

## **Status Report – Pinniped Monitoring Program at Bonneville Lock & Dam, 2015**

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This is the seventh and final biweekly status report of the 2015 field season. This report summarizes all pinniped predation monitoring and deterrent activities at Bonneville Dam from January 13 through May 31, 2015. Regular daylight observations began on January 13 and ended on May 29. As in past years, observations were conducted Monday through Friday during daylight hours, but were not conducted on weekends and federal holidays.

Final predation estimates will be expanded for hours and days not observed and adjusted for “unknown” prey species consumed. These adjustments will be performed after the completion of the field season and will be presented in our annual report. This report can be found at: <http://www.nwd-wc.usace.army.mil/tmt/documents/fish>.

All data presented here are preliminary. Predation figures are unexpanded (unless otherwise noted) and pinniped abundance estimates will likely change as data is proofed and analyzed. A final report summarizing the results of the 2015 Pinniped Monitoring Program will be available in the fall of this year.

### **Preliminary Pinniped Abundance Data**

The first California sea lion (CSL) of the 2015 field season was observed on February 9. The maximum number of CSL observed on one day was 70 on May 13. This is a new record for Bonneville. The former single day record was 52 CSL set in 2007. The single day record from 2007 was surpassed on 12 separate days in 2015.

We documented 190 branded CSL at Bonneville Dam in 2015. Of these, 28 were brands seen in previous years, 31 were brands that had not previously been observed at Bonneville, and 131 were CSL that were trapped and branded at Bonneville this field season.

Steller sea lions (SSL) were present in the Bonneville tailrace when observations began on January 13. The maximum number of SSL observed on one day was 69 on April 22. This is a new record for Bonneville. The former single day record was 53 SSL set in 2010. The single day record from 2010 was surpassed on 5 separate days in 2015.

We documented 54 unique individual SSL at Bonneville Dam in 2015. Of these, 33 were repeat individuals and 21 were previously unidentified and may be new to Bonneville. Of the 33 repeat SSL, 15 were branded animals.

Pinniped abundance was variable in 2015. The daily abundance of pinnipeds (species combined) in 2015 versus the 2002-2014 average daily abundance is shown in Figure 1. There was an average of 12 pinnipeds per day in January, 8 in February, 22 in March, 78 in April, and 56 in May. The daily average presence of pinnipeds by species for all years of monitoring is shown in Figure 2.

The maximum number of pinnipeds present on one day was 116 on April 22. This is a new record for Bonneville. The former single day record was 71 pinnipeds set in 2010. The single day record from 2010 was surpassed on 15 separate days in 2015.

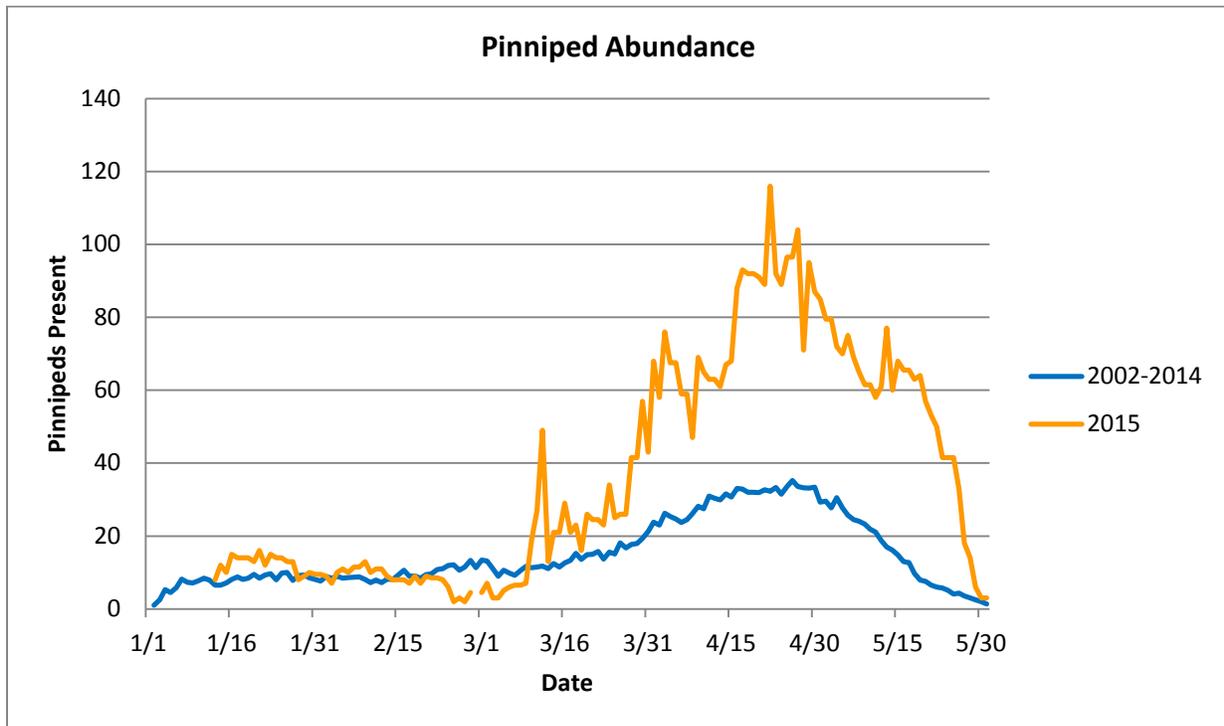


Figure 1. Pinniped abundance (California and Steller sea lions combined) at Bonneville Dam.

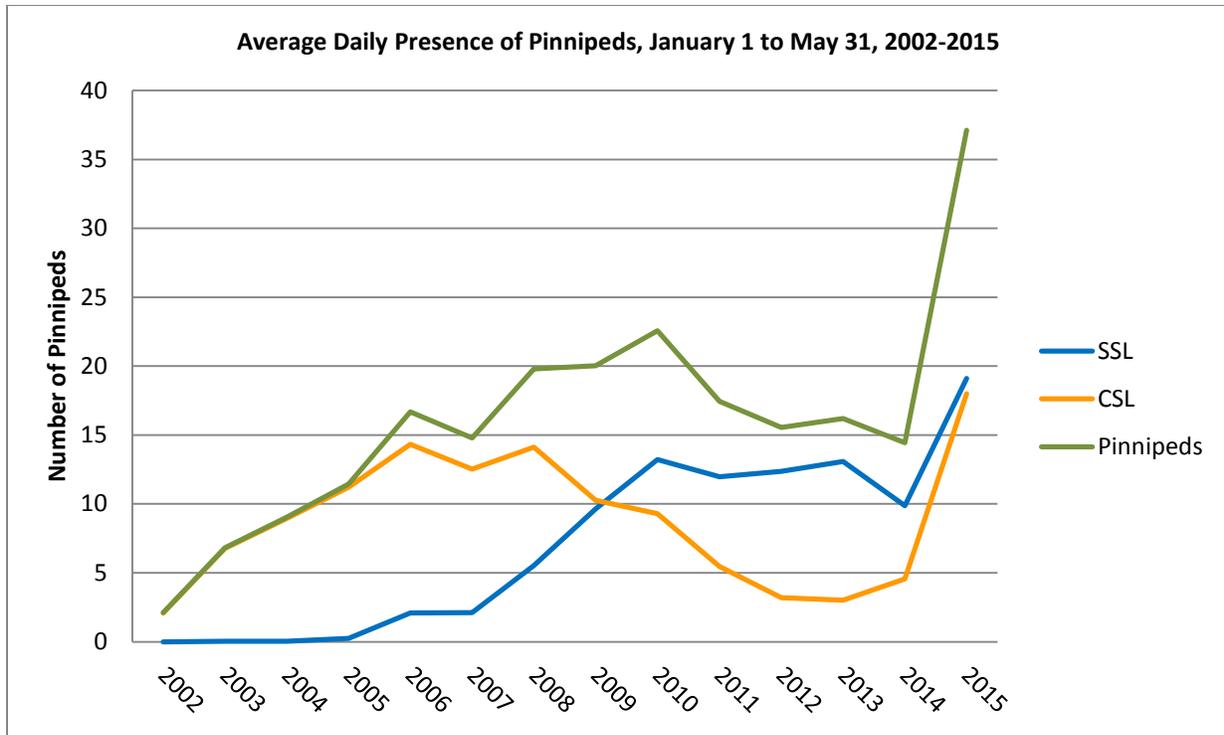


Figure 2. Average daily presence of California sea lions (CSL), Steller sea lions (SSL), and pinniped species combined (Pinnipeds) for January 1 to May 31, 2002-2015.

**Predation Data**

Adult salmonid (Chinook Salmon and Steelhead combined) predation during 2015 was greater than the 2002-2014 cumulative average (Figure 3). The predation estimate (expanded for weekends only) of 8,474 salmonids is greater than the 2002-2014 cumulative average of 3,515 salmonids consumed during the January 1 through May 31 time period. Predation estimates (expanded for weekends only) of Chinook Salmon and Steelhead are listed in Table 1.

We observed 4,707 salmonid catches by CSL and 1,297 salmonid catches by SSL. Observed numbers of fish consumed by pinnipeds in the Bonneville Dam tailrace for January 13 through May 29, 2015 are listed in Table 2.

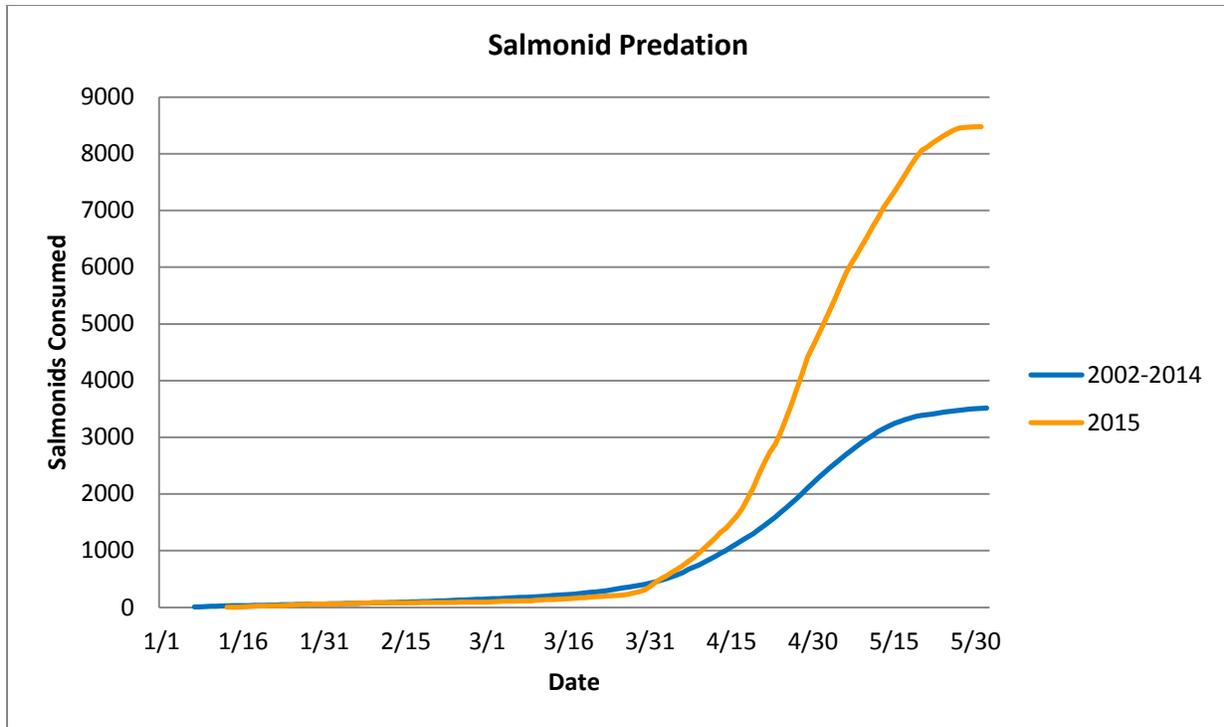


Figure 3. Adult salmonid (Chinook Salmon and Steelhead combined) predation estimates (expanded for weekends only) by pinnipeds at Bonneville Dam.

Table 1. Expanded predation estimates for Chinook Salmon and Steelhead by California and Steller sea lions at Bonneville Dam from January 13 to May 31, 2015.

Prey	California Sea Lion	Steller Sea Lion	Total
Chinook Salmon	6574	1720	8294
Steelhead	47	133	180
<b>Total</b>	<b>6621</b>	<b>1853</b>	<b>8474</b>

Table 2. Observed fish catches by fish species and pinniped species at Bonneville Dam from January 13 to May 29, 2015.

Prey	California Sea Lion	Steller Sea Lion	Total
Chinook Salmon	4676	1207	5883
Steelhead	31	90	121
White Sturgeon	2	21	23
Pacific Lamprey	94	13	107
American Shad	33	5	38
Other Species	13	9	22
Unknown Species	316	201	517
<b>Total</b>	<b>5165</b>	<b>1546</b>	<b>6711</b>

White Sturgeon predation by pinnipeds was low in 2015 when compared with the 2006-2014 cumulative average (Figure 4). The predation estimate (expanded for weekends only) of 34 sturgeon is below the 2006-2014 cumulative average of 1,285 sturgeon consumed during the January 1 through May 31 time period.

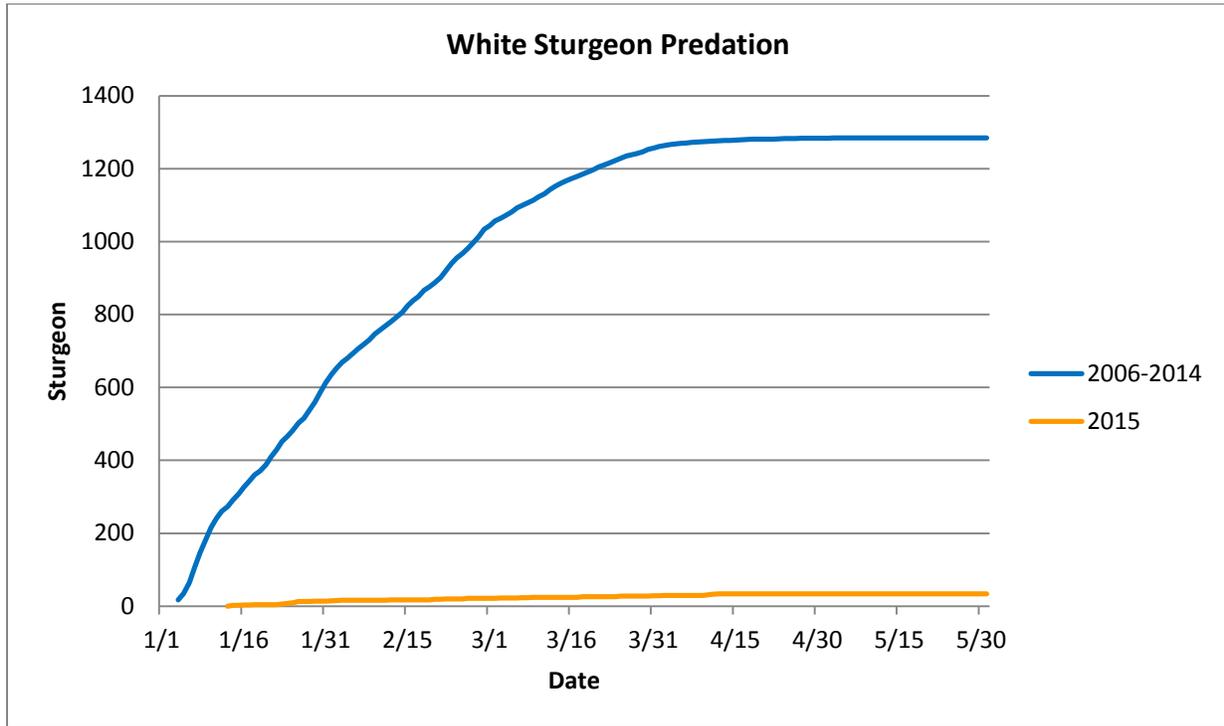


Figure 4. White sturgeon predation by pinnipeds at Bonneville Dam.

### **Pinniped Deterrents**

Sea lion exclusion devices (SLEDs) were installed at all fishway entrances by March 4.

Boat-based harassment by Columbia River Inter-Tribal Fish Commission (CRITFC) began on March 6 and ended for the season on May 14.

Dam-based harassment by U.S. Department of Agriculture (USDA) began on March 18 and ended for the season on May 31.

### **Pinniped Trapping, Branding & Removals**

Pinniped management activities are conducted at Bonneville Dam by Oregon Department of Fish & Wildlife (ODFW) and Washington Department of Fish & Wildlife (WDFW).

During the 2015 field season, ODFW and WDFW permanently removed 32 CSL. Of these, 30 were euthanized and two were transported to the Queens Zoo in New York. In addition to the 32 CSL that were permanently removed, 2 CSL died accidentally in one incident on a trap during the week of April 27. One SSL died accidentally when it was caught between two traps during the week of May 4.

A total of 131 CSL were trapped, branded and released at Bonneville Dam during the 2015 field season.

Pinniped management activities are listed by week below.

Week of May 18 - Eight CSL on the list for removal were trapped and euthanized. An additional 32 CSL, not on the list for removal, were trapped, branded and released.

Week of May 11 - Ten CSL on the list for removal were trapped this week. Eight were euthanized and two are being processed for transfer to the Queens Zoo. An additional 20 CSL, not on the list for removal, were trapped, branded and released.

Week of May 4 - Trapping and removal operations at the dam were suspended for the week due to the accidental death of a SSL on May 4. Additional information on this mortality can be found at: <http://www.dfw.state.or.us/news/2015/may/050515b.asp>. The ODFW staff spent the remainder of the week inspecting and modifying the traps to prevent a similar incident in the future.

Week of April 27 - Two CSL on the list for removal were trapped and euthanized. Twenty-three CSL, not on the list for removal, were trapped, branded and released. A trap malfunction sometime between the night of April 28 and the morning of April 29 resulted in the accidental death of two CSL (not on the list for removal). Additional information on these mortalities can be found at: <http://www.dfw.state.or.us/news/2015/may/050115.asp>.

Week of April 20 - Five CSL on the list for removal were trapped and euthanized. Twenty-seven CSL, not on the list for removal, were trapped, branded and released.

Week of April 13 - One CSL on the list for removal was trapped and euthanized. Sixteen CSL, not on the list for removal, were trapped, branded and released.

Week of April 6 - Six CSL on the list for removal were trapped and euthanized. Thirteen CSL, not on the list for removal, were trapped, branded and released.