

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

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This is the eighth 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 has been conducted since December 12 for Steller sea lion preying on sturgeon, 2 to 5 days a week, and has continued for California sea lions to date at least 5 days a week (see Status Report from Bryan Wright, ODFW). Dam based harassment by USDA WS agents began on March 3, and will be 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.

The states attempted to trap on May 1 last week but did not catch any animals. On May 4 four California sea lions and two Steller sea lions were found dead on two traps and future trapping has been put on hold while a federal investigation is underway. Of the seven animals previously trapped, six are going to Sea World parks and one died while undergoing the health screening process. That animal weighed an incredible 1,454 lbs.

## **PRELIMINARY RESULTS**

Data presented here are up through May 5, 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 continues to fluctuate between 3 and 11 animals each day (Figures 1 and 10). The number of California sea lions (*Zalophus californianus*) is staying between 30-40 animals (Figures 1 and 11). Overall, the numbers of sea lions present seems past the peak for this year and is holding around 40 animals (Figure 12). A preliminary look at individuals identified at Bonneville Dam so far suggests we have seen about 73 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.

Of the 60 animals listed for potential lethal take, 34 have been seen at Bonneville Dam so far this year. An additional 5 branded animals now qualify to be added to the list, having been hazed, seen to eat at least one salmon, and having been here more than 5 days. So far, of the now 39 animals here available for removal, seven animals have been removed so far, and one of the additional animals for the list was one of the dead on the trap May 4.

## **PREDATION FIGURES**

Fish counts are showing another late run, as we have seen for the last three years, but have begun to spike up the last few days (Figure 9).

Unexpanded numbers for fish observed taken between January 11 and May 5 are:

- 3,160 Chinook, 283 steelhead (see Figure 2)
- 607 sturgeon (21 larger than 5 feet)(see Figures 2, 3 and 4)
- 9 lamprey
- 648 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 in recent weeks (Figure 7). The sea lions are on a pace to exceed the take of 2004 and 2007 (Figure 8). 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% (1,252 of 3,462 or 36%) of the salmonid prey taken by California sea lions have been attributed to specific individuals. There has been a noticeable increase in the number of observations of Steller sea lions stealing salmon caught by California sea lions as well as what appears to be direct catches themselves, which may account for the slowing of sturgeon taken over the past few weeks.

Most sturgeon have been caught at the spillway followed by PH2, while most steelhead and Chinook have been caught at PH1 and PH2 (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).

Observations from the area of Tanner Creek to Ives Island by PSU student volunteers has been collected also, and between January 13 and April 14, an additional 24 Chinook, 25 steelhead, and 7 sturgeon have been observed taken (plus 6 unknown) from 209 hours of observation at this site. The area between our observers at the dam and Tanner Creek will be observed by WDFW/ODFW personnel as well from now until the end of the season, but this data will take more time to process and may not be available for updates.

## **HAZING IMPACTS**

Full hazing from both boat and dam began on March 3<sup>rd</sup>. Through April 23, USDA has used about 4,700 cracker shells from shotguns, 1,800 cracker shells from pistols, and 950 bean bags. Boats are hazing most days each week. Hazing was halted on some trapping days and on May 5. 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 animals have been observed to be successfully chased downstream while others have not responded to multiple crackershells or rubber bullets.

## TRAPPING AND REMOVAL

One animal trapped on April 28, known on the list as B198, was taken to Point Defiance Zoo and Aquarium and weighed in at 1,454 lbs! While undergoing blood testing (during which time they anesthetize the animals), he did not recover from the procedure and died. One of the three animals branded and released in Astoria on April 25 has been seen back at Bonneville on May 4.

On May 1, the states attempted to trap, but no sea lions got on the traps. As mentioned earlier, after the incident on May 4, trapping has been suspended while the federal investigation continues. This is unfortunate for many reasons, not the least of which is that the trapping and relocation program was working quite well. Besides the two Steller sea lions, two branded California sea lions were on the trap. One qualified for the list this year, having been seen to take at least 22 salmonids over the course of at least 32 days. The other had just been seen May 3<sup>rd</sup> for the first time. Of the remaining two unbranded California sea lions, one would have qualified for the list, having been seen to take at least 14 salmonids during at least five days. The last animal was the very young one that showed up two weeks ago and was in the photo in last weeks status report. He was seen to take one unknown small fish during at least eight days.

## OTHER ITEMS OF INTEREST

One of the animals observed up in the forebay has now been seen back in the tailrace, although we have heard reports of one up in the mouth of the Wind River over the weekend.

Figure 1. Daily minimum pinniped abundance.

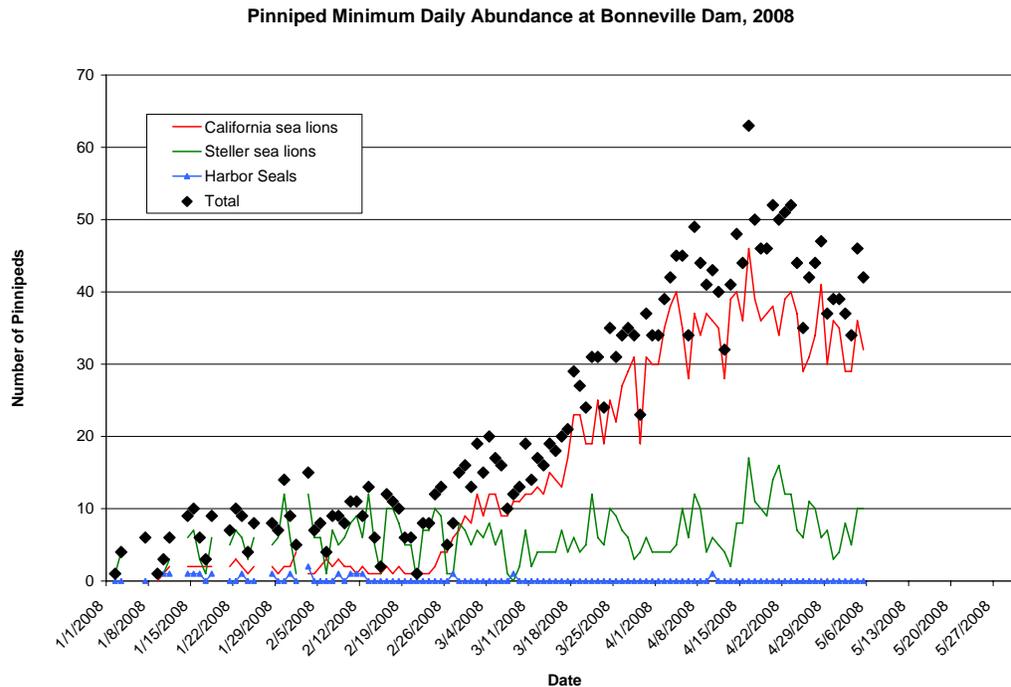


Figure 2. Daily salmonid, sturgeon, and unknown fish predation by pinnipeds, unexpanded observations.

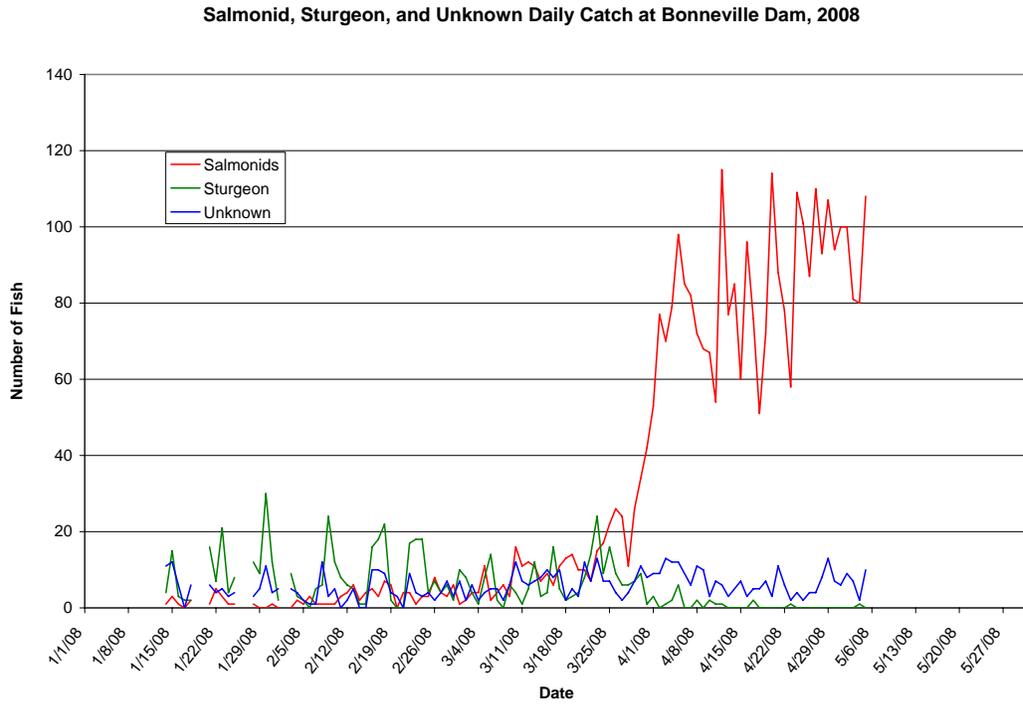


Figure 3. Cumulative estimated daily sturgeon catch by pinnipeds at Bonneville Dam, 2006-2008. 2008 data are not expanded and are preliminary.

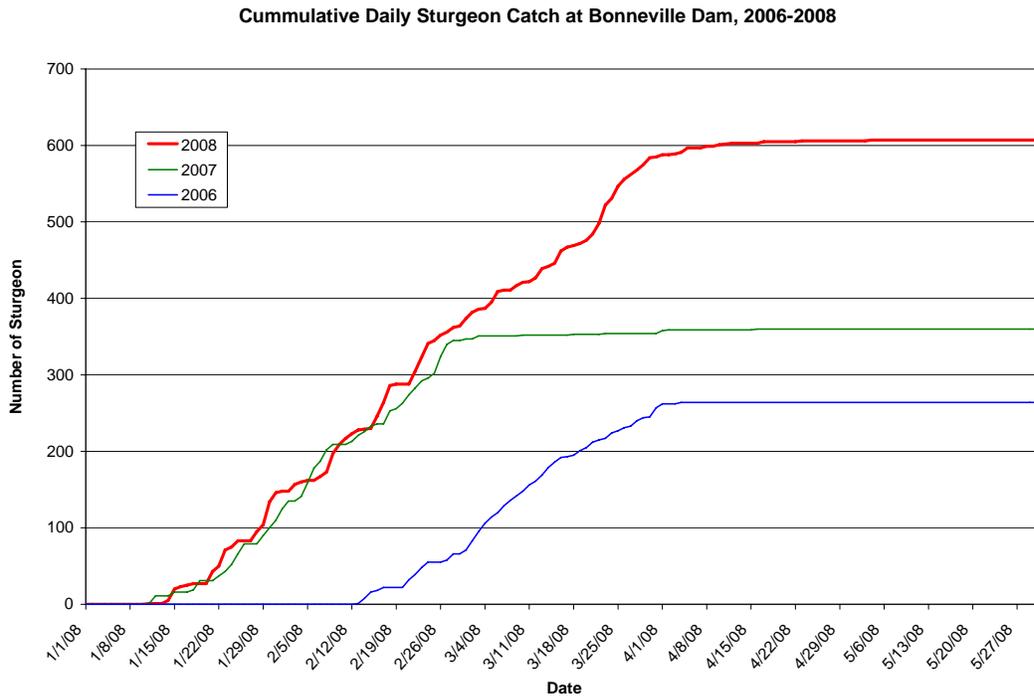


Figure 4. Size distribution of sturgeon caught at Bonneville Dam, 2002-2008.

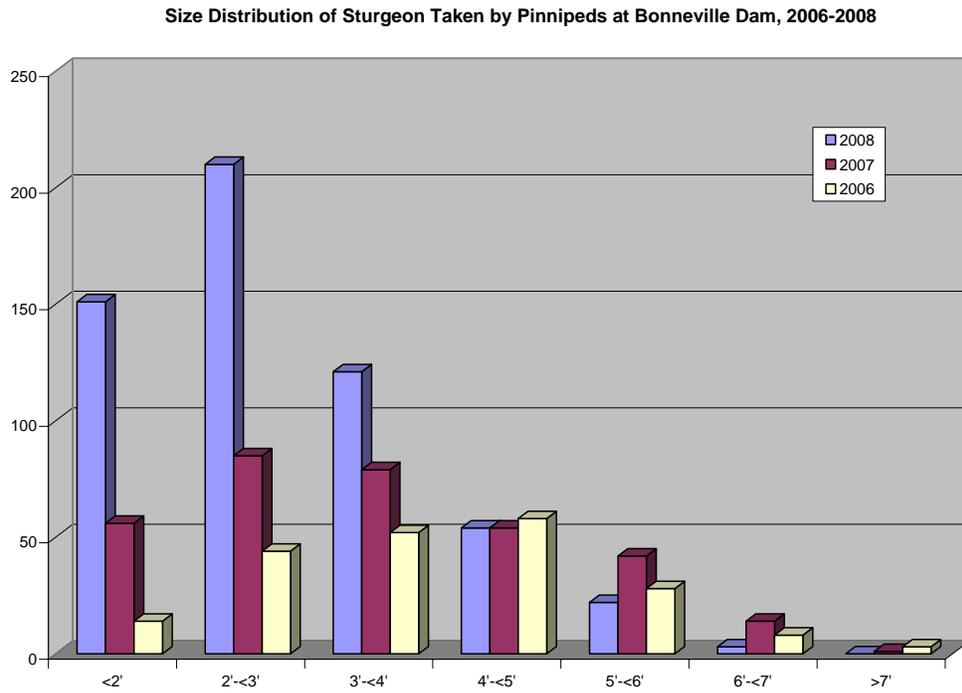


Figure 5. Prey taken by species of Pinniped at Bonneville Dam, 2008.

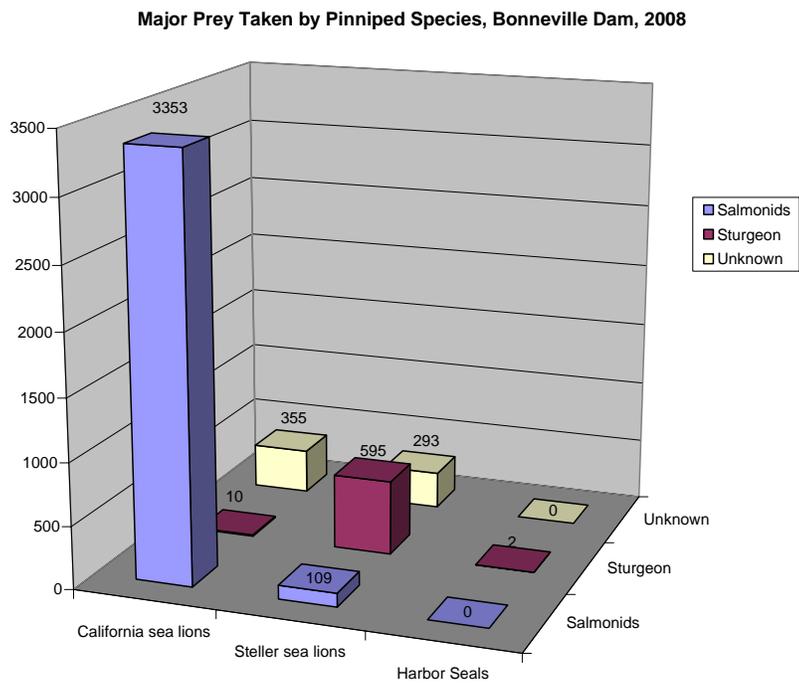


Figure 6. Location of prey taken at Bonneville Dam, 2008.

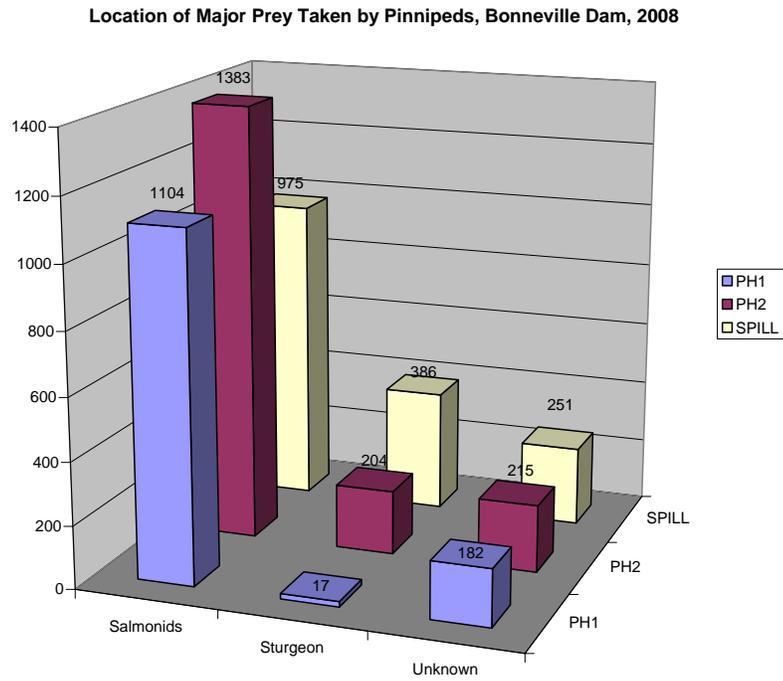


Figure 7. Daily Steelhead and Chinook take at Bonneville Dam, 2008. Data are unexpanded and preliminary.

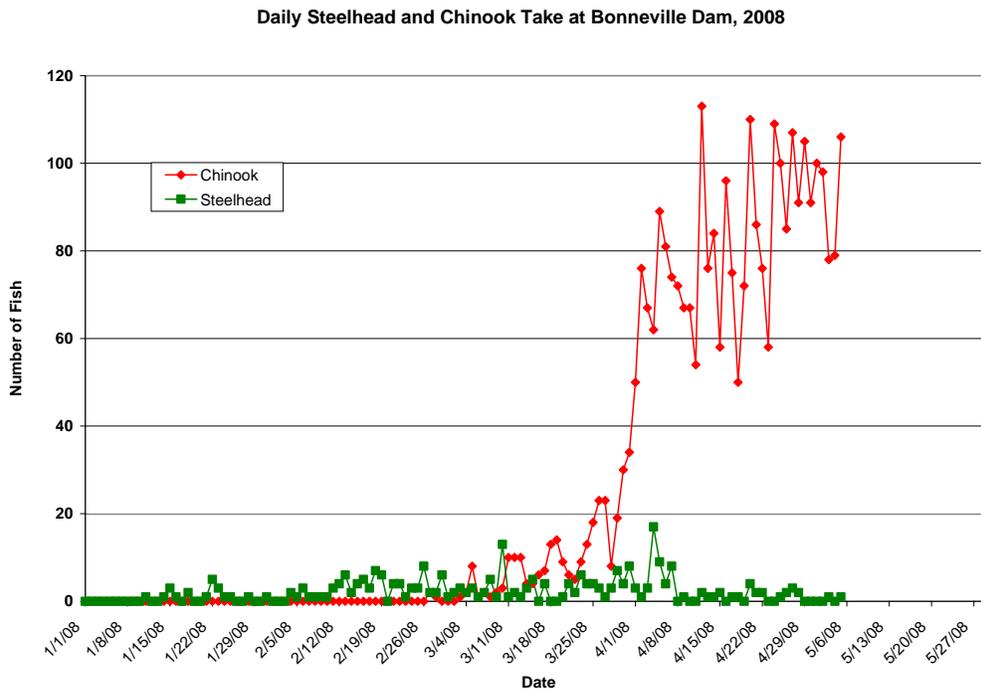


Figure 8. Cumulative estimated daily salmonid catch by pinnipeds at Bonneville Dam, 2006-2008. 2008 data are not expanded and are preliminary.

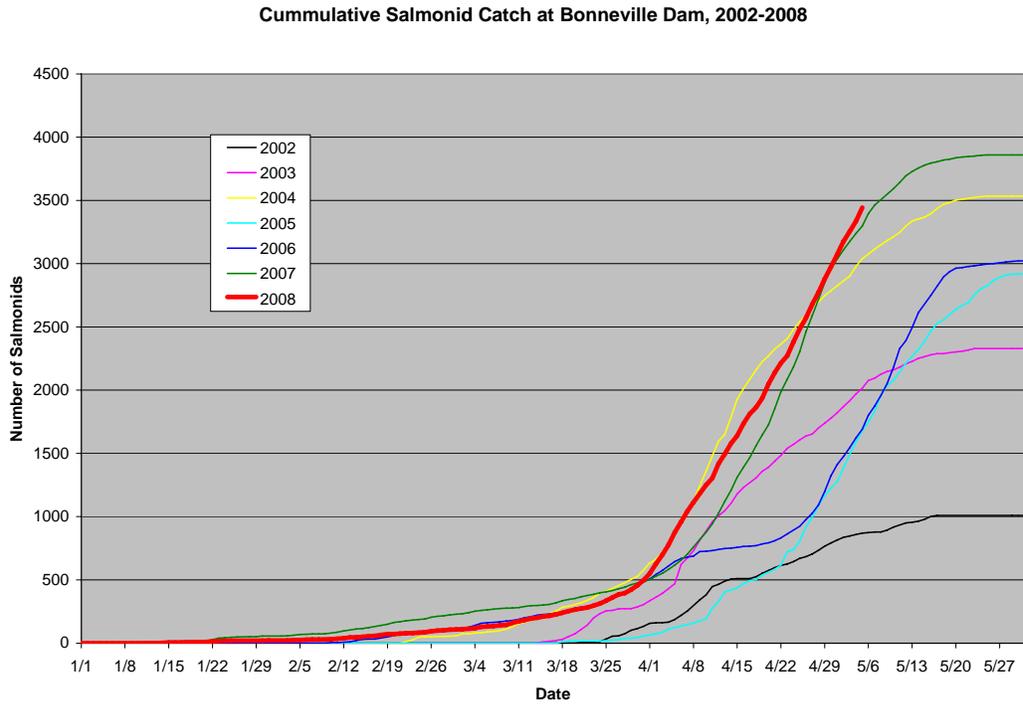


Figure 9. Cumulative total daily salmonid counts at Bonneville Dam, 2002-2008.

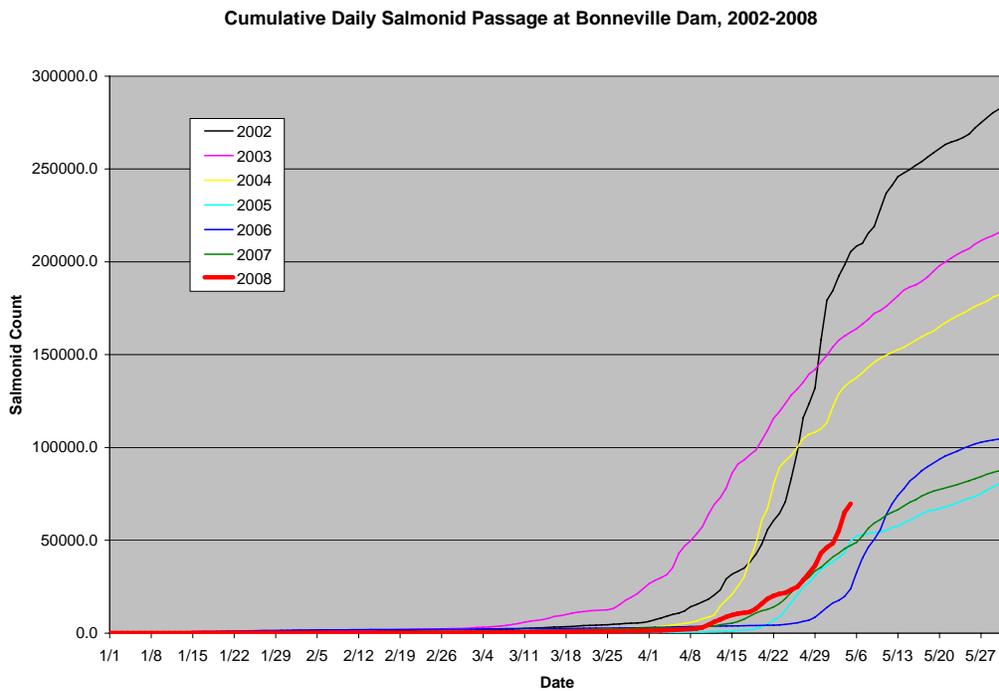


Figure 10. Steller sea lion abundance at Bonneville Dam, 2002-2008.

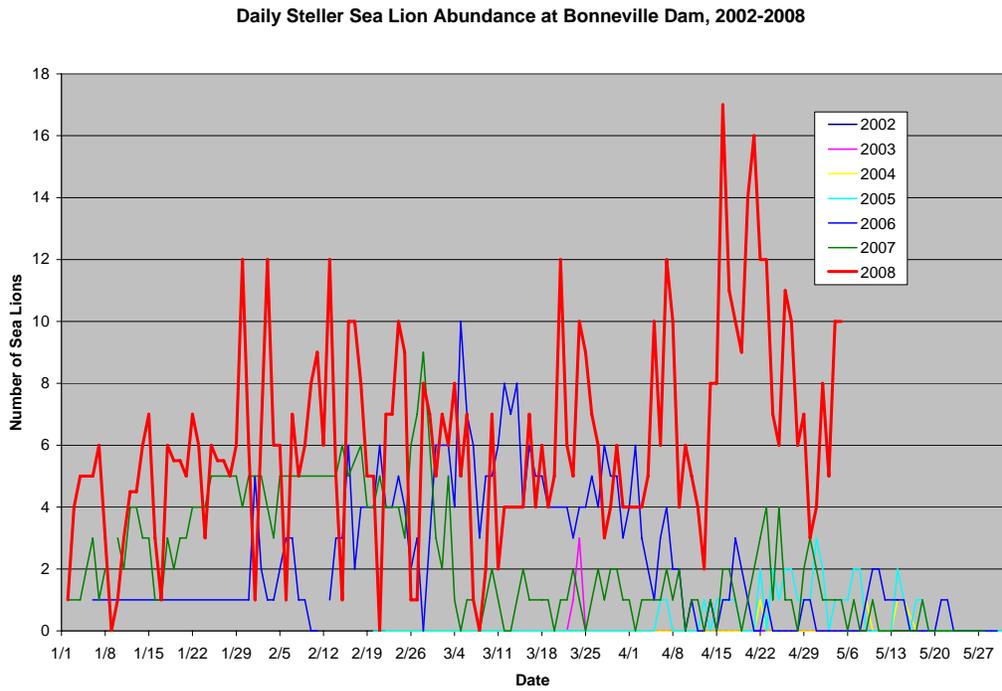


Figure 11. California sea lion abundance at Bonneville Dam, 2002-2008.

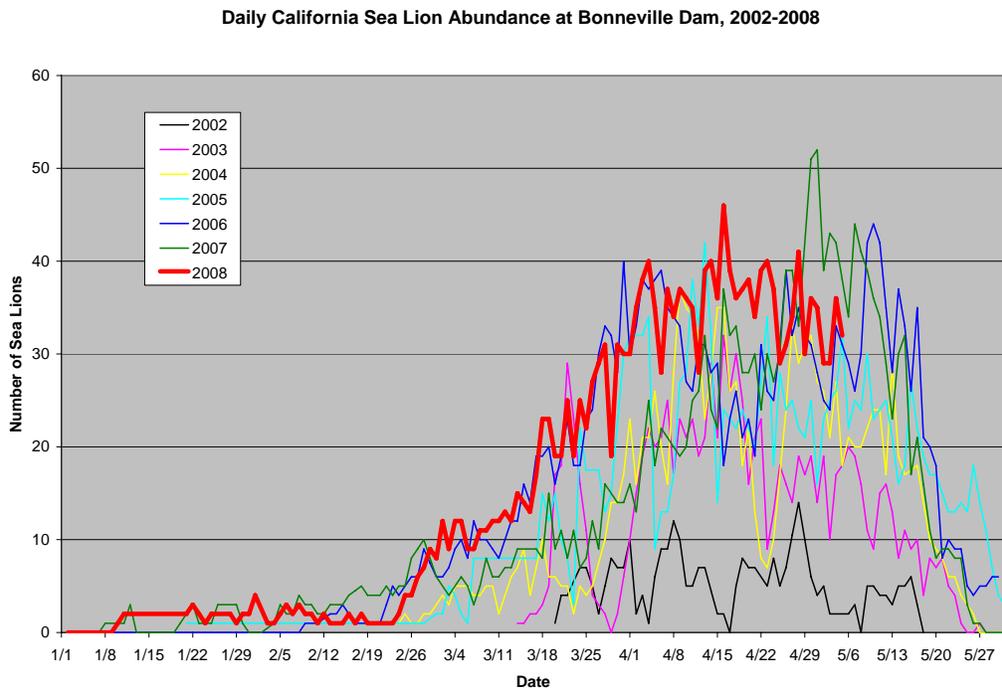


Figure 12. Total Pinniped abundance at Bonneville Dam, 2002-2008.

