

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

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This is the second 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 lions preying on sturgeon, 2 to 5 days a week, and has continued for California sea lions to date. Weekends are not covered. 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.

The states are anticipating permission from NOAA fisheries for lethal take of up to 30 California sea lions this spring, by lethal injection and/or shooting, or giving them to facilities expressing a desire to keep them. The states are also working with the Corps, enforcement agencies, an animal care committee, and various other groups to create a plan to address safety issues and coordination should lethal shooting become allowed. Three additional traps will be built, with a tagging barge to follow by early May. Logistics for a holding facility and potential sites that want some of these animals (request for 15 so far) are also being explored.

PRELIMINARY RESULTS

Data presented here are up through March 10, 2008. A final report of the 2005-2007 evaluation will be available in March.

PINNIPED ABUNDANCE

Steller sea lion (*Eumetopias jubatus*) numbers are declining the last few weeks and the number of California sea lions (*Zalophus californianus*) has begun to increase (Figure 1). To date, we have seen as many as 12 Steller sea lions and 12 California sea lions at the dam on any given day (see Figure 1). The most number of pinnipeds total for one day so far was 20 on March 4. A preliminary look at individuals identified at Bonneville Dam so far suggests we have seen about 18 different California sea lions, 12 Steller sea lions, and 2 Harbor seals. Thirteen of the California sea lions have been seen in previous years.

PREDATION FIGURES

Unexpanded numbers for fish observed taken between January 11 and March 10 are:

- 23 Chinook, 138 steelhead (see Figure 2)
- 421 sturgeon (14 larger than 5 feet)(see Figures 2, 3 and 4)
- 4 lamprey
- 247 unidentified (see Figure 2)

Steller sea lions are the primary predators of white sturgeon (*Acipenser transmontanus*) in the Bonneville Dam tailrace (Figure 5). Only six sturgeon were taken by California sea lions in past years; 1 this year and 2 by harbor seals (<2'). California sea lions had primarily been taking steelhead, but this past week they have begun catching numerous Chinook (Figure 7). 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 over half (111 of 209 or 53%) the prey taken by California sea lions has been attributed to specific individuals, or 62% (94 of 152) for salmonid prey specifically.

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 4 shows that sturgeon take has exceeded the take of last year. 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 up through February 19, an additional 5 Chinook, 6 steelhead, and 2 sturgeon have been observed taken. 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.

HAZING IMPACTS

Full hazing from both boat and dam began on March 3rd. After March 15, the tailrace of PH2 will not be hazed to allow for animals to haul out more on the traps for capture and for other potential activities in the future. This may change if the situation warrants in the future. 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.

OTHER ITEMS OF INTEREST

Some California and Steller sea lions have been observed to use the one trap already. Spill occurred from March 7 through March 9. One harbor seal was observed in the forebay of PH2. The states reported seeing up to 20 Steller sea lions hauled out on Phoca Rock below Cape Horn.

SUMMARY

Pinniped numbers are now averaging between 10-20 a day, as more California sea lions are showing up. Steller sea lion predation on sturgeon has dropped off some the past week and salmonids have become the primary prey seen caught. Boat and dam based harassment continues.

Figure 1. Daily minimum pinniped abundance.

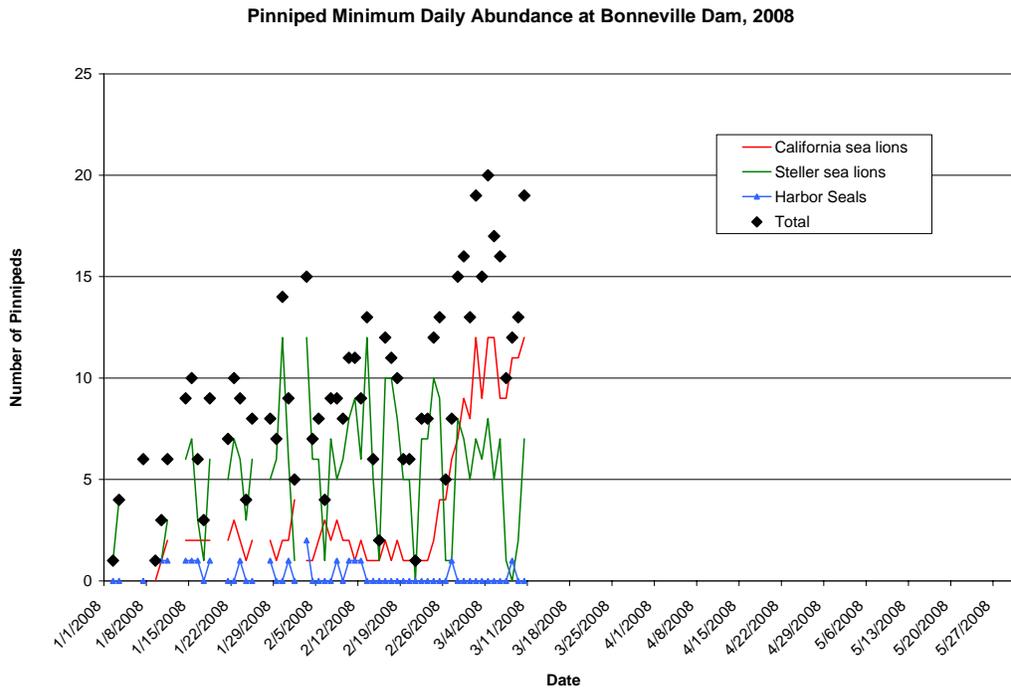


Figure 2. Daily salmonid, sturgeon, and unknown fish predation by pinnipeds, unexpanded observations.

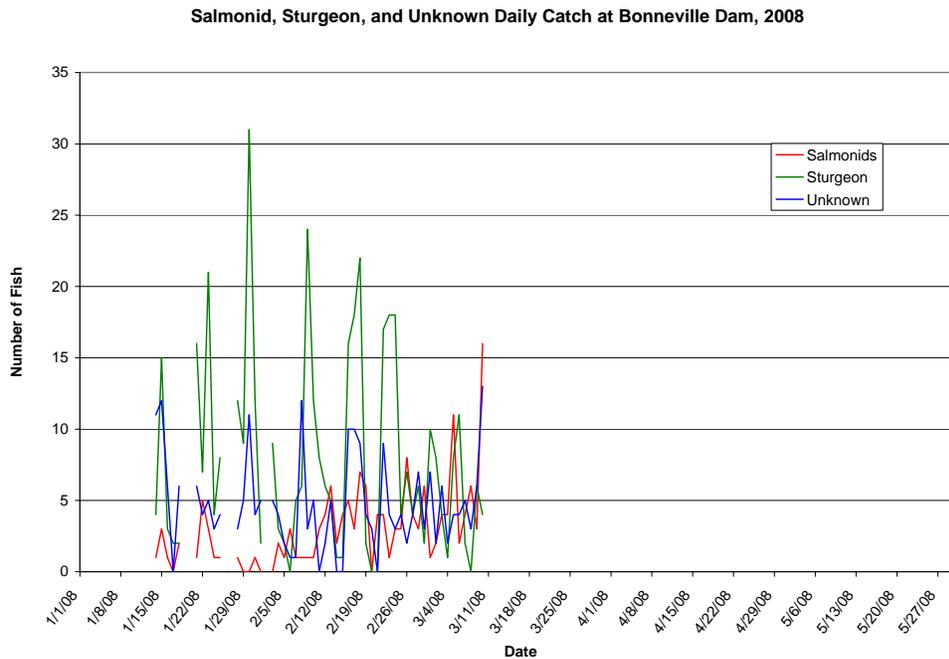


Figure 3. Cumulative estimated daily sturgeon catch by pinnipeds at Bonneville Dam, 2006-2008. 2008 are data not expanded and are preliminary.

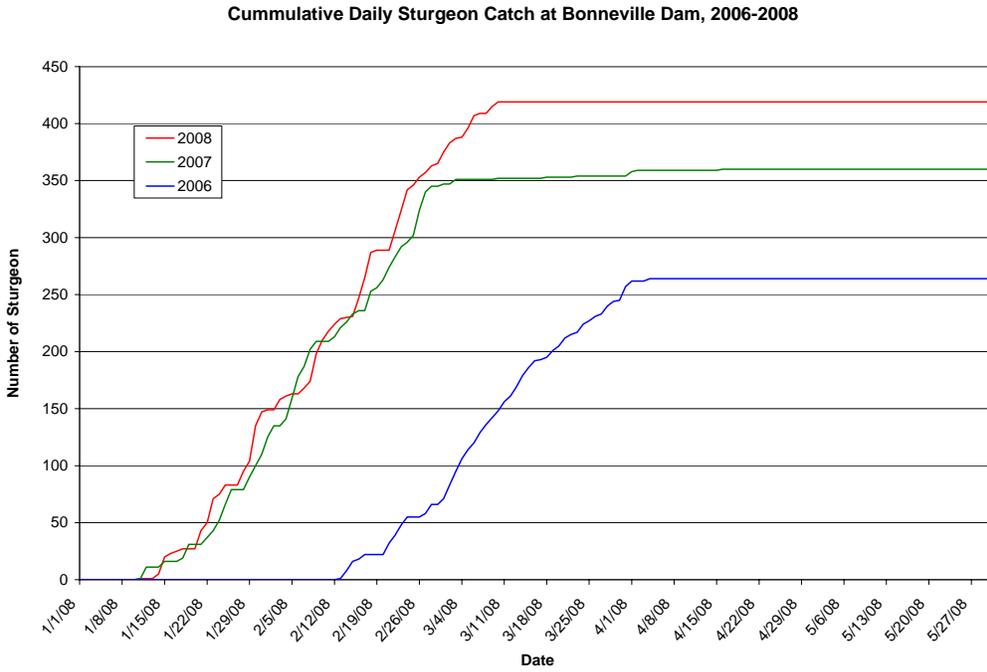


Figure 4. Size distribution of sturgeon caught at Bonneville Dam, 2002-2008.

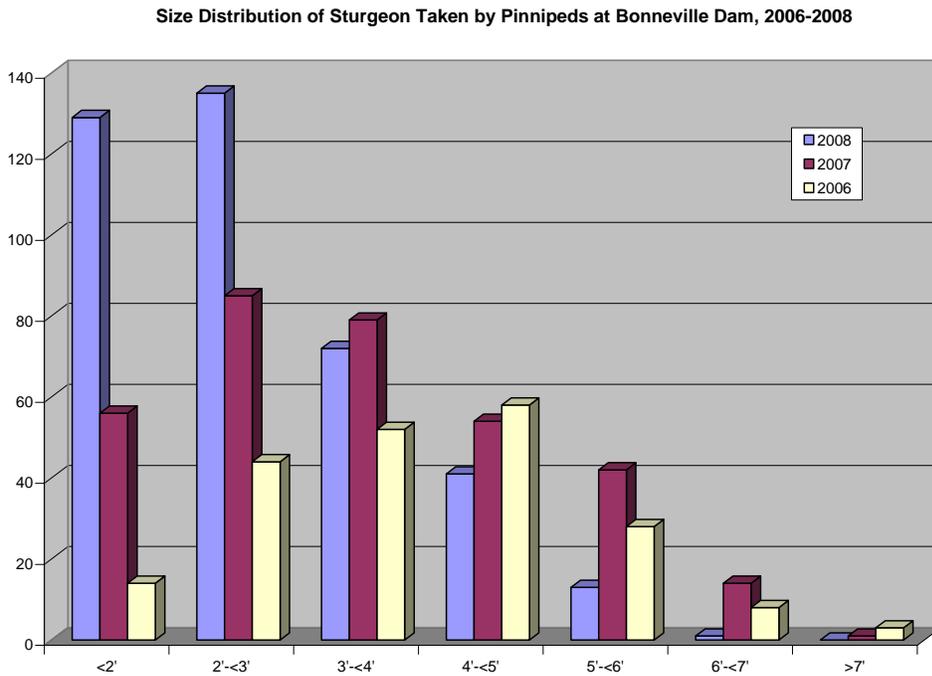


Figure 5. Prey taken by species of Pinniped at Bonneville Dam, 2008.

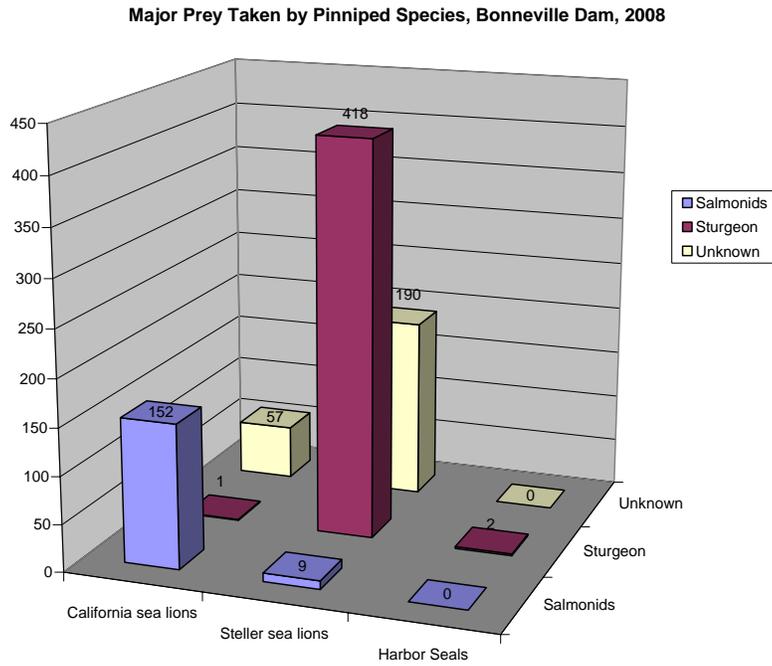


Figure 6. Location of prey taken at Bonneville Dam, 2008.

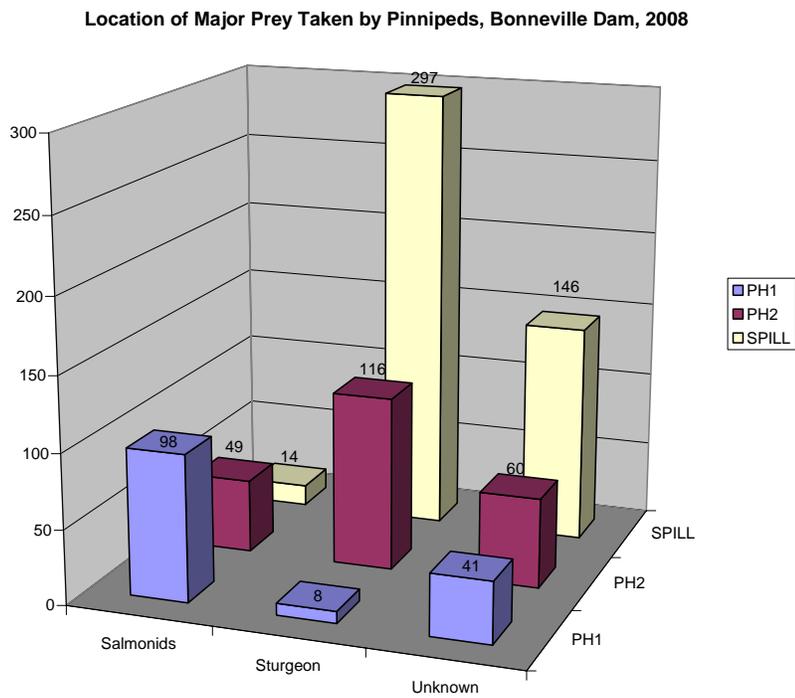


Figure 7. Daily Steelhead and Chinook take at Bonneville Dam, 2008.

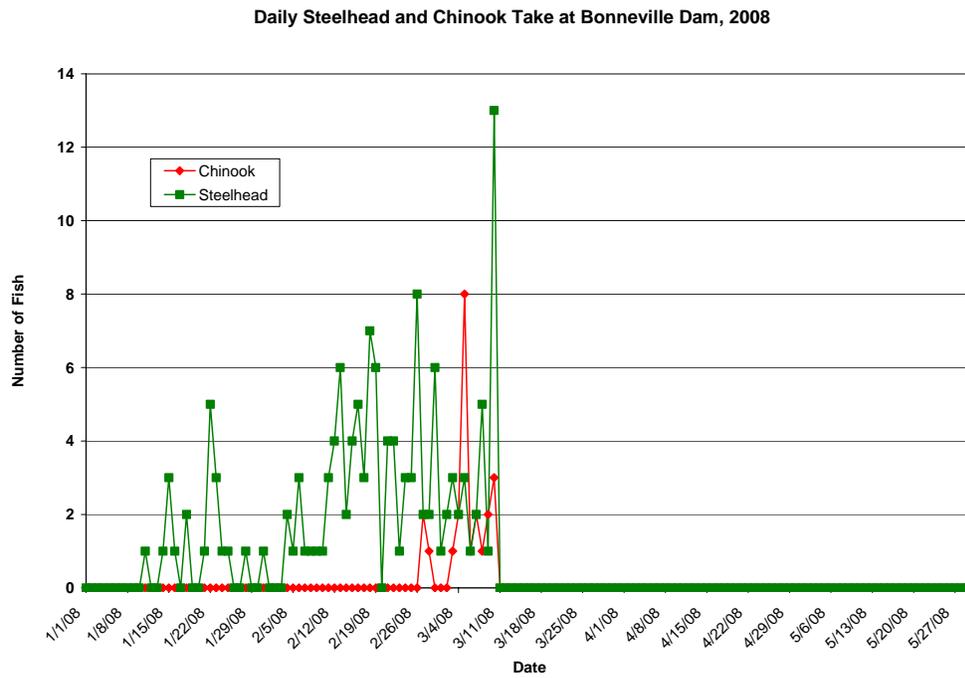


Figure 8. Eight Steller sea lions at Powerhouse 2 out of a pod of 12.

