

# Sea Lion Impacts and Management in the Columbia River

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Idaho Water Users Association  
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Columbia River Inter-Tribal Fish Commission



# Presentation Outline

1. Provide some context for tribal co-management.
2. Status and history of California and Steller sea lions.
3. How big is the sea lion problem?
4. What are the impacts of sea lions on salmon?
5. Where do the impacts occur?
6. What are the management actions?
7. New sea lion legislation/why is the future going to be better?







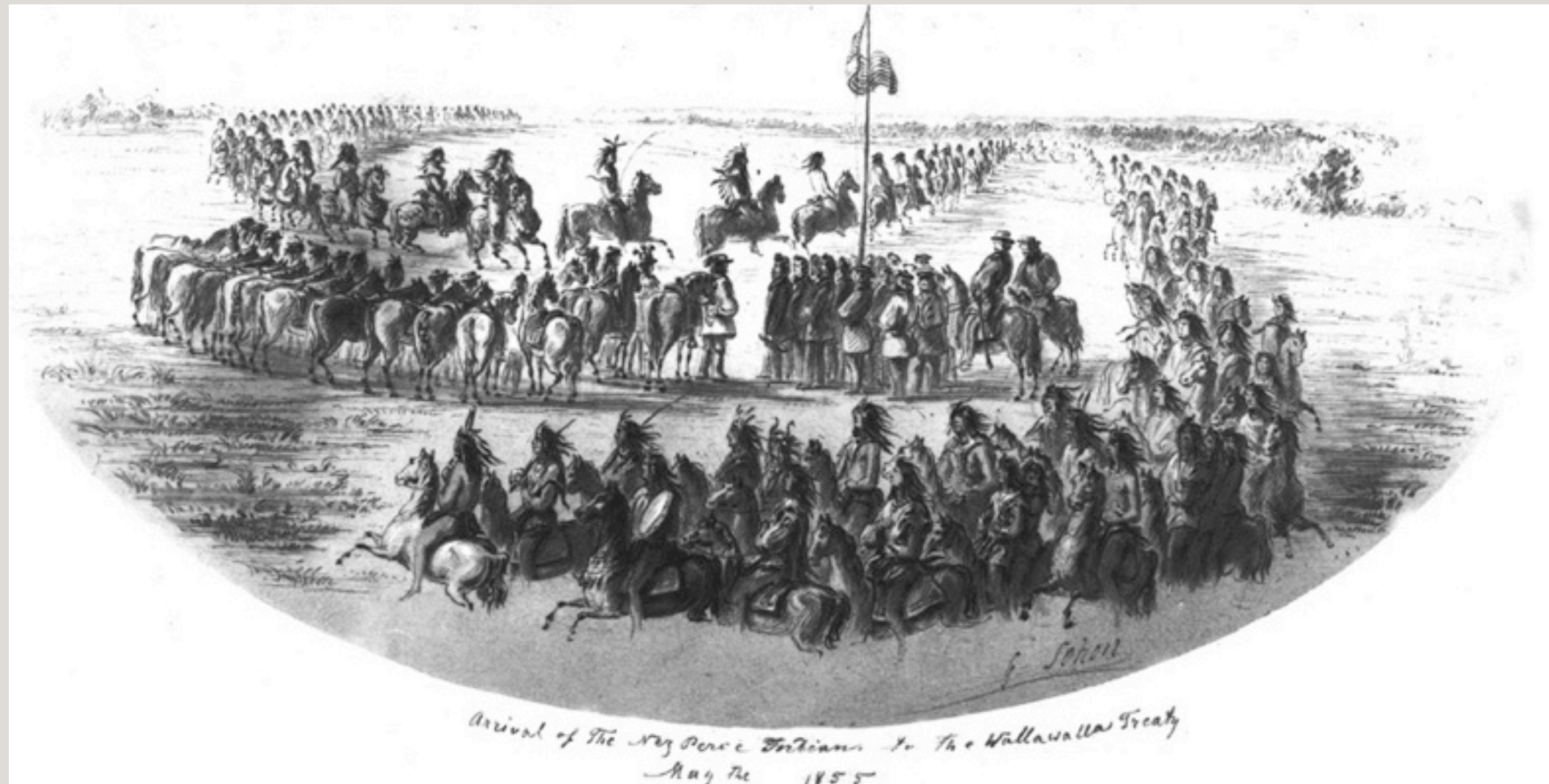
# Celilo Falls Tribal Fishery

On the Columbia River near The Dalles, Oregon  
*(inundated by The Dalles Dam in 1957)*

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“...the right of taking fish at all usual and accustomed places, in common with the citizens of the Territory, and of erecting temporary buildings for curing them: together with the privilege of hunting, gathering roots and berries....”

—1855 Treaty with the Yakima

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# Important Dates in Indian Law

- **1969: *US v. Oregon*.** Federal Judge Belloni ruled that the 4 tribes (Yakama, Warm Springs, Umatilla and Nez Perce) were entitled to a “fair share” of the fish runs and limited the power of the State to regulate treaty Indian fisheries.
- **1974: *US v. Washington*.** Federal Judge Boldt ruled that a “fair share” was 50% of the harvestable fish runs and reaffirmed tribal management authority.







## CRITFC Formed in 1977

To ensure a unified voice in the overall management of the fishery resources:

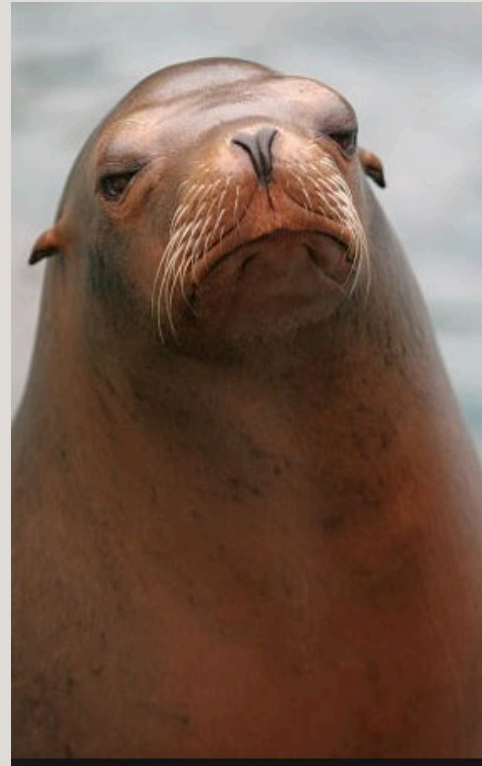
- Restore the Fish Runs
- Protect Tribal Fishing Rights
- Coordinate Inter-Tribal Enforcement





# Steller Sea Lion

- rounded head
- lighter brown color
- males 800-2000 lbs



# California Sea Lion

- point on head
- darker brown color
- males 500-1200 lbs

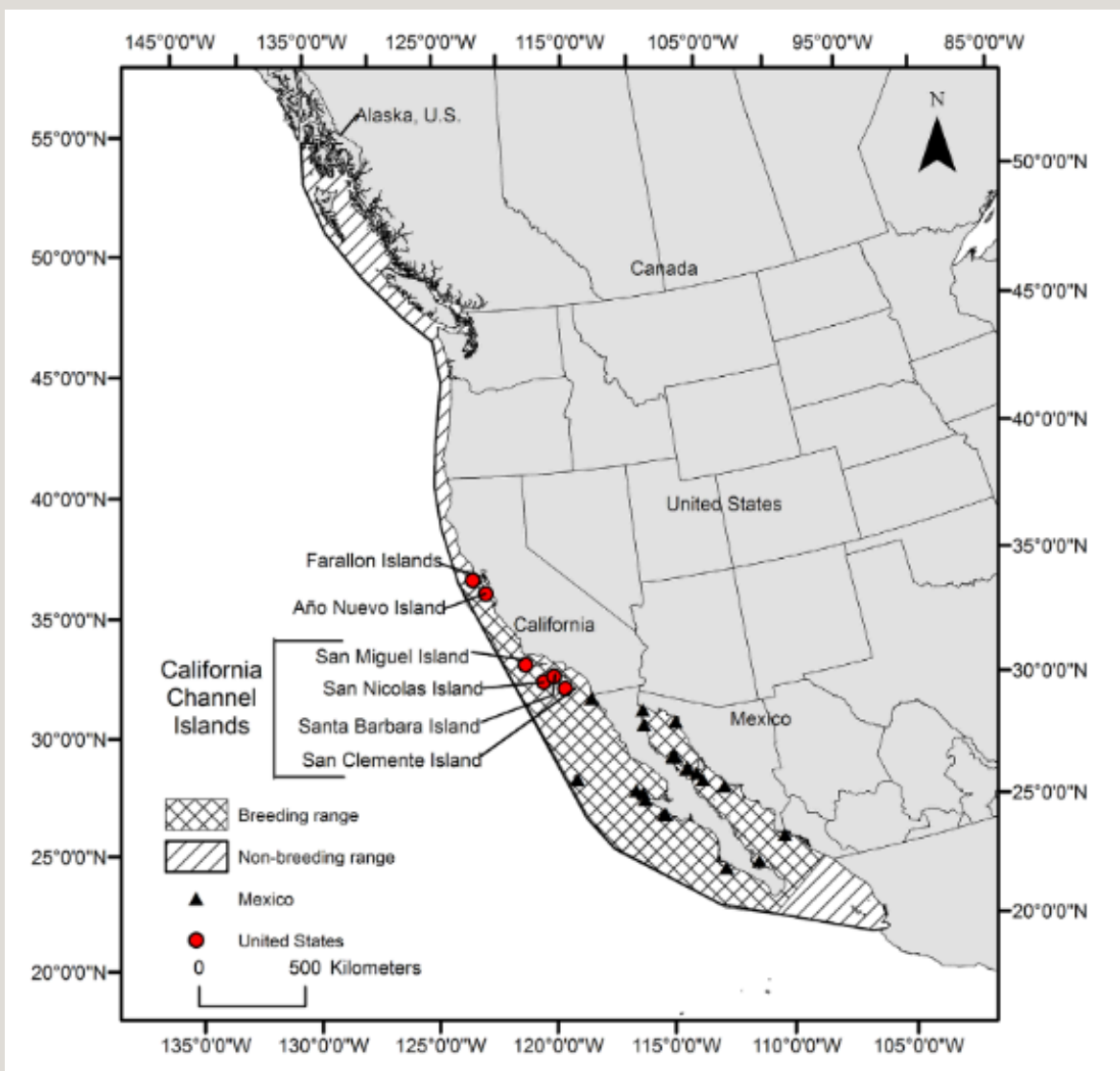


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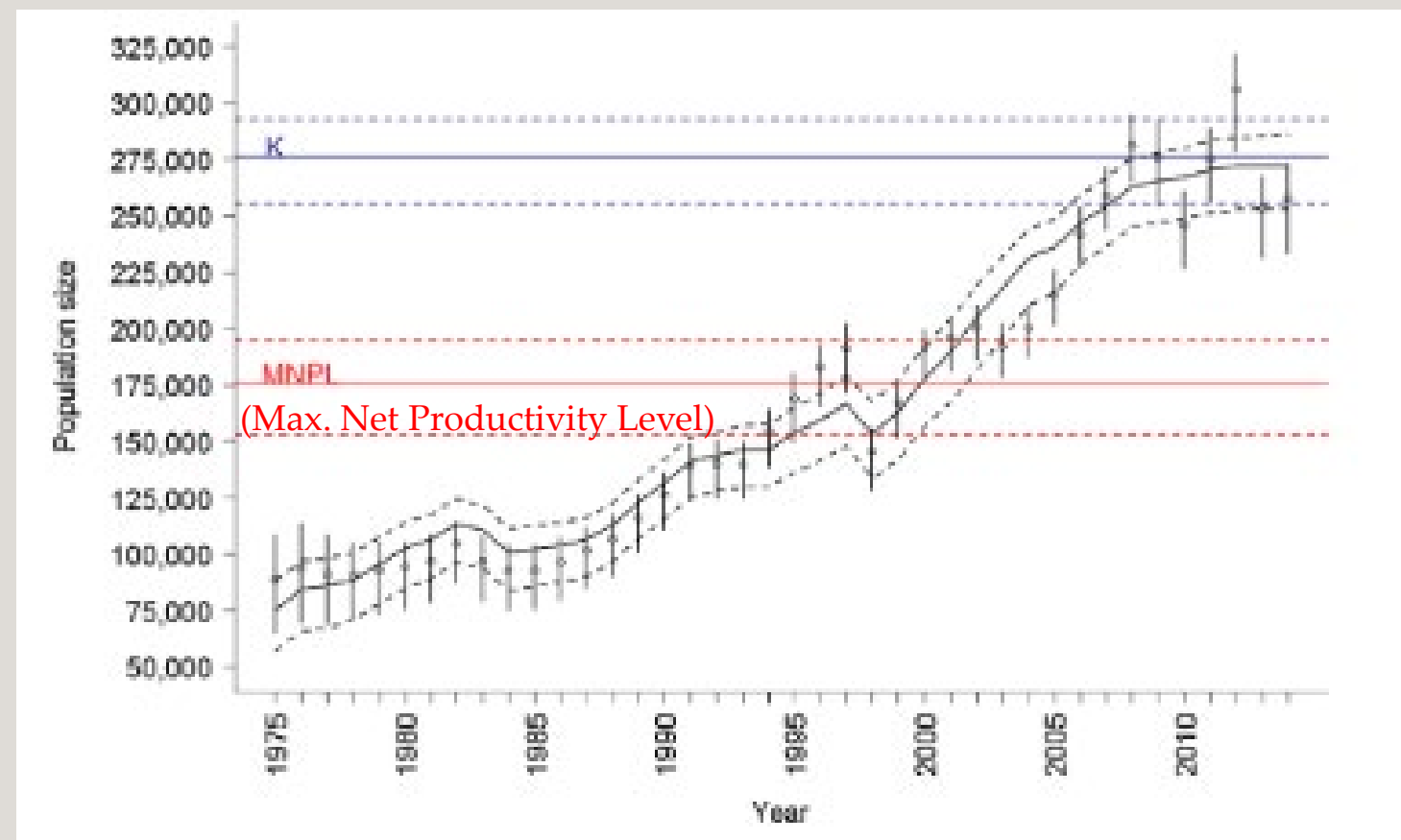




# Status of California Sea Lions



From Laake et al. 2017

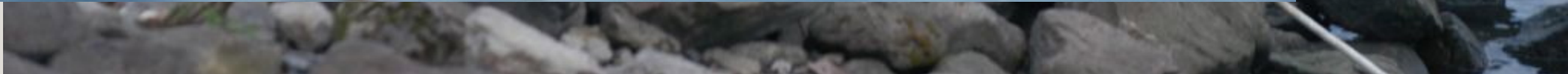


PBR (Potential Biological Removal)

9,200

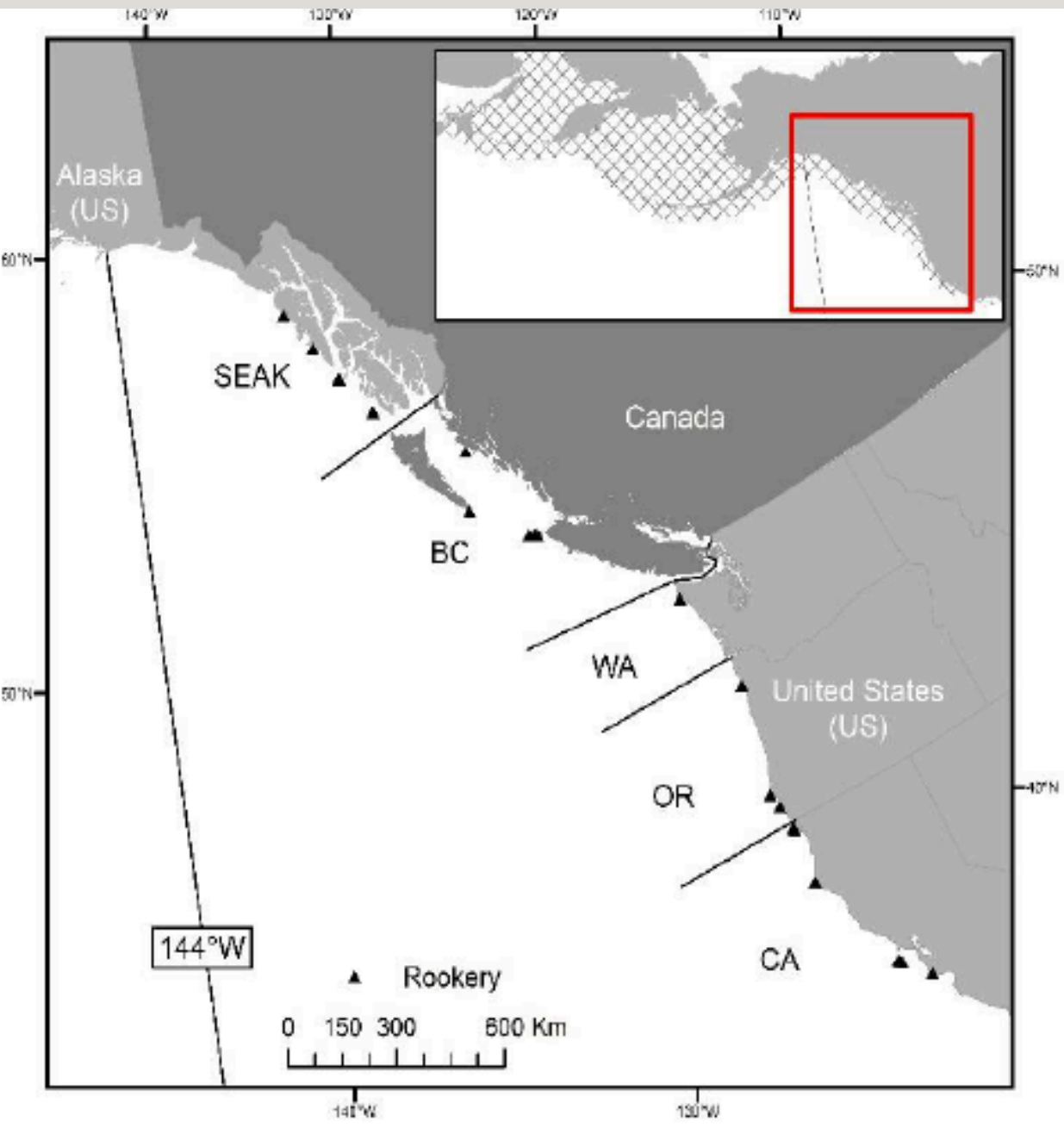


# Status of California Sea Lions

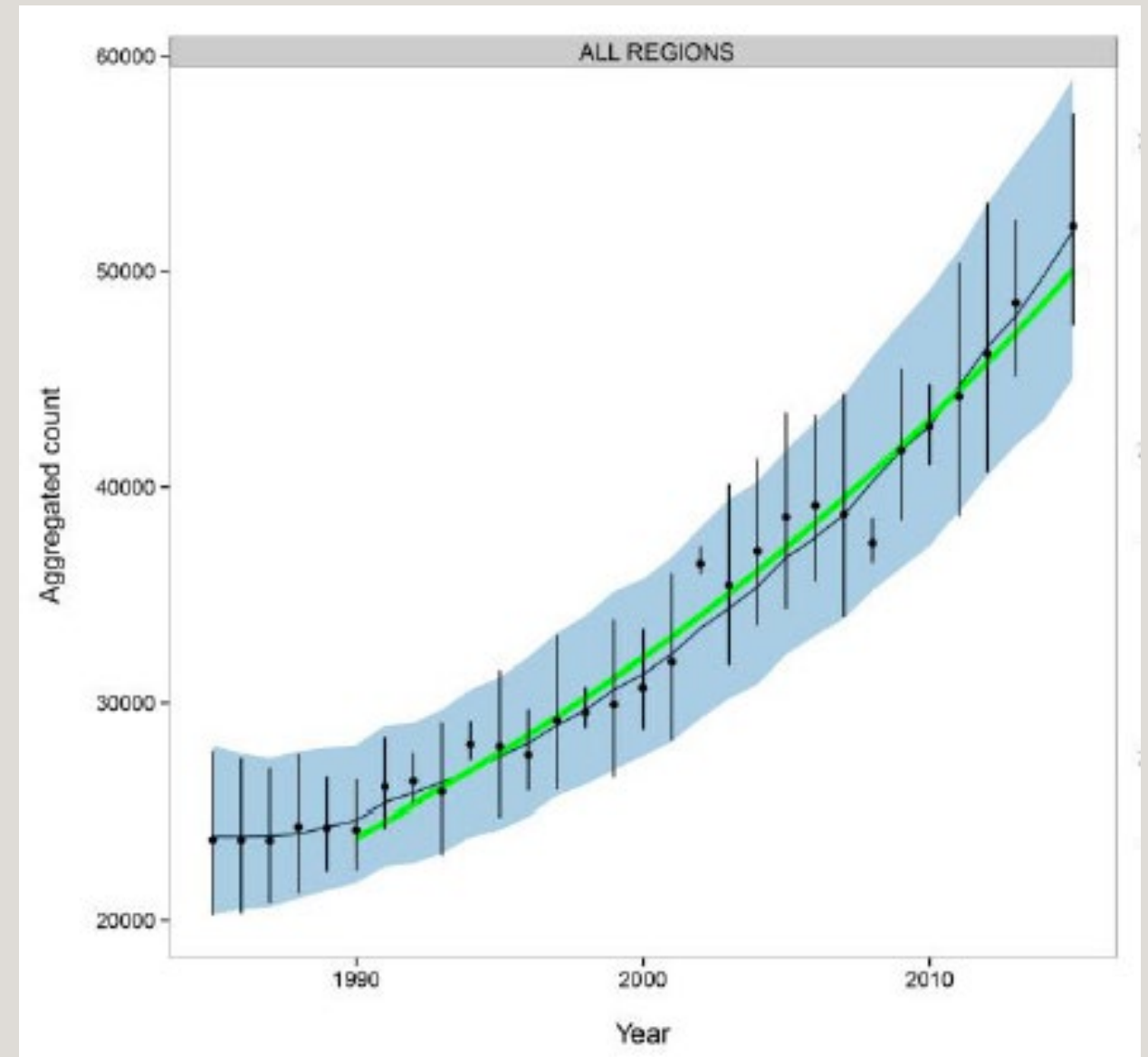




# Status of Steller Sea Lions



From NOAA 2017



PBR (Potential Biological Removal)

2,378

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# Status of Steller Sea Lions

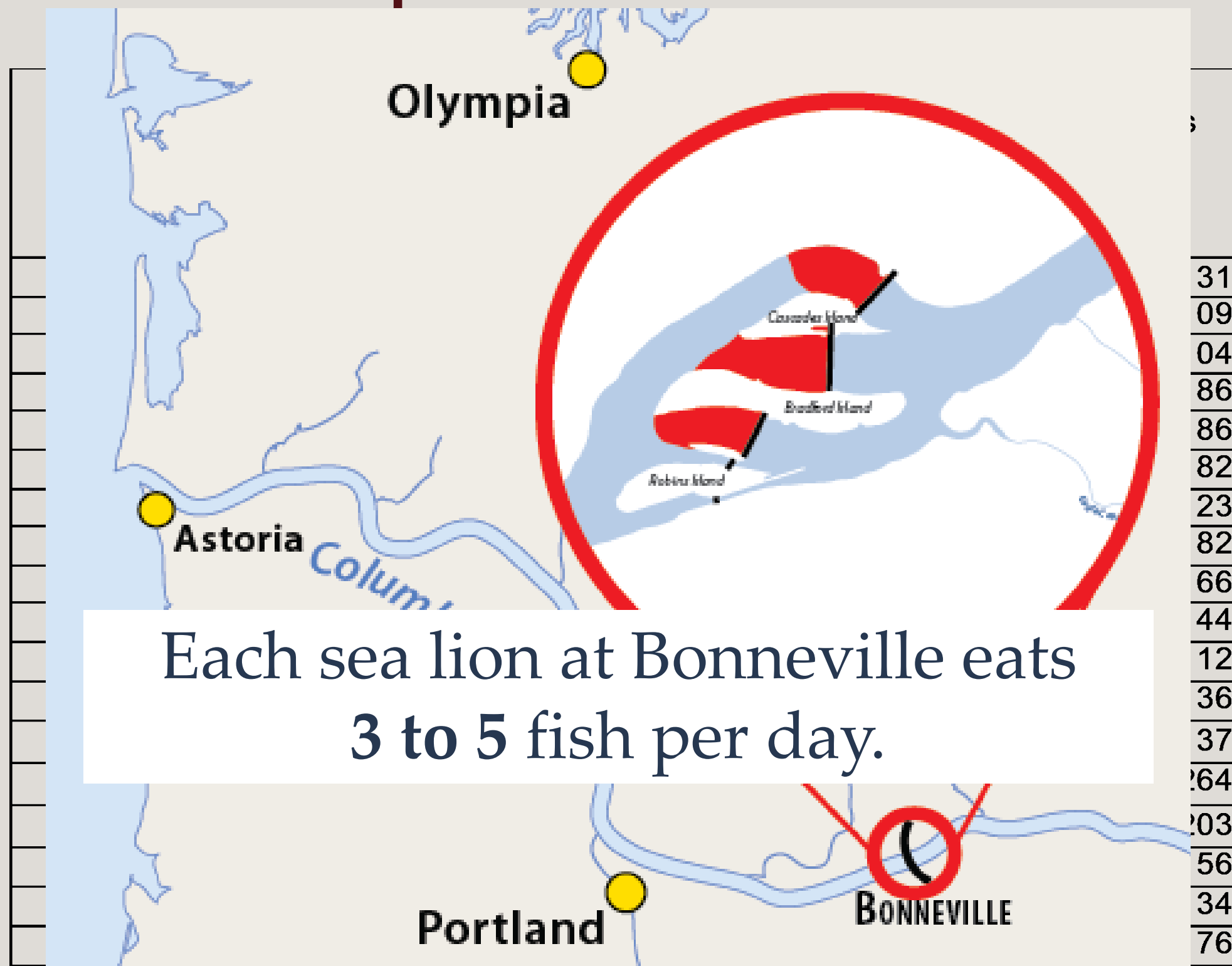






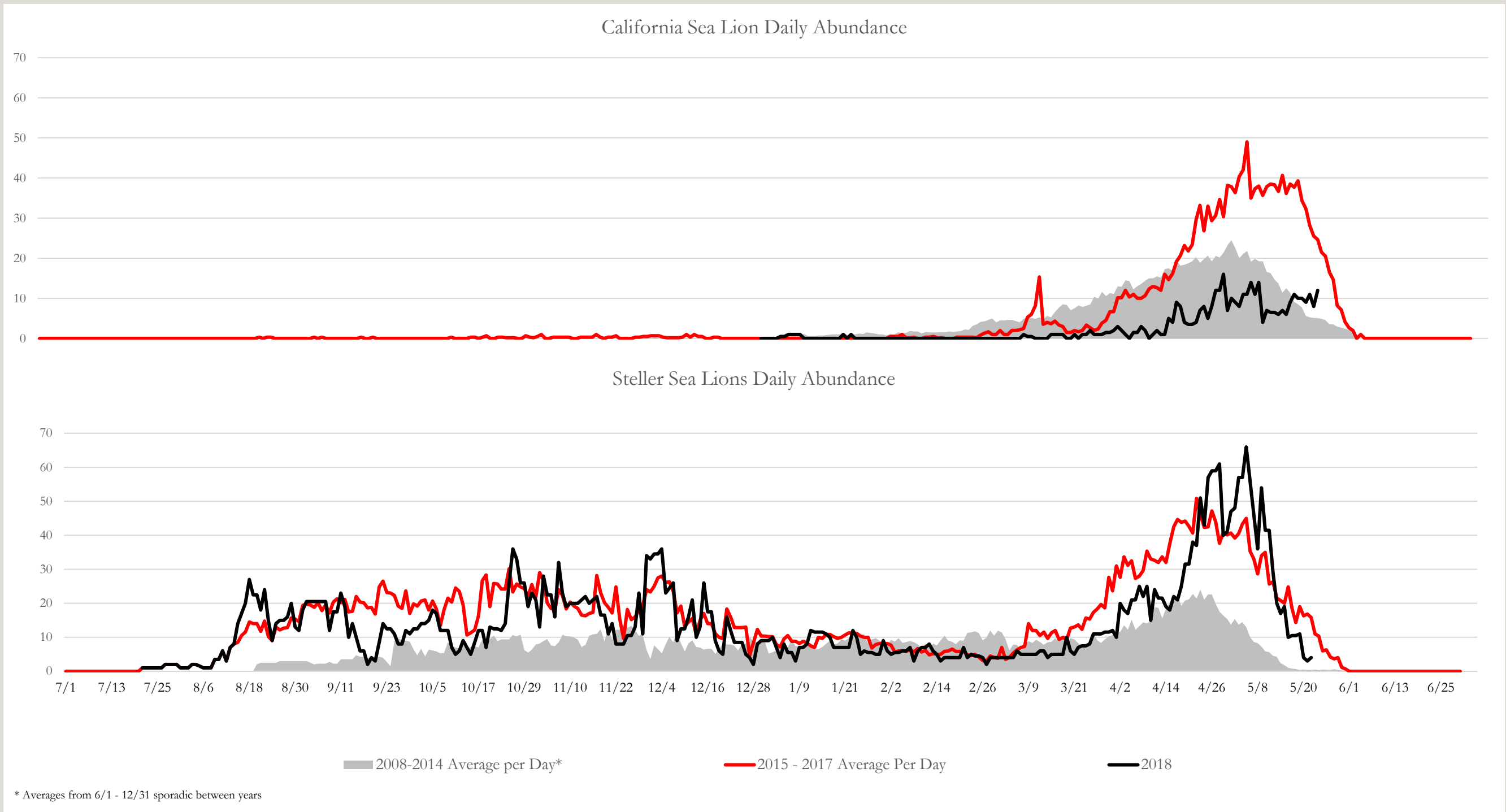


# Sea Lion Impacts at Bonneville





# Bonneville Pinniped Abundance



From Kyle Tidwell, USACE

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# How many sea lions are around?

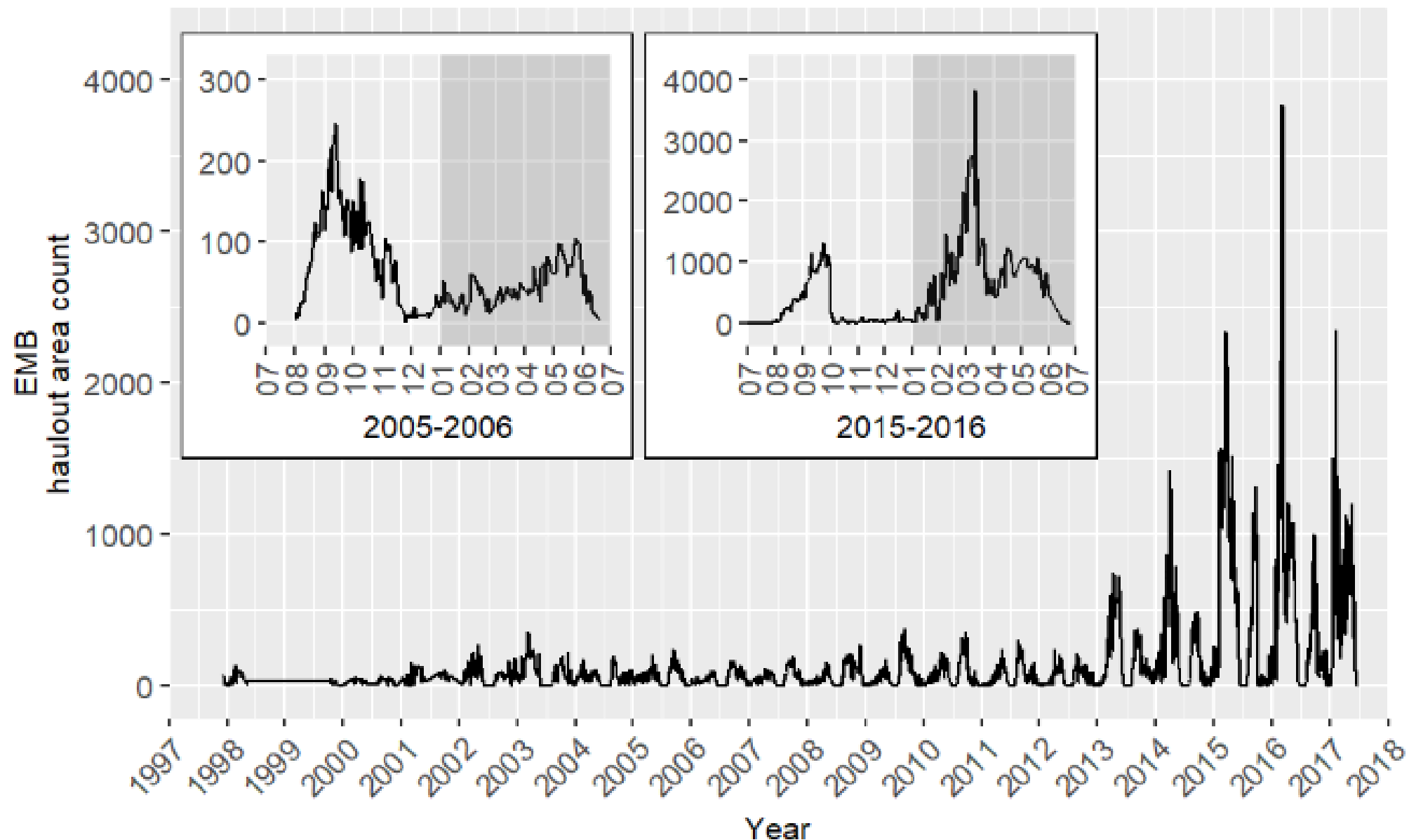


Figure 2. Time series of California sea lion haul-out area counts at the East Mooring Basin (EMB) in Astoria from December 1997 to June 2017. Insets illustrate the changes in magnitude and seasonality of California sea lion occurrence over the study period (x-axis denotes month; note difference in magnitude of counts on the y-axis scale between the two inset figures).



# Predation loss at Bonneville and the lower river

Year	Bonneville Dam salmonids passage (Jan 1 – May 31)	Adjusted salmonids consumption estimate in Bonneville tailrace	% of run (Jan 1 – May 31)	Predation of spring chinook between estuary and Bonneville	% of run (Jan 1 – May 31)
2010	267,194	6,542	2.39%	77,560	22%
2011	223,380	4,007	1.76%	59,480	21%
2012	171,665	2,382	1.37%	51,750	23%
2013	120,619	2,954	2.39%	35,210	23%
2014	219,929	4,746	2.11%	98,470	31%
2015	239,326	10,859	4.34%	224,450	48%

Bonneville Tailrace

+ lower River

From Tidwell et al. 2018 and Wargo Rub et al. 2019





# Management Actions

- Hazing
- States implement lethal removal
  - MMPA 120 permit process
  - 120 criteria complications
  - Willamette Falls 120
- Lethal removal totals





# Hazing

- Vessel chase, crackers/shells, seal bombs
- Most concerned about driving sea lions away from the most profitable hunting areas
- Position boat upstream of sea lions and deploy munitions upstream of



Some short-term value, sea lions don't eat when they are being hazed, but long-term benefits are very low.

- Hazing is a BIC/NIA requirement
- Hazing is required as a criterium for lethal removal under the current permit
- Hazing has been the only management tool available for Steller sea lions



# Removal Program was Highly Regulated

- Only individually identifiable CSL – must trap and brand.
- Individual must be observed at Bonneville 5 days.
- Individual must be observed eating a salmonid.
- Individual must be subjected to hazing.
- Once criteria is met, NMFS is notified and a request to add that individual to the removal list is made.
- If the individual is recaptured it can be removed.
- Up to 92 CSL could be removed per year.





# States' Lethal Removal at Bonneville Dam



Oregon and Washington began a trap and removal effort at Bonneville Dam in 2008.



# Sea Lion Removals at Bonneville

Table 13. Summary of California sea lion (CSL) branding and removals (captivity, euthanasia, accidental mortality) and Steller sea lion (SSL) branding at Bonneville Dam, 2007 to 2018. Note: CSL removals include all animals removed by the States under the Section 120 LOA of the MMPA.

Year	CSL Authorized for removal	CSL Branded	CSL Removed	SSL Branded
2007	N/A	8	N/A	N/A
2008	85	4	11*	N/A
2009	85	3	15	N/A
2010	85	9	14	8
2011	85	9	1	9
2012	92	6	13	19
2013	92	11	4	3
2014	92	21	15	0
2015	92	131	32*	0
2016	92	50	59	0
2017	92	18	24	12
2018	92	8	27	3
Total	892	278	217	54

\* Does not include 2 accidental mortalities of CSL not listed for removal.



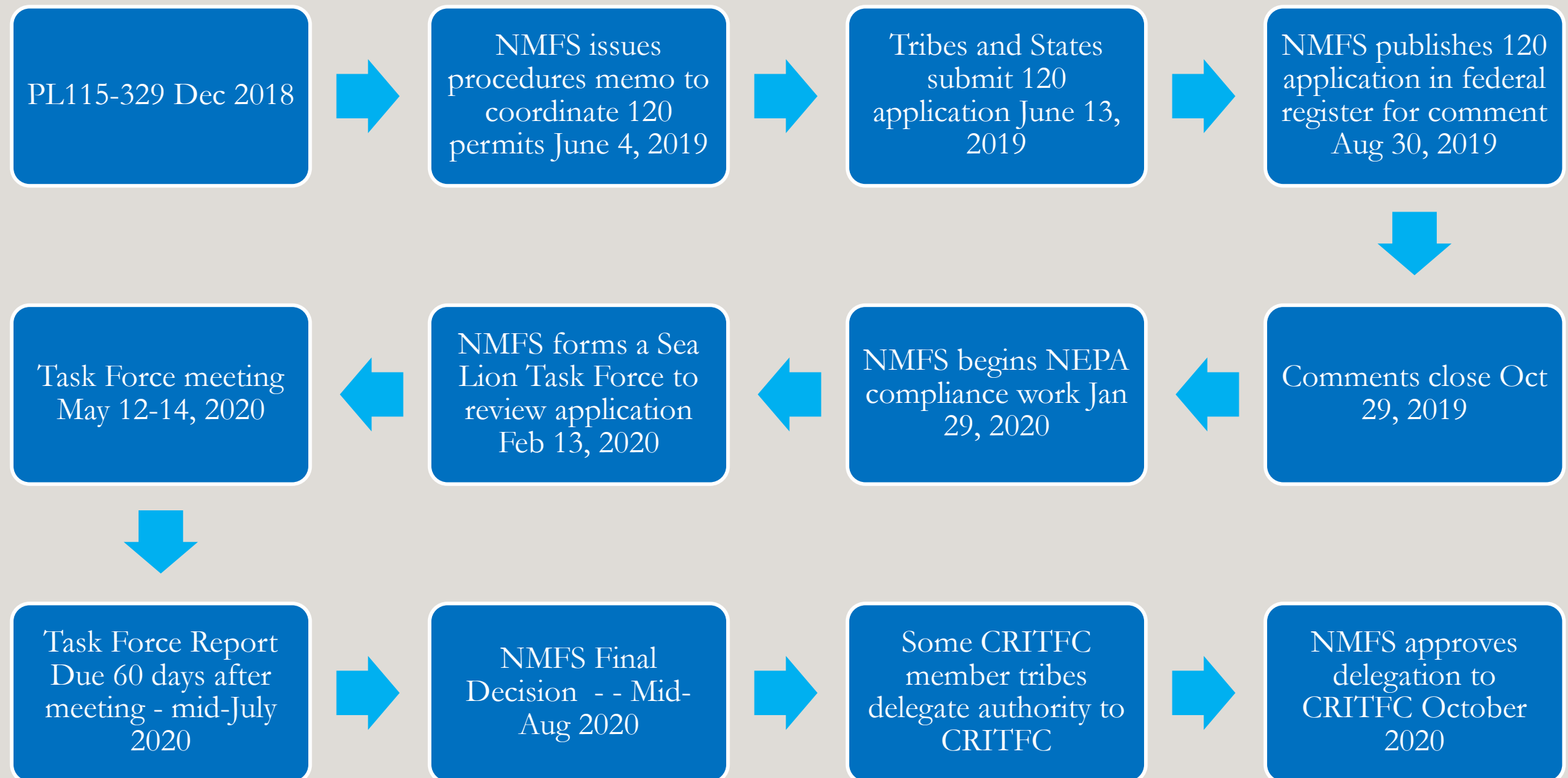
# New Law PL 115-329

- Tribes are included
- Tribes can delegate to CRITFC
- Joint application with OR, WA, ID, 4 treaty tribes, and CRITFC
- Process takes about a year
- Area-based management instead of individual sea lion
- Update: Authorization issued August 2020. Tribes in process of delegating authority to CRITFC.



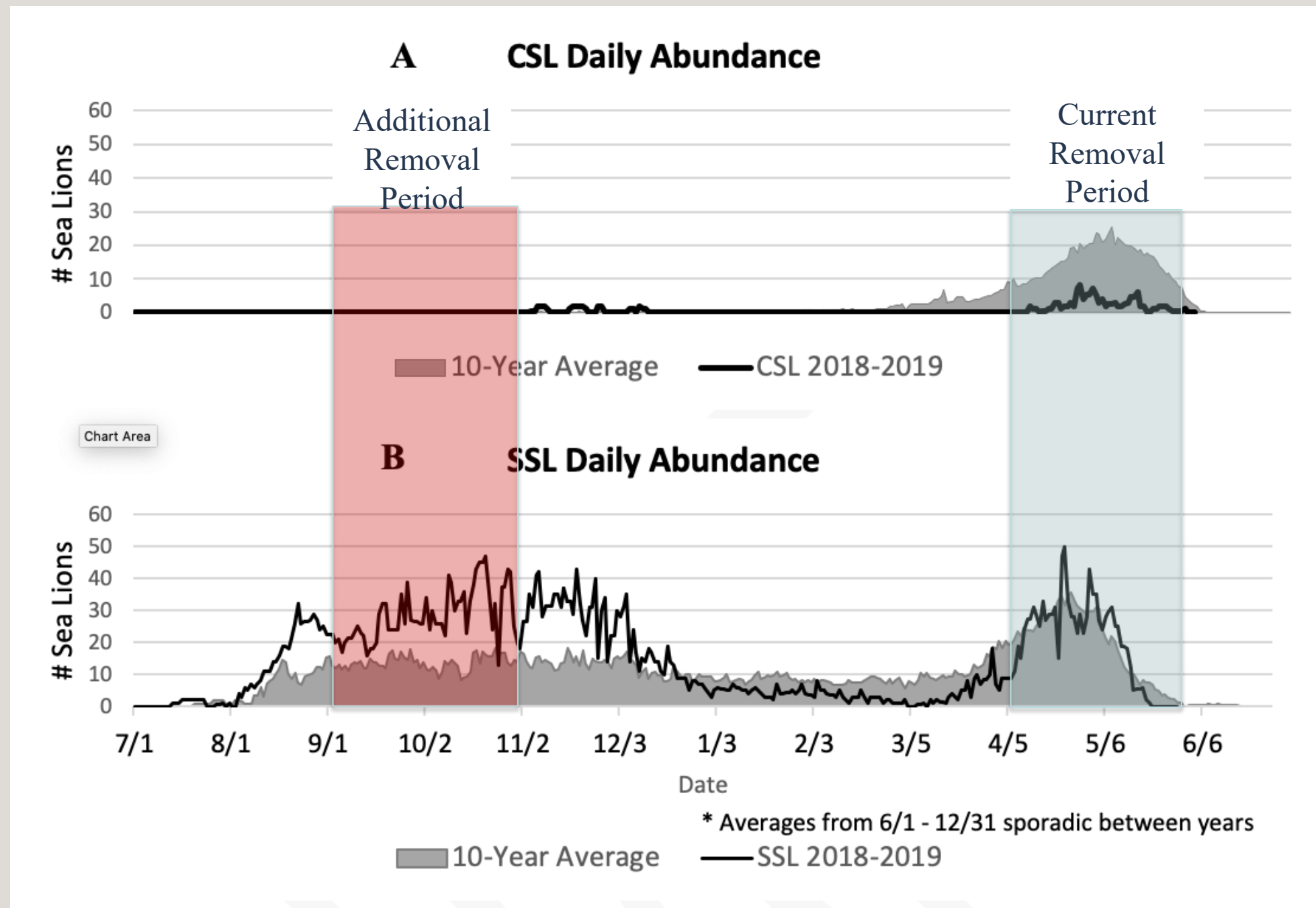


# Section 120(f) Authorization Process



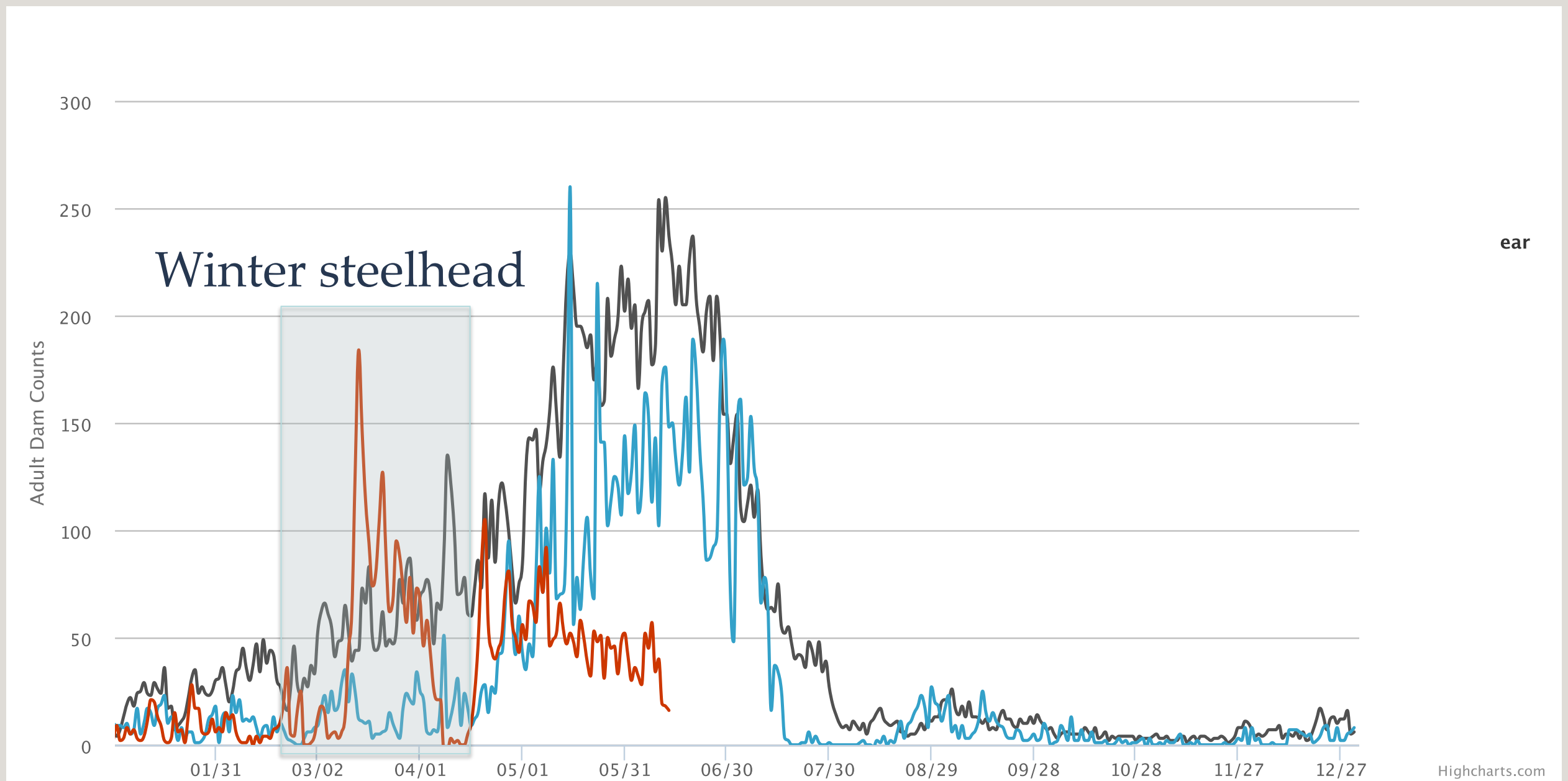


# Sea lion removal plan





# Success at Willamette Falls?









Questions?



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