

STATUS REPORT – PINNIPED PREDATION AND DETERRENT ACTIVITIES AT BONNEVILLE DAM, 2016

Patricia L Madson & Bjorn van der Leeuw

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 status report for the 2016 pinniped monitoring season and summarizes the observed predation and deterrent activities at Bonneville Dam from January 1 through March 15, 2016. Observations, which began on January 4, are conducted during daylight hours Monday through Friday and will continue to the end of May.

PLEASE NOTE - All data presented here are preliminary as of the status report date. Predation figures are unexpanded (unless otherwise noted) and sea lion abundance estimates will likely change as the season progresses and data are proofed and analyzed. Final predation estimate data will be expanded to adjust for hours and days not observed as well as “unknown” prey species consumed for the final report. The final report summarizing the results of the 2016 Pinniped Monitoring Program will be available in the fall of this year.

PINNIPED ABUNDANCE

Steller sea lions (*Eumetopias jubatus*) were more abundant at the dam than California sea lions (*Zalophus californianus*) through the months of January, February and early March. Although the presence of Steller sea lions dropped during the end of February they have rebounded to a season high during the second week in March (Figure 1). The number of Steller sea lions increased from about 4 per day to 25 per day. The maximum count of 34 Steller sea lions and 11 California sea lions occurred on March 9 (Figure 2). We have documented 29 unique individual Steller sea lions in the tailrace through March 15. Of these, 26 were observed in previous years and three were newly identified.

The first California sea lion was observed on February 26 this year. The presence of California sea lions has been less than 5 per day. The majority of California sea lions observed this year have been small younger animals that are difficult to identify due to their constant motion and swift movements. Eight individual California sea lions have been observed at Bonneville Dam, all eight have been seen in multiple seasons.

Point counts taken daily at powerhouse 1, spillway, powerhouse 2, and Tower Island to monitor the number of pinnipeds present at Bonneville Dam. Pinniped presence for 2016 in comparison with the 10 year average is shown in figure 1 below.

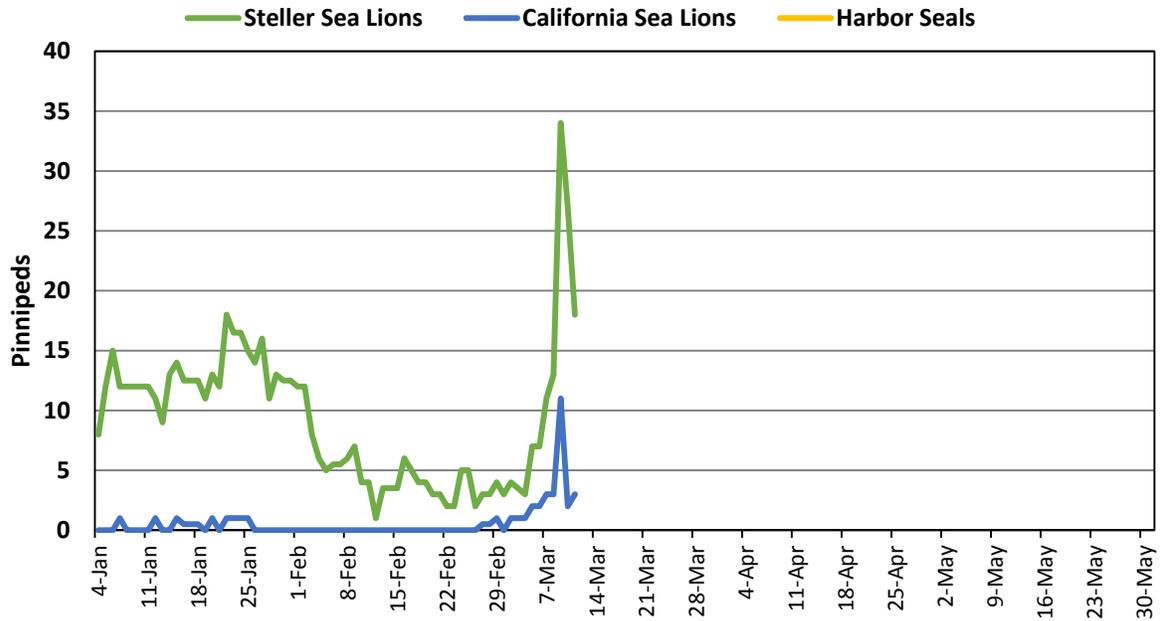


Figure 1. Average daily presence of pinnipeds, by species through March 15, 2016 at Bonneville Dam.

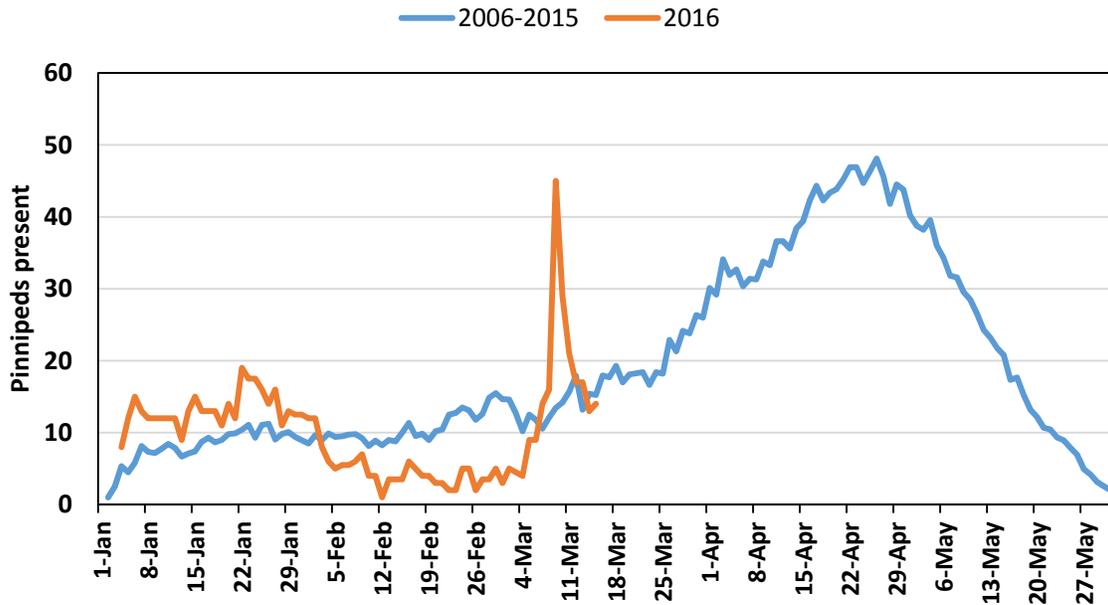


Figure 2. California and Steller sea lion combined daily abundance (interpolated for weekends) at Bonneville Dam through March 15 of 2016 versus the ten year average.

PREDATION DATA

Observed sturgeon catches by Steller sea lions has been down this season (Table 1). Of the eight sturgeon catches observed most occurred at powerhouse 2 tailrace, followed closely by the Spillway and then powerhouse 1 (figure 2). The majority of Sturgeon caught ranged in size from less than 2 feet up to 4 feet. The largest of the recorded sturgeon catches by Steller sea lion for this report period was in the 5-6 foot range. Many of the takes categorized as unidentified fish were caught by Steller sea lions in downstream areas that were far and away from our range of view. Steelhead (*Oncorhynchus mykiss*) was the most predated upon primarily in the powerhouse 2 tailrace. Chinook salmon (*Oncorhynchus tshawytscha*) catches have been low so far this year.

Table 1. Observed fish catches by pinnipeds at Bonneville Dam tailraces through March 15, 2016.

	Chinook	Steelhead	Sturgeon	Unknown	Smolt	Total
Steller Sea Lions	11	20	9	8	1	49
California Sea Lions	0	1	0	1	0	2
Total	11	21	9	9	1	51

Note: these are unexpanded numbers

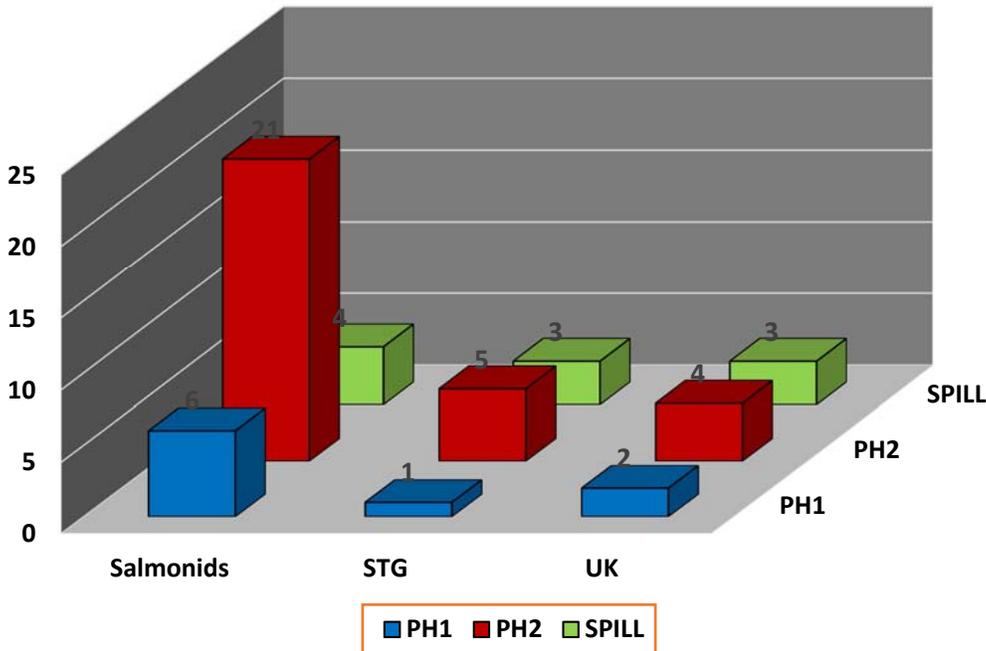


Figure 3. Observed pinniped predation on salmon and sturgeon by location at Bonneville Dam, 2016.

Adult salmonid consumption (Chinook salmon and Steelhead combined) is similar to previous seasons (Figure 4). White Sturgeon predation has dropped considerably from the ten year average consumption seen in figure 5 but is similar to the last two years.

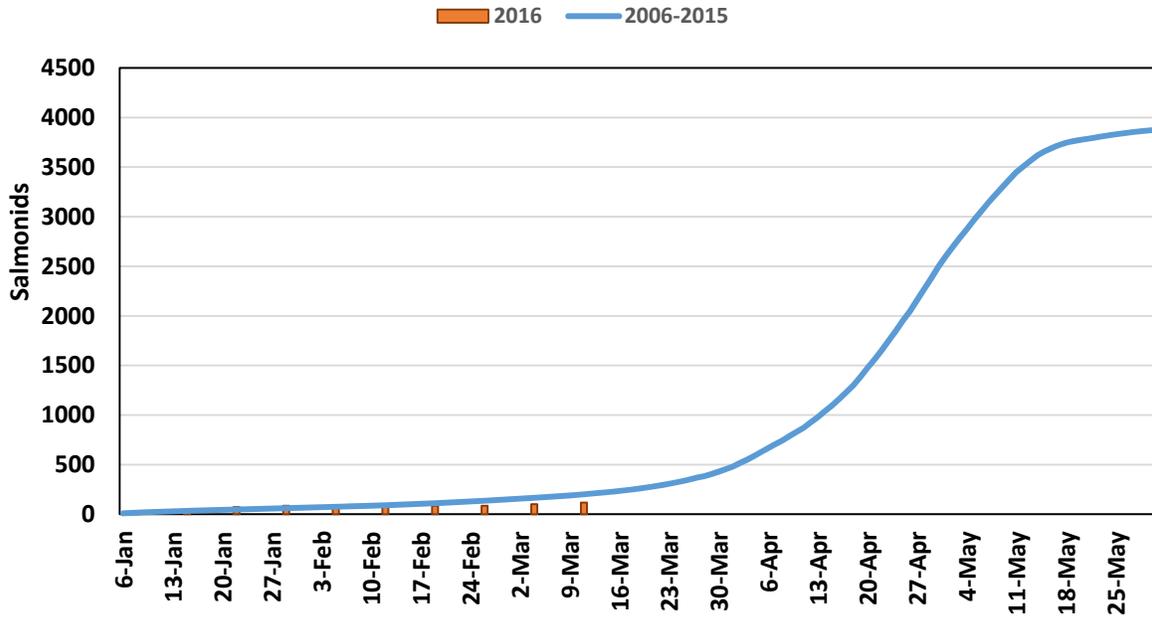


Figure 4. Salmonid weekly consumption estimate versus the ten year average of adult salmonids consumption at Bonneville Dam.

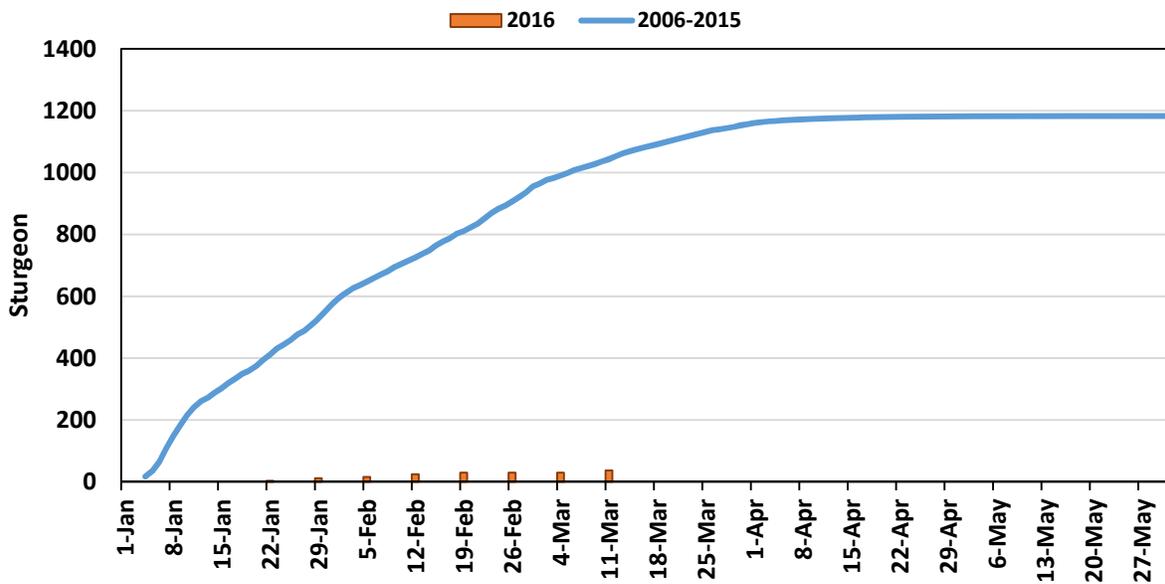


Figure 5. White Sturgeon weekly consumption estimate versus the ten year average of white sturgeon consumption at Bonneville Dam.

DETERRENTS/TRAPPING

Sea lion exclusion devices (SLEDs) were deployed at powerhouse 2 on October 26, 2015 and at powerhouse 1 on March 1, 2016. In response to several Steller sea lions climbing over the floating orifice gates (FOGs) at powerhouse 2 and entering the fishway, wood panels were placed on the top to prevent this behavior from recurring (Figure 6). On March 14, Bonneville personnel reported a Steller sea lion in the Washington Shore fishway. The north shore fishway entrance SLED was lifted and an attempt to haze the sea lion out of the collection channel on March 15 ended with unclear results.



Figure 6. Bonneville Dam powerhouse 2 tailrace view of the FOGs with additional wooden panels installed on February 29, 2016 to prevent sea lions from jumping into the fishway.

Boat-based hazing by Columbia River Inter-Tribal Fish Commission (CRITFC) began on March 7. CRITFC plans to haze Mondays, Thursdays, and Fridays. Dam-based hazing by USDA began on March 8. USDA will be hazing seven days a week for 8 hour shifts. Thus far hazing has been effective toward the Stellers that appear a little more skittish and the new to Bonneville animals. They are currently hazing pinnipeds off of Tower Island during the day in an attempt to keep animals from habituating to Bonneville Dam. However, Stellers continue to haul out and sleep on Tower Island when the hazers are not present.

OTHER ITEMS OF INTEREST.

California sea lion branded U625 was first observed in the forebay on May 18, 2015. He was successfully removed from the forebay on January 28, 2016. A California sea lion was observed in the forebay on March 8 this year. It is not branded and appears to be new to the forebay. A small Steller sea lion was observed by operators entering the navigation lock on March 8. The downstream gates were opened and the Steller swam back downriver.