Northwest **Power** and **Conservation** Council

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Testimony of Guy R. Norman Washington Member,
Northwest Power and Conservation Council
Before the
U.S. Senate Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard
Committee on Commerce, Science, and Transportation

Good morning and thank you for the opportunity to speak here today. My name is Guy Norman, and I represent Washington on the Northwest Power and Conservation Council. I also am Chairman of the Council's Fish and Wildlife Committee.

The Northwest Power and Conservation Council is an agency of the four Northwest states of Idaho, Montana, Oregon, and Washington, authorized in a 1980 federal law, the Northwest Power Act. Under the Act, the Council prepares and periodically updates a Northwest Power Plan and a Columbia River Basin Fish and Wildlife Program. The fish and wildlife program is a component of the power plan. Both are implemented by the Bonneville Power Administration.

The Council strongly supports updating the Marine Mammal Protection Act to reflect increasing threats from sea lions to endangered salmon and steelhead populations in the Columbia River. Senate bill 1702, the *Endangered Salmon and Fisheries Predation Prevention Act,* would modernize the MMPA to improve the ability of state and tribal managers to manage this natural resource issue. We understand that fish and wildlife managers have suggested some modifications to the bill that could be considered in a final version. After witnessing the alarming increase in sea lion predation on salmon, steelhead, sturgeon, and lamprey in the Columbia and Willamette rivers in recent years, we believe that it is incumbent upon Congress to provide the Northwest's state and tribal fish and wildlife agencies more effective options for protecting our fish and fisheries from these aggressive predators. Failure to do so risks the extinction of some of our most precious and important fish species, including at-risk populations of spring Chinook salmon and Willamette winter steelhead, and offsets the billions of dollars spent on fish recovery.

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Bonneville directs more than $250 million a year to the Council's Columbia River Basin Fish and Wildlife Program, which includes measures to protect, mitigate and enhance fish and wildlife, and related spawning grounds and habitat, from the Pacific Ocean to the farthest reaches of the interior Columbia River Basin. That funding comes from electricity ratepayers, whose investment in fish and wildlife recovery is increasingly threatened by sea lion predation on the very fish runs we are working to conserve and rebuild.

Additionally, Columbia River dams have been re-configured and operations altered to provide safer passage for salmon, and harvest opportunity has been greatly curtailed for tribal and non-tribal fishers. These comprehensive actions and sacrifices come at a significant monetary and social cost to the region, but the people of the Northwest continue to support the recovery of these iconic fish species. In fact, all sources of impact to the survival of Columbia Basin salmon and steelhead have been reduced through ongoing actions affecting dams, habitat, hatcheries, harvest, and bird and fish predation.

For at least the last 15 years we have been increasingly concerned about the presence of two species of sea lions that have been preying on salmon and steelhead in the Columbia and Willamette rivers in the spring. Some California and Steller sea lions began exhibiting unusual behavior for the first time in 2001, travelling over 100 miles inland to prey on salmon and steelhead as the fish staged to pass over Bonneville Dam in the Columbia River and Willamette Falls in the Willamette River. Both sea lion species are protected under the Marine Mammal Protection Act.

The California sea lion population has grown to a current level of about 300,000 animals, rebounding from a low of about 10,000 in the 1950s. Marine biologists conclude that the population is currently at its carrying capacity. The number of sea lions counted at the East Mooring Basin near the mouth of the Columbia River in Astoria, Oregon, which is a favorite resting spot for these marine mammals, has increased dramatically over time. According to the Oregon Department of Fish and Wildlife, in the spring of 2004 the peak count was 206; in the spring of 2014 it was 1,420; in the spring of 2016 it hit an all-time high of 3,834. A portion of these sea lions (usually several hundred) follow the spring salmon run upstream and target them as prey near Bonneville Dam and in tributaries.

There are 32 populations of ESA-threatened and endangered spring Chinook salmon being significantly harmed by the increasing sea lion predation, including Snake River spring/summer Chinook, which were listed as a threatened species in 1992 and upper Columbia spring Chinook listed as endangered in 1999. Spring Chinook salmon consumption by sea lions is on the rise, reaching a high of 9,800 at Bonneville Dam in 2015, over five times the 2012 number of 1,750. In 2016, 9,525 salmon were consumed, an estimated 5.8 percent of the run. In 2017, the Corps of Engineers estimated 4,759 to 5,227 fish, about 4.5 percent of the run. These figures are observed salmon mortality within a quarter mile of the dam and do not include the additional 140 miles of river downstream, where salmon are also being consumed by sea lions.

NOAA Fisheries research conducted since 2010 between Astoria and Bonneville Dam has identified an “unexplained mortality” of Columbia River spring Chinook salmon that varies from year to year but has not been lower than 11 percent of the run in 2010, which translated to 34,688 salmon mortalities, and as high as 43% of the run in 2014, which translated to 104,333 salmon mortalities. The average mortality rate in the eight years of study is 23% and the average annual salmon missing between Astoria and Bonneville Dam is nearly 50,000 fish, which the chief researcher, Dr. Michelle Wargo-Rub, said can be attributed to sea lions.

In 2017, sea lions took a big bite out of the winter and summer steelhead runs at Bonneville Dam, according to a March 2018 report by the U.S. Army Corps of Engineers. “The low run size and high percentage of steelhead consumed by pinnipeds in 2017 is alarming, and warrants particular attention from fish and wildlife managers,” the report warns.

An estimated 322 summer and winter steelhead were consumed at Bonneville Dam, which equates to 9 percent of the run, nearly twice the impact in 2016. The run totaled 3,241 fish during the study period, which ran from January 1 through June 2, 2017. In 2016, the run during the sampling period was 5,262 steelhead; 302 were consumed, which was 5.4 percent of the run.

The danger to Columbia River salmon and steelhead runs, particularly upper Columbia spring Chinook, was highlighted in a February 2018 report by the Independent Scientific Advisory Board (ISAB), a panel of scientists that advises the Council, NOAA Fisheries, and Columbia River Indian tribes. In their report, 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 numbers [in the lower Columbia] may be an important factor limiting Upper Columbia spring Chinook abundance,” The ISAB reported. The ISAB report continued: “Surprising new evidence indicated a steady decline in estuarine survival of the combined runs of adult middle and Upper Columbia River spring Chinook and Snake River spring/summer Chinook (from 90 percent in 2010 to 69 percent in 2013). Survival was consistently higher for Chinook arriving late in the run compared to those returning early or at the peak, when predation by pinnipeds would have been more intense. The declining survival rates also coincided with the growing presence of sea lions and seals in the estuary.”

Meanwhile, sea lions are showing up at the base of Willamette Falls in increasing numbers, feeding on spring Chinook salmon, steelhead, sturgeon, and lamprey. According to a report by the Oregon Department of Fish and Wildlife, the predation is pushing wild winter steelhead to the brink of extinction – an 89 percent probability that at least one population of the species will go extinct in the near future unless the predation is reduced. The state agency believes sea lions consumed one-quarter of the 2017 run, which hit an all-time low of just 512 fish crossing the falls.

In February 2018, the Oregon Department of Fish and Wildlife captured two California sea lions at the base of the falls. One had been there regularly since 2009, eating

salmon and steelhead. Relocated 200 miles away to a beach south of Newport, Oregon, he was back at the falls in three days. The other, relocated a day after the first one, was back in six days. The agency has authority to kill predatory sea lions that are observed multiple times eating salmon at Bonneville Dam, but not at Willamette Falls. The agency applied for permission in October 2017, a process that will take a year or longer. The agency believes that the near-term risk of wild steelhead extinction can be significantly reduced or avoided by limiting sea lion access to Willamette Falls.

We worry that if predation is not controlled, populations of endangered wild Columbia River spring Chinook and threatened Upper Willamette winter steelhead could be lost in the coming years. We fear this because we have seen it before. In the 1980s and 1990s, California sea lions feasted on wild Lake Washington steelhead at the Ballard Locks in Seattle. Attempts to resolve the problem by transporting several sea lions back to the California coast failed because they returned in a matter of days. In relatively short order, sea lions left the population of steelhead functionally extinct. Where there were once thousands returning, only four returned in 2012.

Fortunately, Congress took notice and enacted Section 120 of the Marine Mammal Protection Act, which enabled limited lethal removal of individual sea lions provided they were from a healthy population and were causing significant harm to a population of salmon or steelhead listed under the Endangered Species Act. Washington and Oregon have implemented this action at Bonneville Dam since 2008, and it has slowed the increase in predation at that location. However, the number of sea lions choosing to forage throughout the lower Columbia has soared to the point where Section 120 is no longer an effective option. Section 120 as written was designed to deal with a few problem sea lions in a small area like what occurred at the Ballard Locks in Seattle, not a large river system like the lower Columbia with hundreds of sea lions swimming far inland to prey on salmon. Unless Congress steps in again and amends the Act, the number of endangered salmon consumed by sea lions in the lower Columbia River and tributaries will continue to increase.

While some critics of sea lion removal have argued that in the long term it would be more effective to boost declining salmon and steelhead populations by, for example, improving fish habitat, reducing fishing, addressing the impacts of ocean conditions on fish survival, and removing the four federal dams on the lower Snake River, we note that with the exception of dam removal all of those concerns are being addressed effectively already, and improvements at the dams, such as the installation of removable spillway weirs, is boosting dam-passage survival.

For example, fisheries are much more constrained in terms of protecting weak species. The conservation limits on traditional spring salmon fisheries results in many tribes in the basin not meeting cultural and subsistence needs. Also, non-Indian fisheries in the lower Columbia River target healthy hatchery spring Chinook, must release all wild fish, and have been restricted to an incidental take of no more than 2 percent of the annual wild-fish return.

We are dealing effectively with long-term issues like harvest and dam passage with long-term solutions, but predation by sea lions is an immediate and increasing problem

that needs an immediate solution – one that already is being pursued and, we believe, needs to be strengthened through the actions the *Endangered Salmon and Fisheries Predation Prevention Act* would authorize. There is concern in the region that the increasing sea lion predation on ESA-listed fish is off-setting the large investments in salmon recovery associated with habitat, dam operations, harvest, and hatcheries.

It is important to note that while we believe sea lions need to be better managed, we do not support removing them altogether. We need to deal more effectively with the problem animals that move far inland in the Columbia River, and the Willamette River at Willamette Falls, and cause the most significant harm. These problem animals are all adult males and represent a very small fraction of the population.

Over time, a number of fish-protection efforts have constrained many activities in the river and the ocean. Irrigators have sacrificed water rights and agriculture production. Fishing opportunities have been sacrificed throughout the West Coast and in the Columbia River. The region annually forgoes the generation of about 1,100 average megawatts of carbon free, clean hydropower. Ratepayers have funded billions of dollars of habitat restoration, fish hatchery upgrades, and fish research and monitoring. If we fail to modernize the MMPA to reflect current biological realities, many of those sacrifices will be in vain.

The current removal provisions in the MMPA are very restrictive, time consuming, and expensive. It takes considerable resources in terms of money and personnel to qualify an animal for removal. Section 120 authorizes only the removal of an animal that can be individually identified as causing a significant impact on an endangered salmon or steelhead population. This means that an individual sea lion must be identifiable (meaning it must have been previously captured and branded with a number) and observed multiple times at Bonneville Dam predating on salmon before becoming eligible for removal. That qualified animal must be captured again to be removed. This process results in forgoing removal of the majority of animals that are trapped at Bonneville Dam, even though every animal is there to eat salmon and steelhead.

Oregon and Washington state marine mammal biologists have conducted diet studies of sea lions in the Columbia River, and results show an increasing portion of salmon in the diet as the sea lions move inland, with the prey almost exclusively salmon and steelhead by the time the sea lions move over 100 miles upstream in the Columbia and in the Willamette River. Sturgeon are also targeted at alarming rates by the larger Steller sea lions. Senate Bill 1702 would qualify for removal those sea lions that move far inland and into the tributaries, where studies show they are targeting salmon, steelhead, and sturgeon.

The current Section 120 permitted operation has slowed the increase in predation in the Columbia River at Bonneville Dam as wildlife managers have removed a total of 185 California sea lions since 2008. But the permit requirements have limited the effectiveness of the program and have not provided managers the opportunity to get ahead of the recruitment of new California sea lions. Nor have managers been able to deal with increasing numbers of Steller sea lions moving far inland eating sturgeon and increasingly salmon and steelhead. The current section 120 process only provides

states and local governments the opportunity to apply for lethal removal permits. Senate Bill 1702 would include Columbia River tribal partners as eligible for removal permits resulting in a full state/tribal co-manager effort consistent with all other cooperative salmon recovery strategies in the Columbia River Basin.

Again, predation by sea lions is an immediate and growing problem that needs an immediate solution. We simply need a more streamlined and effective process for the removal of those sea lions that move far inland to prey on salmon and steelhead. This does not mean removal of thousands of sea lions each year. It means, rather, a program that addresses the small portion of the male sea lion population that moves far upstream into the Columbia River and into tributaries. This numbers in the low hundreds of individual adult male sea lions annually and would equate to a fraction of a percent of the West Coast population. It's reasonable to predict the number of removals necessary over time may decrease as the program becomes more effective in addressing the major predation-problem areas.

Again, thank you for the opportunity to testify today.

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