

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

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This is the seventh 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 trapped on April 24 last week and again on April 28 (details below). After the 9th Circuit Court upheld the HSUS injunction, no animals will be allowed to be lethally taken until a hearing on the issue on May 8. Trap and haul to Sea World or other locations will be the first option. The latest plan is to trap twice a week for the next four weeks.

PRELIMINARY RESULTS

Data presented here are up through April 27, 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 stayed relatively high over the last week (Figures 1 and 10). The number of California sea lions (*Zalophus californianus*) continues to grow and reached 46 on April 16 (Figures 1 and 11). The most number of pinnipeds total for one day so far was 63 on April 16, which is a new one day record high since we began observations in 2002 (Figure 12), the previous record being 54 animals last year. A preliminary look at individuals identified at Bonneville Dam so far suggests we have seen about 70 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, 32 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.

PREDATION FIGURES

Fish counts are showing another late run, as we have seen for the last three years (Figure 9). Interestingly, we are currently about equal to the salmonid count for last year and also for the take estimate.

Unexpanded numbers for fish observed taken between January 11 and April 27 are:

- 2,416 Chinook, 268 steelhead (see Figure 2)
- 606 sturgeon (21 larger than 5 feet)(see Figures 2, 3 and 4)
- 8 lamprey
- 574 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 equal or 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% (1,049 of 2,680 or 39%) 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 3rd. Through April 23, USDA has used about 4,000 cracker shells from shotguns, 1,500 cracker shells from pistols, and 800 bean bags. Boats are hazing most days each 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 animals have been observed to be successfully chased downstream while others have not responded to multiple crackershells or rubber bullets.

TRAPPING AND REMOVAL

On April 24, 8 sea lions were trapped. Two were Steller sea lions and were released. The remaining six were California sea lions, 2 being branded and on the list, 1 being branded and not on the original list of 60 animals but had met the criteria since he had been here, and 3 unbranded animals that were not on the list. The branded animals are now at Point Defiance zoo in Tacoma awaiting transfer to Sea World Orlando (if they meet all the stipulated criteria). The remaining animals were branded and released at Astoria. Of note, one of the animals captured was C319, who has been observed at Bonneville since 2002 and held the record for heaviest California sea lion weighed last year at 1,151 lbs. Well, it seems he broke his own record this year, weighing in at 1,236 lbs! And I still maintain that he is NOT the biggest one out there! He was here every day from February 25 to April 24 and was documented to catch at least 39 salmonids and 8 unknown fish over 59 days.

On April 28, 5 California sea lions were trapped, 2 branded animals on the list, 2 unbranded animal on the list, and 1 unbranded unidentified animal. The non-branded individual was branded and released at Bonneville, and the rest were driven up to Point Defiance zoo.

OTHER ITEMS OF INTEREST

We observed a very young California sea lion (Robin Brown estimates it is about 3 years old) a few days this past week (Figure 13). This is another new observation, as we have never seen one this small or young up here before. We also have at least one California sea lion up in the forebay now as well, being seen eating salmon and hauling out on the log boom near the navigation lock (Figure 14).

Figure 1. Daily minimum pinniped abundance.

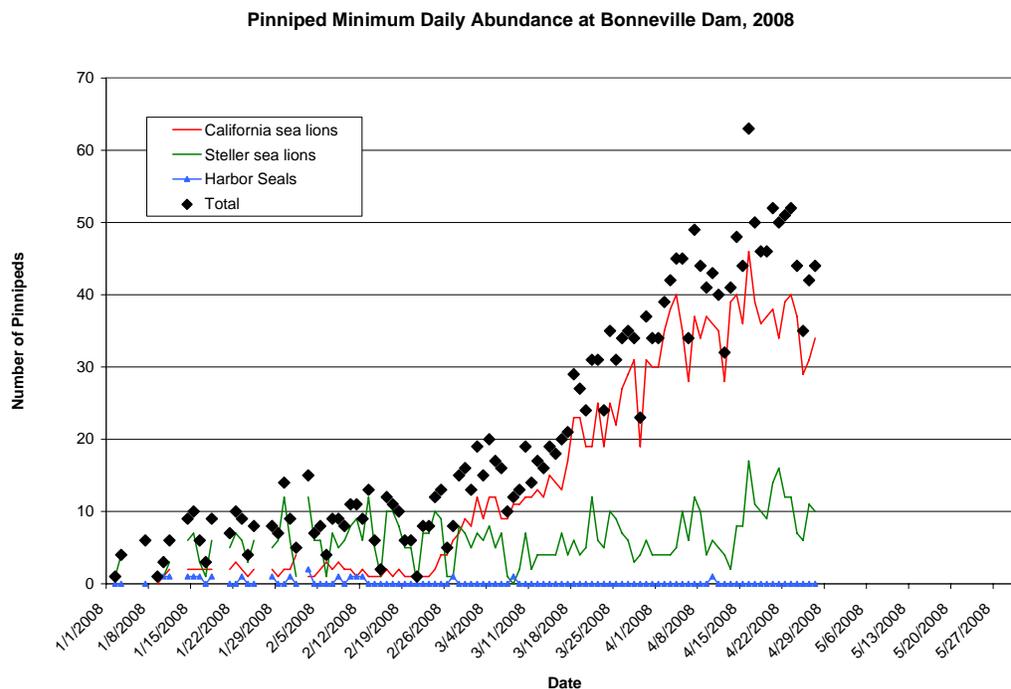


Figure 2. Daily salmonid, sturgeon, and unknown fish predation by pinnipeds, unexpanded observations.

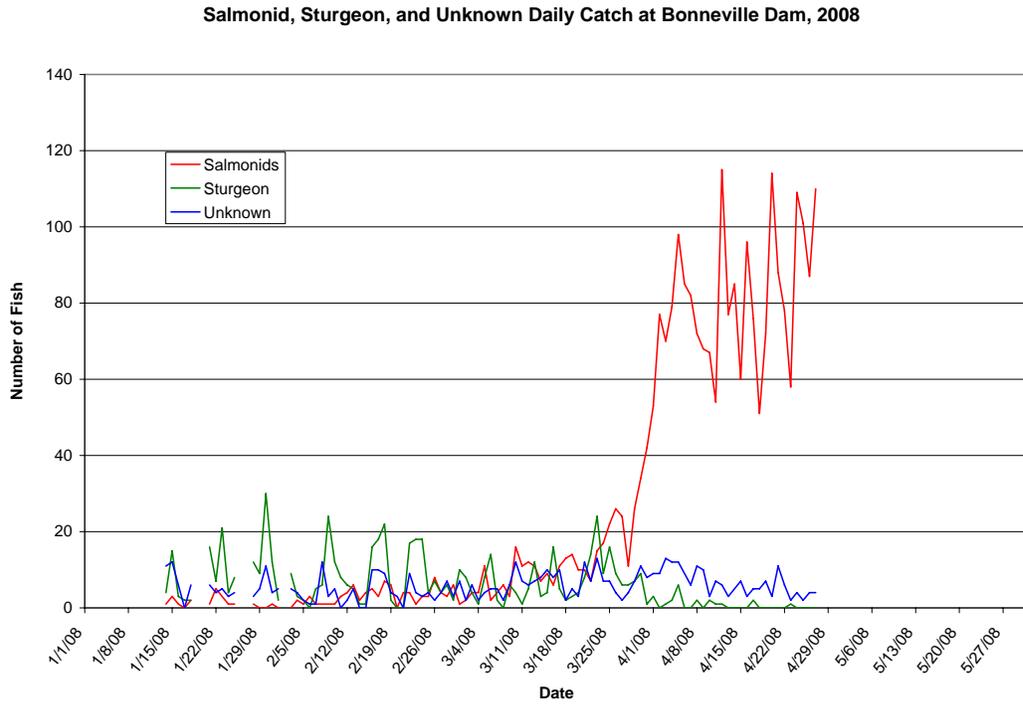


Figure 3. Cumulative estimated daily sturgeon catch by pinnipeds at Bonneville Dam, 2006-2008. 2008 data are not expanded and are preliminary.

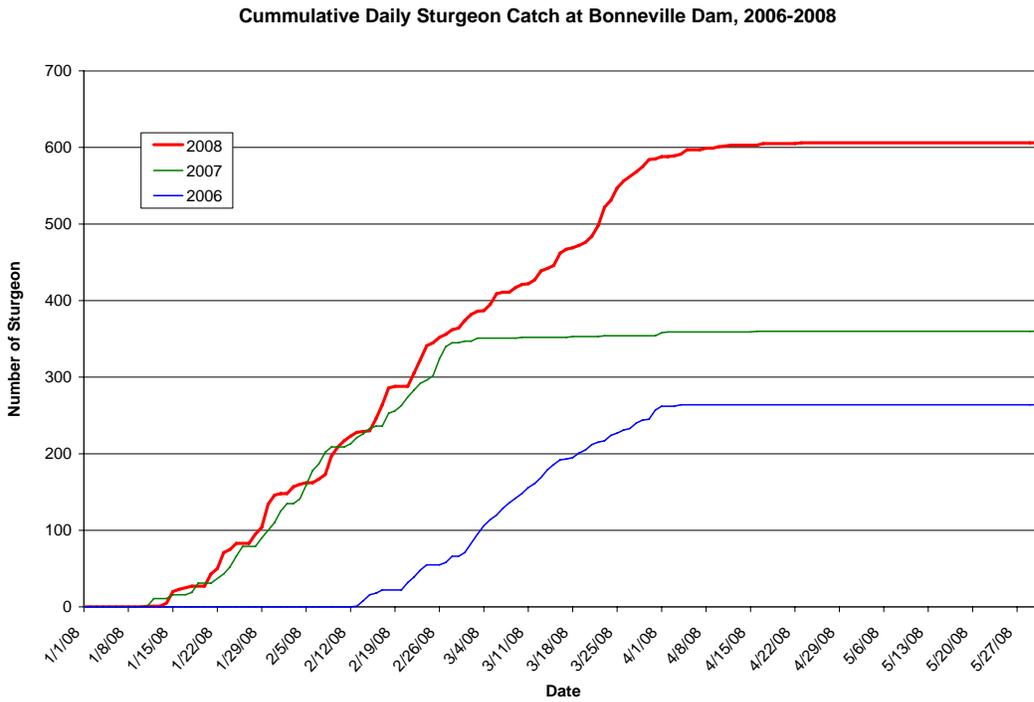


Figure 4. Size distribution of sturgeon caught at Bonneville Dam, 2002-2008.

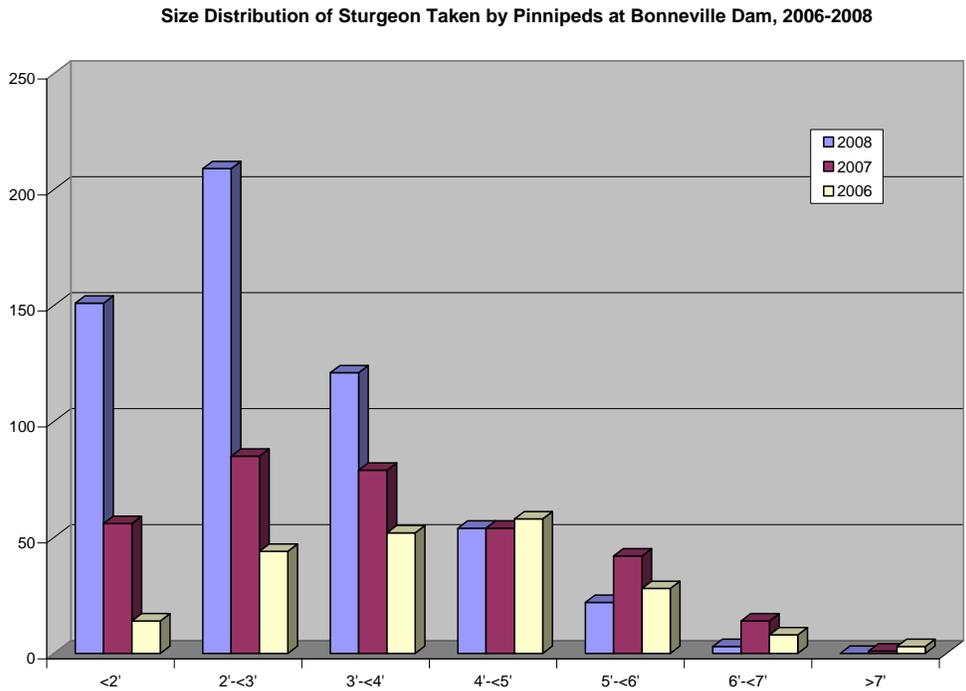


Figure 5. Prey taken by species of Pinniped at Bonneville Dam, 2008.

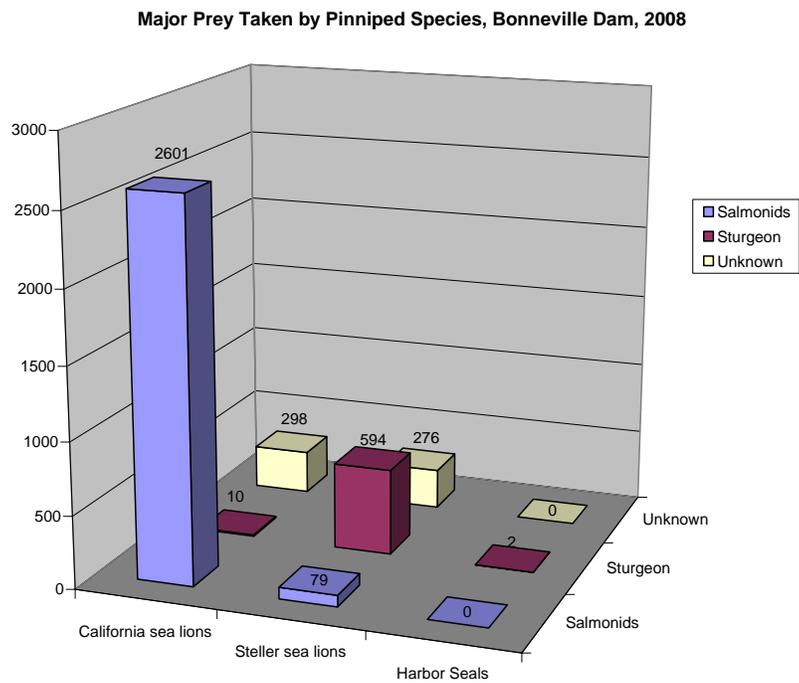


Figure 6. Location of prey taken at Bonneville Dam, 2008.

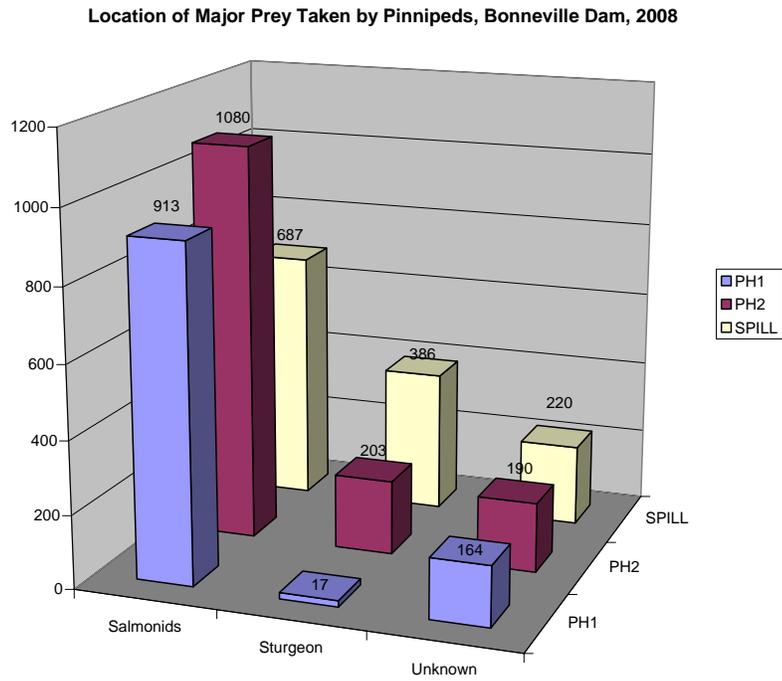


Figure 7. Daily Steelhead and Chinook take at Bonneville Dam, 2008. Data are unexpanded and preliminary.

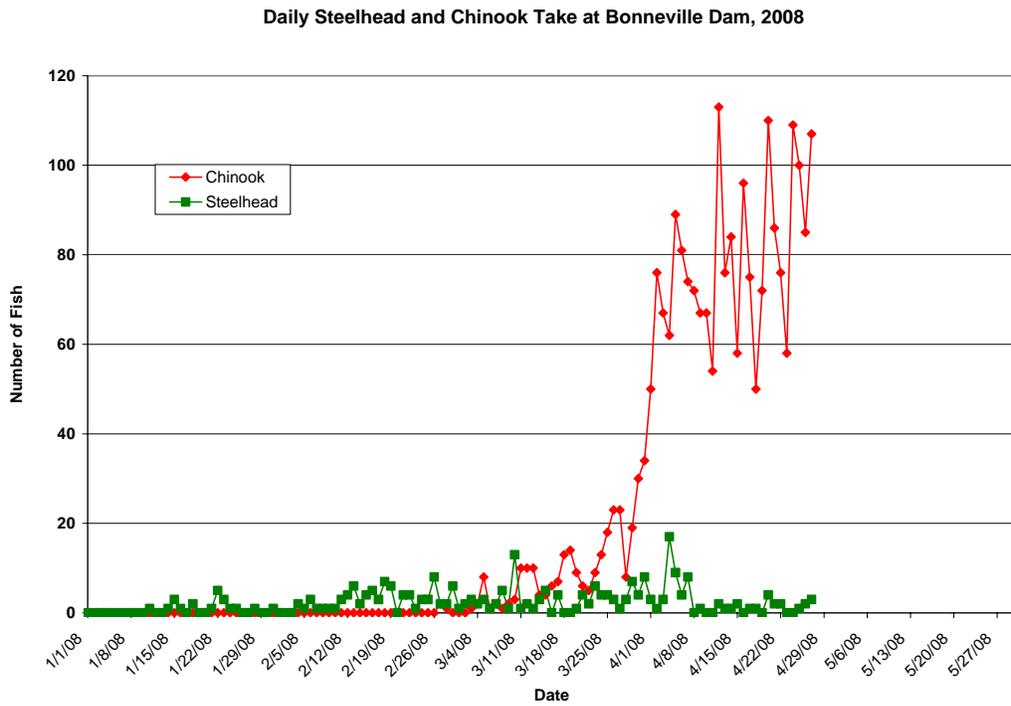


Figure 8. Cumulative estimated daily salmonid catch by pinnipeds at Bonneville Dam, 2006-2008. 2008 data are not expanded and are preliminary.

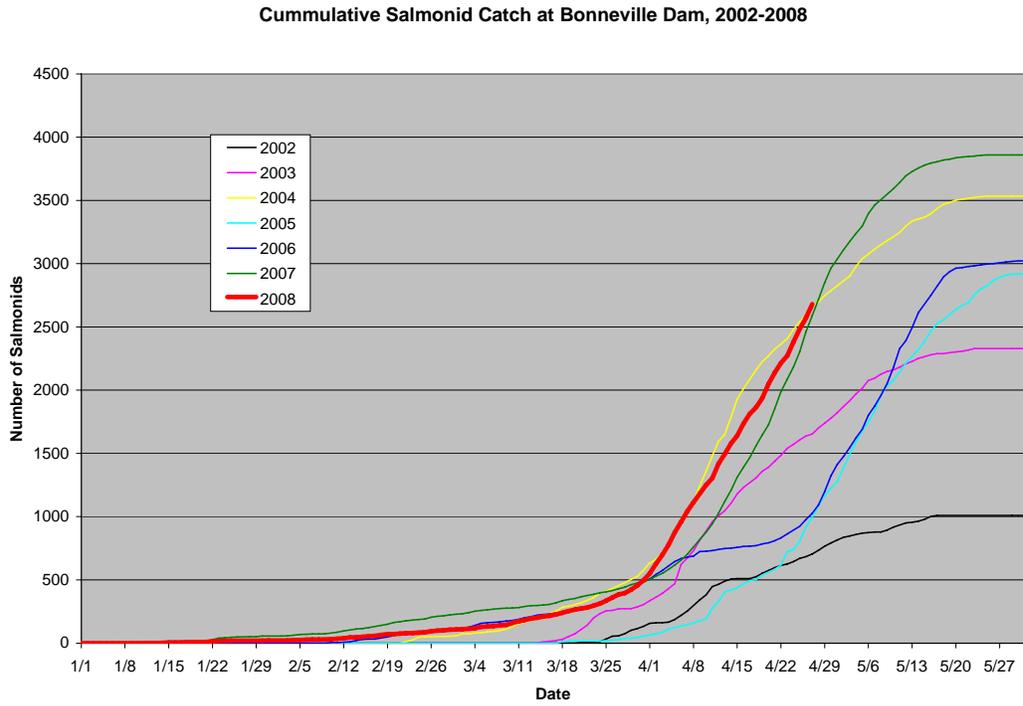


Figure 9. Cumulative total daily salmonid counts at Bonneville Dam, 2002-2008.

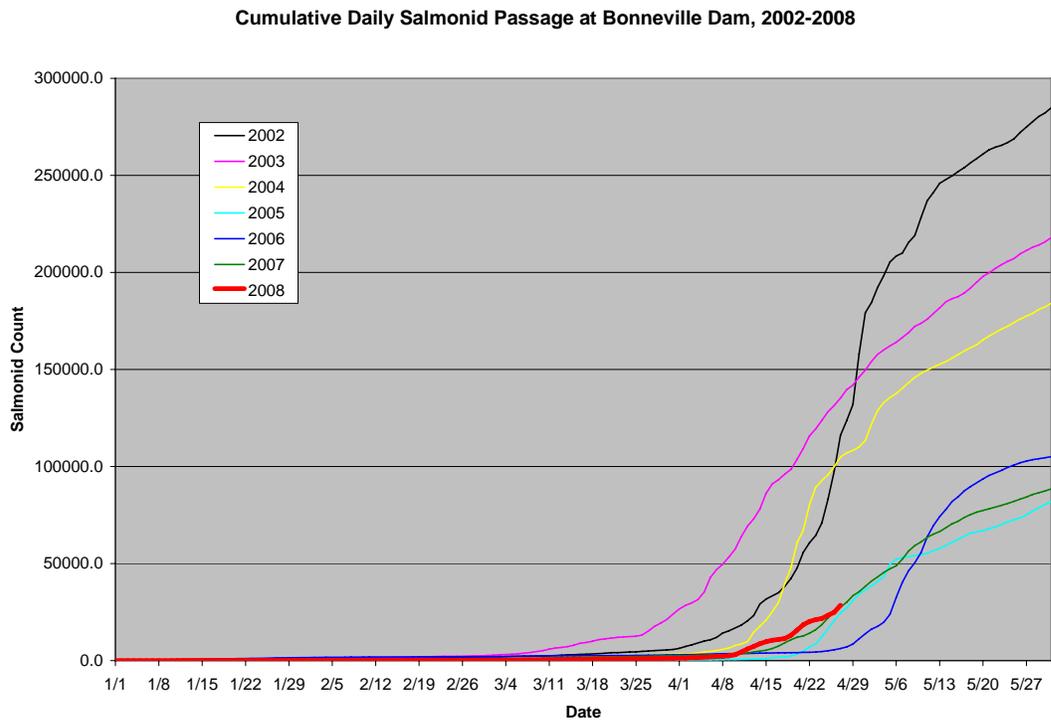


Figure 10. Steller sea lion abundance at Bonneville Dam, 2002-2008.

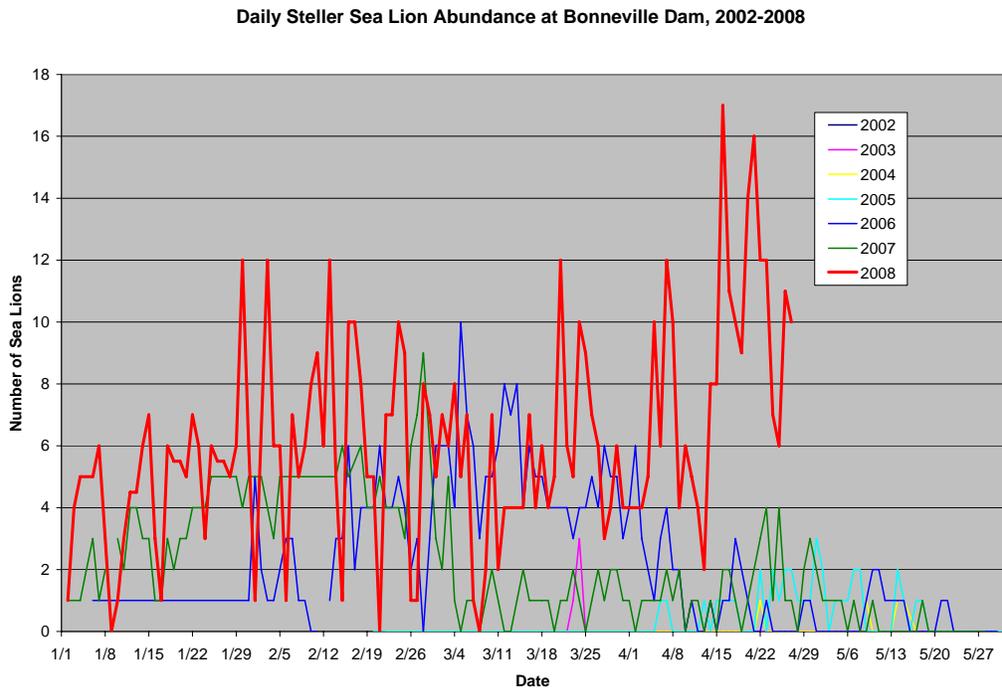


Figure 11. California sea lion abundance at Bonneville Dam, 2002-2008.

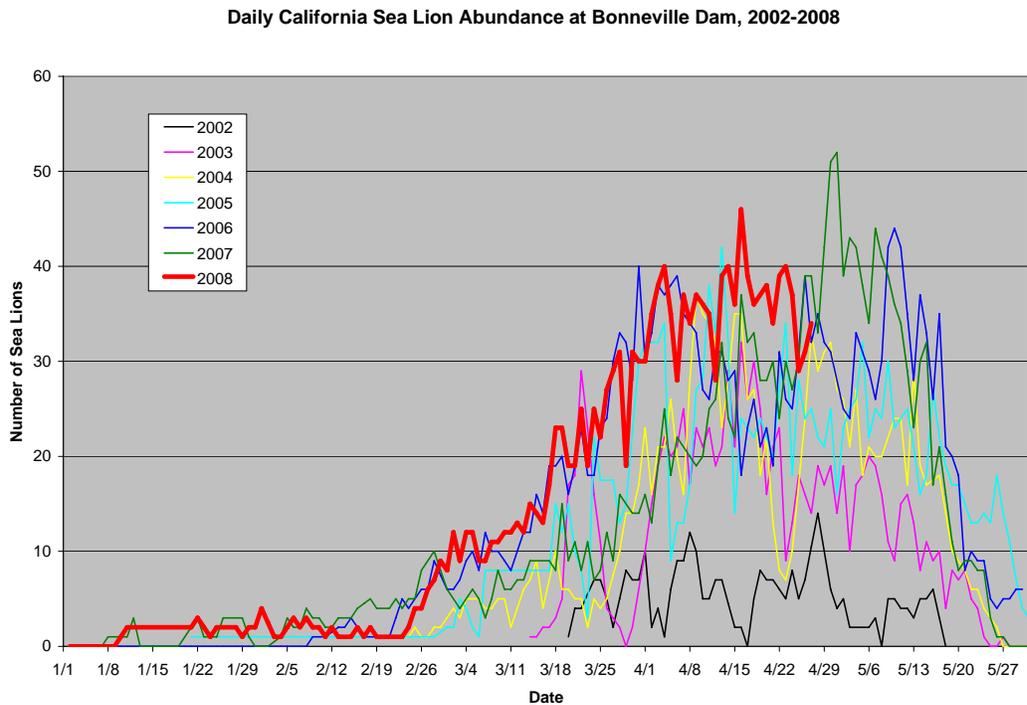


Figure 12. Total Pinniped abundance at Bonneville Dam, 2002-2008.

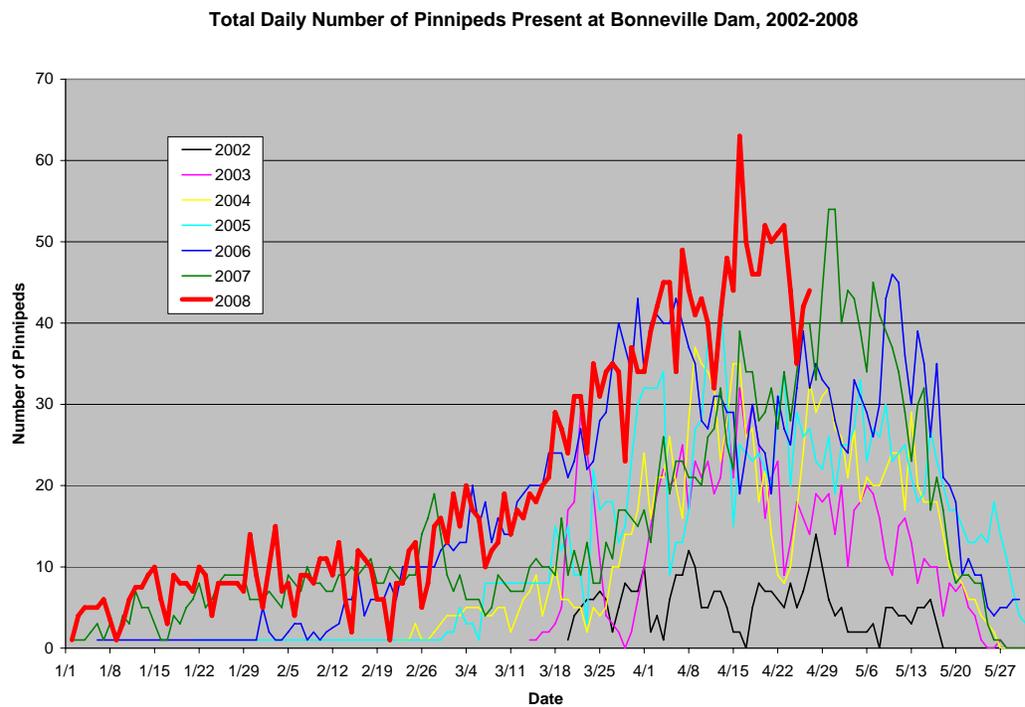


Figure 13. Very young (about 3 years old) California sea lion at Bonneville Dam.



Figure 14. Sea lion hauled out near the navigation lock upstream of Bonneville Dam.

