

**STATUS REPORT – PINNIPED PREDATION AND HAZING
AT
BONNEVILLE DAM IN 2008**

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This is the ninth status report for 2008 on the pinniped predation and hazing activities being conducted at Bonneville Dam. Regular observations began on January 11, Mondays through Fridays, and switched to 7 days a week on February 4. Observations begin roughly an hour before sunrise and end an hour after sunset. **Please remember all data are preliminary and final figures are likely to change some after further analysis and proofing, so be careful about quoting these figures.** Boat based harassment was not conducted all last week. Dam based harassment by USDA WS agents began on March 3, and has been conducted 7 days a week, through the end of May. Data collection will end after May 31, as will harassment activities. Some additional observations will occur as long as sea lions are still present after this date.

Although the federal investigation continues regarding last weeks deaths of four California sea lions and two Steller sea lions, they have ruled out shooting as the cause of death. A preliminary news release should be forthcoming tomorrow on the necropsy findings.

PRELIMINARY RESULTS

Data presented here are up through May 11, 2008. A final report of the 2005-2007 evaluation is now available on the Corps website.

PINNIPED ABUNDANCE

Steller sea lion (*Eumetopias jubatus*) daily abundance has averaged about eight over the past week (Figures 1 and 10). The number of California sea lions (*Zalophus californianus*) has dropped dramatically to less than 20 animals the past few days (Figures 1 and 11). It will be interesting to see if the Steller sea lion numbers stay at this level as the California sea lions leave. Many Bonneville animals with brands were seen in Astoria over the weekend (at least 9), showing that they are beginning to leave, yet there have been a few returning from Astoria as well. A preliminary look at individuals identified at Bonneville Dam so far suggests we have seen about 75 different California sea lions, and at least 17 Steller sea lions and 2 Harbor seals. At least 38 of the California sea lions have been seen in previous years.

PREDATION FIGURES

Fish counts are showing another late run, as we have seen for the last three years, and the agencies have revised the anticipated spring Chinook run down to 200,000 or less (Figure 9). If the current daily passage rates trend continues, we may not even meet that estimate.

Unexpanded numbers for fish observed taken between January 11 and May 11 are:

- 3,669 Chinook, 285 steelhead (see Figure 2)
- 607 sturgeon (21 larger than 5 feet)(see Figures 2, 3 and 4)
- 35 lamprey
- 681 unidentified (see Figure 2)

Steller sea lions are the primary predators of white sturgeon (*Acipenser transmontanus*) in the Bonneville Dam tailrace (Figure 5). California sea lions continue to target Chinook averaging 80 per day last week (Figure 7). The sea lions have already exceeded the take of 2007 (Figure 8) with no expansion, so the total is likely to exceed 4,000 with 2-3 more weeks to go. It is likely that most unknown fish observed caught by Steller sea lions are sturgeon, while those unknown fish observed caught by California sea lions are steelhead or Chinook. Just under 40% (1,541 of 3,954) of the salmonid prey taken by California sea lions have been attributed to specific individuals. One individual, B194, was observed to take at least 106 salmonids over 68 days or more, while C653 was seen to take at least 101 over 51 days or more. The most attributed to any individual in previous years was 79. The few smaller animals presently here seem to be averaging more salmon per day than their bigger brethren did before them, up to 10 in one day. Lamprey take has begun to rise with 26 taken over the past week, bringing the season total to 35.

Most sturgeon have been caught at the spillway followed by PH2, while most steelhead and Chinook have been caught at PH2 and PH1 (Figure 6). Figure 3 shows that sturgeon take has far exceeded the take of last year as the presence of Steller sea lions continues. However, smaller sturgeon are being taken proportionally more this year than in previous years (Figure 4).

HAZING IMPACTS

Full hazing from both boat and dam began on March 3rd. All hazing was halted on some trapping days and on May 5, and boat hazing did not occur all last week. SLEDs were installed at PH2 entrances on January 28. Cascades Island SLEDs were installed the week of February 10, and PH1 and B-branch SLED's were installed the week of February 24. Acoustics were deployed at all major fishway entrances by January 10. Some of the new and smaller animals have been successfully hazed short term, but not enough to force them to leave the project.

OTHER ITEMS OF INTEREST

There have been reports of up to three sea lions up in Drano Lake last week.

Figure 1. Daily minimum pinniped abundance.

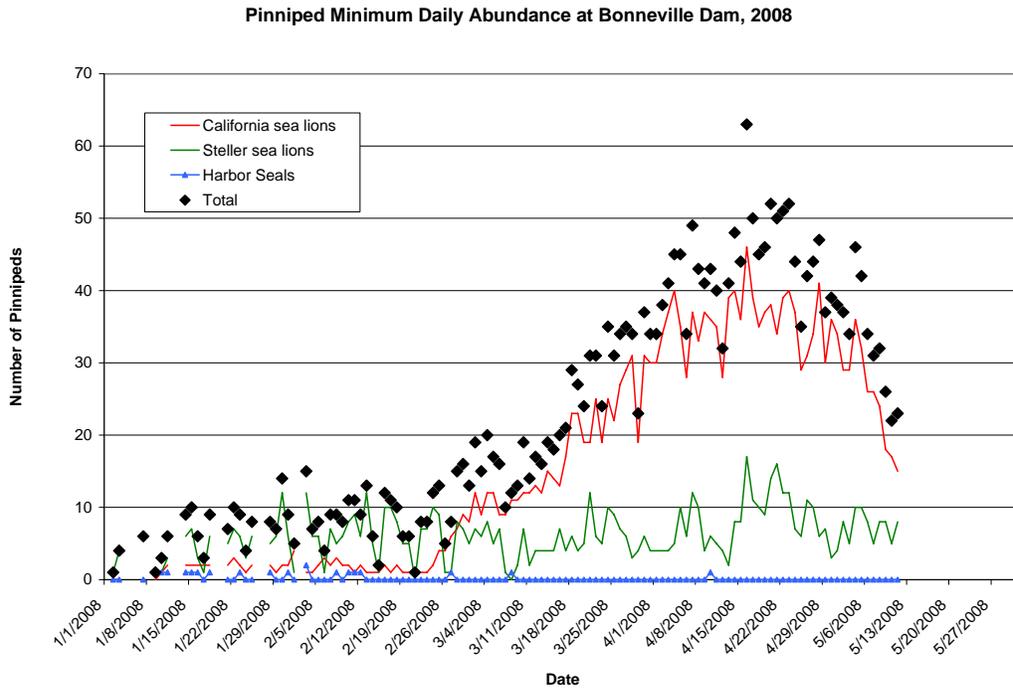


Figure 2. Daily salmonid, sturgeon, and unknown fish predation by pinnipeds, unexpanded observations.

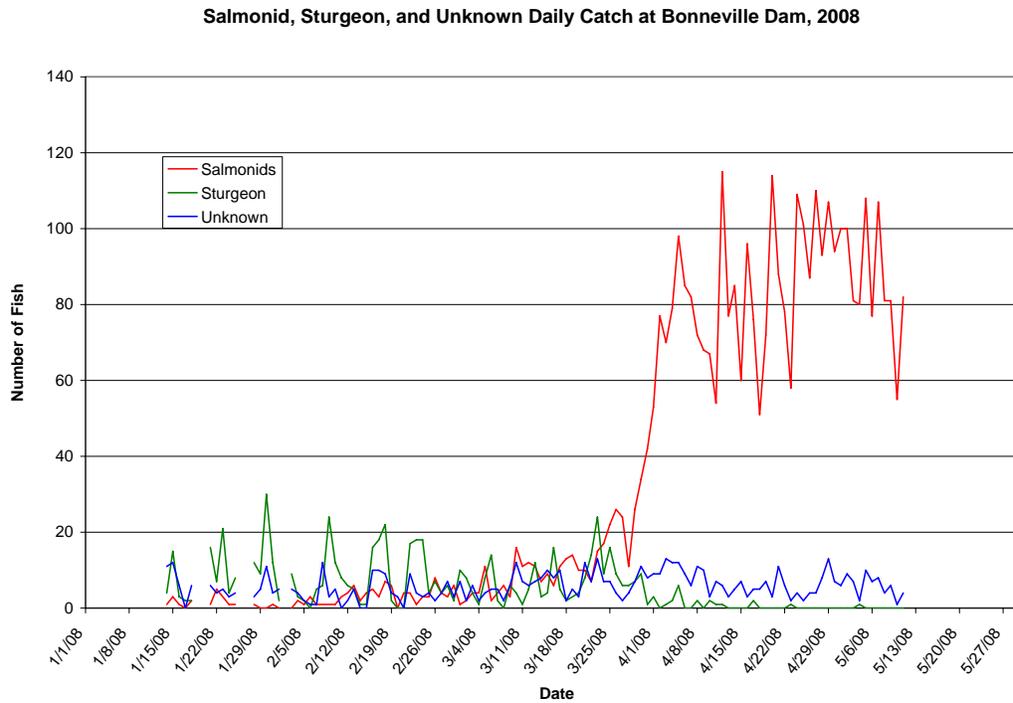


Figure 3. Cumulative estimated daily sturgeon catch by pinnipeds at Bonneville Dam, 2006-2008. 2008 data are not expanded and are preliminary.

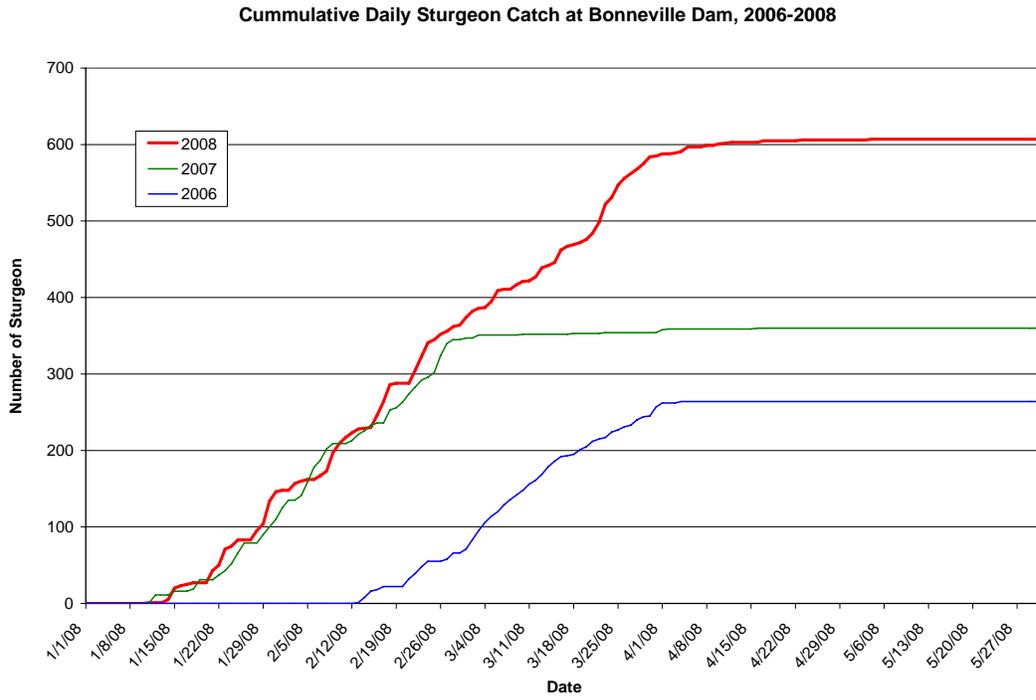


Figure 4. Size distribution of sturgeon caught at Bonneville Dam, 2002-2008.

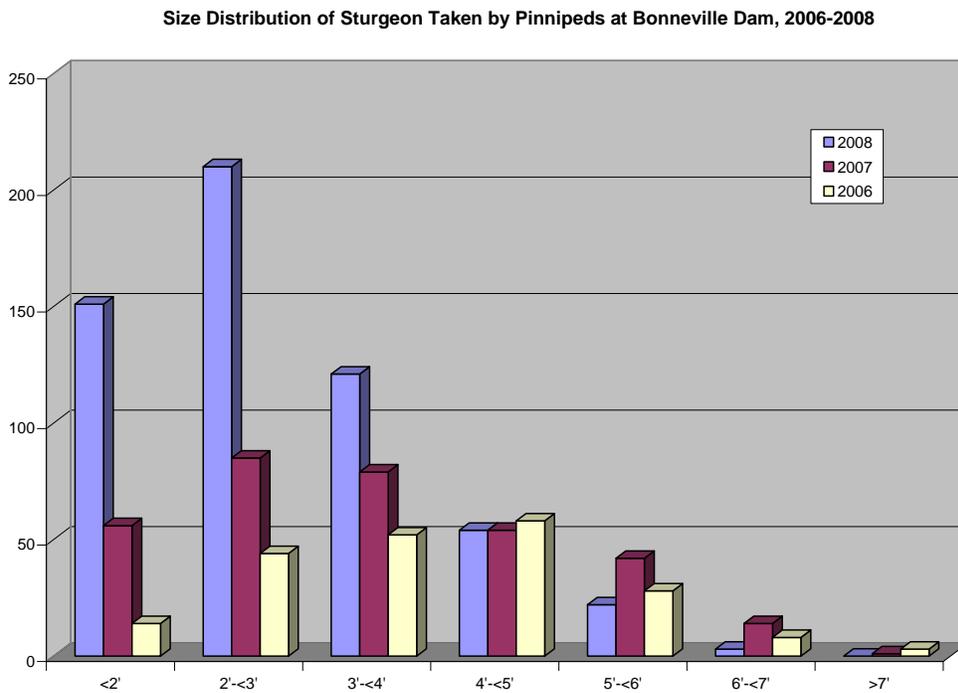


Figure 5. Prey taken by species of Pinniped at Bonneville Dam, 2008.

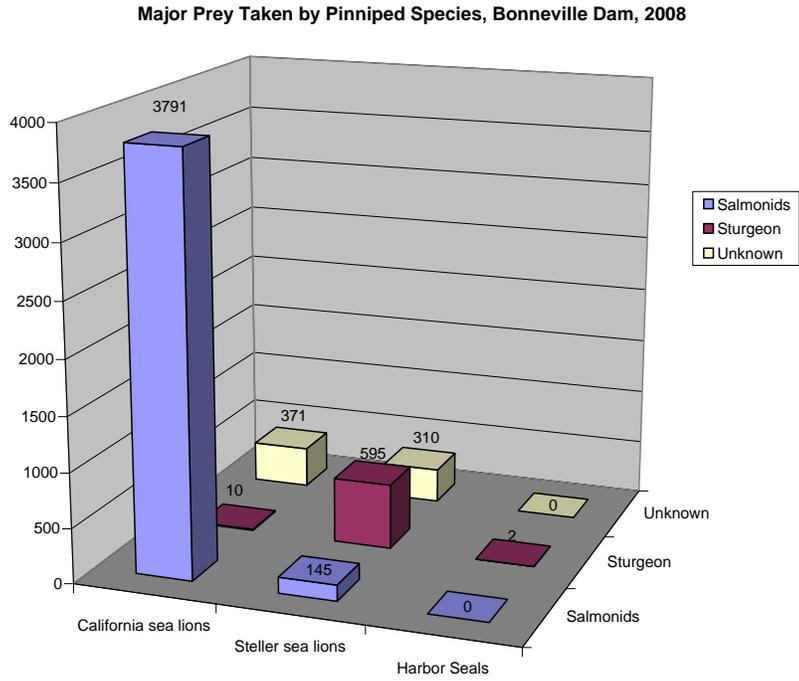


Figure 6. Location of prey taken at Bonneville Dam, 2008.

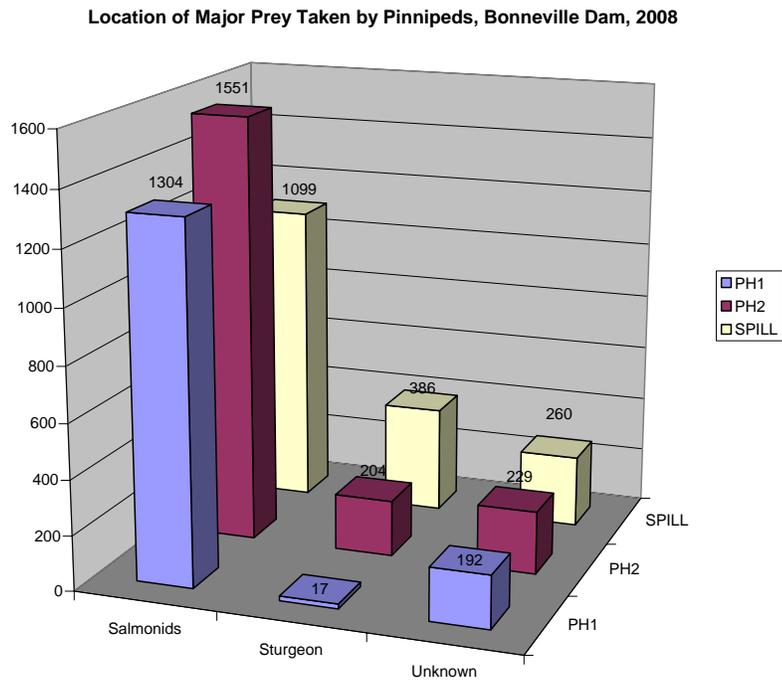


Figure 7. Daily Steelhead and Chinook take at Bonneville Dam, 2008. Data are unexpanded and preliminary.

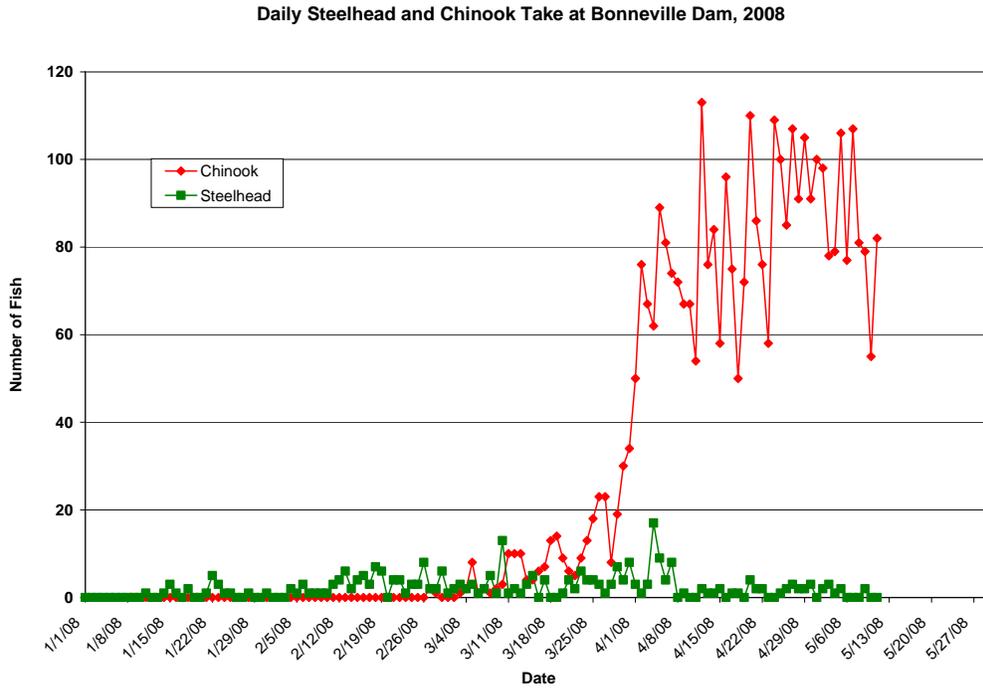


Figure 8. Cumulative estimated daily salmonid catch by pinnipeds at Bonneville Dam, 2006-2008. 2008 data are not expanded and are preliminary.

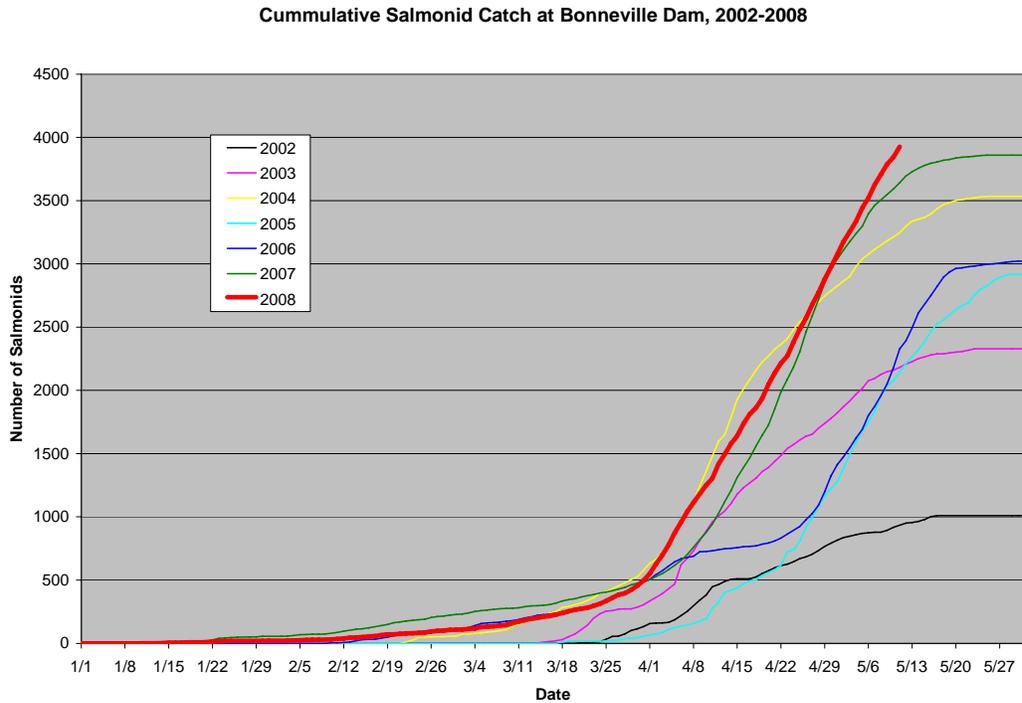


Figure 9. Cumulative total daily salmonid counts at Bonneville Dam, 2002-2008.

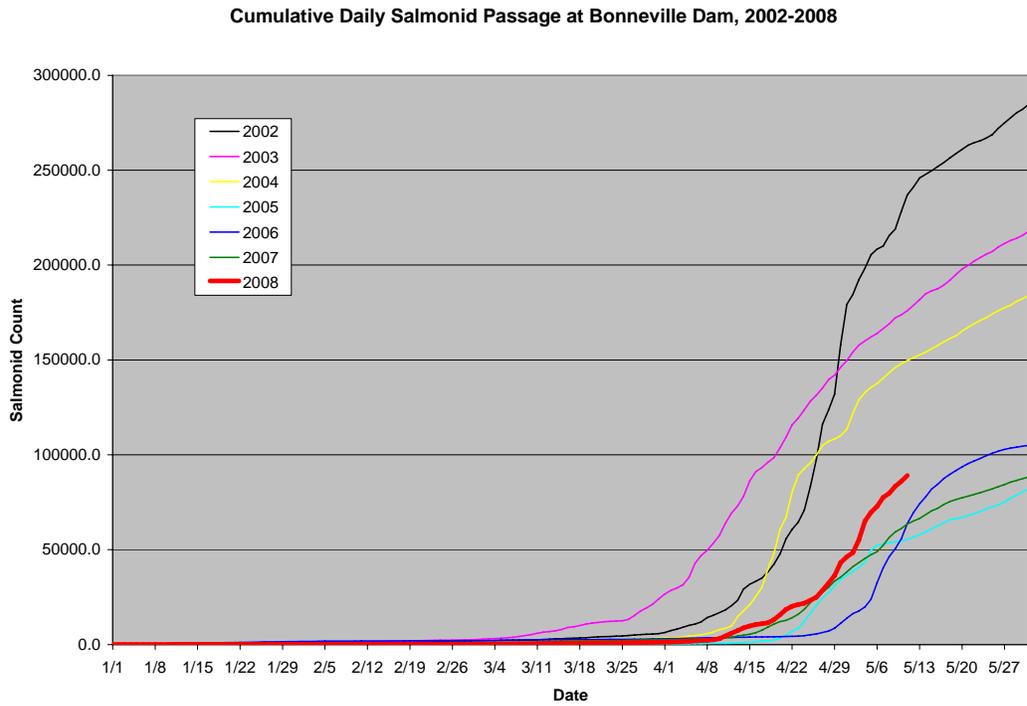


Figure 10. Steller sea lion abundance at Bonneville Dam, 2002-2008.

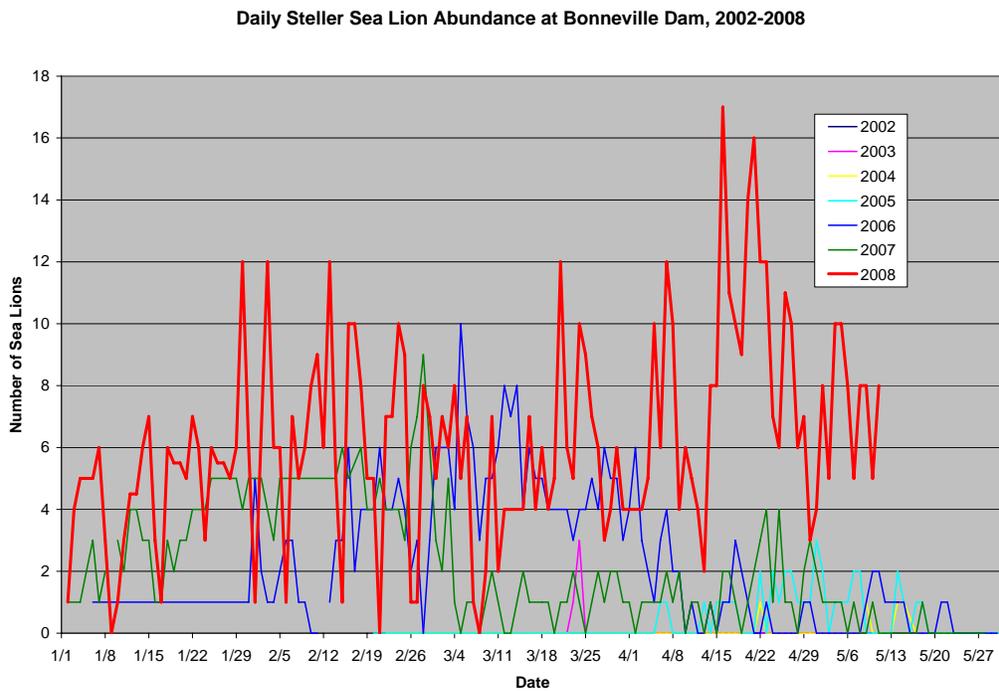


Figure 11. California sea lion abundance at Bonneville Dam, 2002-2008.

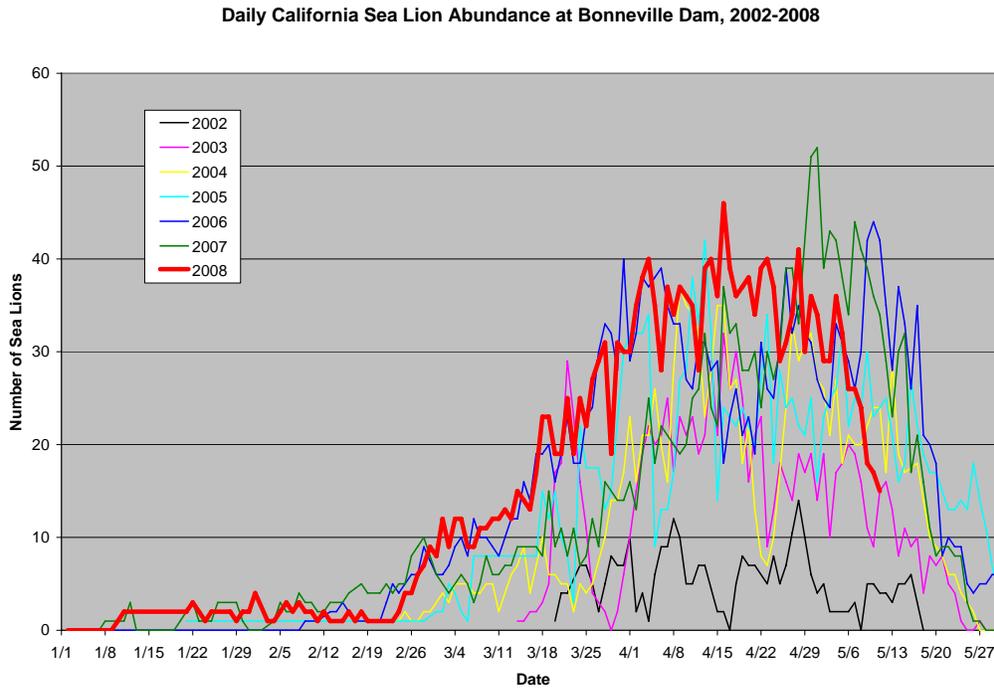


Figure 12. Total Pinniped abundance at Bonneville Dam, 2002-2008.

