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## Northwest Power and Conservation Council

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January 8, 2019

### MEMORANDUM

**TO:** Council Members

**FROM:** Tony Grover

**SUBJECT:** Council decision on request that Bonneville fund acquisition of a floating platform for managing large pinnipeds, out of identified cost savings funds.

### BACKGROUND:

**Presenter:** Steve Jeffries, WDFW and Kessina Lee, Southwest Regional Director WDFW

**Summary:** With passage of S. 3119, The Endangered Salmon Predation Prevention Act, WDFW, ODFW, IDFG and CRITFC agree that securing equipment to safely handle large Steller sea lions is a priority. This request is for funds not to exceed \$52,000 to obtain a fully equipped barge large enough to safely handle these large sea lions, and to put it into service later in calendar year 2019. The barge will have to be constructed for this purpose.

**Relevance:** Responds to the Council's emerging priority 3, expanded management of predators, as identified in the 2014 Columbia River Fish and Wildlife Program.

**Background:** NOAA Fisheries research conducted since 2010 between Astoria and Bonneville Dam has identified an "unexplained mortality" of the fish that varies from year to year but has not been lower than 11 percent of the run (in 2010), which translated to 34,688 fish in that year. In 2017, the

unexplained mortality was estimated at 24 percent, which given the below-average run size, translated to 24,242 fish. The highest mortality as a percentage of the run was in 2014, when an estimated 104,333 fish, or 43 percent of the Upper Columbia spring Chinook run entering the river that year (242,635 fish), were lost between Astoria and the dam to the unexplained mortality, which the chief researcher, Dr. Michelle Wargo-Rub, said can be attributed to sea lions.

Every year since 2002, the U.S. Army Corps of Engineers has observed sea lions killing salmon, sturgeon, and lamprey in the area immediately downstream of Bonneville Dam between the first of January and the end of March, the time period when the largest number of sea lions are present and adult spring Chinook are migrating upriver. In 2017, the Corps estimated that sea lions consumed between 4,759 and 5,227 salmonids (salmon and steelhead) at that location. During that period, NOAA researcher Dr. Wargo-Rub estimated that 24,242 salmonids were consumed by sea lions, about 6,000 of them within four miles of the dam, which is farther downriver than the Corps observers are able to see from their positions around the dam.

Additionally, the ISAB cited predation by sea lions in the lower Columbia River as one of the threats that may be contributing to the continuing low numbers of Chinook. "The continuing temporal increase in pinniped [sea lion] numbers [in the lower Columbia] may be an important factor limiting Upper Columbia spring Chinook abundance," the ISAB reported.

Over the last decade or so, more and more of the marine mammals have crowded into the Columbia River estuary, where in 2018 they numbered an estimated 4,000 animals, most of them California sea lions. The others are Steller sea lions. That's up from a few hundred, at most, 10-15 years ago.

More Info: See attached letter and cost estimate from WDFW regional director, Kessina Lee.



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DEPARTMENT OF FISH AND WILDLIFE  
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Tony Grover  
Fish & Wildlife Division Director  
Northwest Power and Conservation Council  
851 SW Sixth Avenue, Suite 1100  
Portland, OR 97204

January 7, 2019

Dear Mr. Grover,

I am writing on behalf of the Washington Department of Fish and Wildlife (WDFW) and our co-managers Oregon Department of Fish and Wildlife (ODFW), Idaho Department of Fish and Game (IDFG), and Columbia River Inter-Tribal Fish Commission (CRITFC), regarding our joint efforts to address pinniped predation on ESA-listed fish species in the lower Columbia River. We are requesting funding for equipment needed for the safe handling of Steller sea lions at Bonneville Dam.

With the December 2018 passage of S. 3119, the Endangered Salmon Predation Prevention Act, the states and eligible treaty tribes will be submitting a new Section 120(f) application to National Oceanic and Atmospheric Administration (NOAA) Fisheries, consistent with the revisions to the Marine Mammal Protection Act (MMPA) contained in the legislation. The revised MMPA authorizes issuance of permits for the lethal removal of sea lions in the mainstem Columbia River upstream of river mile 112 and downstream of McNary Dam and in all tributaries that contain spawning habitat for ESA listed salmon/steelhead. Our joint application will request lethal take of both California and Steller sea lions.

Steller sea lions have not been included in previous applications for lethal removal at Bonneville dam because they did not meet the conditions outlined in the MMPA. Historically, Steller sea lions preyed primarily on sturgeon below Bonneville but have recently begun to consume significant numbers of ESA listed salmon/steelhead. In 2017 Steller sea lions consumed more salmon/steelhead than California sea lions for the first time. Steller sea lions are now present almost year round at Bonneville Dam. The Steller sea lion population has rebounded from

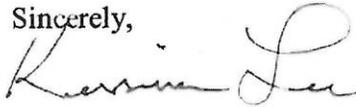
18,000 in 1979 to over 70,000 currently, with up to 2,500 occurring in Washington, and up to 100 of those seasonally residing at Bonneville Dam. These trends lead to concerns that Steller sea lions are a greater threat to ESA listed salmon/steelhead stocks than California sea lions. Because of both the recent amendments to the MMPA that allow for protection of sturgeon, and the switch in diet from sturgeon to salmon/steelhead it is now possible to apply for lethal removal authority.

WDFW, ODFW, IDFG, and CRITFC agree that securing equipment to safely handle large Steller sea lions is a priority, and that additional equipment is needed to effectively remove Steller sea lions. The equipment used for current trapping efforts at Bonneville Dam was designed and built for the handling of California sea lions. While this equipment can also be used to handle small Steller sea lions, it would not be adequate for the safe handling of large adults, which can weigh over a ton.

An itemized breakdown of the funding request is attached, which includes fabrication of a barge, transfer cages, and associated equipment. If the Council is able to provide \$52,000 in funding at this time, we would be prepared to begin operations involving Steller sea lions as early as fall 2019 after we have received Section 120 authorization under the revised MMPA.

Thank you for your consideration and support, and I'm happy to provide additional information.

Sincerely,

A handwritten signature in cursive script that reads "Kessina Lee".

Kessina Lee  
Regional Director  
Southwest – Region 5  
(360) 906-6704  
Kessina.lee@dfw.wa.gov

**CAPITAL EQUIPMENT REQUEST--STELLER SEA LION HANDLING**

Sea lion barge, 10x32	1	\$29,727
SSL transfer cages	3	\$18,525
		\$48,252
Cameras	1	\$801
Remote access	3	\$60
TrapSmart system	3	\$1,200
Safety gear (steeltoe boots, PFD, hardhat, gloves)	2	\$800
		\$2,861
PSMFC Indirect @ 13.00%		\$372
		<b>\$51,485</b>

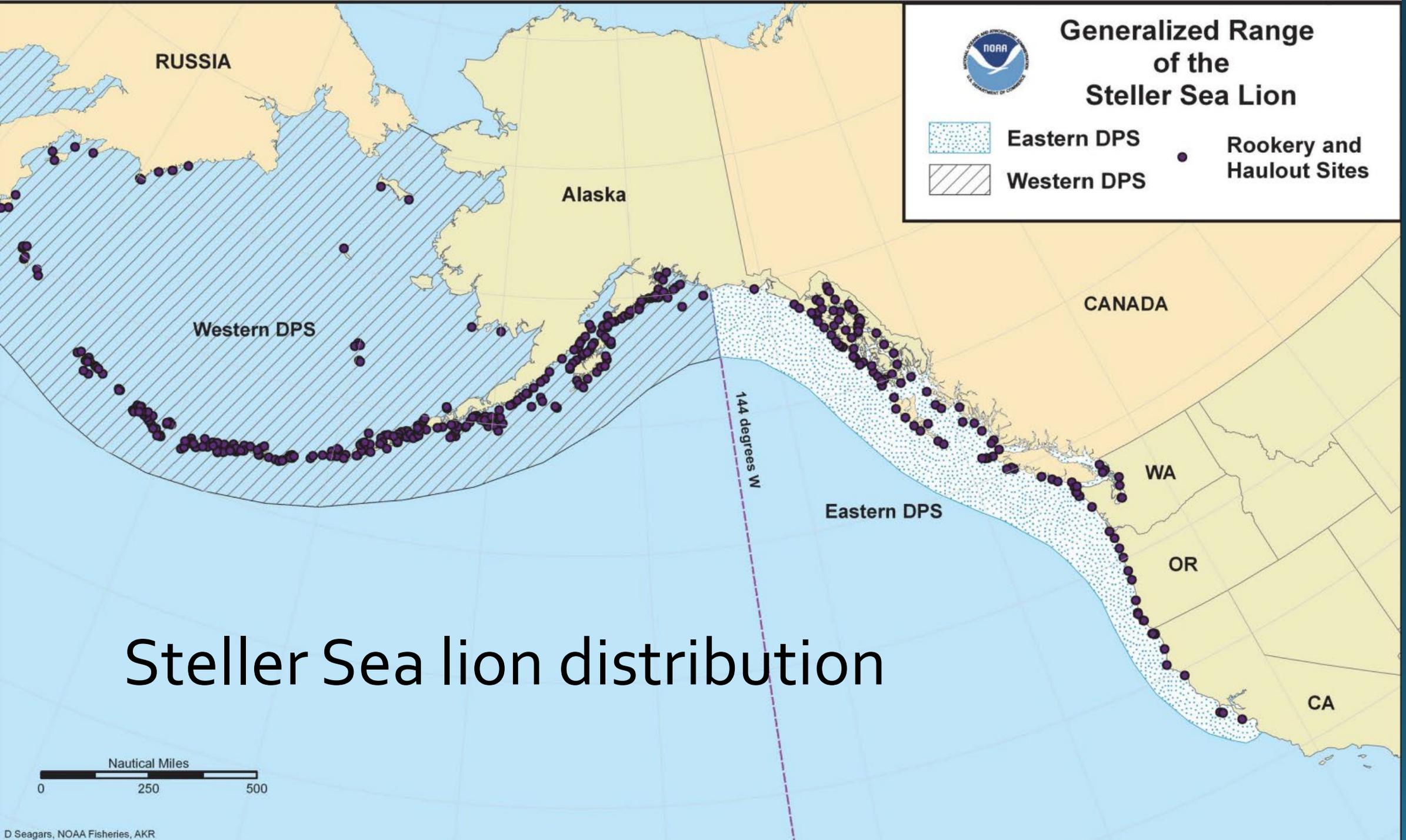
# Steller Sea Lion Management at Bonneville Dam: Next Steps and Capital Request

- Kessina Lee, SW Washington Regional Director, WDFW
- Dr. Shaun Clements, Senior Policy Advisor, ODFW



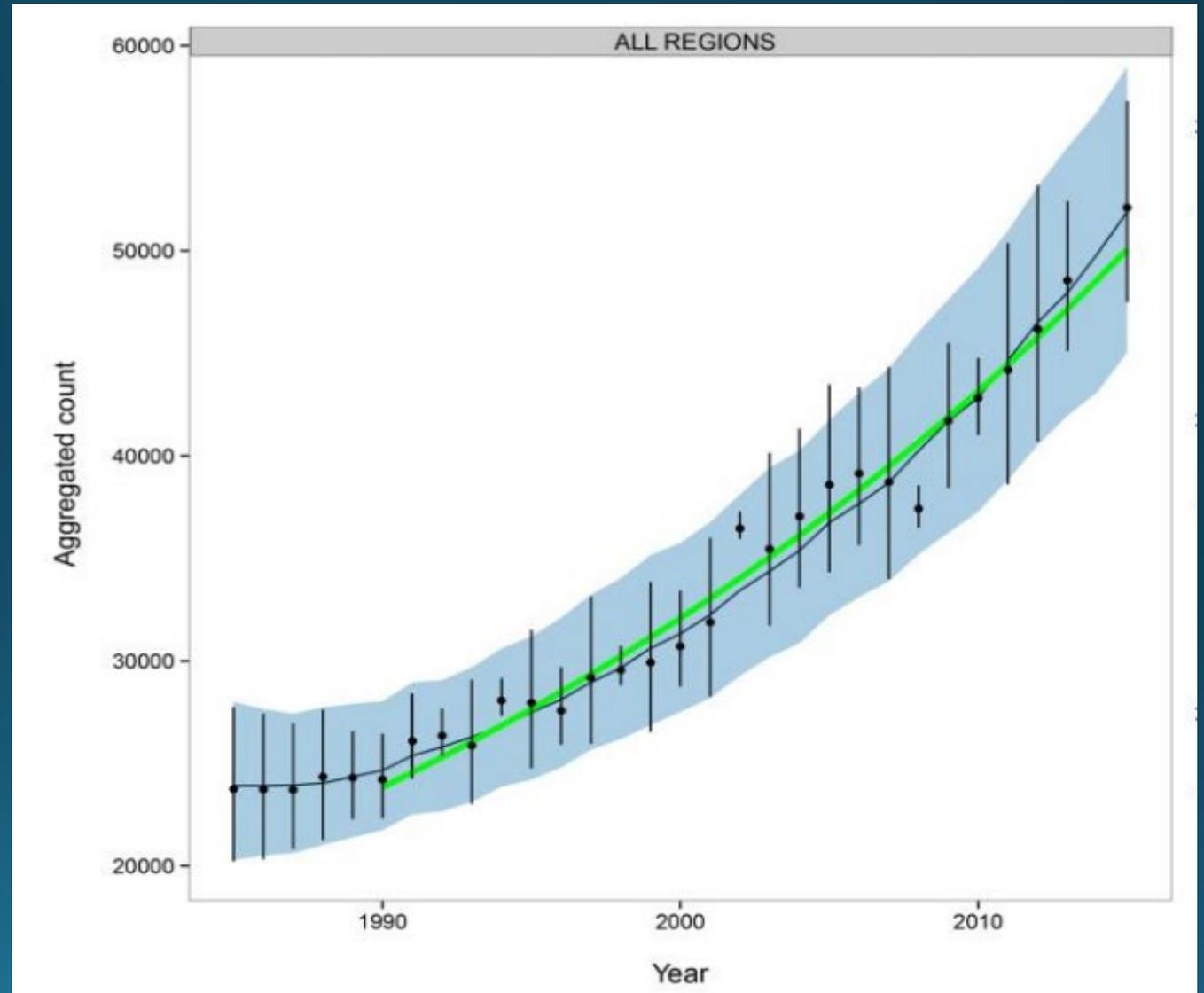
# Outline

- Revisions to the Marine Mammal Protection Act
- Steller Sea lion Population status
- Steller Sea Lions at Bonneville Dam
  - Management to date
  - Impacts to listed salmonids
  - Future Management
- Equipment needs for SSL handling
- Cost breakdown
- Next steps



# Steller sea lion population status

Washington: ~2500 animals  
Oregon: ~9600 animals



# Revisions to the MMPA

S. 3119 signed December 2018

Modifies Section 120 to provide

- Place-based 'Safe Zones' for salmon
  - (Columbia River, Tributaries)
- Protection for sturgeon and lamprey
- Allowance for proactive action
- Tribal co-management



# SSL at Bonneville Dam

Management to date

Not in previous 120 applications

- Did not meet conditions of MMPA
  - Special status
  - Primarily preyed on sturgeon below dam

Focus on monitoring:

- Recent increased consumption of ESA-listed salmonids
- Increased abundance and time of presence

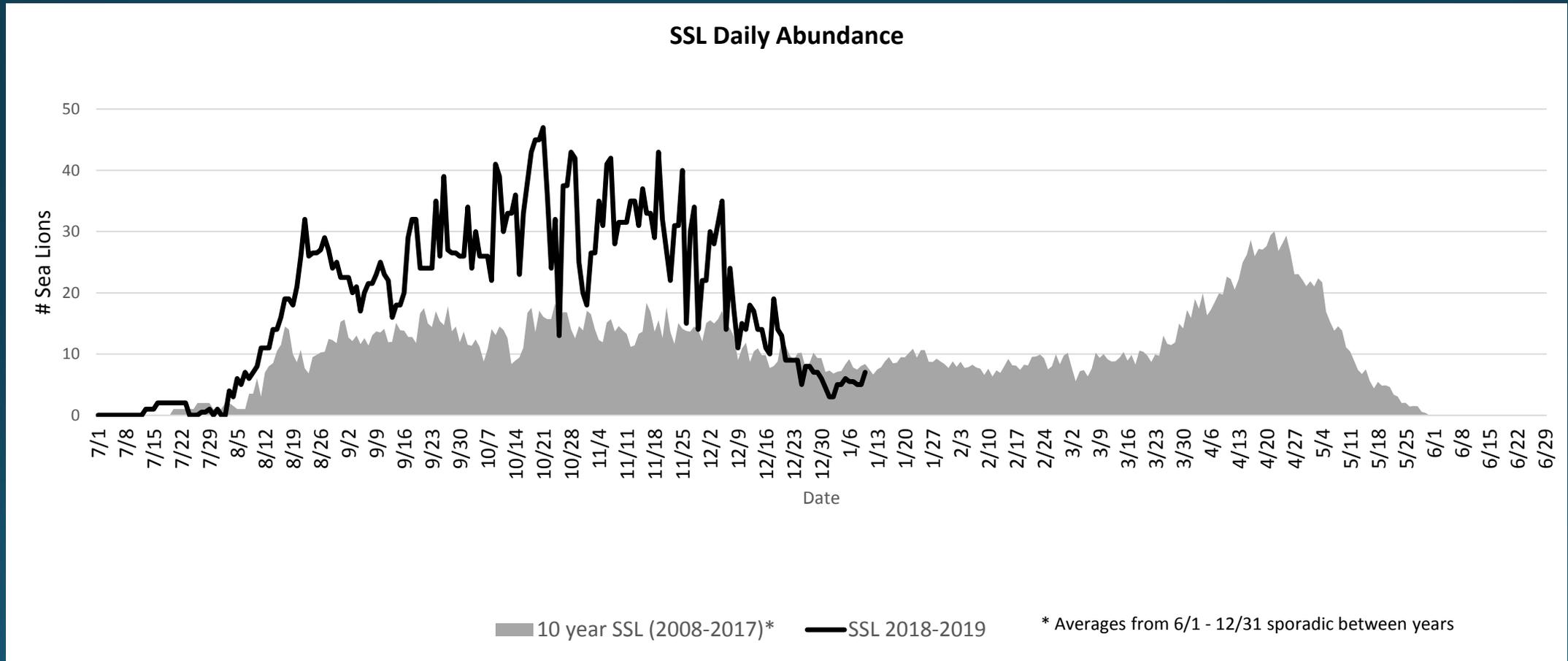




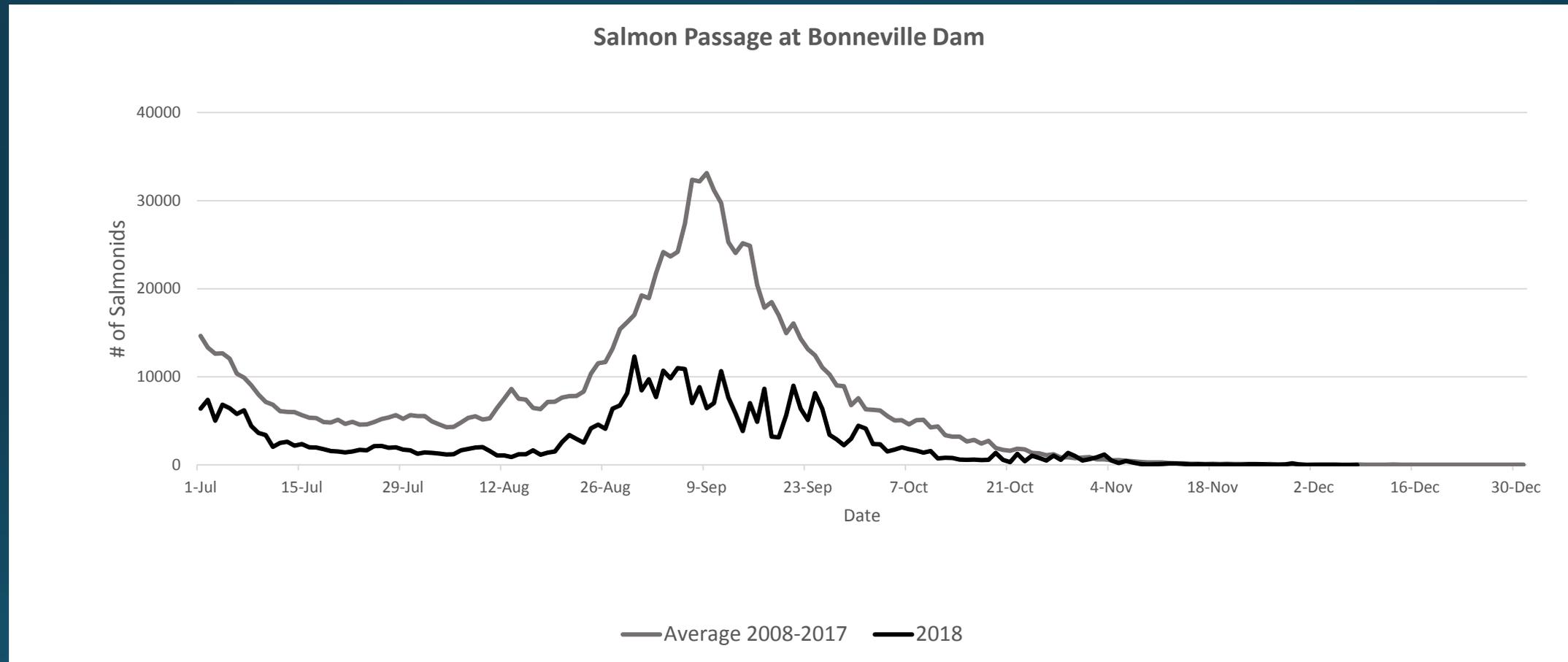
# Steller Sea Lion Abundance Estimates at Bonneville Dam

June 1, 2018 – January 10, 2019

Data Courtesy of USACE FFU



# Salmon Passage at Bonneville Dam



*Data obtained from USACE, FPC – [www.FPC.org](http://www.FPC.org).*

# COLUMBIA BASIN

# THE RISE OF STELLER SEA LIONS



Steller Sea lions  
Increasing impact

California Sea lions



Months  
**10**  
Present



Months  
**7**  
Present



Share of  
**76%**  
Total predation



Share of  
**24%**  
Total predation



% Steelhead  
**4.4%**  
Run Eaten



% Steelhead  
**0.9%**  
Run Eaten

% Spring Chinook  
**2.0%**  
Run Eaten

% Spring Chinook  
**0.7%**  
Run Eaten

# SSL at Bonneville Dam

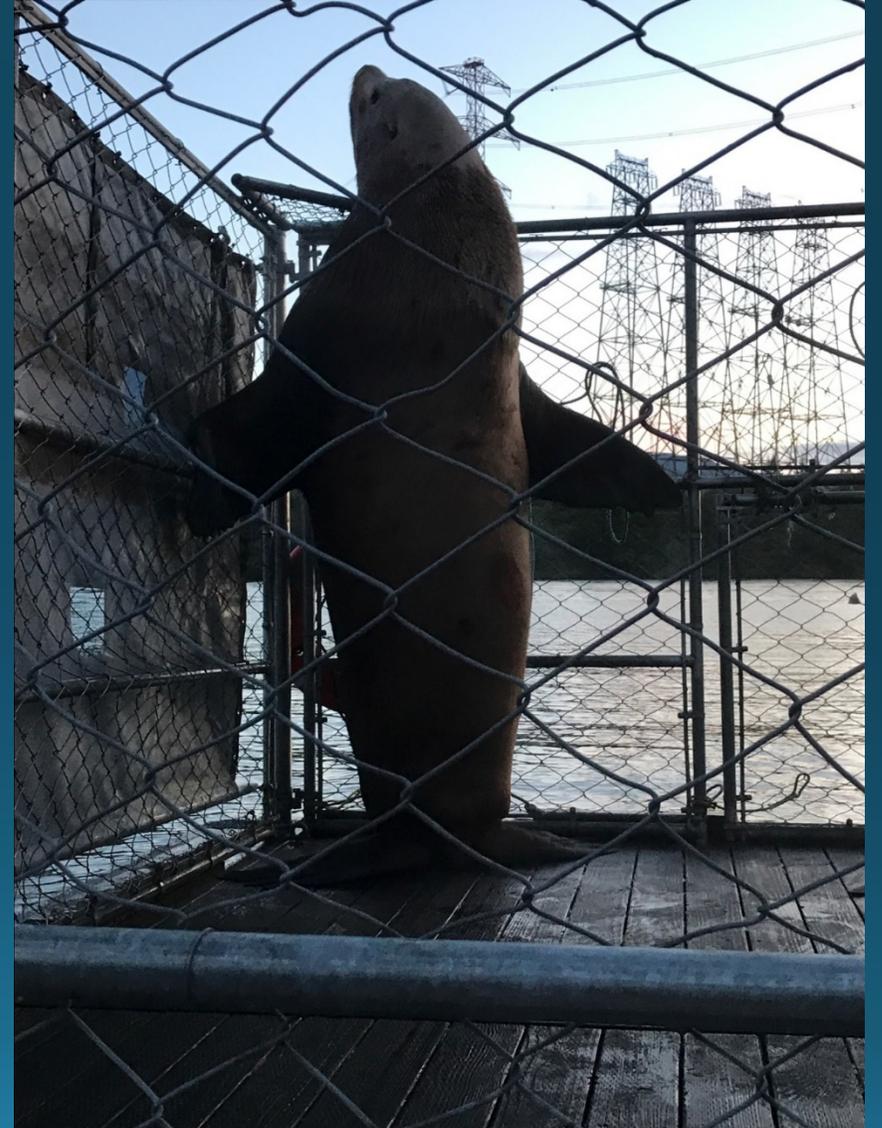
## Future Management

- Application for lethal removal authority
  - Amended MMPA allows for protection of sturgeon
  - Switch in diet from sturgeon to salmonids
- Develop capture handling methodology



# Equipment Needs for SSL Handling

- SSL: 9-12' length, weigh up to 2500 lbs.
  - CSL: 7-8', weigh up to 1000 lbs.
- Equipment at Bonneville built to handle CSLs







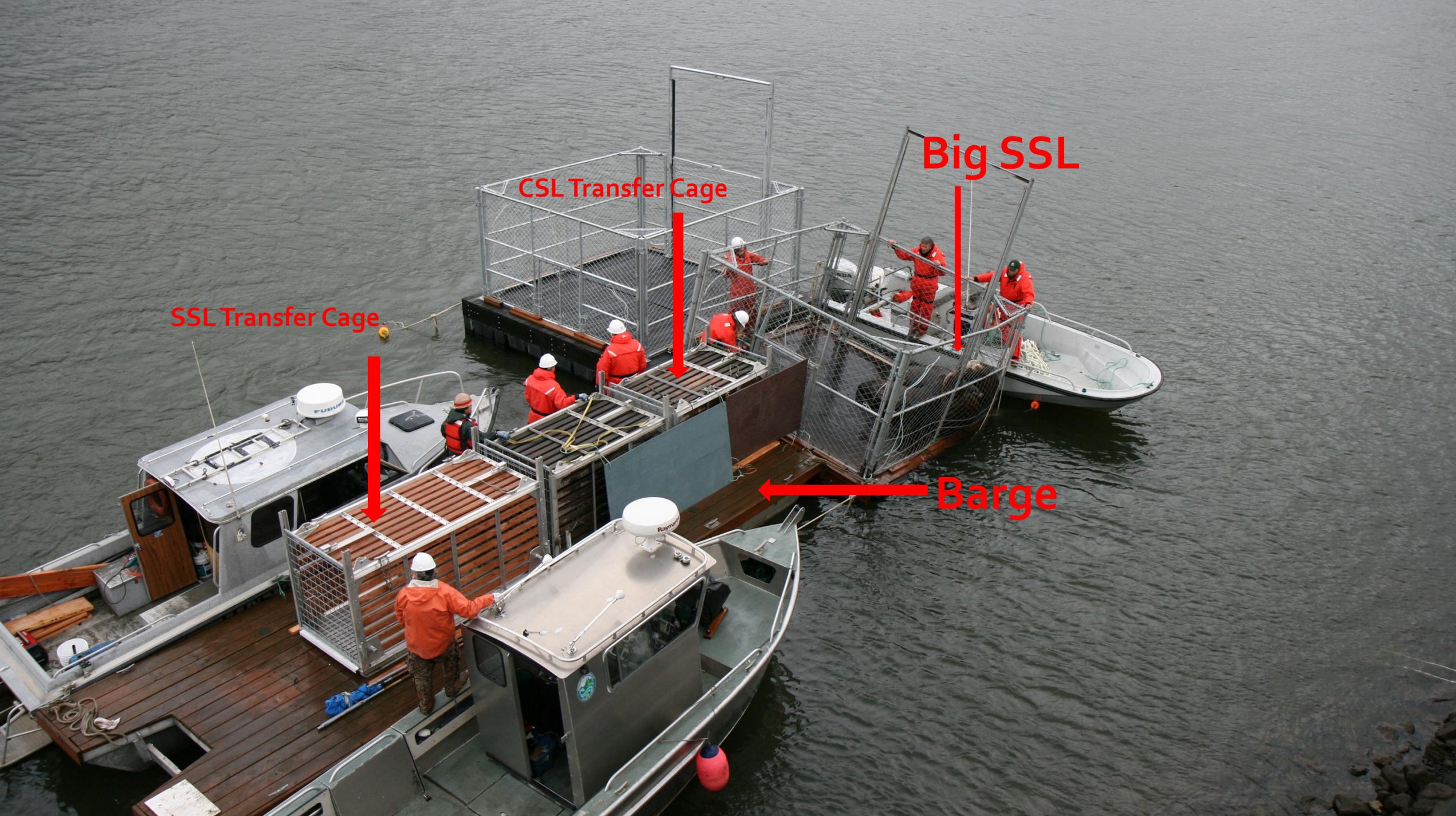


Big SSL



CSL transfer cage

Big SSL



SSL Transfer Cage

CSL Transfer Cage

Big SSL

Barge

# SSL Squeeze in BC





1600 lb "Elvis"

# Cost Breakdown

<b>CAPITAL EQUIPMENT REQUEST--STELLER SEA LION HANDLING</b>		
Sea lion barge, 10x32	1	\$29,727
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		\$48,252
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		<b>\$51,485</b>

# Next Steps

- Begin SSL operations when Section 120 under revised MMPA received
- Fall 2019 earliest
- Current Section 120 will remain in effect