

# Columbia River sea lion removals

## Helping salmon through predator management



### Emergent need

**\$924,000 for 2019-21  
biennium**

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## The Problem

The Columbia River is a vital lifeline for many of Washington's wild salmon stocks, and those salmon face a wide variety of threats on the perilous journey from their home spawning grounds to the ocean and back.

Sea lions have made a striking comeback in the years since the Marine Mammal Protection Act was enacted in 1972, and as their population has grown, so too has their presence along the Columbia and their impact on threatened and endangered salmon stocks.

## The Solution

WDFW and co-managers have submitted an application under the recently amended Marine Mammal Protection Act to reduce sea lion predation on listed salmon runs. WDFW is requesting funding during the 2020 legislative session to reduce predation impact and implement the Governor's Southern Resident Killer Whale Task Force recommendations by hiring new staff to help conduct operations on the Columbia.

## A growing threat to imperiled Columbia River salmon

For years, California and Steller sea lions have congregated in the lower Columbia River, taking advantage of the salmon runs migrating through the area on their journeys to and from saltwater.

These sea lions have moved from the coast to upriver areas in recent decades, preying on these often-fragile runs, including 13 stocks listed as threatened or endangered under the Endangered Species Act (ESA).

The largest impacts can be found at pinch points along the river, including the areas around the Bonneville and Willamette Falls dams, where fish passage is difficult and sea lions can feast while these fish bottleneck at the base of the dams. Wildlife managers have carried out non-lethal deterrence efforts on the river since the mid-2000s, and have lethally removed California sea lions for the past decade.

In December 2018, Congress passed an amendment to the Marine Mammal Protection Act — spearheaded by the Pacific Northwest congressional delegation — that allows wildlife managers along the Columbia River more flexibility when lethally removing these sea lions.

The Washington Department of Fish and Wildlife — along with several other state and tribal organizations — applied for an expanded permit to remove California and Steller sea lions under this new amendment. This application represents the first time wildlife managers have applied to lethally remove Steller sea lions, which can weigh in excess of 1,500 pounds.

With investment from the federal government, wildlife managers removed a total of 219 California sea lions that met the federal criteria for removal below Bonneville Dam between 2008 and 2019. The combined change in the distribution and abundance of Steller sea lions and the continued state of Columbia River salmon warrants an increased response to this threat, which in turn requires increased resources.

To help meet this need, WDFW is requesting additional funding to increase its pinniped removal efforts, including new staff and resources to accelerate these efforts to save endangered salmon.



### The “All-H” Strategy

Sea lions are far from the only threat that Washington’s salmon face — in particular, loss of habitat, a changing climate, and increased river barriers have hindered recovery efforts for years.

To combat this, WDFW and its partners have intensified efforts to enact comprehensive salmon recovery measures, using what’s known as the “All-H” strategy. These factors being addressed as part of salmon recovery include:

- Habitat restoration
- Hydropower
- Hatchery production
- Harvest management

While WDFW continues working to address these four management challenges, predator management remains a key part of any comprehensive salmon recovery plan.

The impacts of sea lions on these threatened and endangered salmon runs, especially along the Columbia River and its tributaries, shouldn’t be overlooked.

## Expanding operations

Under the application filed by WDFW and its partners, the number of lethal removals of sea lions on the lower Columbia River would increase.

These removals would take place in a geographically confined portion of the river, and removals would be carried out using humane methods approved by an Institutional Animal Care and Use Committee.

To facilitate these expanded removals, WDFW is requesting new, ongoing funding to:

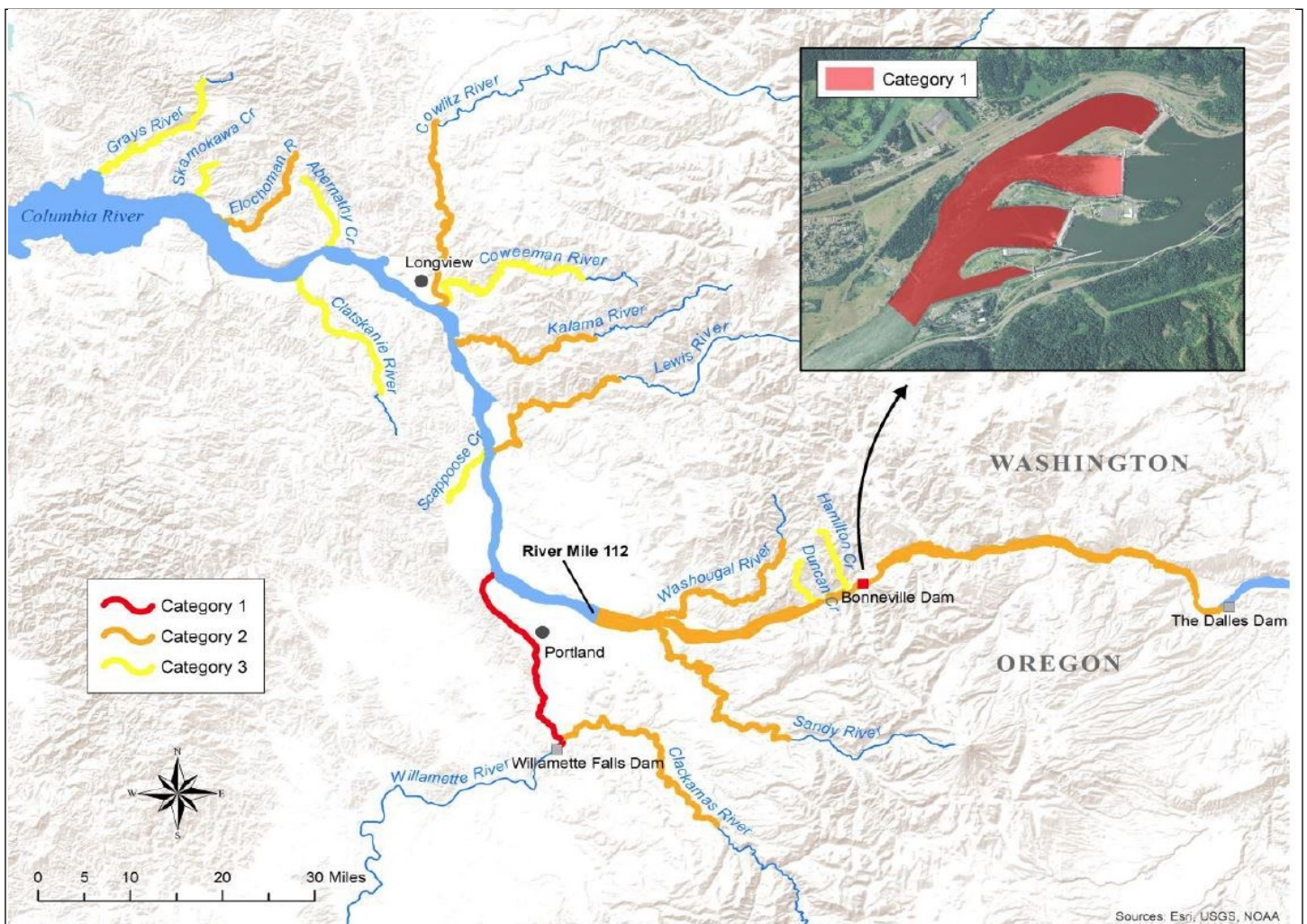
- Hire a half-dozen new full-time employees to increase removal efforts from 2 months to as many as 10 months each year;
- Monitor pinniped activity and collect data;
- Purchase and maintain field equipment/supplies;

- Facilitate travel to removal sites, as there are no permanent facilities at key sites.

## What happens if sea lion predation goes unchecked?

Without additional funding, WDFW will not be able to implement its new authority under the MMPA, which could threaten several at-risk fish populations, as well as the endangered Southern Resident Killer Whales that rely on salmon as a primary food source.

It also represents a blow to commercial and recreational fisheries, which have a multimillion-dollar economic impact in the Columbia River basin. It is estimated that predation on spring Chinook salmon between the mouth of the Columbia and Bonneville Dam may be as high as 20-40 percent of some runs.



Map of locations where sea lions may be removed under new authorization, pending federal approval. "Category 1" indicates areas that have high numbers of predatory California and Steller sea lions present for most of the year, and the highest-priority areas for removal.

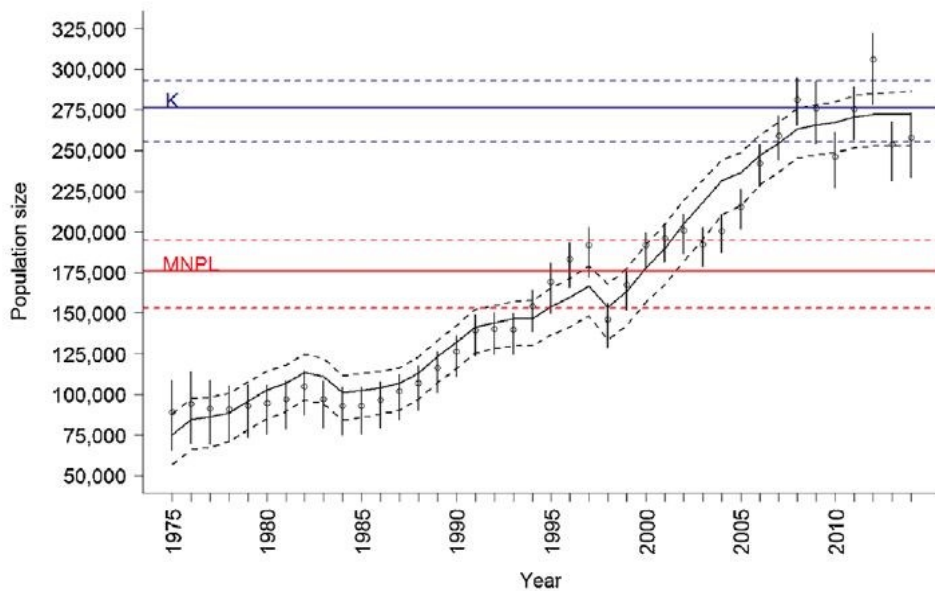
## A Remarkable Comeback

In 1972, Congress passed the Marine Mammal Protection Act (MMPA). Since the early 1970s, the population of California sea lions has rebounded from fewer than 70,000 to about 275,000.

Meanwhile, the eastern stock of Steller sea lions - the stock found along the U.S. West Coast -- has steadily increased over the past several decades, with a minimum population estimated at over 70,000 animals. Neither of these stocks are currently listed as threatened or endangered under the ESA, though both are still protected under the MMPA.

As their populations have grown, some sea lions have pushed farther up the Columbia River, and are staying longer. California sea lions arrive in the Columbia in September and remain until June. Stellers are now at Bonneville Dam for 11 months each year, dining on salmon, sturgeon and lamprey that congregate at the base of the dam.

A few sea lions are even finding their way past Bonneville Dam, traveling farther upriver to Hood River and The Dalles, where they are isolated and can grow aggressive during the mating season while continuing to prey on threatened fish runs.



Growth curve for reconstructed California sea lion annual population sizes in the United States from 1975-2014. The solid blue line represents estimated carrying capacity, and the red line represents maximum net productivity level. Reproduced from Laake et al., 2018.



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For more information on sea lions in the Columbia River, visit

<https://wdfw.wa.gov/species-habitats/at-risk/species-recovery/columbia-river-sea-lion-management>