

Pinniped Activities at Bonneville Dam

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U.S. ARMY

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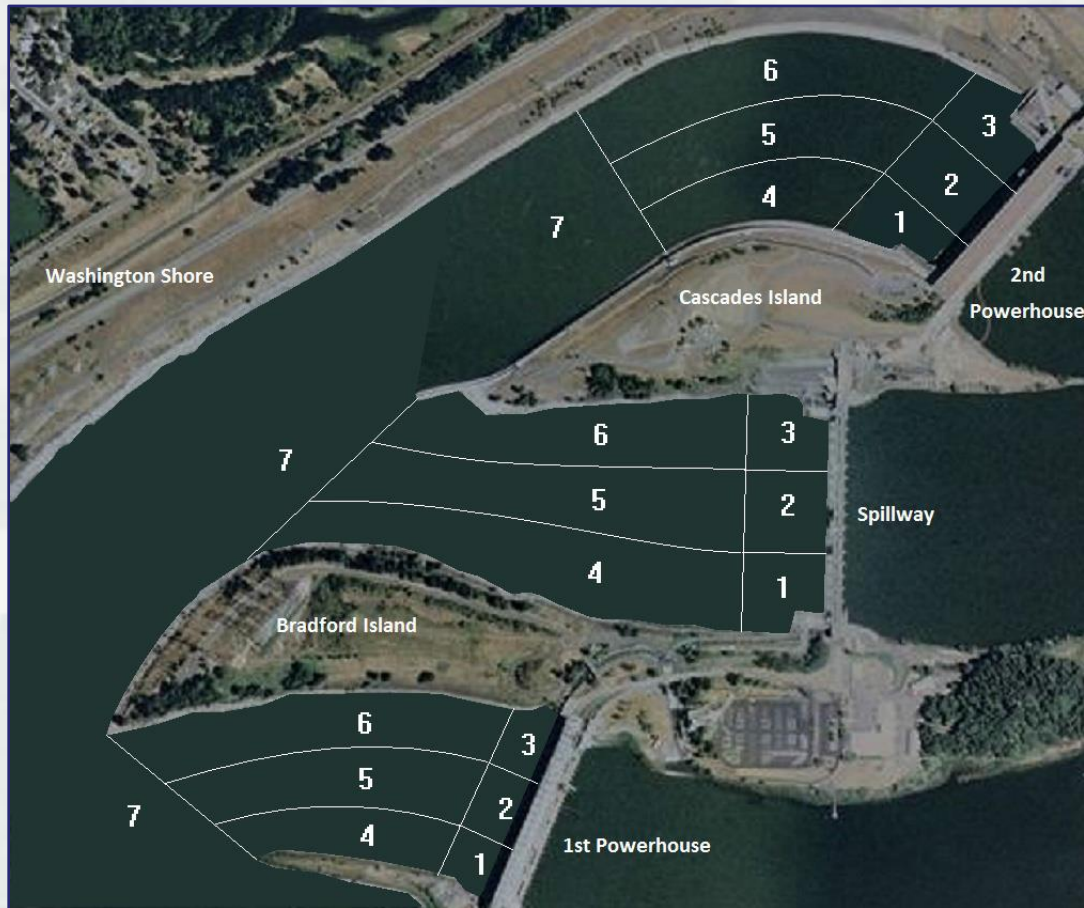


Objectives

- Seasonal timing and abundance of pinnipeds at Bonneville Dam.
- Estimate consumption of adult salmonids.
- Evaluate deterrent methods utilized at Bonneville Dam.



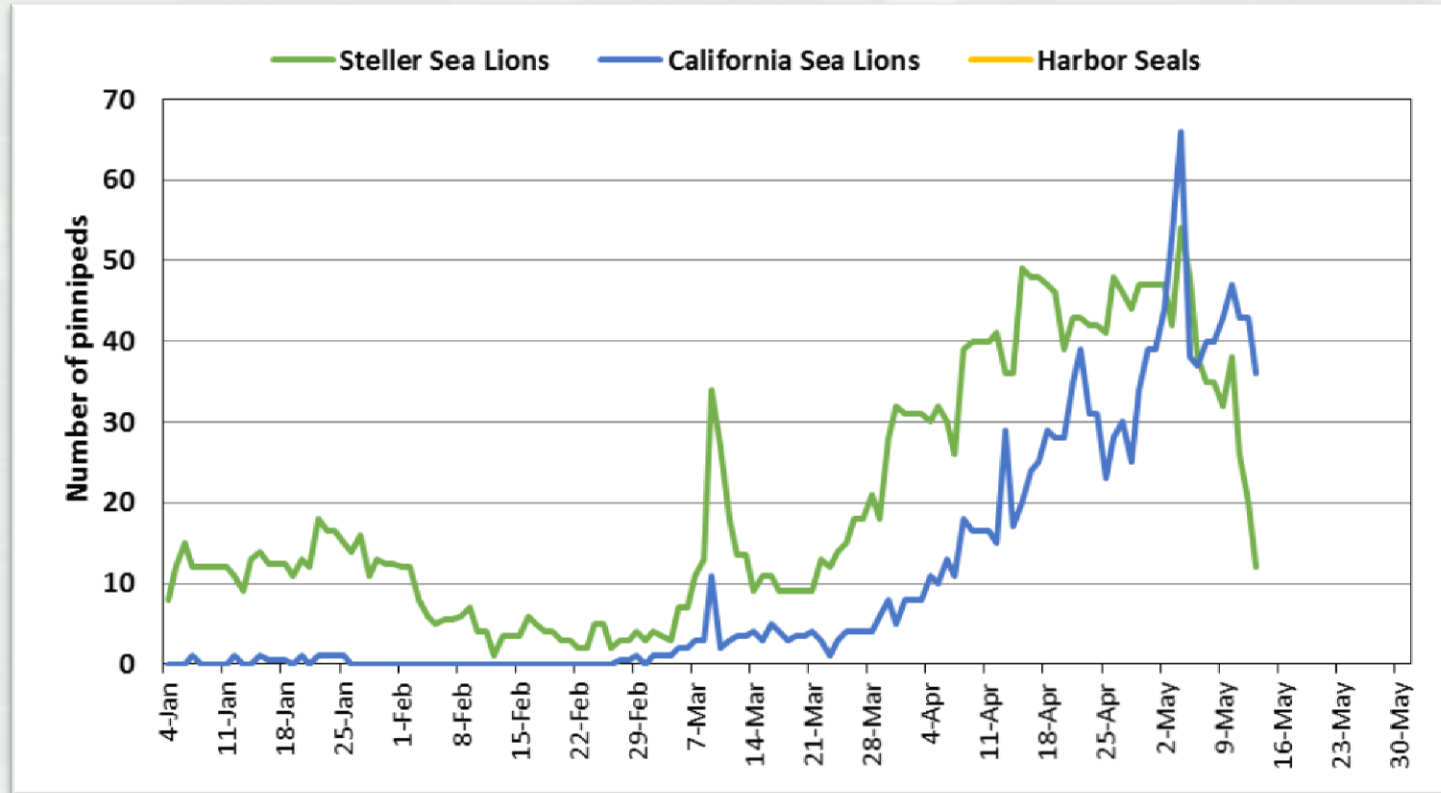
Bonneville Dam Observation Zones



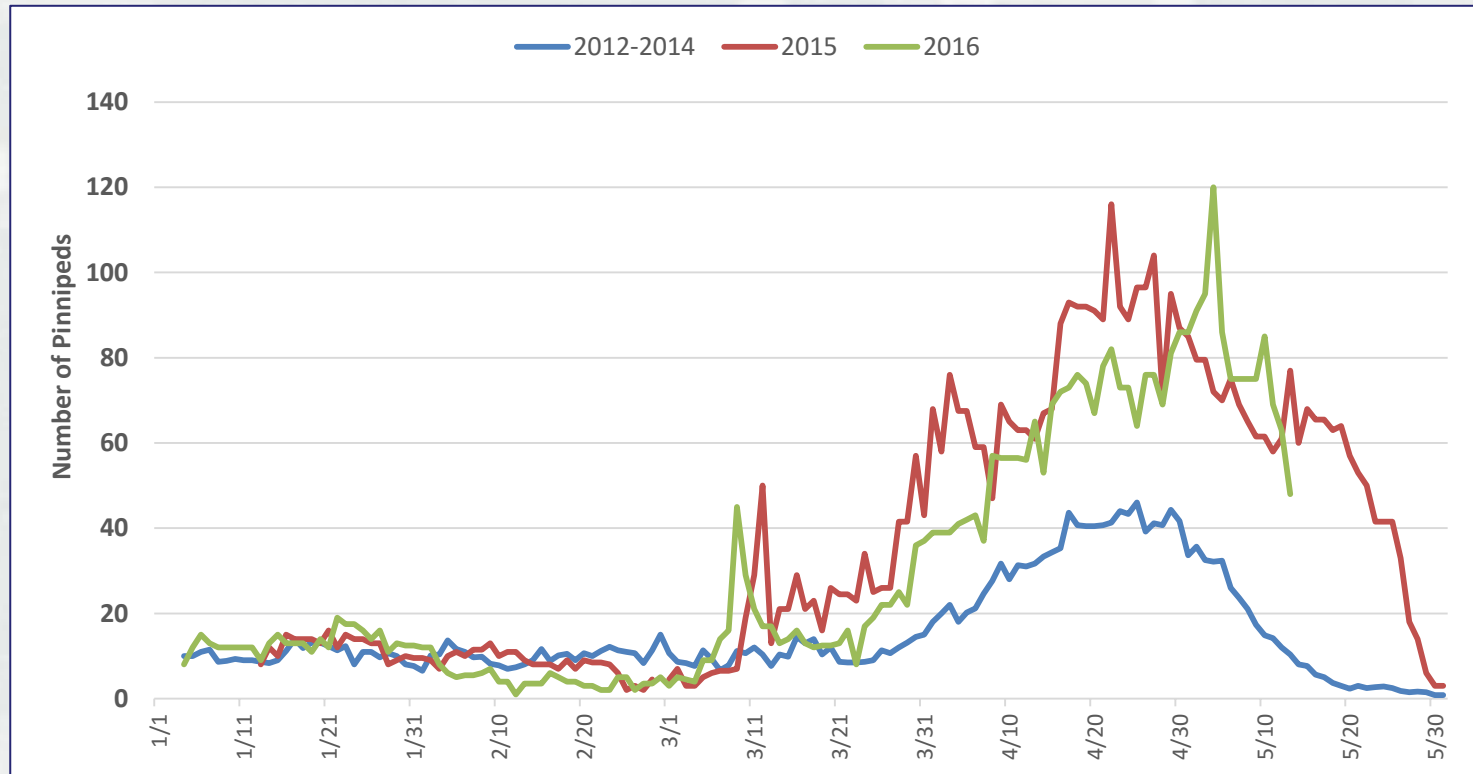
Pinnipeds at Bonneville Dam



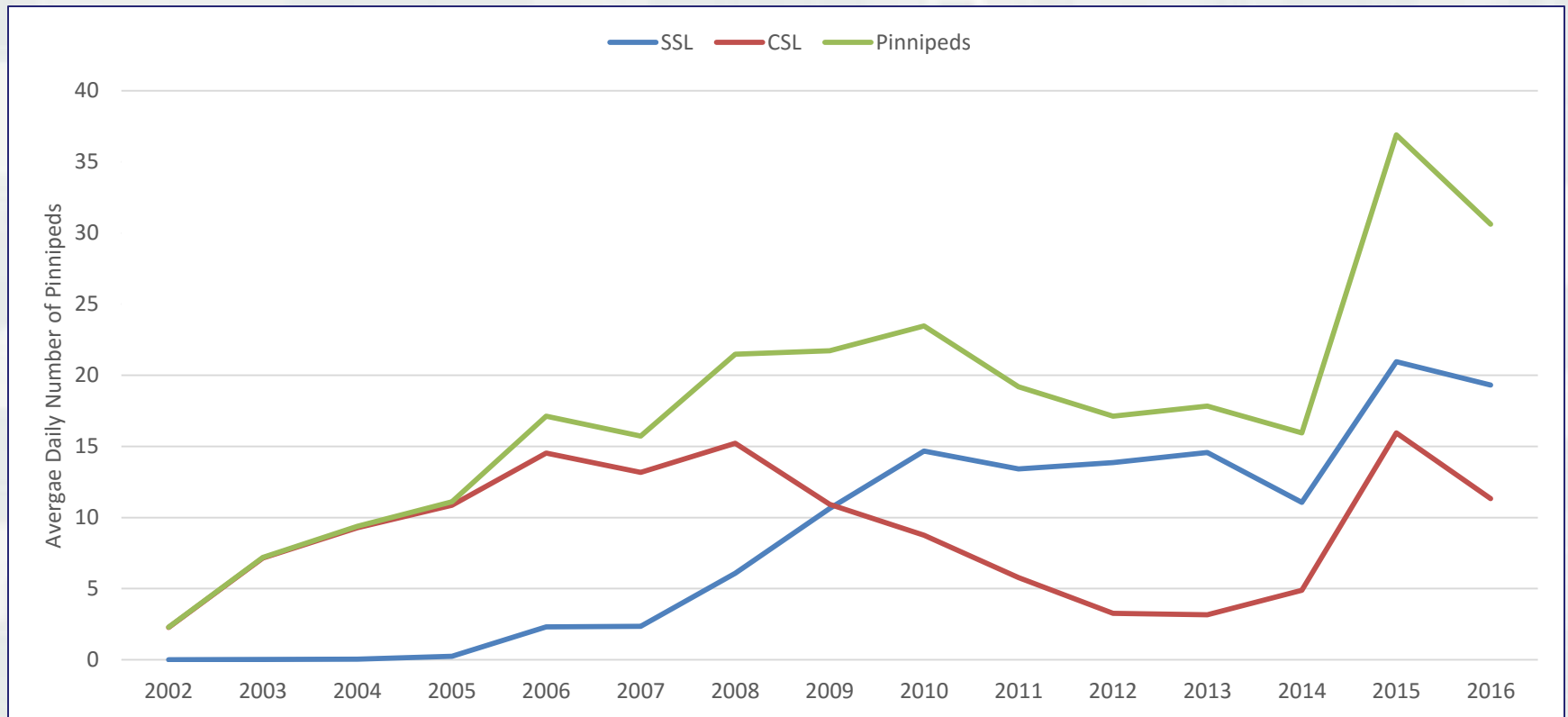
Seasonal Abundance of Pinnipeds by Species at Bonneville Dam 2016



Seasonal Abundance of Pinnipeds at Bonneville Dam 2012-2016



Average Daily Abundance of Pinnipeds by Species from 1 January to May 31



Predation at Bonneville Dam



2016 Consumption Observed and Estimated

Table 1. Observed fish catches by pinnipeds at Bonneville Dam through May 13, 2016.

Note: these are raw numbers.

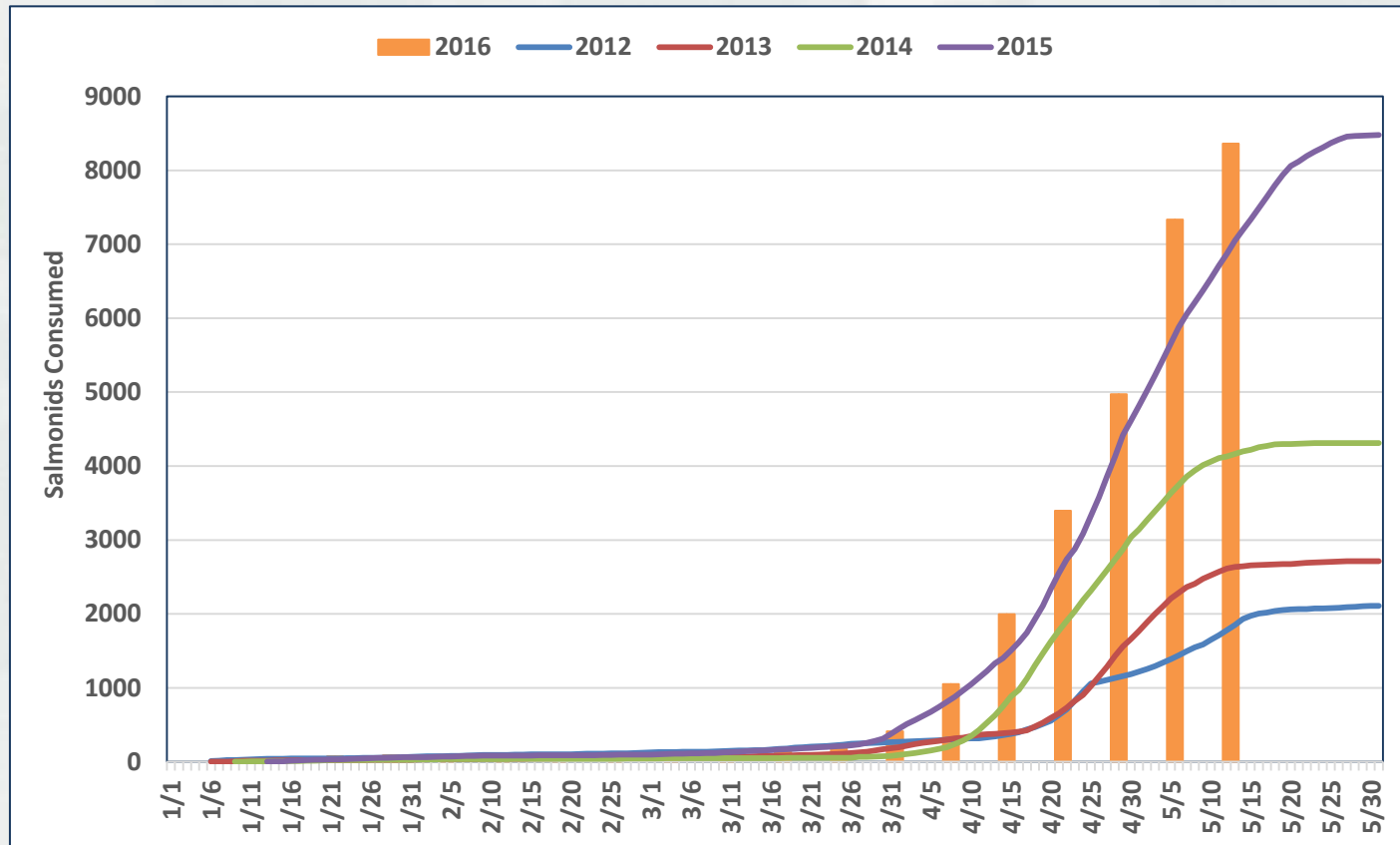
Prey	Steller Sea Lion	California Sea Lion	Total
Chinook	1,118	2,687	3,805
Steelhead	40	56	96
Sturgeon	26	3	29
Lamprey	20	108	128
Total	1,204	2,854	4,058

Table 2. Estimated salmonid consumption by pinnipeds at Bonneville Dam through May 13, 2016.

Prey	Steller Sea Lion	California Sea Lion	Total
Chinook	2,434	5,677	8,111
Steelhead	124	125	249
Total	2,558	5,802	8,360



Estimated Salmonid Consumption for 2012 - 2016



*Does not include unknown fish catches



Pinniped Consumption of Chinook Salmon 2012-2015

Year	Chinook Salmon Passage	Expanded Chinook Consumption Estimates	Percent of Chinook Run Consumed
2012	196,667	1,750	0.9%
2013	155,729	2,525	1.6%
2014	257,354	4,209	1.6%
2015	283,696	9,780	3.3%

2012-2015 Chinook passage January 1 – June 15



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Non Lethal Deterrents



Summary



- Pinniped predation on spring Chinook salmon in 2015 and 2016 has been at an all time high.
- California sea lion abundance at Bonneville Dam was low in 2012 and 2013.
- 2015 and 2016 had record numbers of California and Steller sea lions at Bonneville Dam.
- SLEDs and FOG barriers are effective at keeping sea lions out of the fishways.
- Dam-based and boat-based hazing has a short term effect.

