

STATUS REPORT - PINNIPED PREDATION AND DETERRENT ACTIVITIES AT BONNEVILLE DAM, 2009

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This fourteenth weekly status report of 2009 summarizes all pinniped predation monitoring and deterrent activities at Bonneville Dam from January 1 through May 13, 2009.

Regular daylight observations began on January 19 and will continue to the end of May, five days per week. Weekends were only monitored twice this year. 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.

Boat-based crews from Oregon Department of Fish and Wildlife (ODFW), Washington Department of Fish and Wildlife (WDFW), and Columbia River Inter-Tribal Fish Commission (CRITFC) began hazing sea lions within the Bonneville dam boat restricted zone (BRZ) and in downriver areas in January, and plan to continue through the end of May. The U.S. Department of Agriculture (USDA) Wildlife Services, contracted by the Corps, began to haze sea lions from dam structures and adjacent lands the first week of March and will continue seven days per week, eight hours per day, during daylight hours through the end of May.

PRELIMINARY RESULTS

All data presented here are preliminary as of the status report date. Predation figures are unexpanded 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 of the 2009 evaluation will be available later this year.

PINNIPED ABUNDANCE

The number of California sea lions and Steller sea lions has dropped over the past week indicating they may be starting to move out in advance of their annual trip to the breeding grounds in California (Figures 2, 6, 11, and 12). Average daily number of California sea lions present from January to the present is the same as for Steller sea lions at this point. The highest daily abundance estimate for all pinnipeds at Bonneville dam was 47 on April 21, lower than the previous two years and halting the trend increasing every year. More specifically, California sea lion numbers peaked at 26 animals, lower than every year since 2002, while Steller sea lion numbers also peaked at 26 animals, much higher than any previous year (Figures 1, 11, and 12). Average daily number of California sea lions present is 10.6 this year, the lowest since 2004. It

is very likely the removal program by the states is a major reason for the decrease in California sea lion presence. We have seen at least 50 different California sea lions, 26 Steller sea lions, and 2 harbor seals since full-time monitoring began. Up to 16 of the California sea lions appear to be new visitors to Bonneville Dam, with the remainder being repeats from previous years.

PREDATION DATA

Unexpanded numbers for fish observed taken in the Bonneville Dam tailrace for 2009 are:

	California Sea Lions	Steller Sea Lions	Total
Chinook	2277	249	2526
Steelhead	282	39	321
Sturgeon	37	721	758
Lamprey	41	6	47
Shad	7	12	19
Other	3	1	4
Unknown	224	372	596

Steller sea lions have taken at least 249 salmonids this year, about 29% of their diet, compared to 22% last year (Figure 3). Daily salmonid catch has dropped this past week, although still fairly high for the few animals still present. No sturgeon were observed caught this past week, but sturgeon catch exceeded the catch of previous years (Figure 4) with a record 50 being observed caught on February 23. Size distribution of sturgeon seen caught has been similar to the past few years (Figure 10). Chinook salmon are now the primary prey caught by both California and Steller sea lions, however, the cumulative salmonid catch to date continues to be lower than it has been for the past two years (Figures 7 and 13) even when now extrapolated for the weekends we did not observe (however these preliminary figures still exclude some hours not observed each day).

Salmonid passage so far peaked at 8049 on May 2, but the run has been rising fairly steeply in the past several days, second only to 2002 for the past 8 years. This is now only the fourth lowest to date total since we have been observing sea lions back in 2002 (Figures 8 and 9). Jacks made up more than half the daily total on May 12 and 13!

DETERRENTS/TRAPPING

Trapping by the states began March 10, and to date, a total of 14 animals have been trapped and removed. This week, 5 California sea lions were trapped, 3 being on the list for removal (C645, C674, and C858). The initial exam revealed lesions on the penis of on all three animals and Pt. Defiance Zoo will understandably not accept animals that could contaminate their facilities. Two additional sea lions were not identified as being on the list for removal and were branded (C934 and C935), given acoustic tags, and released. Of interest is that some of the bloodwork done on some of the earlier captured animals has revealed a form of meningial encephalitis. It appears that many of these animals possess one or more serious health issues, making them unsuitable for zoos or aquariums.

The 11 California sea lions removed this year (excluding those removed this week) and the 11 removed last year make up 26% of the animals currently on the list for removal, yet represent 33% of the salmonids observed caught by all listed animals between 2002 and 2008, 45% of the lamprey observed taken, and 36% of the days individual sea lions were present. This means on average, the removed animals were those that were present longer and seen to take more fish in the Bonneville observation area than the average. The aforementioned reduction in California sea lion numbers and salmonid take (at least compared to 2008) in the previous two sections can likely be attributed to the removal of these 22 animals from the Columbia River.

Hazing by the states and CRITFC from boats began in January has been conducted on most days (excluding weekends) up through April 8. Hazing continues to have some limited, local, short term impact in reducing predation in the tailrace.

OTHER ITEMS OF INTEREST

It may be of interest to some to know that as of this week, we have identified 89 branded and 84 highly identifiable individual California sea lions to have been present at Bonneville Dam since the study began in 2002. Of those animals, 80 have met the NOAA and states criteria to be put on the removal list (29 “B” codes and 51 branded [18 originally known by “B” codes]). An additional 192 individual “B” codes have been identified but their unique features are less likely to be noted between years (only 10 of these have been believed to have been identified in multiple years) and they are not considered when developing the removal list. The interesting point to be made is that the 80 listed animals account for 90% of the salmon observed caught by all branded and highly identifiable sea lions, 83% of the lamprey, and 87% of the days individuals sea lions were present. Of course, only about 40% of all fish caught can be attributed to specific individuals, but none-the-less, the animals on the list account for a large percentage of Bonneville salmon taken. It may also be of interest to note that 11 animals on the list have not been seen at Bonneville for 1 year, 14 for 2 years, and 14 for 3 years. Thirteen individuals out of all 365 have been seen at Bonneville after not being seen for one year, and only two individuals were seen again after an absence of more than 2 years, meaning it is unlikely that 28 animals on the list will be seen again at Bonneville (either dying naturally or possibly preferring to hunt elsewhere). With 22 individuals on the list having been removed to date, that leaves 19 additional animals that are currently on the list and were observed this year. These are the only likely animals left on the list to be removed in the future, excluding those additional individuals that newly qualify for the list each year.

No further night observations will be made as fewer animals seem to be present to make the effort worthwhile.

There are now 6 acoustic tagged California sea lions out there, and we know that some have been making trips to Astoria and back, so there should be very good information coming after the season on movement patterns of some of these animals.

Figure 1. Daily minimum pinniped abundance (weekends interpolated) at Bonneville Dam, 2002-2009.

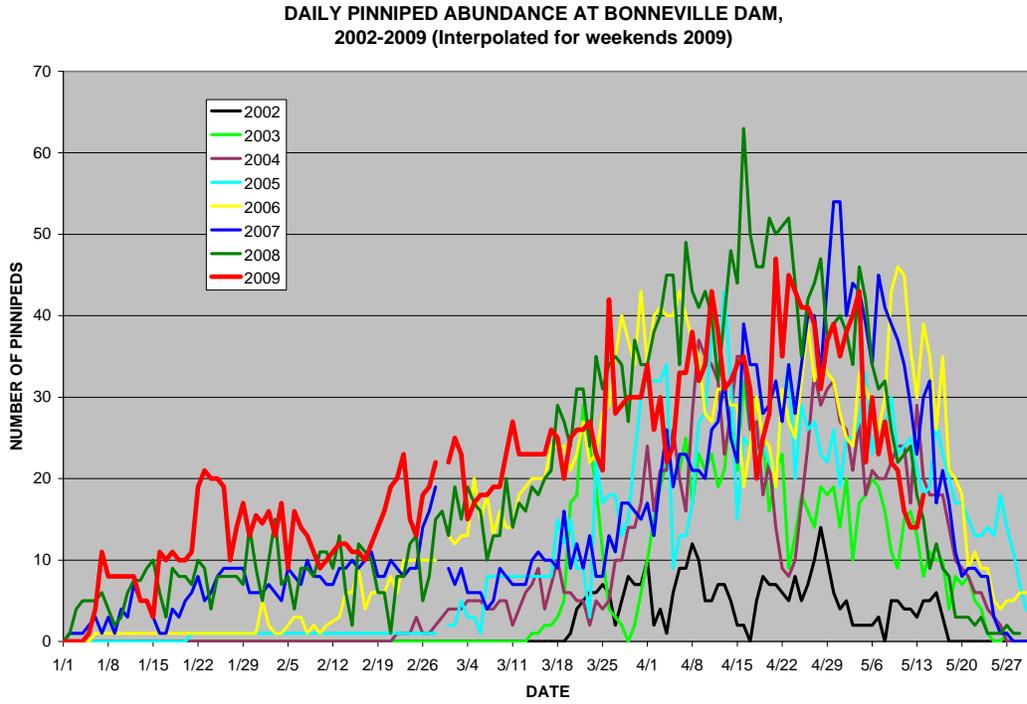


Figure 2. Daily pinniped abundance, by species, at Bonneville Dam, 2009.

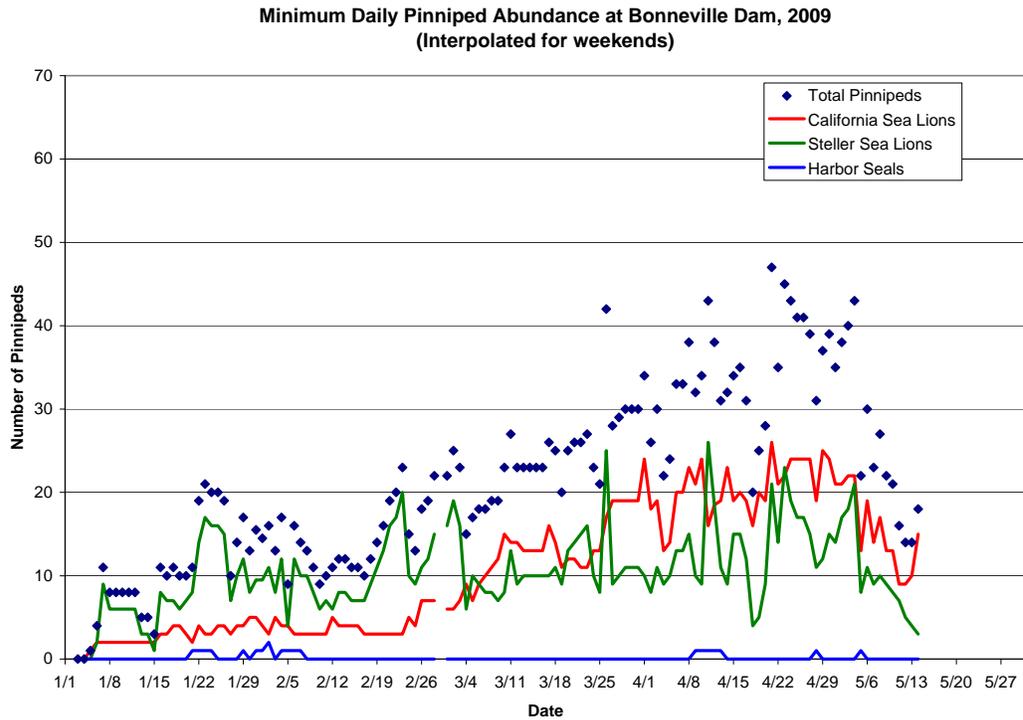


Figure 3. Major prey species taken by Pinniped species at Bonneville Dam, 2009.

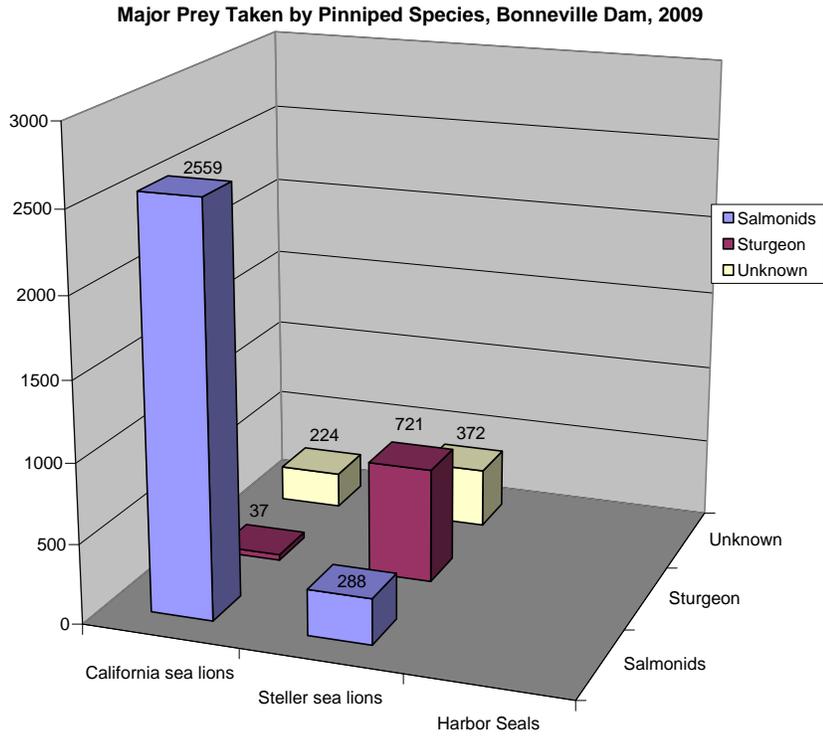


Figure 4. Daily cumulative sturgeon catch at Bonneville Dam, 2006-2009. All data unexpanded.

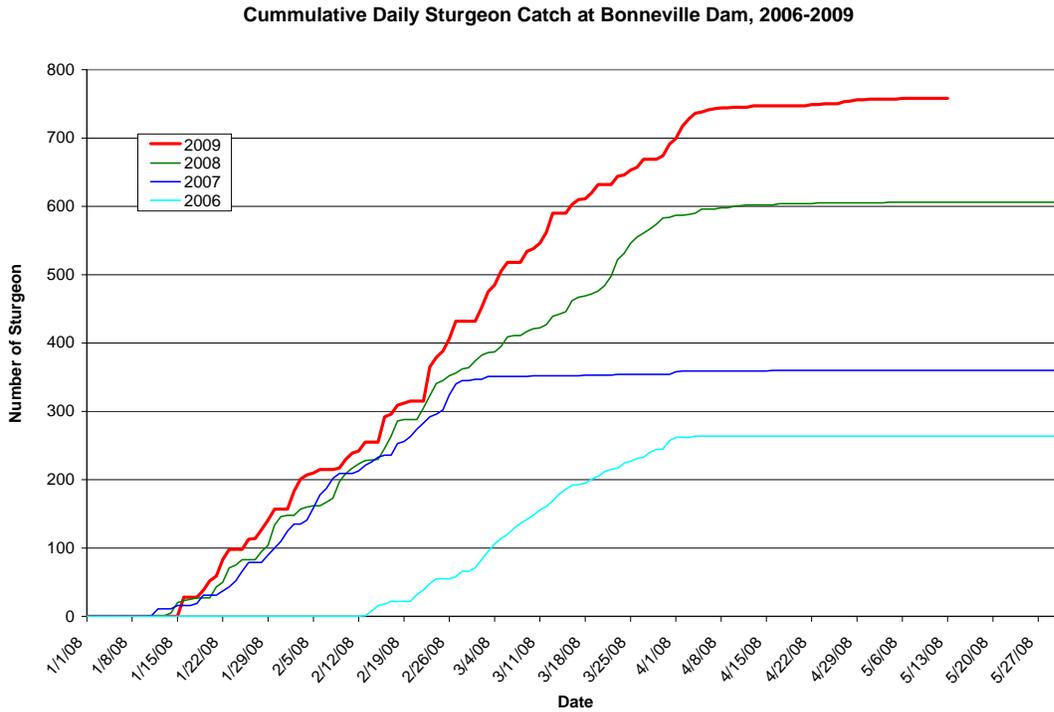


Figure 5. Major prey species taken by Pinnipeds by location, 2009.

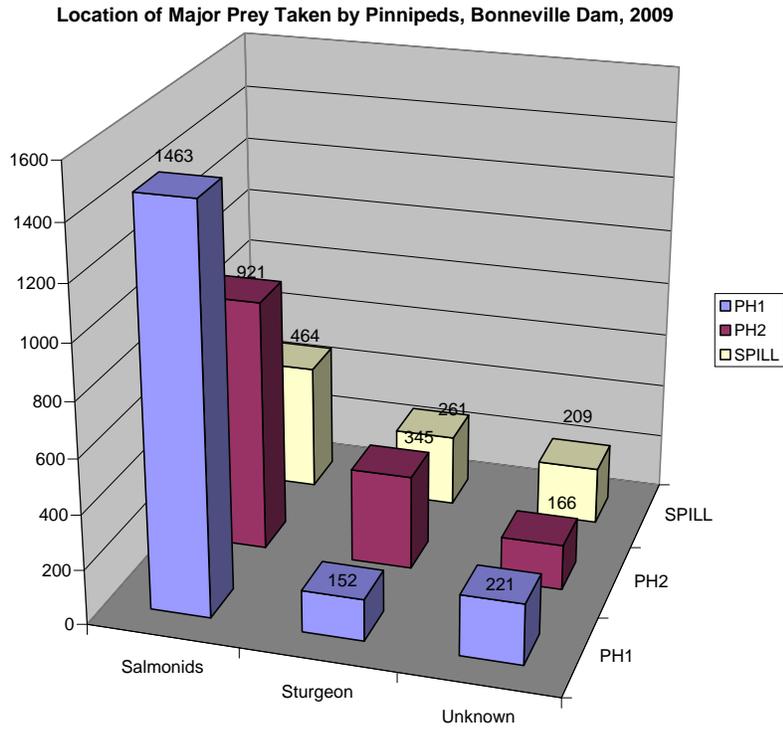


Figure 6. Average daily presence of pinnipeds, by species, to date (May 6) for each year at Bonneville Dam.

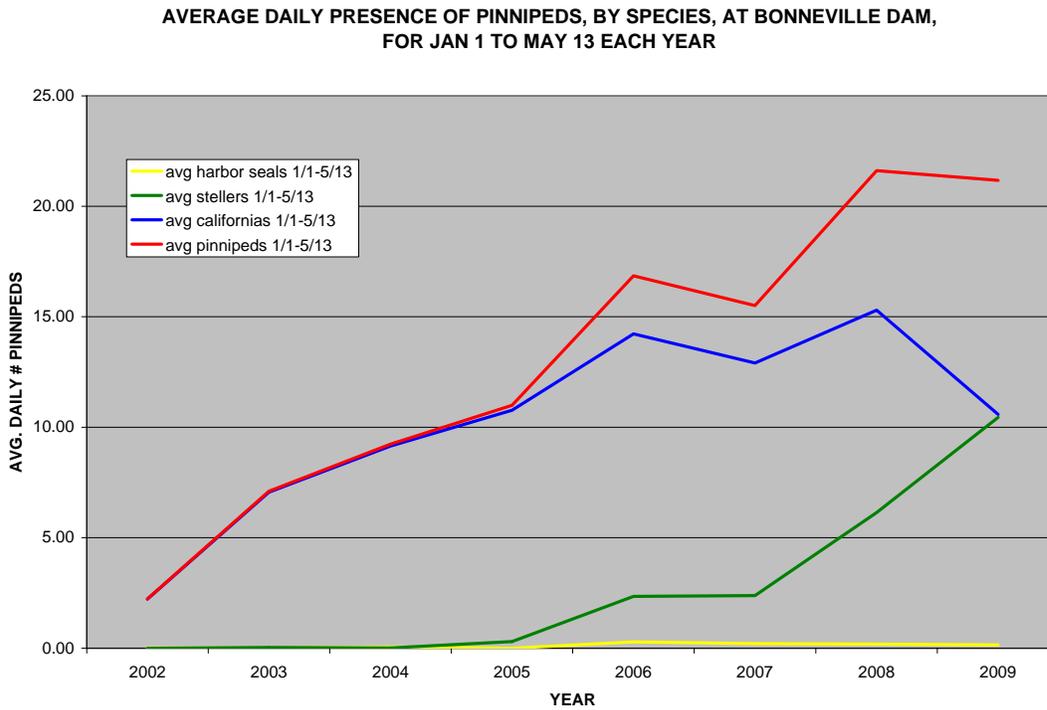


Figure 7. Daily cumulative salmonid catch at Bonneville Dam, 2002-2009. Please note 2009 data presented are unexpanded for weekends not observed.

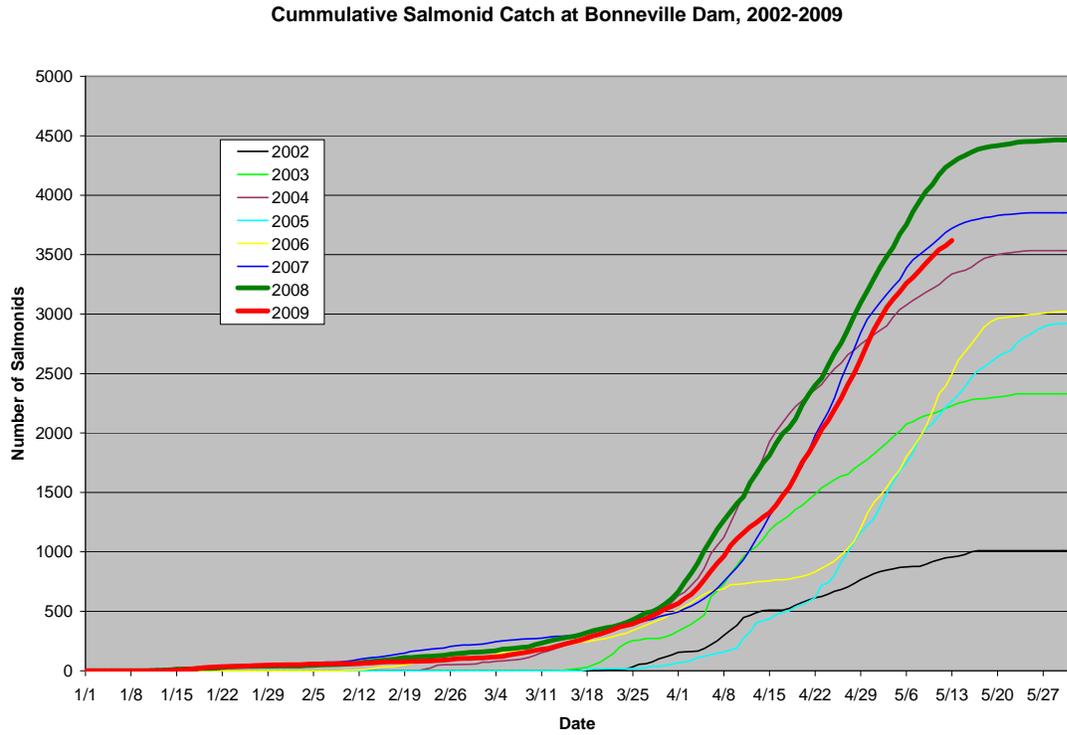


Figure 8. Daily cumulative salmonid passage at Bonneville Dam, 2002-2009.

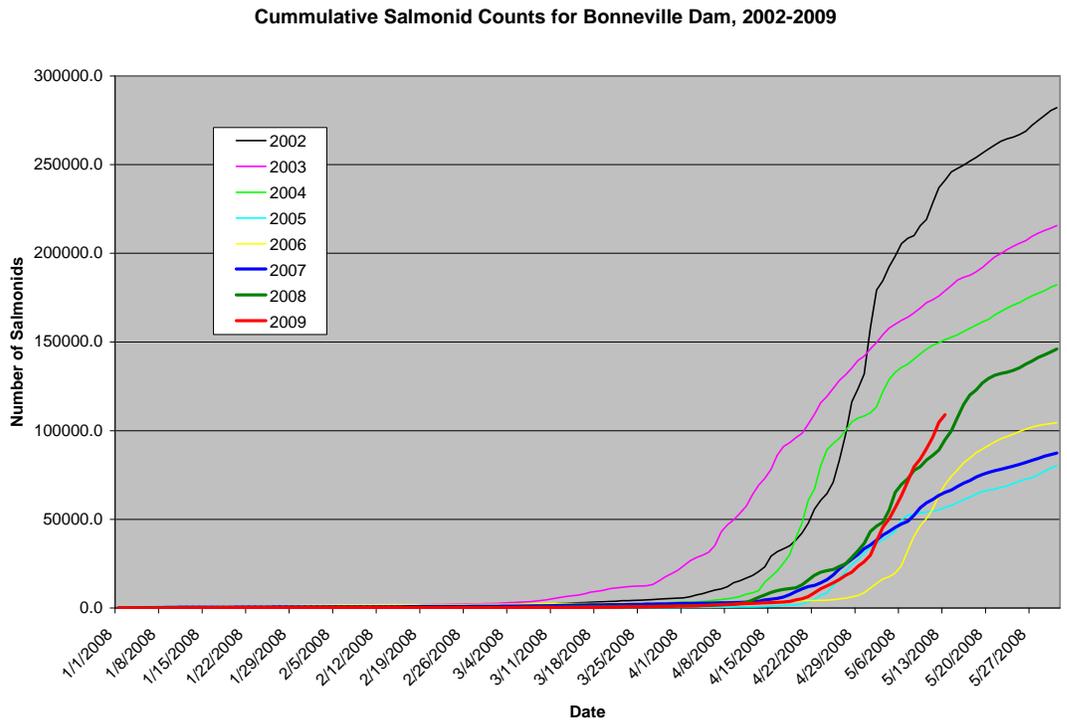


Figure 9. Daily salmonid passage at Bonneville Dam, 2002-2009.

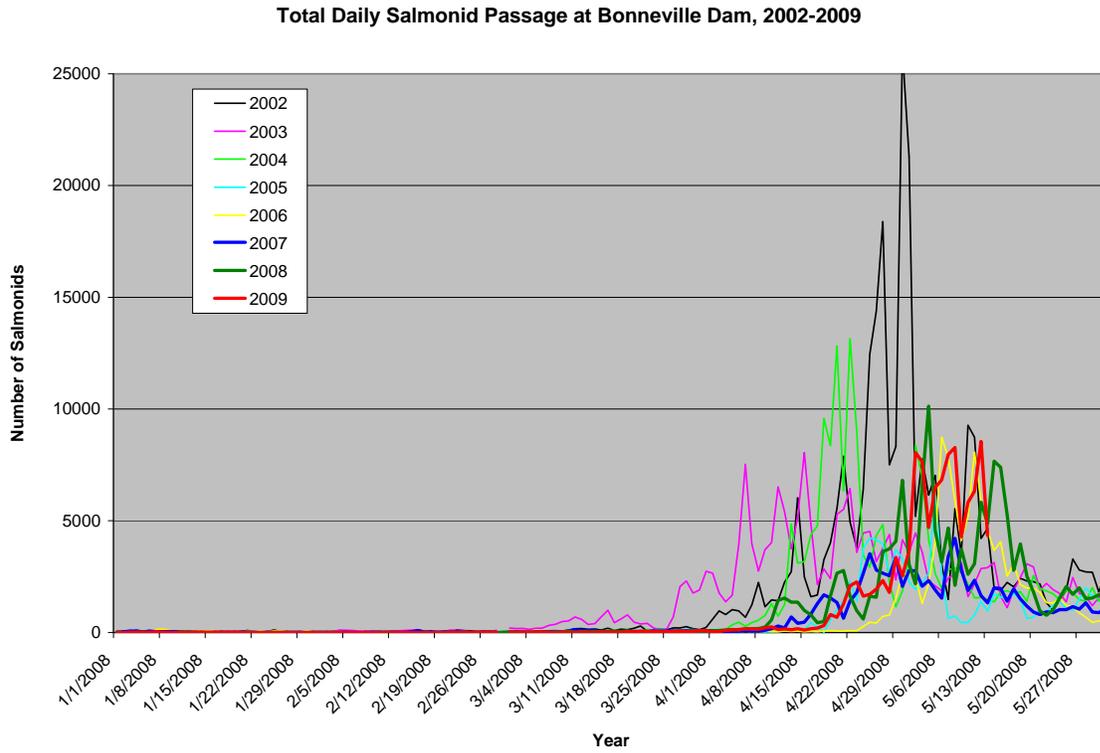


Figure 10. Size distribution of sturgeon observed caught at Bonneville Dam, 2006-2009.

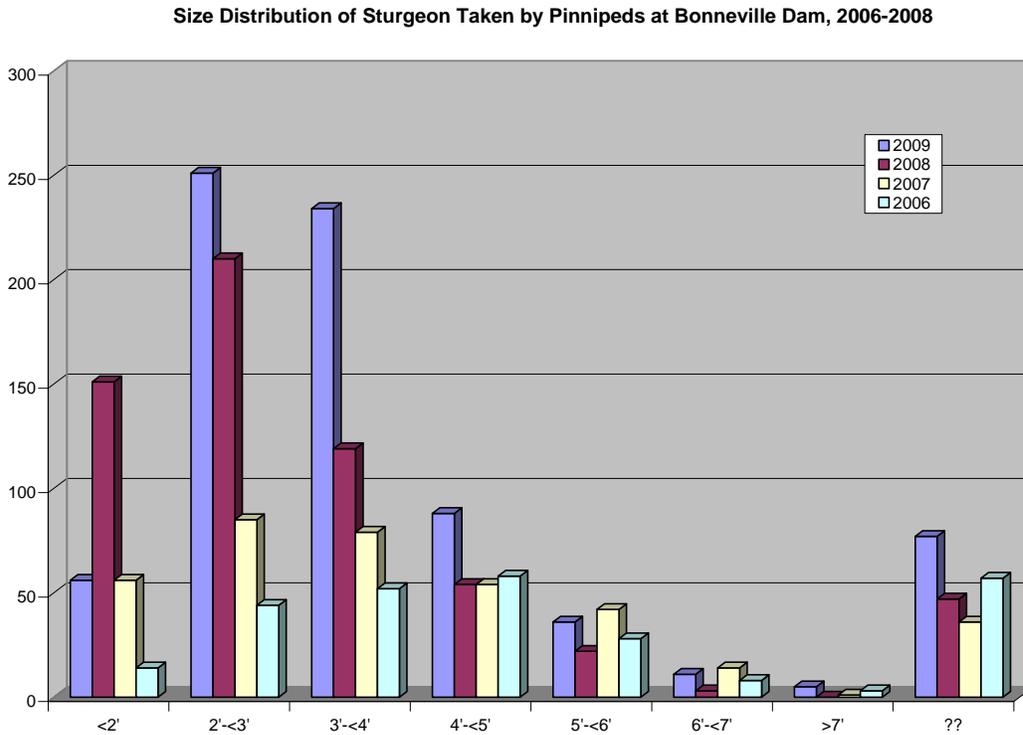


Figure 11. Daily minimum California sea lion abundance (weekends interpolated) at Bonneville Dam, 2002-2009.

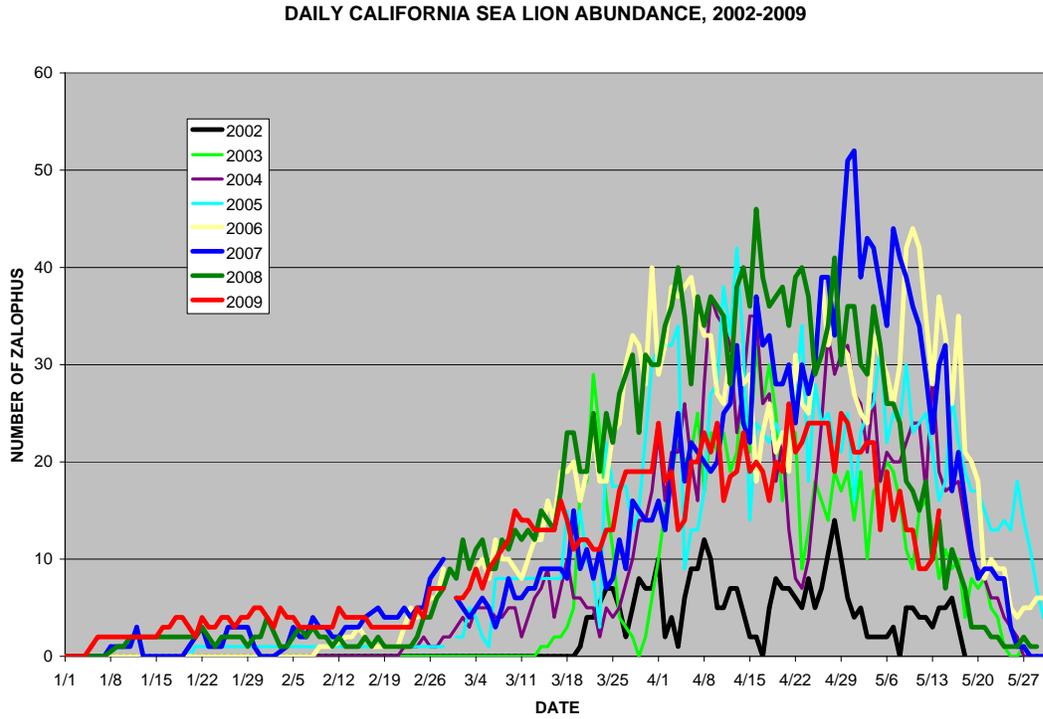


Figure 12. Daily minimum Steller sea lion abundance (weekends interpolated) at Bonneville Dam, 2002-2009.

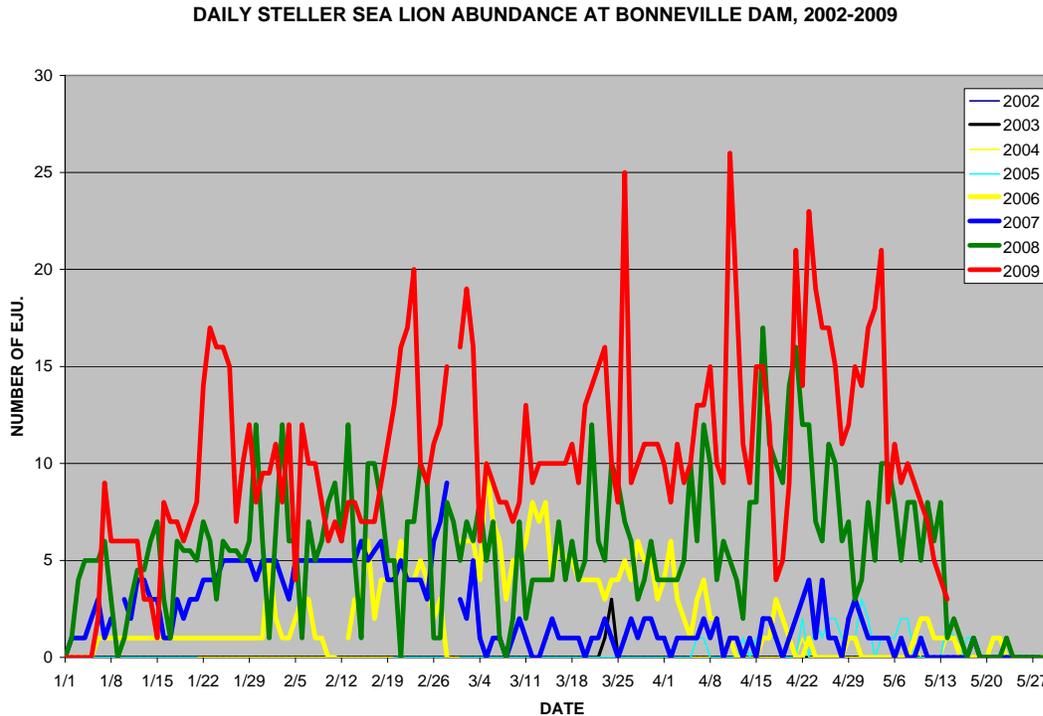


Figure 13. Daily observed (2009 unexpanded) salmonid take at Bonneville Dam, 2002-2009.

