

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

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This is the ninth weekly status report of 2011 and summarizes all pinniped predation monitoring and deterrent activities at Bonneville Dam from January 1 through March 30, 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.

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

We have seen as many as 21 Steller sea lions (*Eumetopias jubatus*) and 10 California sea lions (*Zalophus californianus*) at the dam on any one day so far this year (Figure 1). There are more Steller sea lions present per day on average this year so far, but fewer average California sea lions per day to date since 2003 (Figure 2). The low numbers of California sea lions present is evidence that the removal program of the past three years did remove most of the “regular” returning individuals that would typically show up early in the year and wait for the salmon to show up. The highest daily abundance estimate for pinnipeds at Bonneville dam was 21 on January 26, however, we have documented about 60 different individual Steller sea lions since January 7, at least 23 of those being confirmed as seen in past years. Seventeen individual California sea lions have been observed, at least eight have been seen in previous years. The numbers of California sea lions picked up the past week.

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	86	77	163
Steelhead	29	96	125
Sturgeon	3	1335	1338
Lamprey	0	0	0
Shad	0	88	88
Other	0	1	1
Unknown	16	640	656

It is likely that at least 90% of the unknown fish caught by Steller sea lions were sturgeon and over 95% of the unknown fish caught by California sea lions are salmonids. 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 powerhouse 2 tailrace, followed by the spillway then powerhouse 1 (Figure 3). The rate of observed sturgeon catch has really dropped off the past few weeks but is still a few hundred fish over that of last years at this time (Figure 4) with a record high of 122 being observed caught on January 11. Most sturgeon caught are in the 2 to 4 foot range. There are still very few Chinook passing the count stations (2,336 steelhead, 174 Chinook) since January 1, less than last year (4,504), but more than 2008 and 2009. For Chinook, 163 have been observed taken but only 174 have been seen to pass the dam so far, demonstrating the point that the early stocks of spring Chinook are at the greatest risk. Total salmonid catch to date (373 expanded by interpolating for weekends) is the lowest cumulative catch to date since 2003 (Figure 5), and the majority of those catches have been by Steller sea lions, although the California sea lions are gaining fast.

DETERRENTS/TRAPPING

The States trapped pinnipeds on two days this week, for branding and application of GPS phone/satellite and/or acoustic tags. On March 30, they captured 2 California sea lions and 4 Steller sea lions. They put GPS tags on the 2 CSL (already branded C287 and C930, both known Bonneville animals) and released them. Within the hour they were observed catching fish. They branded and put GPS tags and acoustic tags on 3 SSL (O009-O011) and released them (Figure 9). They also released the 4th SSL without marking him as he refused to enter the transfer cages. O009 was observed hunting soon after release. On March 31, they captured 3 CSL and 5 SSL. The CSL C287 and U19 were released, and B355 was given the brand C010 and released (and they all were subsequently seen hunting in the tailraces or Tanner Creek. Two very large SSL were simply released, as was SSL O001. The other two were given GPS tags, branded O012 and O013 and released.

Hazing by CRITFC (boats) and USDA (land) began on February 28 and has continued daily (Mondays through Fridays for boat hazing). Hazing appears to be a little more effective this year so far, at least keeping the number of pinnipeds and amount of predation low for 7-8 hours during the day. This may be because most of the pinnipeds are the Stellers (which seem to be chased off a bit more easily than California sea lions) and the California sea lions that are present

are mostly new to Bonneville. However, as in past years, as soon as the hazing ends, the numbers of pinnipeds present increases as does the predation.

OTHER ITEMS OF INTEREST

We will conducted our second night observation of the season tonight (April 1). Forced spill occurred on March 31 and April 1 and tailwater levels were very high.

An unusual animal was observed this morning, thought to be the first of its kind seen in the Columbia River (Figure 6). Also, the States deployed a critter cam on one animal this week and it has produced very unexpected results of what is actually occurring underwater near the dam (Figure 7). The Corps of Engineers have also employed a new pinniped deterrent that shows a lot of promise (Figure 8).

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

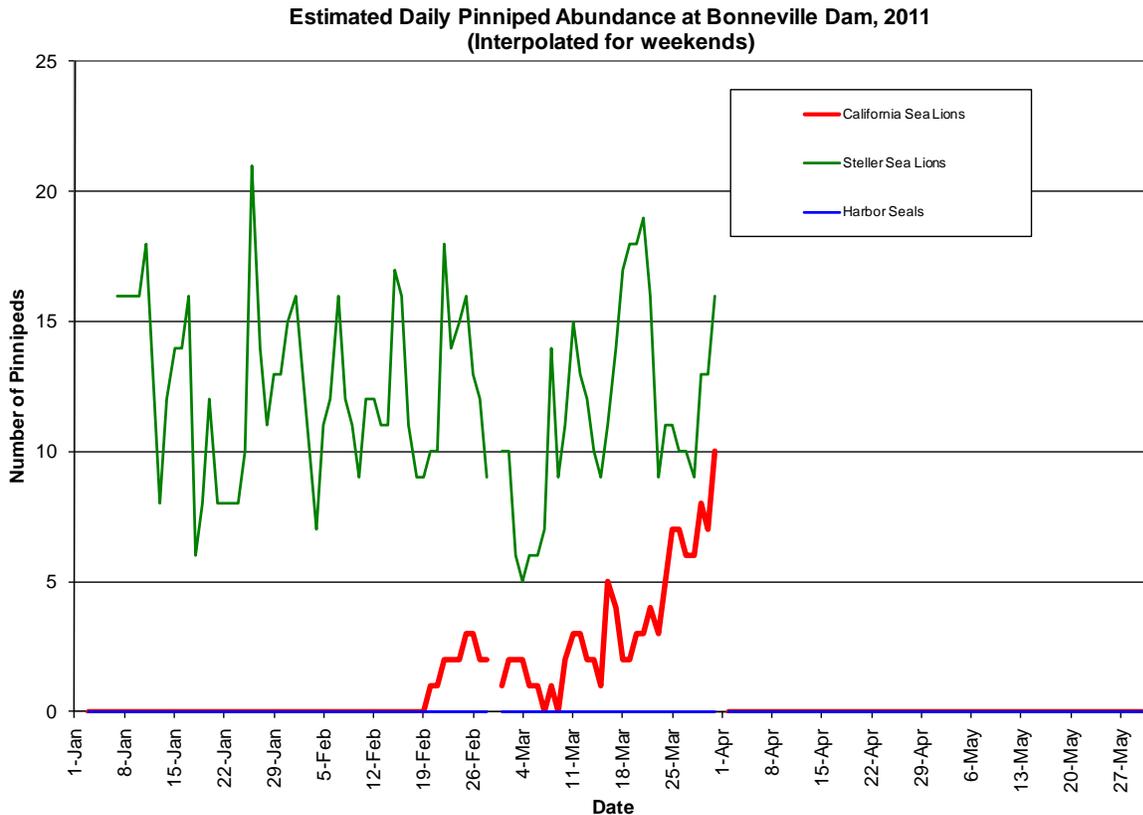


Figure 2. Average daily presence of pinnipeds, by species, to date (March 31) for each year at Bonneville Dam.

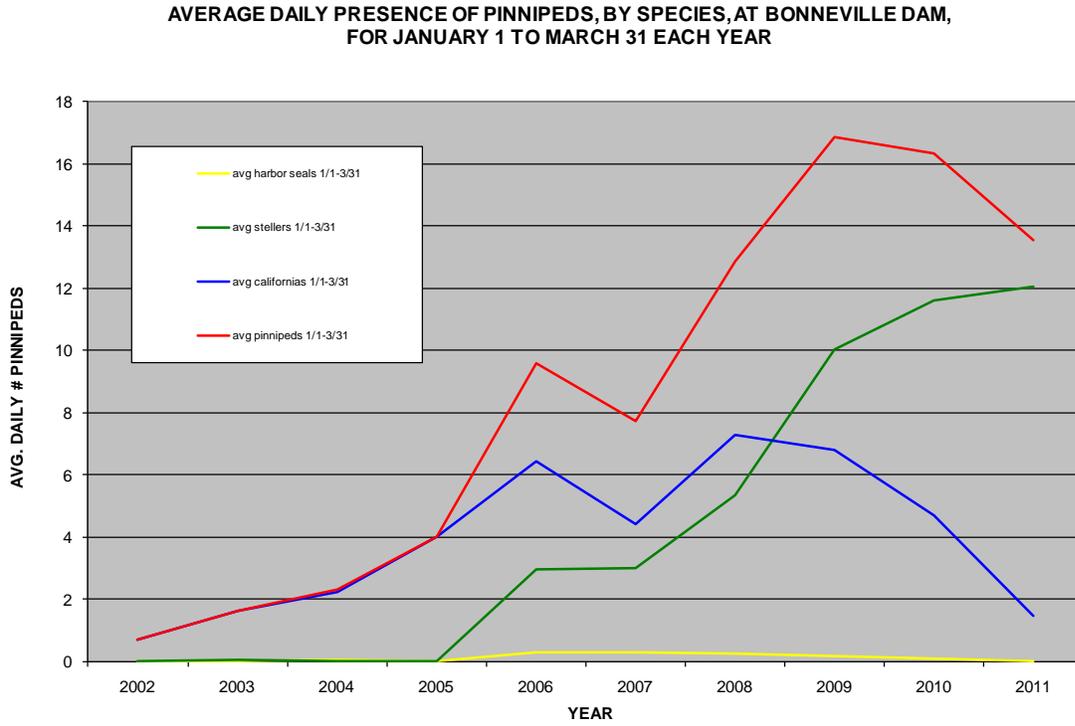


Figure 3. Major prey species taken by Pinnipeds by location, 2011.
Location of Major Prey Taken by Pinnipeds, Bonneville Dam, 2011

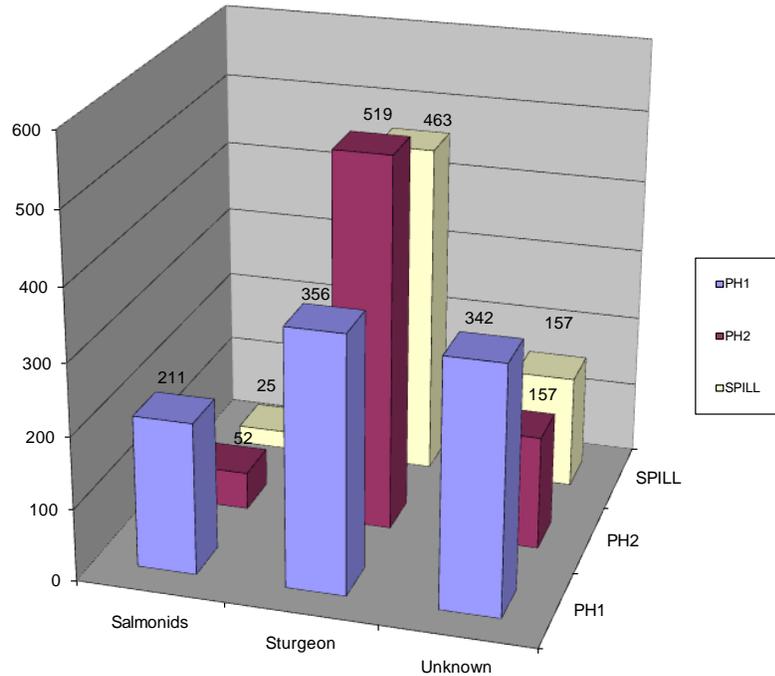


Figure 4. Daily cumulative sturgeon catch (interpolated for weekends) at Bonneville Dam, 2006-2011.

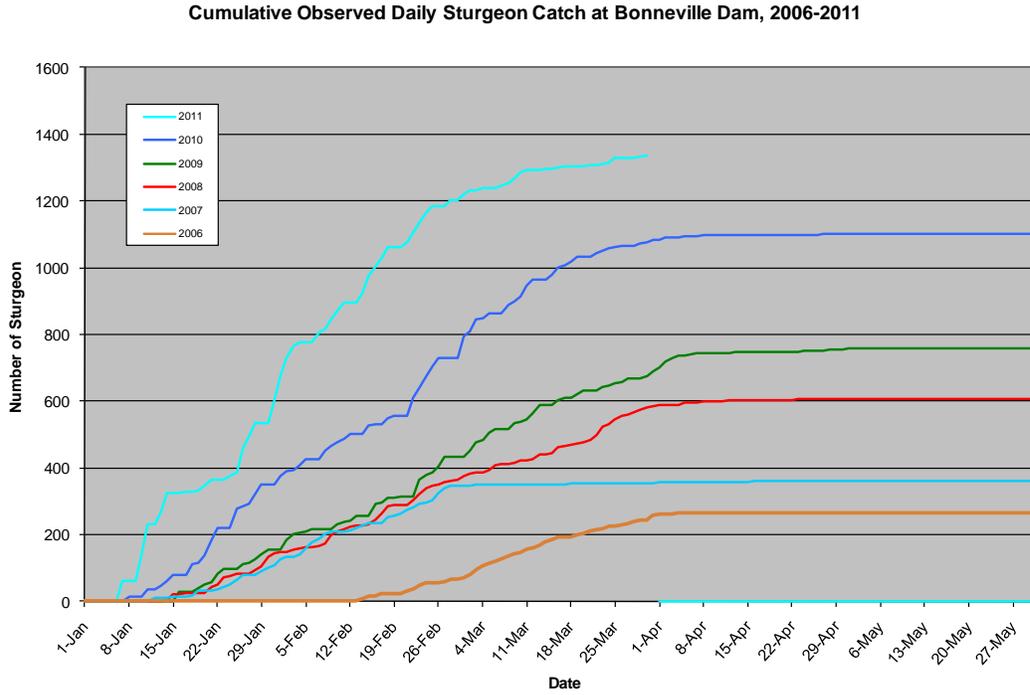


Figure 5. Daily cumulative salmonid catch (interpolated for weekends) at Bonneville Dam, 2006-2011.

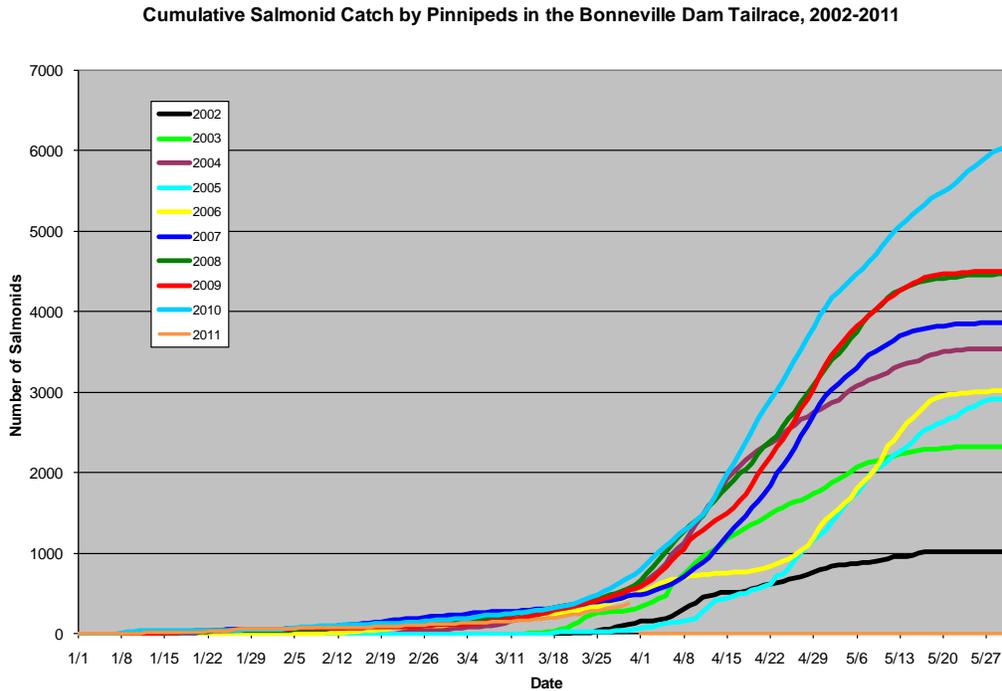


Figure 6. The rarely seen Unicorn Steller sea lion (*Eumatopias unicornus*)!



Figure 7. Critter cam footage of startling events happening underwater at Bonneville Dam!



Figure 8. Corps of Engineers employ new pinniped deterrents at Bonneville Dam!



Figure 9. GPS phone tag (like satellite tag) on O009. Nice bling!

