

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

Robert Stansell and Karrie Gibbons - (541) 374-8801

Fisheries Field Unit  
U.S. Army Corps of Engineers  
Bonneville Lock and Dam  
Cascade Locks, OR 97014

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This is the first weekly status report of 2010 and summarizes all pinniped predation monitoring and deterrent activities at Bonneville Dam from January 1 through February 17, 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, as was the case in 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 field 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 19 Steller sea lions (*Eumetopias jubatus*) and 6 California sea lions (*Zalophus californianus*) at the dam on any given day (see Figures 1 and 2). There are slightly fewer sea lions present per day on average so far this year, primarily due to fewer numbers of California sea lions than in previous years (Figure 3). The highest daily abundance estimate for all pinnipeds at Bonneville dam was 23 on February 23. We have seen at least eight different California sea lions, 19 Steller sea lions, and no harbor seals (*Phoca vitulina*) since full-time monitoring began. At least six of the California sea lions (C653, C805, C926, B194, B254, B258) have been seen in previous years and all six are on the list for removal.

Several Steller sea lions have been observed hauling out inside the powerhouse two (PH2) corner collector (B2CC) outfall and several on the four traps by the corner collector (traps installed February 12). No California sea lions have been observed hauled out anywhere at Bonneville as yet.

### **PREDATION DATA**

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

	California Sea Lions	Steller Sea Lions	Total
Chinook	0	0	0
Steelhead	60	11	71
Sturgeon	1	531	532
Lamprey	0	0	0
Shad	12	10	22
Other	4	2	6
Unknown	1	94	91

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 is twice that of last years at this time (Figure 6) with a record high of 57 being observed caught on January 25, most being in the 3 to 4 foot range (Figure 7). Few fish are passing the count stations (1092 steelhead, 3 Chinook, -11 coho) 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 (106 expanded by interpolating for weekends) is slightly more than it has been the past two years (2009 – 95, 2008 - 75) (Figure 8) even though we are averaging fewer California sea lions present each day than last year (Figure 3).

### **DETERRENTS/TRAPPING**

ODFW and WDFW deployed four sea lion traps at the corner collector of Bonneville powerhouse two on February 12. 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. ODFW and WDFW plan to begin removal operations as soon as the week of March 1. At this time, there are no definite sites willing to take sea lions captured into captivity. ODFW and WDFW expect to operate the traps weekly (1-3 events per week) through May. 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 were installed at the powerhouse 2 and Cascades Island fishway entrances in January, while the B branch and powerhouse 1 SLEDs have not yet been installed as that fishway is out of service for winter maintenance until March.

Hazing by the states from boats began in January has been conducted on 11 days up through February 10. On the 11 days of hazing, 143 fish (sturgeon, salmonids, unknown) were observed caught, for an average of 13.9 catches per day, while on 13 days with no hazing, 458 fish were observed caught, an average of 34.2 catches per day. Number of pinnipeds present during hazing days compared to non-hazing days was virtually the same (10.2 per day and 10.7 per day respectively). 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.

### **OTHER ITEMS OF INTEREST**

C697 locked through Bonneville Dam on May 16, 2009. He was in the Bonneville pool for 275 days until captured (by trap) on February 5, 2010. He was weighed when trapped at Bonneville in April 2009 and again when trapped in the forebay in 2010, and he gained approximately 250 lbs feeding on mostly salmon and steelhead exiting the Bonneville fishway exits. He was released at Clatsop spit on February 5 and was seen back in the Astoria boat basin within a week. He has been since been seen regularly at the boat basin.

C805 and one other unidentified California sea lion were observed in the fall of 2009 for a few days, as well as Steller sea lions, however, we did not have the staff to conduct any regular observations during this time. C805 was observed in the fall of 2008 also.

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

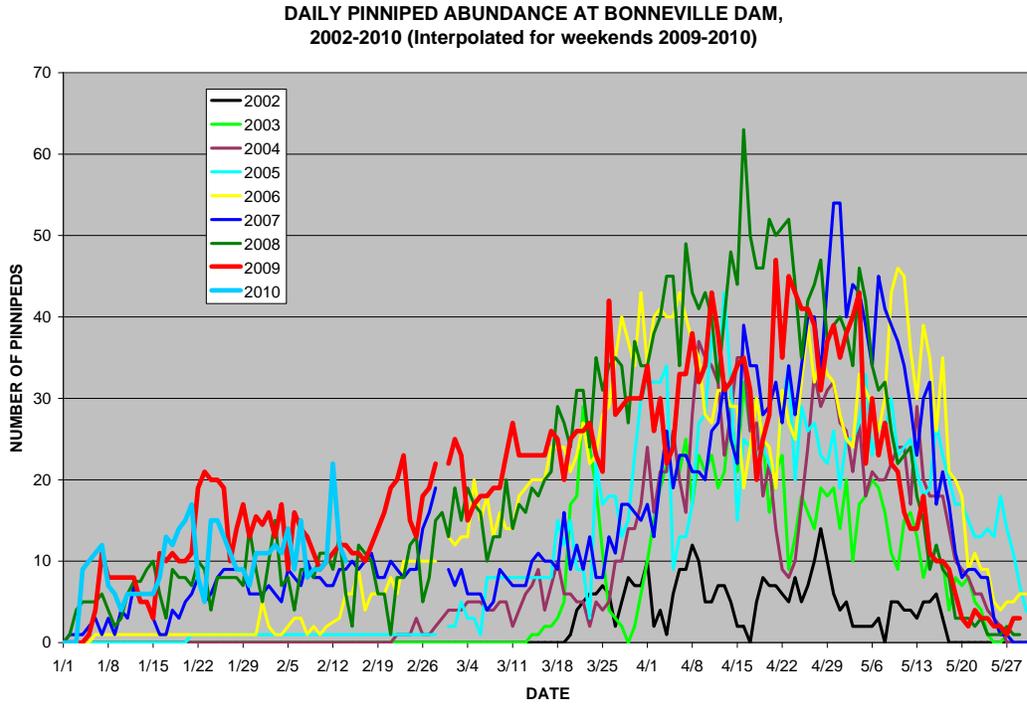


Figure 2. Daily pinniped abundance, by species, at Bonneville Dam, 2010.

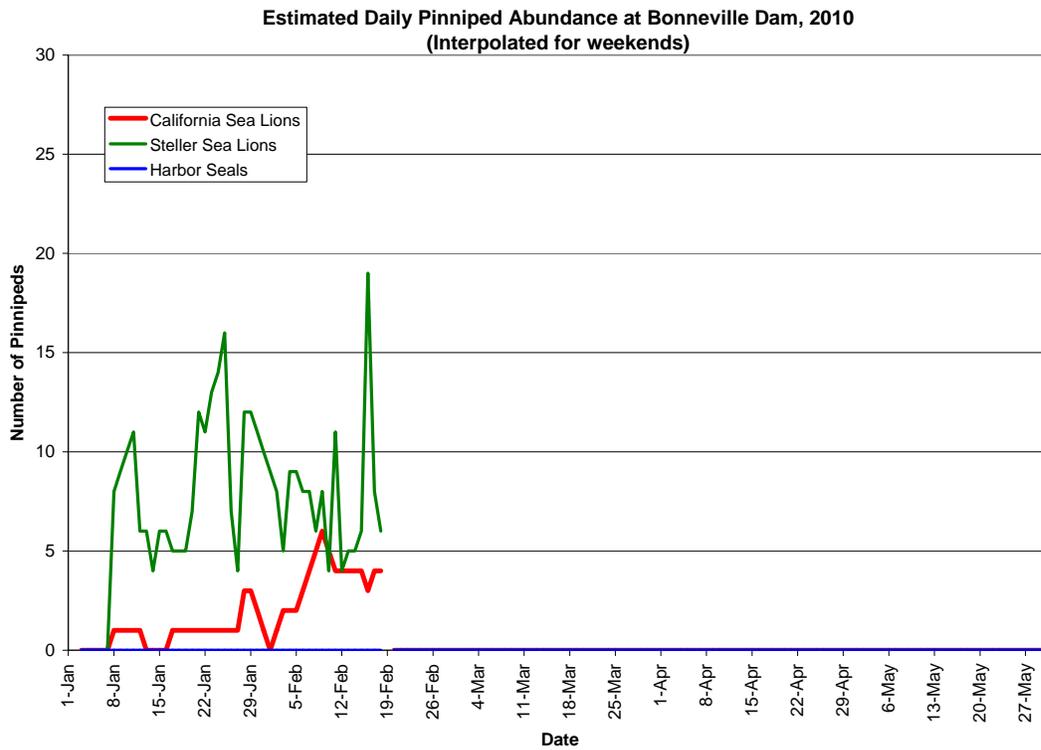


Figure 3. Average daily presence of pinnipeds, by species, to date (February 17) for each year at Bonneville Dam.

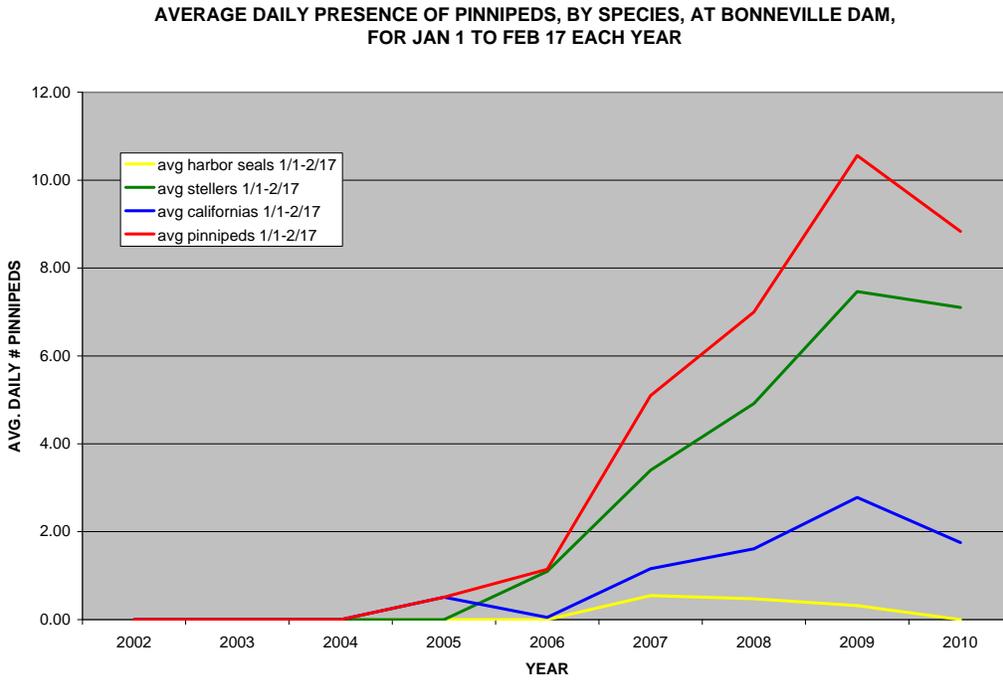


Figure 4. Major prey species taken by Pinniped species at Bonneville Dam, 2010.

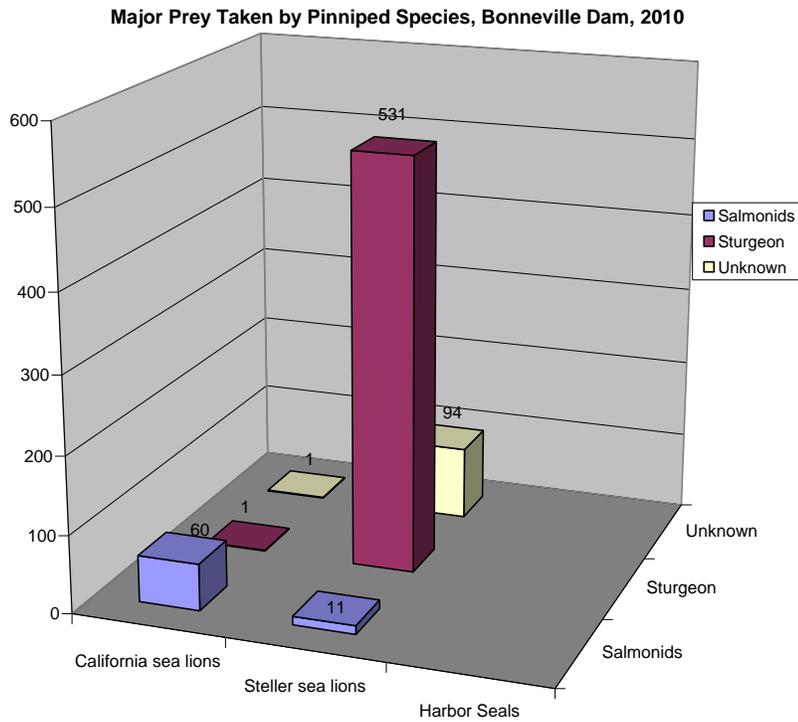


Figure 5. Major prey species taken by Pinnipeds by location, 2010.

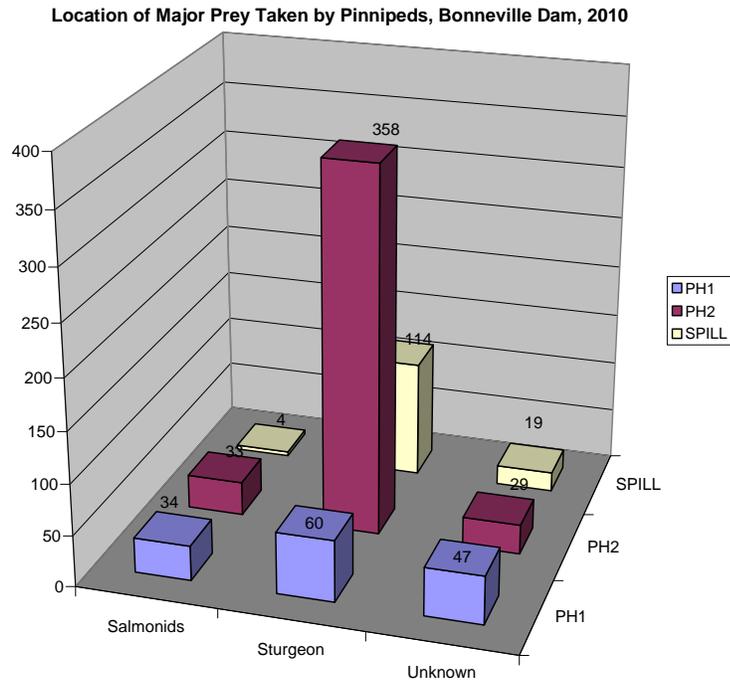


Figure 6. Daily cumulative sturgeon catch (interpolated for weekends) at Bonneville Dam, 2006-2010.

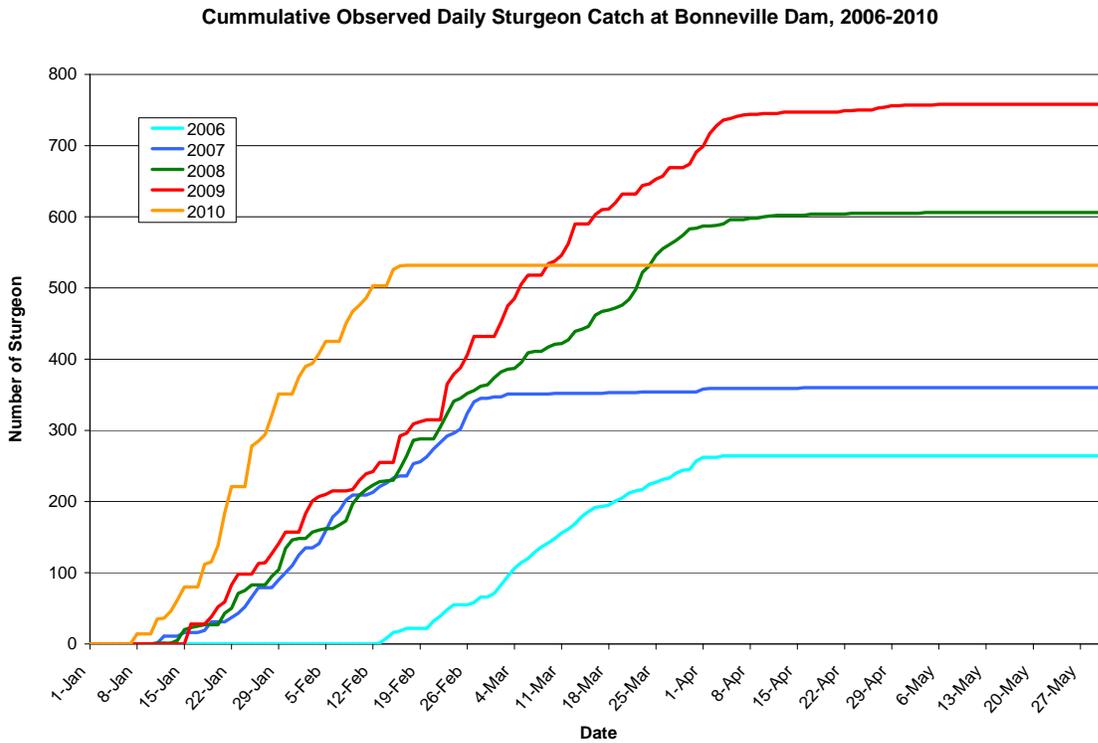


Figure 7. Size of sturgeon caught by pinnipeds at Bonneville Dam, 2006-2010.

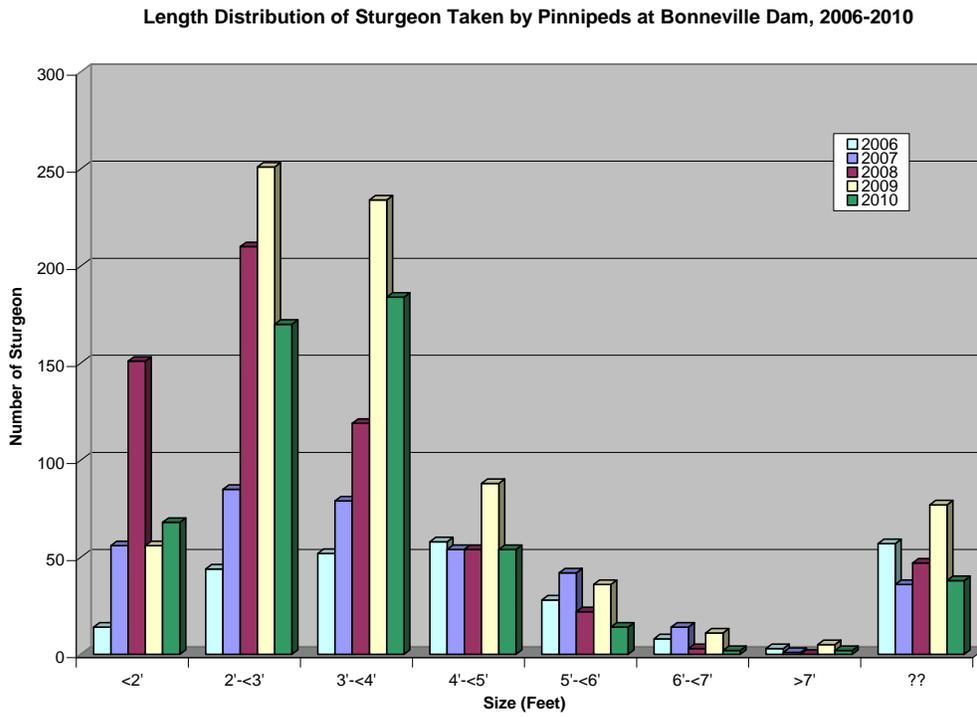


Figure 8. Daily cumulative salmonid catch (interpolated for weekends) at Bonneville Dam, 2002-2010.

