

STATUS REPORT - PINNIPED PREDATION AND DETERRENT ACTIVITIES AT BONNEVILLE DAM, 2010

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http://www.nwd-wc.usace.army.mil/tmt/documents/fish/2010/sea_lion_hazing2010.html

This is the fourth weekly status report of 2010 and summarizes all pinniped predation monitoring and deterrent activities at Bonneville Dam from January 1 through March 10, 2010. Regular daylight observations began on January 8 and will continue to the end of May, five days per week. Weekends will not be regularly monitored this year, the same as for 2009. Final 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 report.

Boat-based crews from Oregon Department of Fish and Wildlife (ODFW) and Washington Department of Fish and Wildlife (WDFW) 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 Columbia River Intertribal Fish Commission will add hazing efforts in early March. The Corps has contracted U.S. Department of Agriculture (USDA) Wildlife Services to haze sea lions from March 1 through May 31, 2010 from dam structures and adjacent lands seven days per week, eight hours per day, during daylight hours.

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 summarizing the results of the 2007 through 2010 evaluation years will be available later this year.

PINNIPED ABUNDANCE

We have seen as many as 31 Steller sea lions (*Eumetopias jubatus*) and 12 California sea lions (*Zalophus californianus*) at the dam on any given day (see Figures 1 and 2). There are about the same number of sea lions present per day on average so far this year as last year (Figure 3), however that is due to higher numbers of Steller sea lions present as average number of California sea lions are down. The highest daily abundance estimate for all pinnipeds at Bonneville dam was 43 on March 1. We have seen at least 13 different California sea lions, 33 Steller sea lions, and one harbor seal (*Phoca vitulina*) since monitoring began. At least 10 of the

California sea lions (C417, C653, C697, C805, C926, B194, B254, B258, B267, B295) have been seen in previous years and 9 are on the list for removal. To date, 6 of those 9 have been removed. On March 11 only one California sea lion was present and one that had been up here for weeks was observed in Astoria.

Some days several sea lions are observed hauled out on the traps, while on other days, no animals are hauled out. None have been seen to haul out at any locations other than the traps (and earlier inside the corner collector) so far this year.

CRITFC set up cameras and recording systems March 2nd near the traps under funding from BPA in an attempt to enumerate pinniped numbers and take by video cameras. If successful, this technology could be used at other sites farther down the river where there are no observers.

PREDATION DATA

Unexpanded numbers for fish observed taken in the Bonneville Dam tailrace for 2010 are:

	<u>California Sea Lions</u>	<u>Steller Sea Lions</u>	<u>Total</u>
Chinook	1	0	1
Steelhead	130	15	145
Sturgeon	3	911	914
Lamprey	0	0	0
Shad	20	10	30
Other	4	2	6
Unknown	3	126	129

It is likely that most unknown fish caught by Steller sea lions are sturgeon, while those unknown fish caught by California sea lions were Steelhead (Figure 4). The Steller sea lions are catching much of the fish at the downstream range of our viewing area, making fish identification very difficult. Most sturgeon have been caught in powerhouse 2 tailrace, followed by the spillway then powerhouse 1 (Figure 5). Observed sturgeon catch has already exceeded last years total, with three more weeks of heavy sturgeon predation likely to still come (Figure 6). A record high of 66 sturgeon were observed caught on March 1, most being in the 2 to 4 foot range (Figure 7). Few fish are passing the count stations (1930 steelhead, 13 Chinook, -11 coho through March 1) since January 1, but this is much more than what had passed by this point in the past three years. Total salmonid catch to date (221 expanded by interpolating for weekends) is slightly more than it was last year, being similar to 2008 and less than 2007 (Figure 8).

DETERRENTS/TRAPPING

ODFW and WDFW deployed four sea lion traps at the corner collector of Bonneville powerhouse two on February 12. On March 9 the states trapped 2 Steller sea lions and 7 California sea lions. The Steller sea lions were released, as was C697 and B305 (a new animal for 2010) after he was given a brand, C00, and an acoustic tag. C417, C926, B194, B258, and B267 were on the list for removal and euthanized later that day. Only 3 California sea lions were present the following day (March 10) including the two that were released and only one remained on March 11. These traps will be used to mark California sea lions and Steller sea

lions not previously captured and to remove animals that meet removal criteria, per removal authority granted to the states of Oregon, Washington, and Idaho by NOAA Fisheries under Section 120 of the Marine Mammal Protection Act. At this time, there are no definite sites willing to take sea lions captured into captivity. Acoustic tags may be fastened to some animals not on the list to help gain more information on movements and hunting behaviors from several acoustic sensor arrays that CRITFC will deploy and monitor between Bonneville Dam and the estuary.

SLEDs have been installed at all fishway entrances and no pinnipeds have breached these barriers since C404 did it a few years back.

Hazing by the states from boats began in January has been conducted on 17 days up through February 24. Boat hazing continues to have some limited, local, short term impact in reducing predation in the tailrace, primarily by Stellers on sturgeon, during this time of year. USDA hazing began the first week of March and will continue for seven days a week until the end of May.

OTHER ITEMS OF INTEREST

The first Chinook caught by sea lions was noted on March 8.

Figure 1. Daily minimum pinniped abundance (weekends interpolated) at Bonneville Dam, 2002-2010.

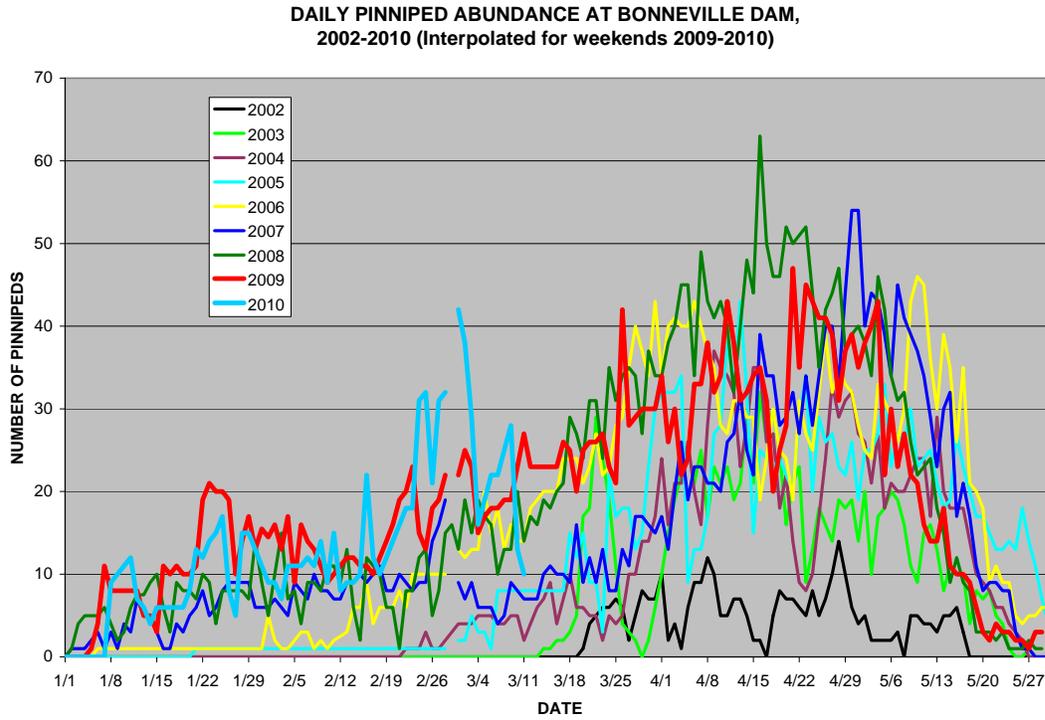


Figure 2. Daily pinniped abundance, by species, at Bonneville Dam, 2010.

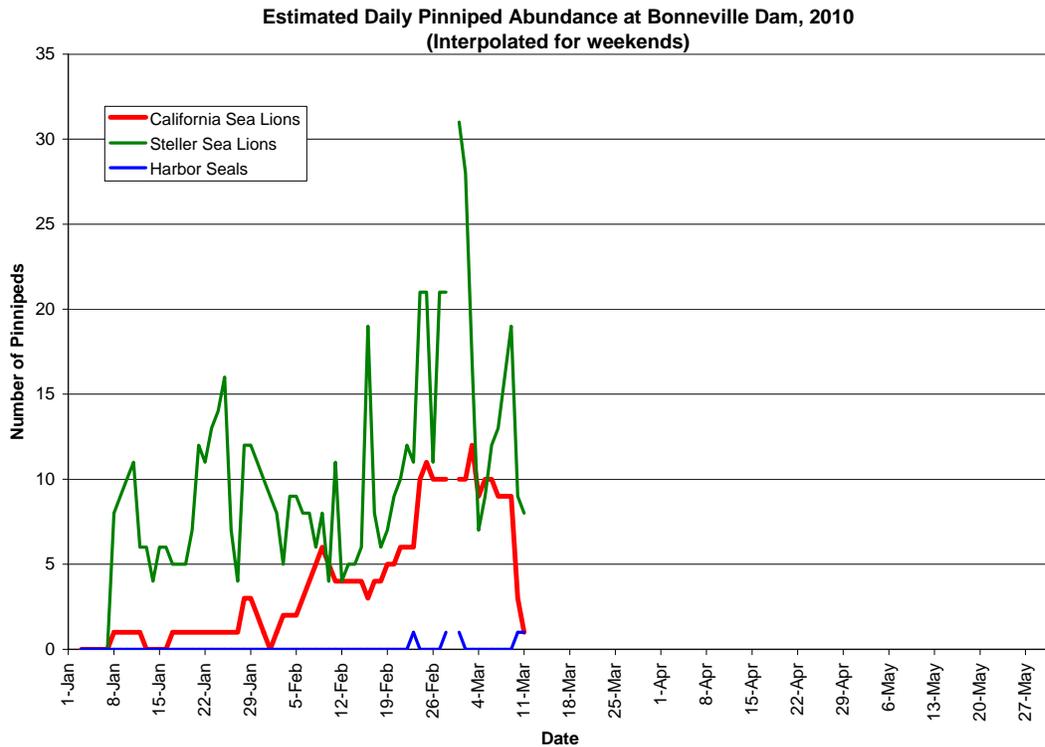


Figure 3. Average daily presence of pinnipeds, by species, to date (February 17) for each year at Bonneville Dam.

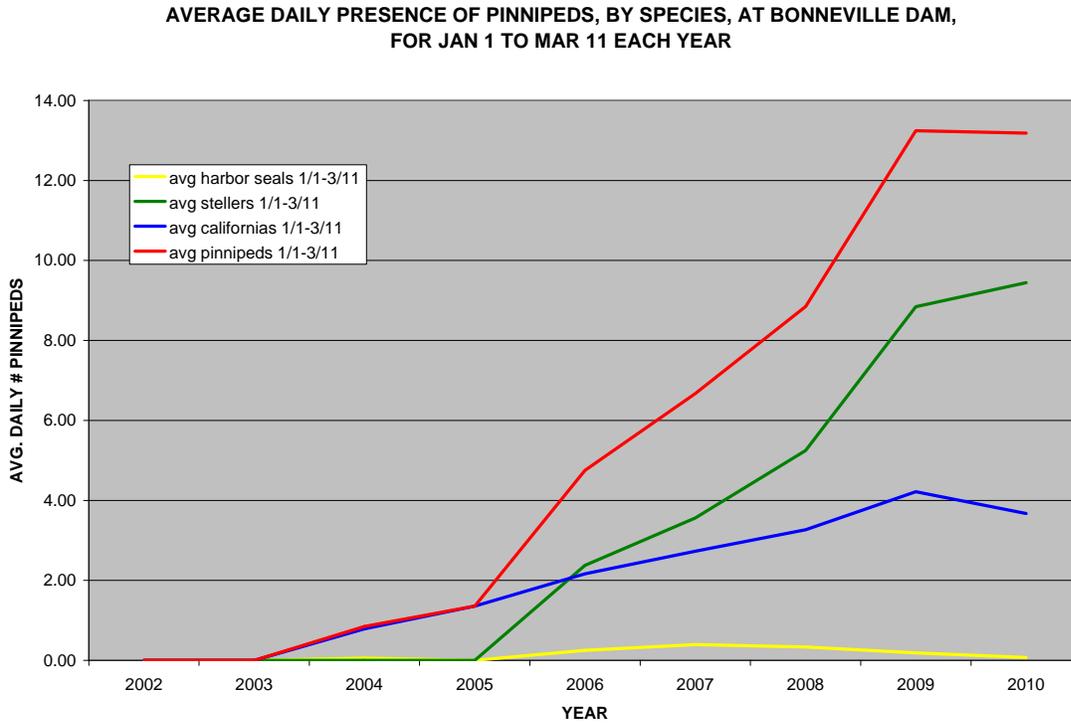


Figure 4. Major prey species taken by Pinniped species at Bonneville Dam, 2010.

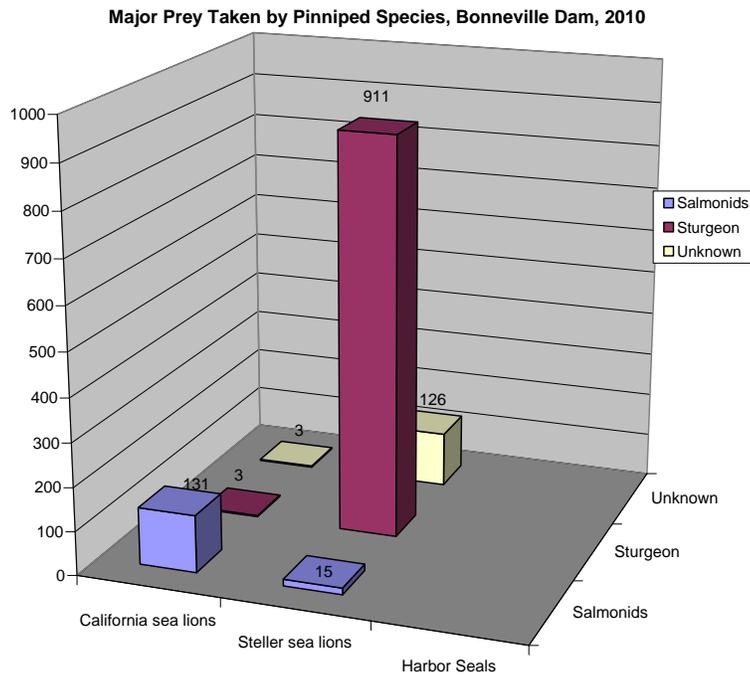


Figure 5. Major prey species taken by Pinnipeds by location, 2010.

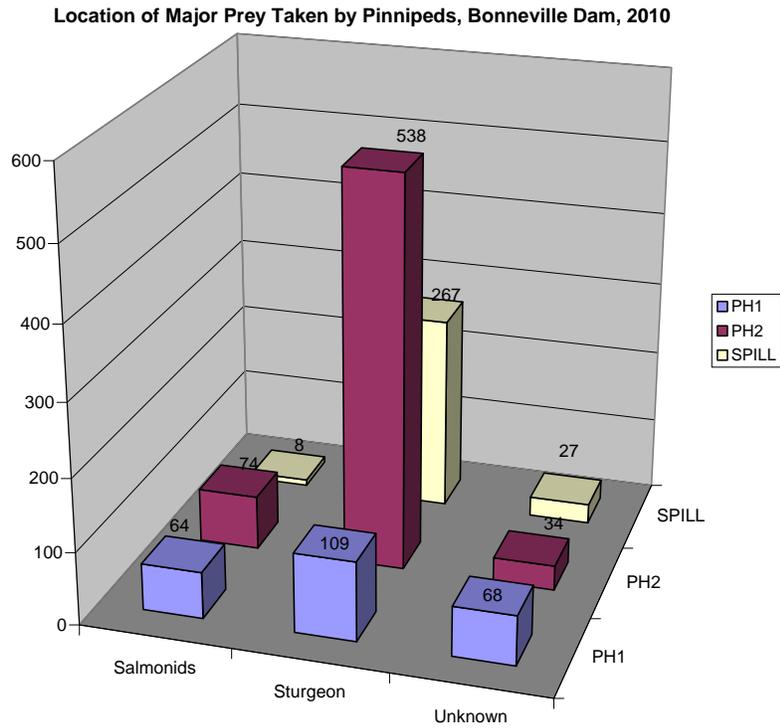


Figure 6. Daily cumulative observed sturgeon catch at Bonneville Dam, 2006-2010.

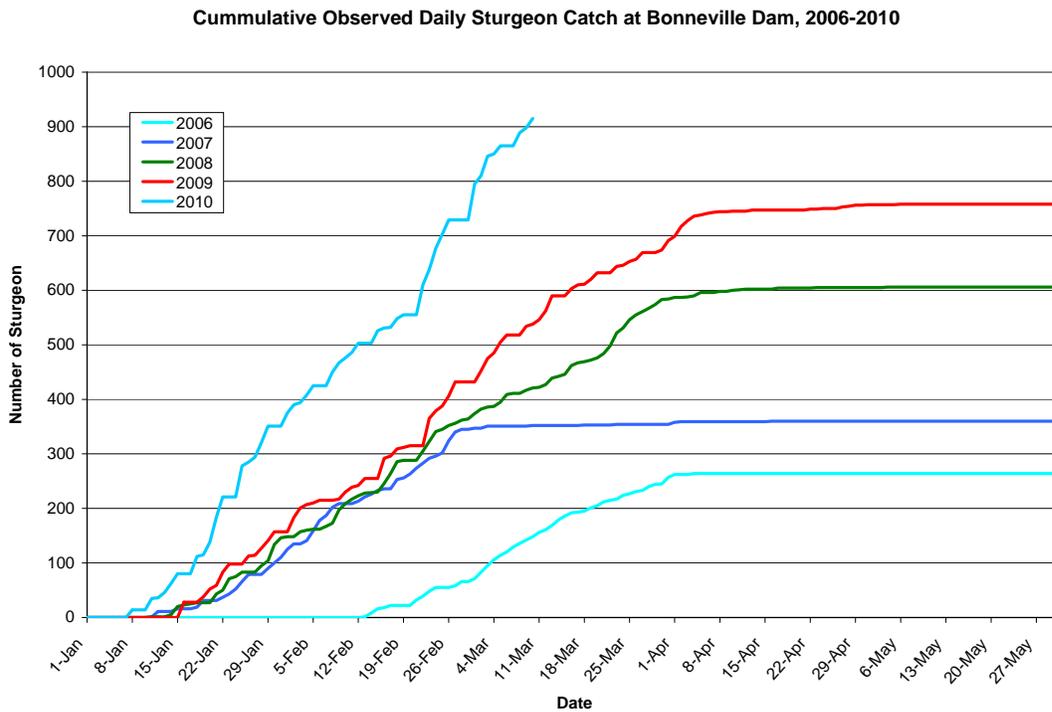


Figure 7. Size of sturgeon caught by pinnipeds at Bonneville Dam, 2006-2010.

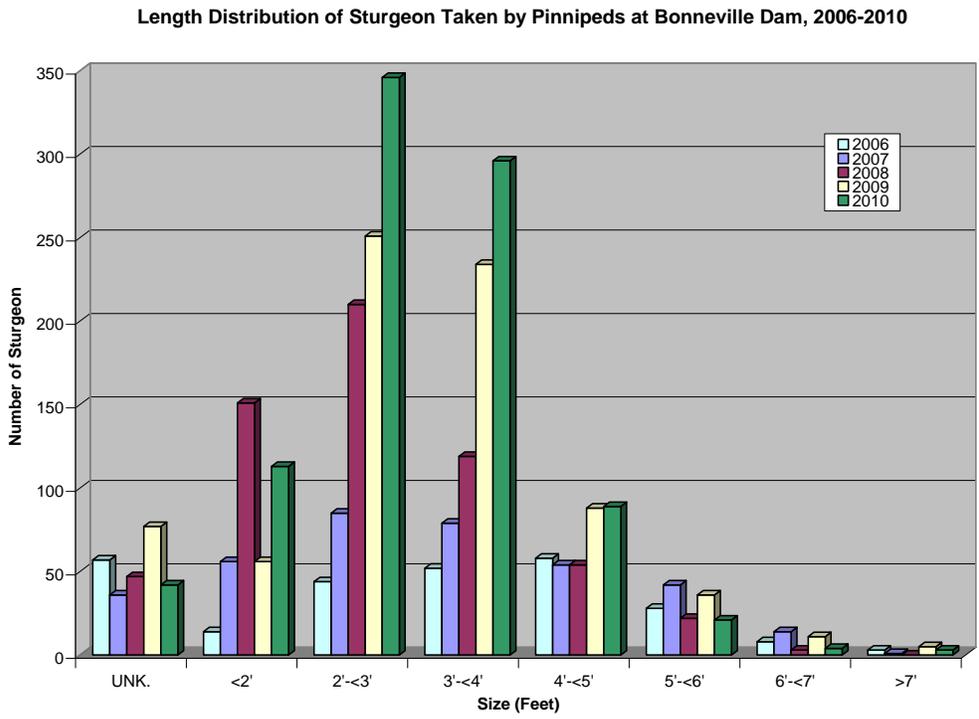


Figure 8. Daily cumulative salmonid catch (interpolated for weekends) at Bonneville Dam, 2002-2010.

