

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

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This fifth weekly status report of 2009 summarizes all pinniped predation monitoring and deterrent activities at Bonneville Dam from January 1 through February 25, 2009. There will likely be no status report for next week as most of our staff will be at a conference much of the week.

Regular daylight observations began on January 19 and will continue to the end of May, five days per week. Weekends will not be regularly monitored 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 Corps has contracted U.S. Department of Agriculture (USDA) Wildlife Services to haze sea lions from March 1 through May 31, 2009 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 of the 2009 evaluation will be available later this year.*

### PINNIPED ABUNDANCE

We have seen as many as 20 Steller sea lions and seven California sea lions at the dam on any given day (see Figures 1 and 2). There are more sea lions present per day on average so far this year, primarily due to increased numbers of Steller sea lions, than in previous years (Figure 8). The highest daily abundance estimate for all pinnipeds at Bonneville dam was 23 on February 23. We have seen at least nine different California sea lions, 20 Steller sea lions, and 2 harbor seal (*Phoca vitulina*) since full-time monitoring began. At least eight of the California sea lions (C265, C586, C635, C657, C700, C805, BZC194, BZC278) have been seen in previous years

while C858 may have been here in previous years but he just showed up yesterday and we haven't had enough good looks at him to see unique features beyond his brand yet. He was branded in August 2008.

Up to nine Steller sea lions have been documented hauling out inside the powerhouse two (PH2) corner collector (B2CC) outfall and 12 on the two traps by the corner collector. C265 has been observed hauling out on the B2CC apron at PH2, and C635 at the spill bays and B2CC traps.

### **PREDATION DATA**

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

	California Sea Lions	Steller Sea Lions	Total
Chinook	3	0	3
Steelhead	45	13	58
Sturgeon	6	382	388
Lamprey	0	3	1
Shad	4	11	15
Other	0	1	1
Unknown	27	250	277

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 3). The Steller sea lions are catching most of the fish at the downstream range of our viewing area, making fish identification very difficult. Observed sturgeon catch is on pace to exceed the catch of previous years (Figure 4) with a record 50 being observed caught on February 23. Most sturgeon are caught in the spillway, followed by PH2 then PH1 (Figure 5). Very few fish are passing the count stations (190 steelhead) since January 1, which is the lowest to date total since we have been observing sea lions back in 2002. However, two Chinook were observed taken by California sea lions on February 25 and four yesterday (not included in the summary data presented). Total salmonid catch to date (61 unexpanded) is far less than it has been the past three years (2008 - 130, 2007 - 191, 2006 - 95) (Figure 9) even though we are averaging more California sea lions present each day than any previous year (Figure 8).

### **DETERRENTS/TRAPPING**

ODFW and WDFW deployed two sea lion traps at the corner collector of Bonneville powerhouse two on February 2 and one trap at the old navigation lock channel by powerhouse one. An additional trap may or may not be deployed at the corner collector in the future. These traps will be used to mark California 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. The 9<sup>th</sup> Circuit Court of Appeals denied a stay of this action on February 26, sought by the HSUS. Final plans are being developed by the states for transfer of sea lions to captivity and for euthanizing animals that can not go to captivity or do not use the traps. ODFW and WDFW expect to operate the traps weekly (1-3 events per week) through the end of May.

Hazing by the states from boats began in January has been conducted on 18 days up through February 25. Severe weather (snow, ice, sub-zero temperatures, 50mph winds) occurred many days through much of January, limiting days it was safe to operate from boats. On the 18 days of hazing, 259 fish (sturgeon, salmonids, unknown) were observed caught, for an average of 14.4 catches per day, while on 14 days with no hazing, 467 fish were observed caught, an average of 33.4 catches per day. 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. Figures 6 and 7 are offered to show that hazing appears to have some effect on reducing predation by pinnipeds during the period of hazing, but when no hazing is present, predation is higher.

### **OTHER ITEMS OF INTEREST**

As mentioned earlier, the 9<sup>th</sup> Circuit Court of Appeals yesterday denied a stay request sought by the HSUS to trap and permanently remove problem California sea lions.

A media day event by the states, NOAA and COE occurred today, February 27, to invite the media to hear about the upcoming trapping and removal operation as well as the monitoring and hazing programs. Representatives from each program were on hand to answer questions from the media. Few California sea lions have been observed on the traps to date, so trapping efforts may be slow for another few weeks.

Several acoustic receivers have been deployed in the tailraces of Bonneville and downstream. As California sea lions that are not on the list are captured, acoustic tags will be attached to them. Movements within and downstream of the dam during day and night can give researchers a better idea of movement patterns and locations of some animals when not being observed up close to the dam during the day.

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

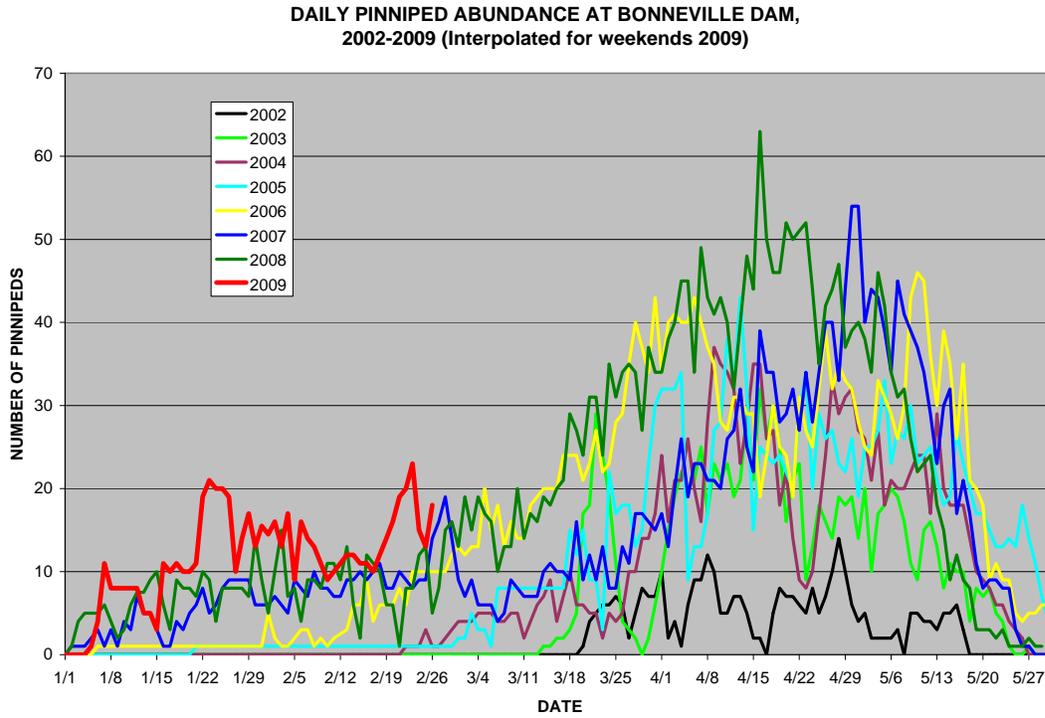


Figure 2. Daily pinniped abundance, by species, at Bonneville Dam, 2009.

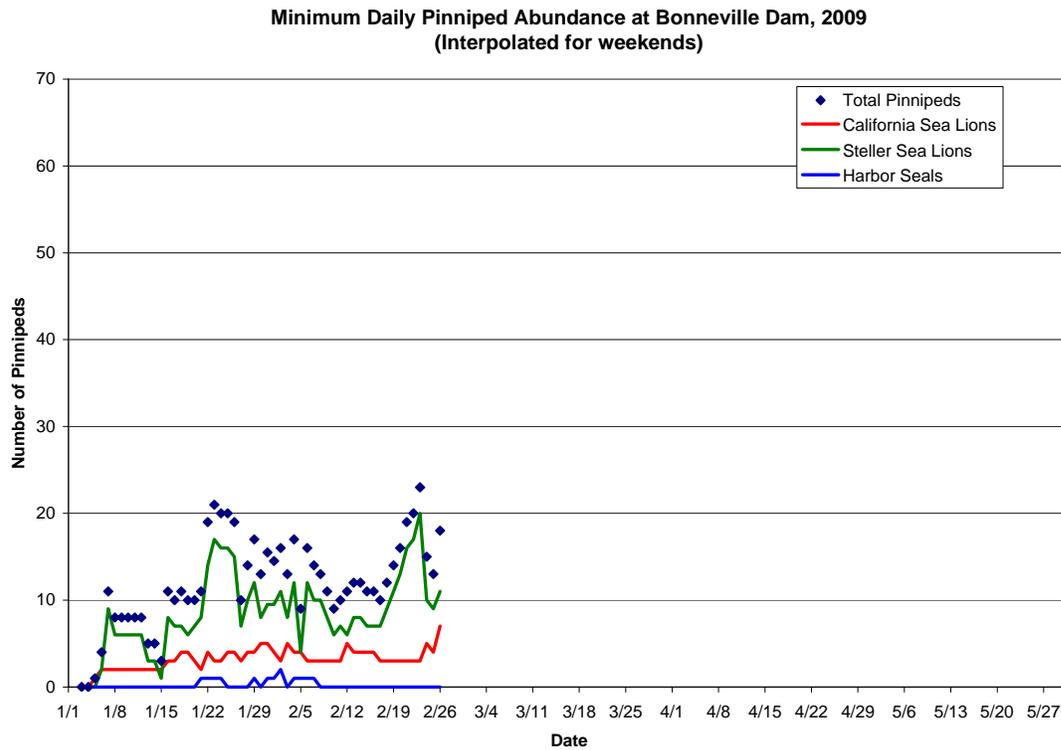


Figure 3. Major prey species taken by Pinniped species at Bonneville Dam, 2009.

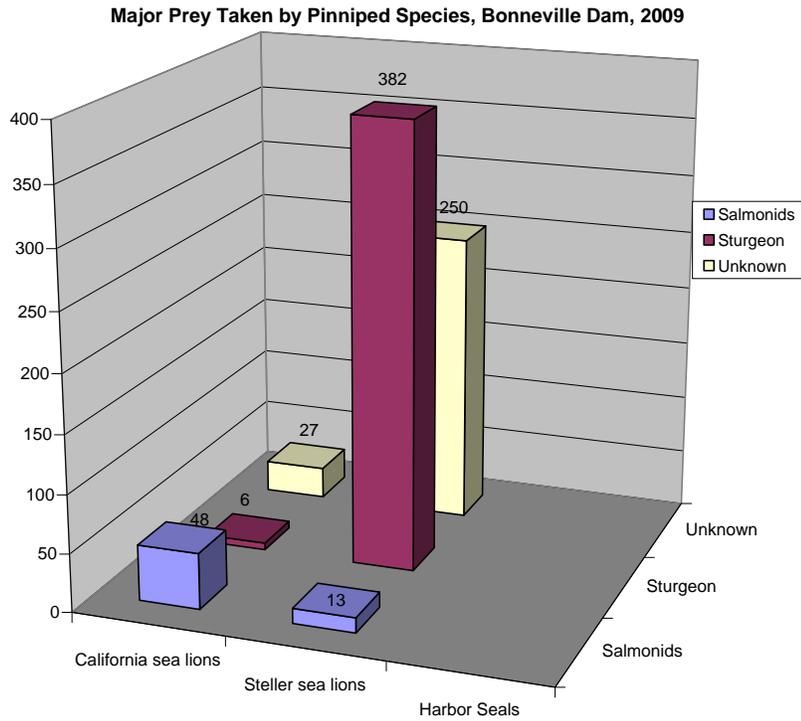


Figure 4. Daily cumulative sturgeon catch at Bonneville Dam, 2006-2009. All data unexpanded.

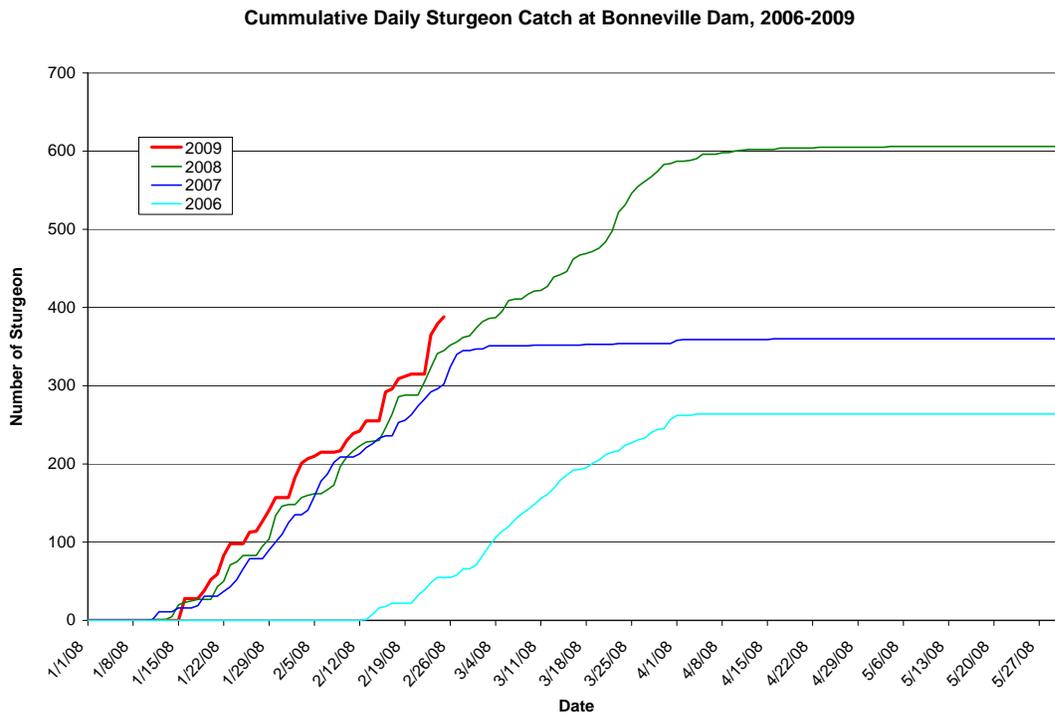


Figure 5. Major prey species taken by Pinnipeds by location, 2009.

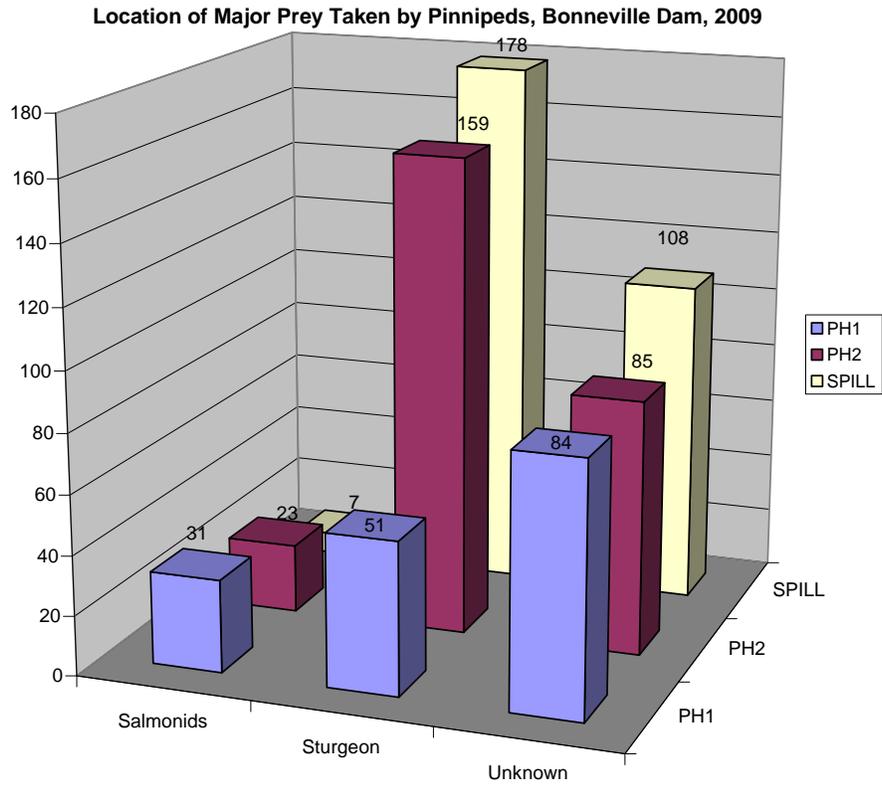


Figure 6. Diel distribution of all prey caught by sea lions through February 18.

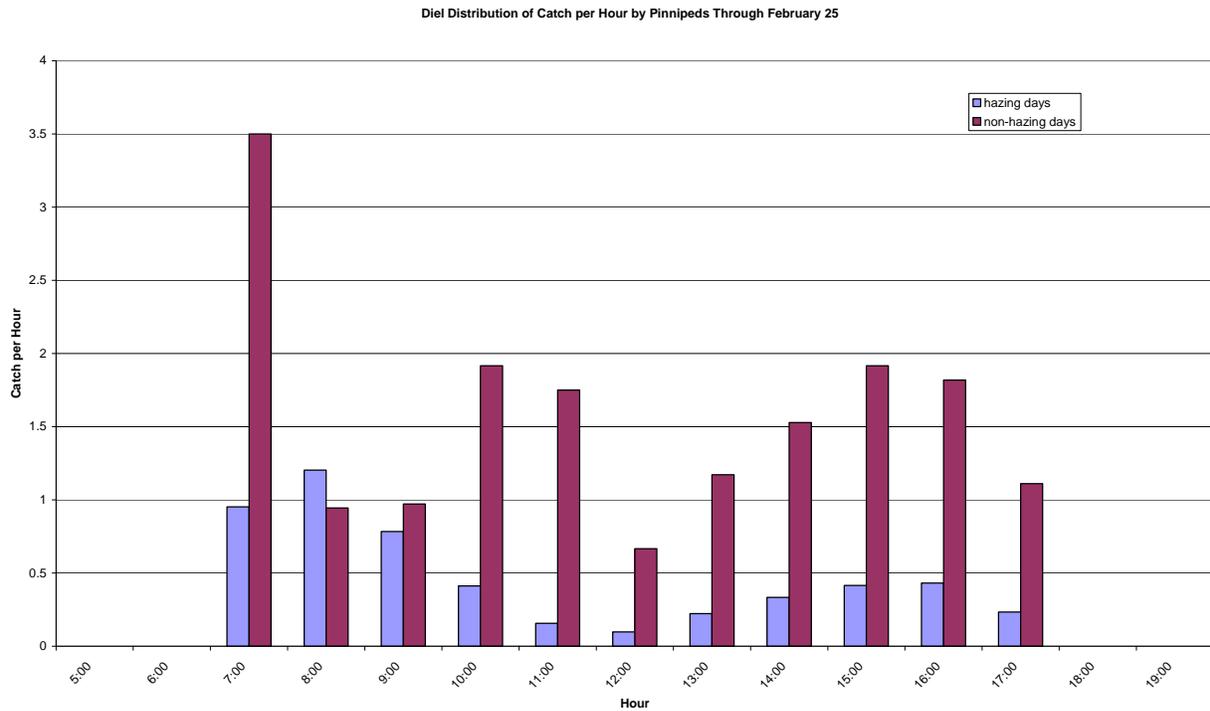


Figure 7. Diel distribution of hazing in Bonneville Dam tailrace through February 18. Non-active hazing means the boat was present but no pyrotechnics were fired.

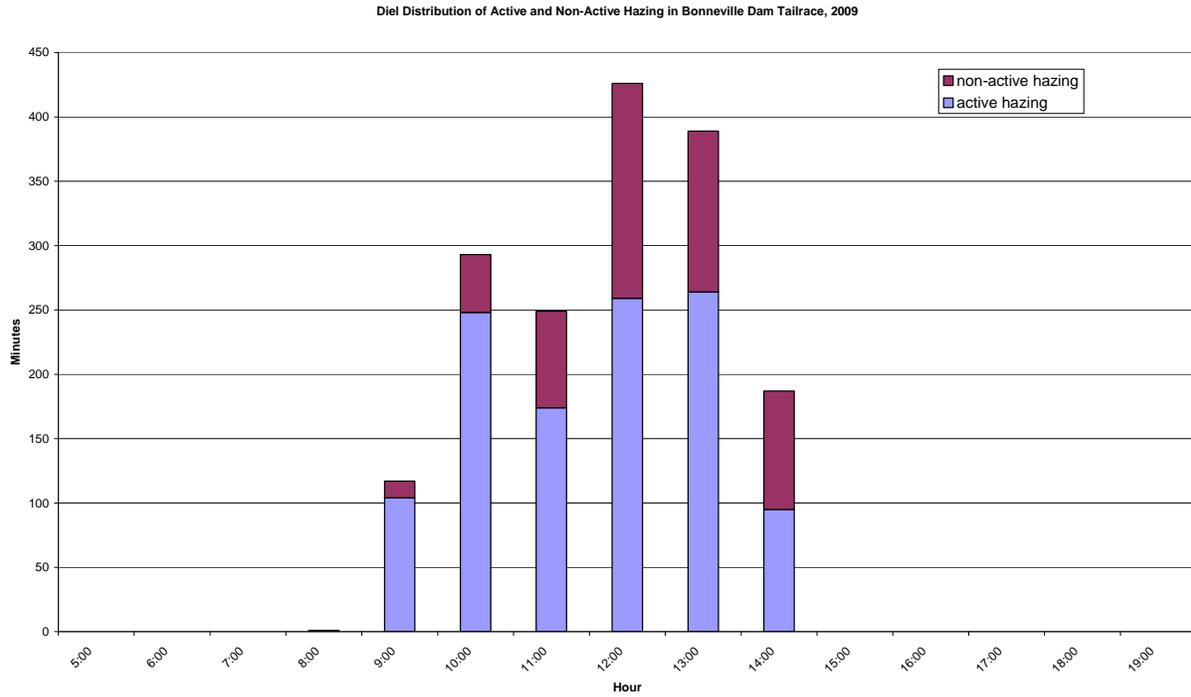


Figure 8. Average daily presence of pinnipeds, by species, to date (February 25) for each year at Bonneville Dam.

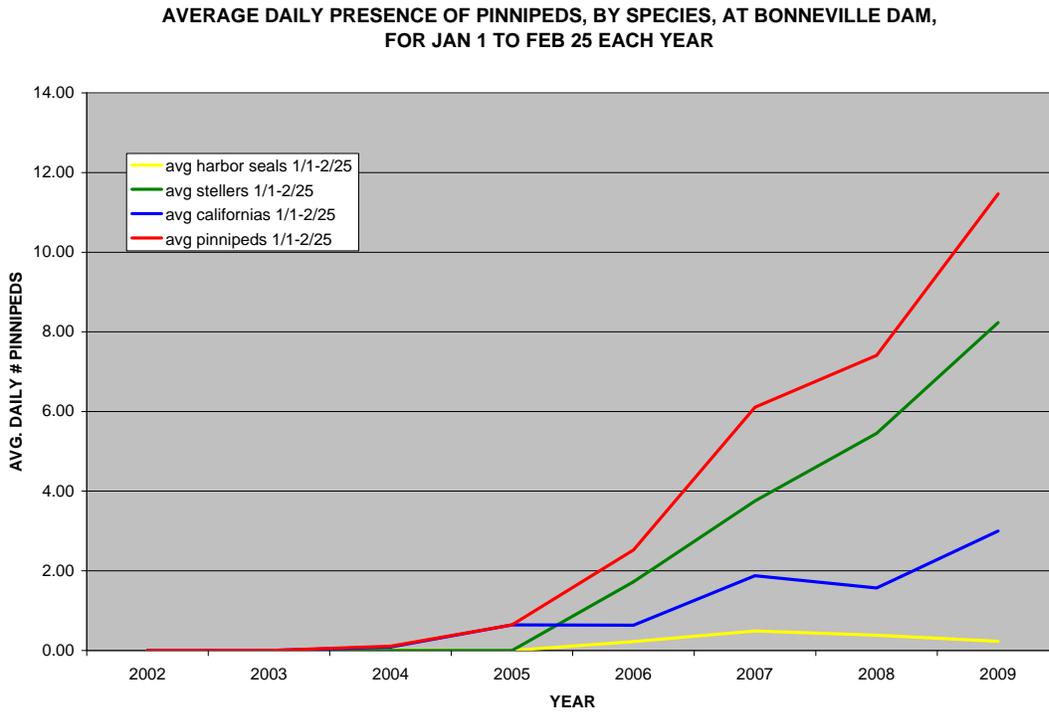


Figure 9. Daily cumulative salmonid catch at Bonneville Dam, 2002-2009. All data unexpanded.

