

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

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### **May 22, 2015**

This is the sixth 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 15, 2015. Regular daylight observations began on January 13 and will continue through the end of May. As in past years, observations will be conducted Monday through Friday during daylight hours, but will not be 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 at the end 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 as of the status report date. Predation figures are unexpanded (unless otherwise noted) and pinniped abundance estimates will likely change as the season progresses and data are 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 9 separate days in 2015. We have documented 185 branded CSL in the tailrace thus far. Of these, 24 were brands seen in previous years, 30 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) have been present since 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 have documented 53 unique individual SSL in the tailrace thus far. Of these, 33 were repeat individuals and 20 were previously unidentified and may be new to Bonneville. Of the 33 repeat SSL, 15 were branded animals.

Pinniped abundance has been 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, and 78 in April. There has been an average of 69 pinnipeds per day thus far in May. The daily average presence of pinnipeds by species (for January 1 to May 15) 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.

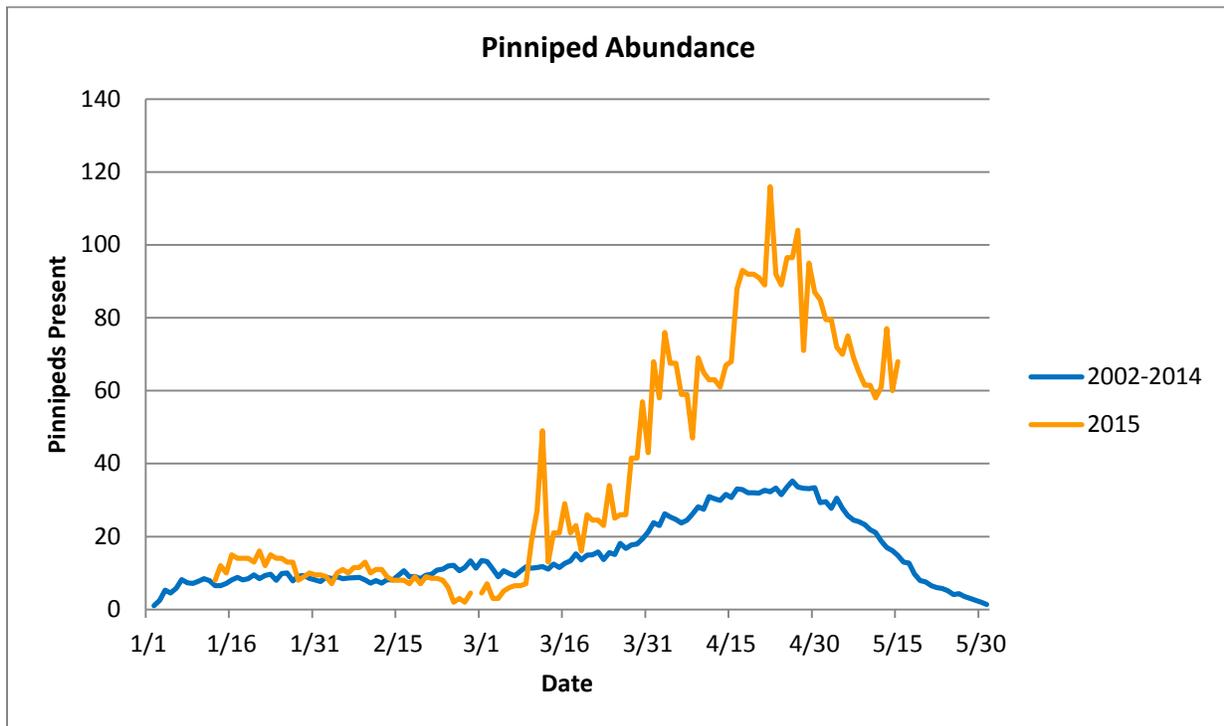


Figure 1. Pinniped abundance (California and Steller sea lions combined) at Bonneville Dam.

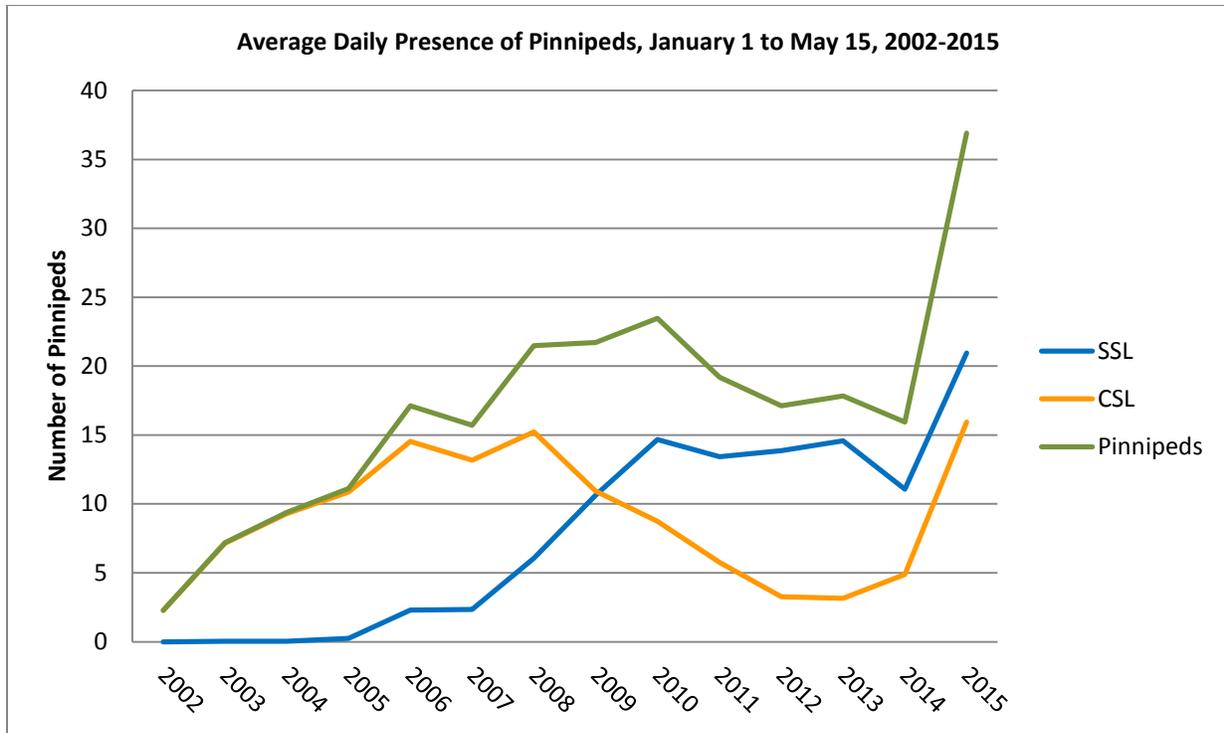


Figure 2. Average daily presence of California sea lions (CSL), Steller sea lions (SSL), and pinniped species combined (Pinnipeds) for January 1 to May 15, 2002-2015.

**Predation Data**

Adult salmonid (Chinook Salmon and Steelhead combined) predation has been greater than the 2002-2014 cumulative average for this time period (Figure 3). The predation estimate (expanded for weekends only) of 7,335 salmonids is greater than the 2002-2014 cumulative average of 3,282 salmonids consumed through May 15. Predation estimates (expanded for weekends only) of Chinook Salmon and Steelhead are listed in Table 1.

We have observed 4,089 salmonid catches by CSL and 1,261 salmonid catches by SSL. Observed numbers of fish consumed by pinnipeds in the Bonneville Dam tailrace for January 13 through May 15, 2015 are listed in Table 2.

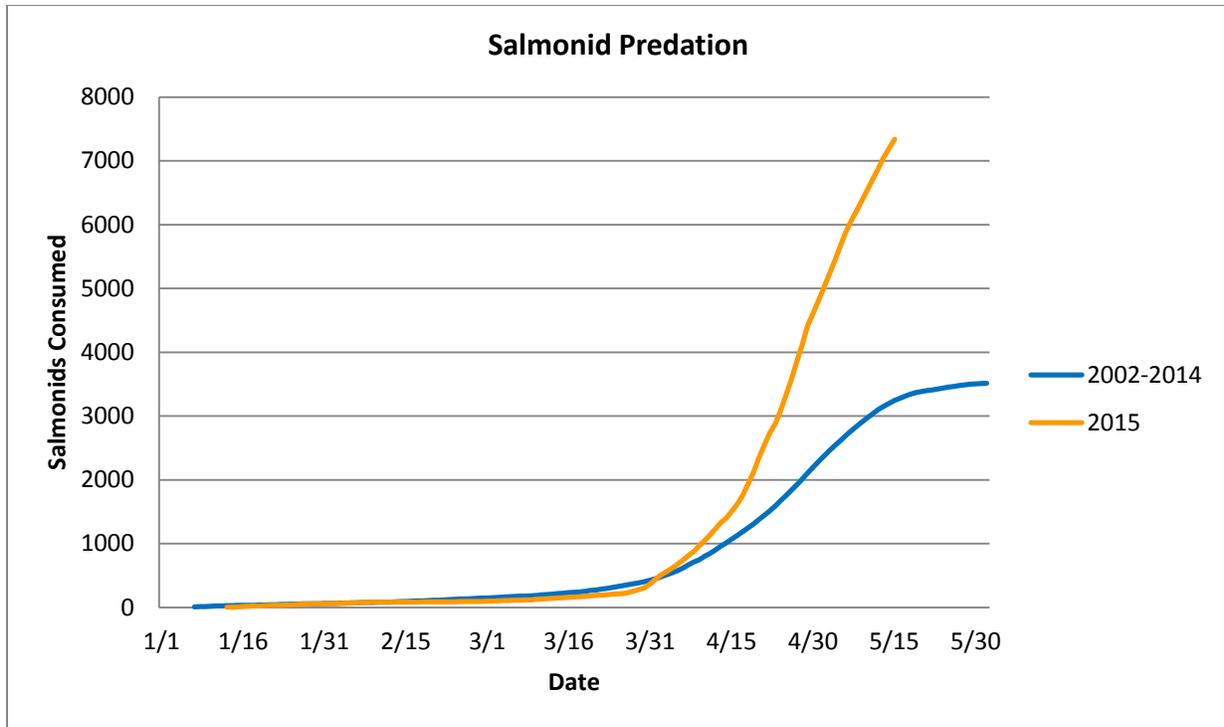


Figure 3. Adult salmonid (Chinook Salmon and Steelhead combined) predation estimates (expanded for weekends only) by pinnipeds at Bonneville Dam.

Table 1. Expanded predation estimates for Chinook Salmon and Steelhead by California and Steller sea lions at Bonneville Dam from January 13 to May 15, 2015.

Prey	California Sea Lion	Steller Sea Lion	Total
Chinook Salmon	5496	1662	7158
Steelhead	44	133	177
<b>Total</b>	<b>5540</b>	<b>1795</b>	<b>7335</b>

Table 2. Observed fish catches by fish species and pinniped species at Bonneville Dam from January 13 to May 15, 2015.

Prey	California Sea Lion	Steller Sea Lion	Total
Chinook Salmon	4060	1171	5231
Steelhead	29	90	119
White Sturgeon	2	21	23
Pacific Lamprey	39	6	45
American Shad	15	4	19
Other Species	16	9	25
Unknown Species	253	197	450
<b>Total</b>	<b>4414</b>	<b>1498</b>	<b>5912</b>

Estimated White Sturgeon predation has been low for the 2015 field season (Figure 4). The predation estimate (expanded for weekends only) of 34 sturgeon is below the 2006-2014 cumulative average of 1,284 sturgeon consumed through May 15.

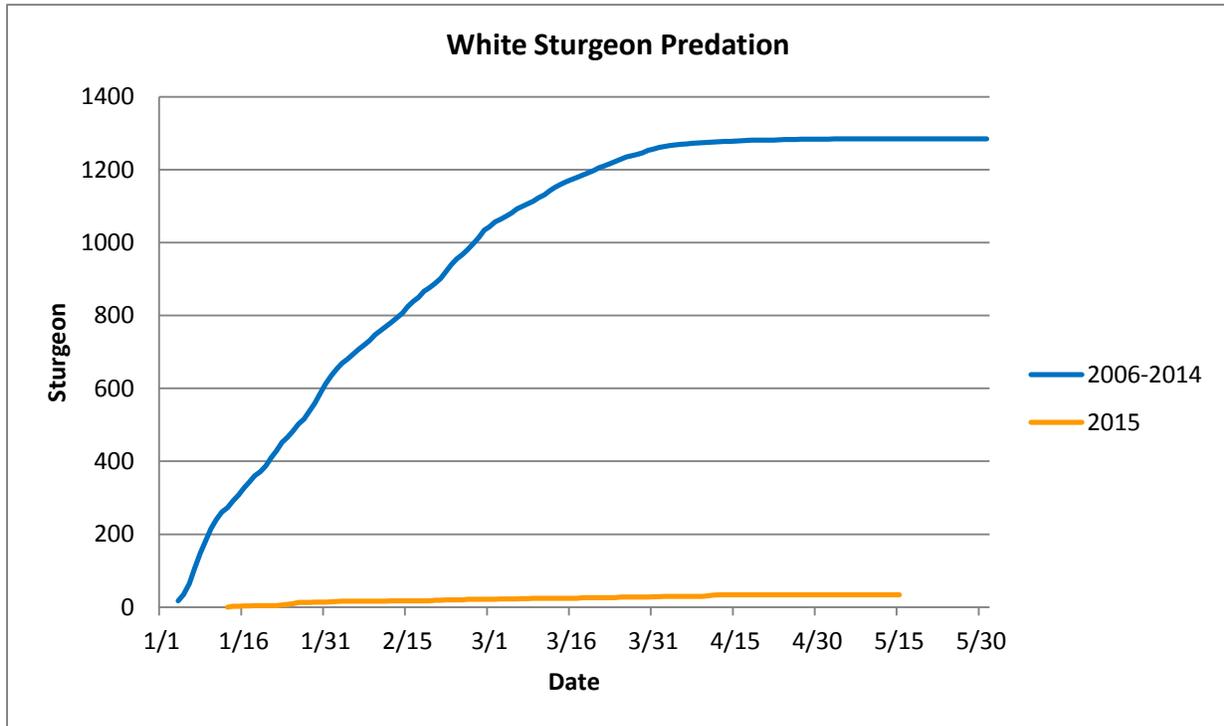


Figure 4. White sturgeon predation by pinnipeds at Bonneville Dam.

**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 will be conducted 7 days a week until the end of May.

**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 (through May 22), ODFW and WDFW have permanently removed 32 CSL. Of these, 30 were euthanized and two are being processed for transfer 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 have been trapped, branded and released during the 2015 field season thus far.

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>. 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.