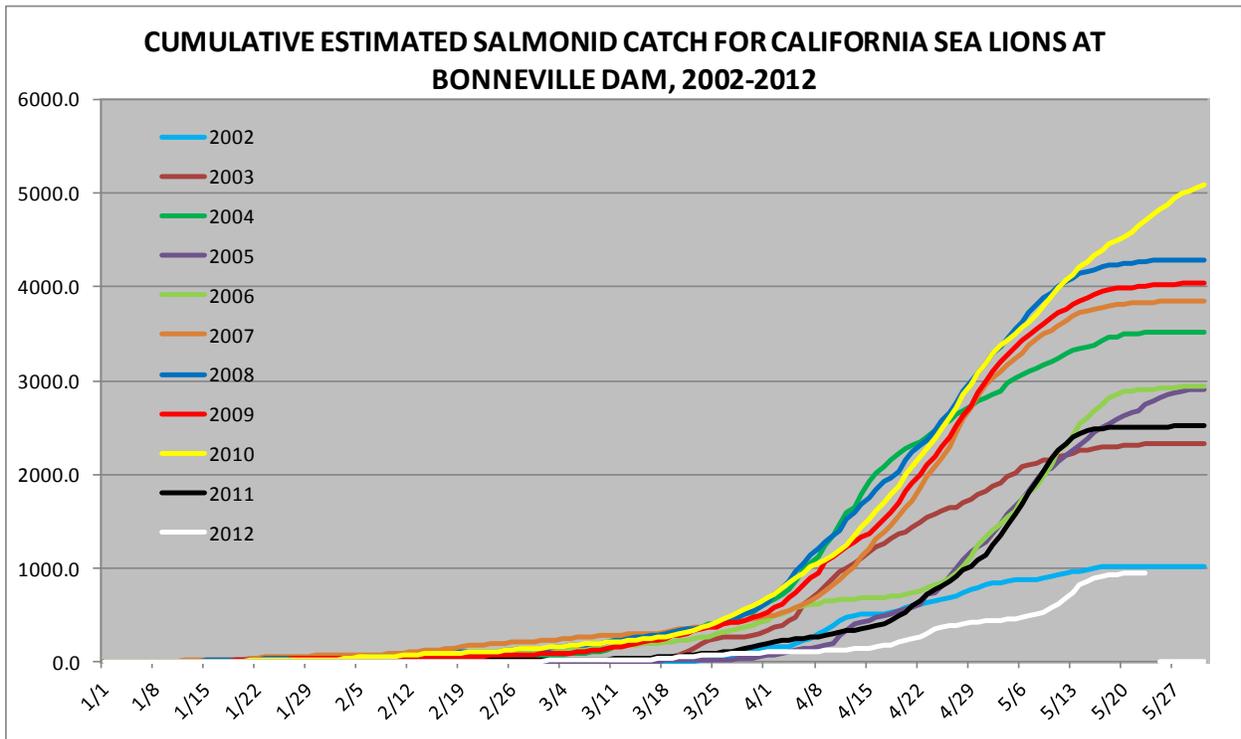


Figure 7. Cumulative estimated salmonid catch by SSL at Bonneville Dam, 2002-2012.

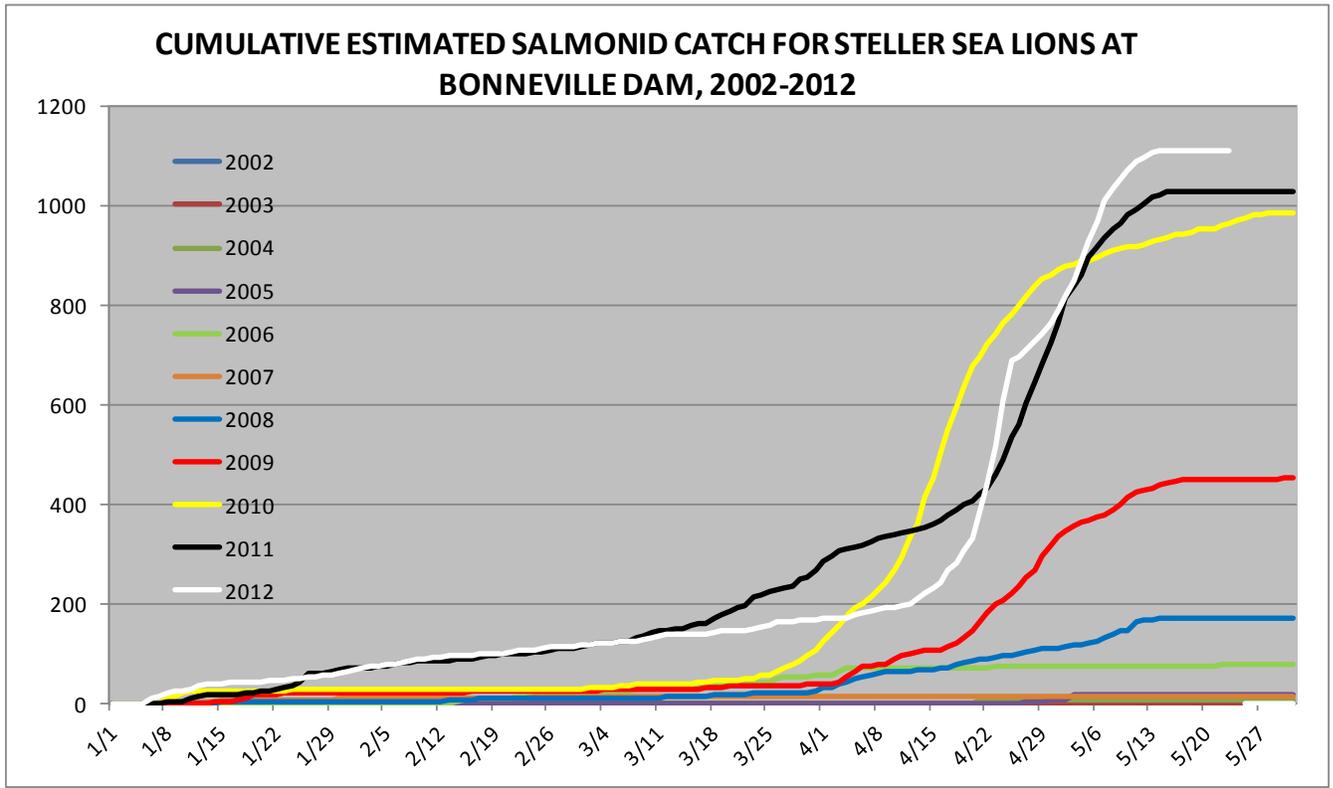


Figure 8. Predation by predator and prey species at Bonneville Dam in 2012.

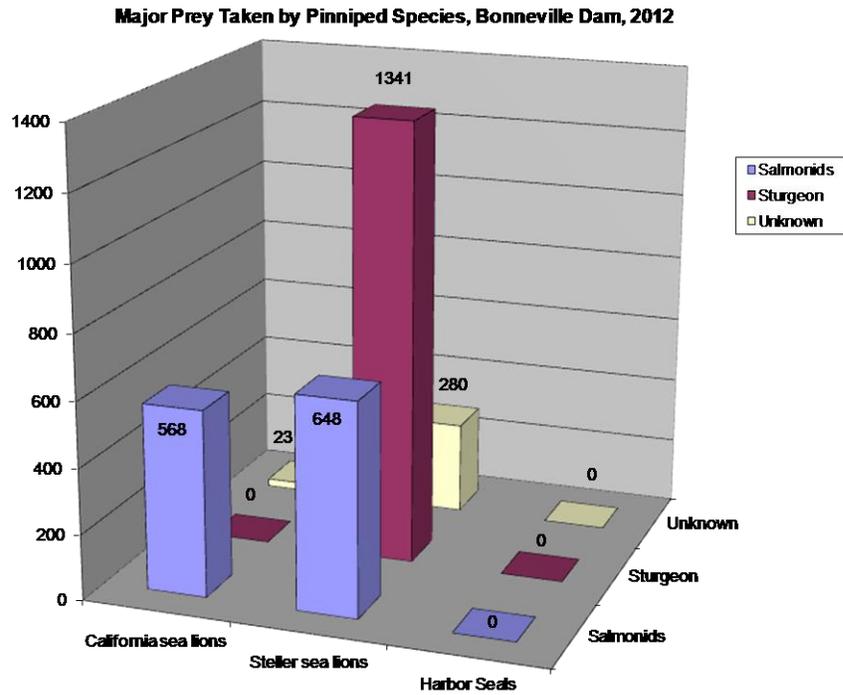


Figure 9. Cumulative salmonid passage at Bonneville Dam, 2002-2012.

