

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

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This is the eleventh weekly status report of 2011 and summarizes all pinniped predation monitoring and deterrent activities at Bonneville Dam from January 1 through April 13, 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](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* - SSL) and 14 California sea lions (*Zalophus californianus* - CSL) at the dam on any one day so far this year (Figure 1). There are now fewer SSL present per day on average this year compared to last year, and the fewest average CSL per day to date since 2003 (Figures 2 and 6). CSL and SSL numbers continue to be relatively low for this time of year compared to previous years. The highest daily abundance estimate for pinnipeds at Bonneville dam was 30 on April 1. We have documented over 70 different individual SSL since January 7, at least 25 of those being confirmed as seen in past years. We have now documented about 29 individual CSL, at least 18 have been seen in previous years. The numbers of CSL picked up then dropped off the past week, possibly because of the high flows, turbidity and tailwater levels (Figure 1).

## **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   | 185                         | 131                      | 316          |
| Steelhead | 46                          | 103                      | 149          |
| Sturgeon  | 3                           | 1347                     | 1350         |
| Lamprey   | 0                           | 1                        | 1            |
| Shad      | 0                           | 88                       | 88           |
| Smolt     | 2                           | 0                        | 2            |
| Other     | 0                           | 2                        | 2            |
| Unknown   | 24                          | 658                      | 682          |

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. Most sturgeon have been caught in powerhouse 2 tailrace, while most salmonids are being caught at powerhouse 1 tailrace (Figure 3). There are still few Chinook passing the count stations (3,851 steelhead, 950 Chinook since January 1) with 85 Chinook on April 14 being the high so far this year, and daily salmonid passage is still low (Figure 7). Since 2002, only 2005, 2006, and 2009 have seen fewer salmonids passing this late in the season (Figure 8). Columbia River water temperature measured at Bonneville Dam hit 46 degrees F last week, but flows and turbidity are still fairly high. Total salmonid catch to date (616 expanded by interpolating for weekends) is the lowest cumulative catch to date since 2002 (Figure 5, 2005 we started observations late in the year), about evenly split between CSL and SSL. Only 46 cleptoparasitism events have been seen so far.

## **DETERRENTS/TRAPPING**

The States trapped pinnipeds on three days this week, for branding and application of acoustic tags. On April 12, they captured 2 SSL but released them as they have already met their current research permit of 10 SSL to brand or apply tags. On April 13, they captured 2 more SSL that were already branded, so they were also released. On April 14, they captured a branded SSL, which was released, and a CSL, which was given a brand (C011), an acoustic tag, and released.

Hazing by CRITFC (boats) and USDA (land) began on February 28 and has continued daily (most 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

Our first harbor seal (*Phoca vitulina*) was observed at Bonneville this past week, as was our first observed lamprey catch, and 2 smolts being caught (likely from the recent Spring Creek Hatchery release).

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

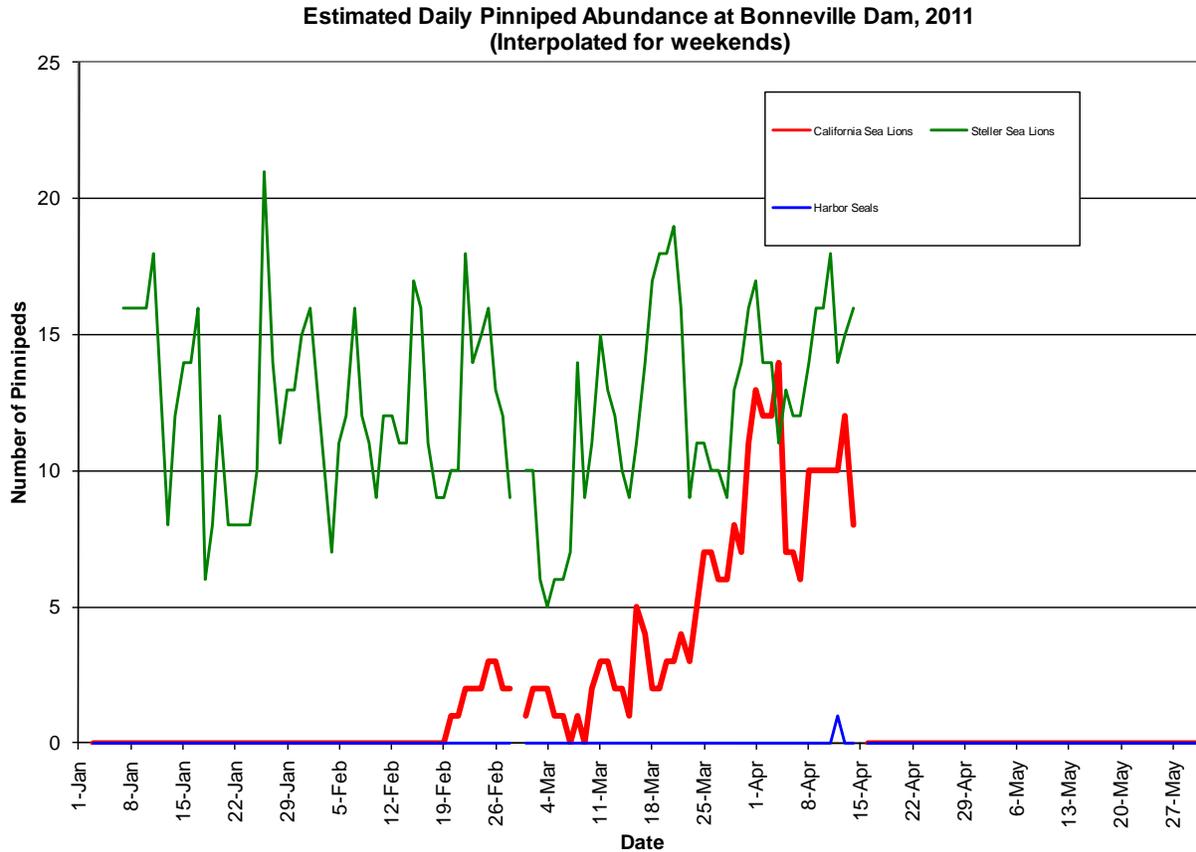


Figure 2. Average daily presence of pinnipeds, by species, to date (April 7) for each year at Bonneville Dam.

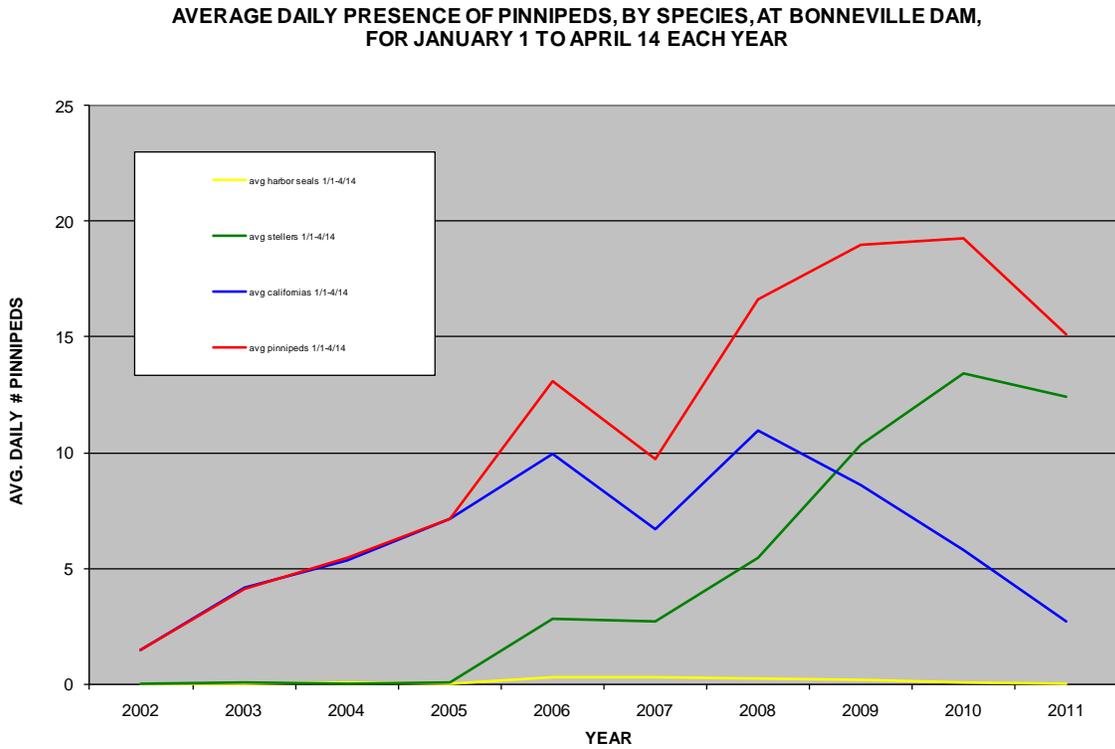


Figure 3. Major prey species taken by Pinnipeds by location, 2011.

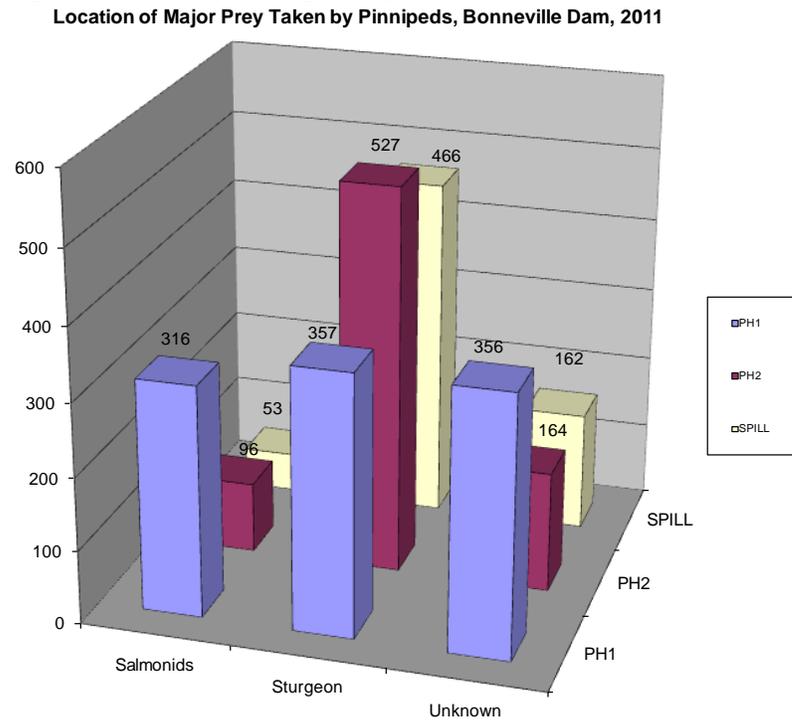




Figure 6. Daily California sea lion numbers for 2011 compared to the average daily CSL numbers from 2002-2010.

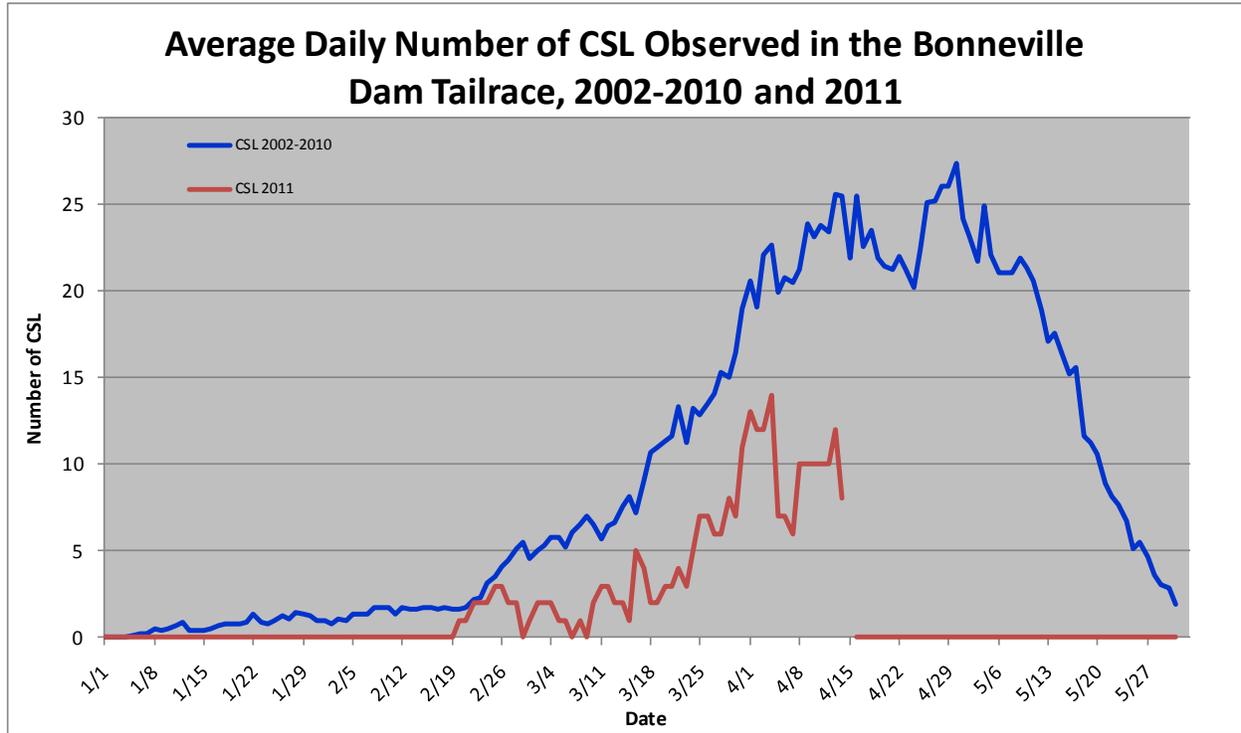


Figure 7. Daily salmonid count for Bonneville Dam, January 1, 2011 to present.

