

WRITTEN TESTIMONY OF

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BEFORE THE  
COMMITTEE ON NATURAL RESOURCES  
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**Introduction**

I am Guy Norman, Southwest Washington Regional Director for the Washington State Department of Fish and Wildlife (WDFW). I oversee agency policy in Southwest Washington, including management of natural resources in the lower Columbia basin. I have been involved in Columbia River salmon management for over 30 years, including participation in collaborative inter-governmental and public processes focused on recovering Columbia basin fishery resources.

The WDFW appreciates the opportunity to present the following written testimony on H.R. 1308 to the Chair and members of this Subcommittee regarding sea lion predation on threatened and endangered salmon and steelhead of the Columbia River as well as growing concerns regarding sea lion predation on Columbia River sturgeon. The sea lion predation impact to salmon, if not effectively managed, will counter major monetary and social investments the region is making to recover these resources, including billions of dollars that have been spent on recovery measures over the past decade.

WDFW serves Washington citizens by protecting, restoring and enhancing fish and wildlife and their habitats, while providing sustainable and wildlife-related recreational and commercial opportunity. We understand that without abundant populations of fish and wildlife, the quality of life in the Northwest and economies that depend on these natural resources will be seriously compromised.

**Columbia Basin Salmon Decline and Recovery Efforts**

Northwest states, federal agencies, and tribes have been involved in efforts to restore wild salmon and steelhead populations in the Columbia basin for several decades. Washington has worked cooperatively with Oregon, Idaho, and the Columbia River Treaty Indian tribes for over 40 years to manage fisheries and to rebuild salmon populations through a series of management agreements. However, most Columbia River basin wild salmon and steelhead populations have declined to a level where they

are now listed under the Endangered Species Act (ESA) as threatened or endangered. This decline is not associated with just one factor, but a cumulative effect of increased mortality throughout the salmon life cycle. From their beginning as juveniles in a stream, to their migration through the Columbia River, to their ocean residence and return to the stream of origin as adults to spawn, the Columbia River salmon are subjected to various sources of mortality.

In response to the endangered or threatened status of many wild salmon populations, there has been an extraordinary and unprecedented cooperative effort in the Columbia River region to protect and recover salmon and steelhead. ESA-guided recovery plans have been developed and implementation is underway in every watershed; to restore important habitat, improve dam passage survival, re-tool hatchery programs to assist wild populations, and closing or reshaping fisheries to focus on selectively harvesting healthy hatchery fish. These are comprehensive recovery plans that identify and provide an implementation strategy to reduce all sources of mortality throughout the salmon's life cycle. These efforts equate to hundreds of millions of dollars invested annually and billions over the past decade. This investment is associated with direct spending on recovery measures, such as habitat restoration and dam reconfiguration, as well as lost revenue- for example reduced hydro power generation and fishery season reductions or closures.

Examples of salmon recovery commitments include:

1. **Habitat actions** - Local area watershed recovery boards have been established and funded for every region (or domain) in which ESA-listed salmon and steelhead populations originate. These recovery boards have been charged with developing action plans aimed at recovery of local salmon populations. These board members include representatives of local county and city governments, tribes, state and federal agencies, and local citizens. The recovery boards take inventory of the primary limiting factors and develop a corresponding suite of actions needed to remedy those factors. The action plans cover changes in land use, water access, and restoration of local habitat, local utility dam operations, as well as changes in salmon hatchery practices and restricted or closed fisheries. There is also an established Columbia River Estuary Partnership that consists of state, federal and tribal representatives and includes active involvement of local habitat restoration-focused environmental organizations. Estuary recovery actions address habitat restoration, water flow, and predation in the lower 145 miles of the Columbia River in which all listed populations pass through on the way to and from the ocean. The recovery plans include reduction of excessive bird, fish, and marine mammal predation as a key component of a comprehensive recovery strategy.
2. **Hydropower actions** - The Federal Columbia River Power System (FCRPS) is operated to benefit the citizens of the Northwest through flood control and generated clean energy. Operation of the system also includes a legal obligation to operate in a manner that mitigates the effects of the Columbia River federal

hydro-system so as to not jeopardize the continued existence of endangered and threatened salmon and steelhead populations. A collaborative process led to the most recent federal plan for salmon protection and recovery in 2008. The ten-year plan commits the federal power system operators to invest hundreds of millions of dollars annually to support both operational changes to improve fish passage through the hydro-system as well as funding support for other important actions involving habitat restoration, hatchery reform, fishery management, and reducing predation by fish, birds, and marine mammals. This mitigation commitment provides much of the funding for the actions developed in the local ESA recovery plans.

3. **Harvest actions** - Fisheries effecting Columbia River salmon populations have been progressively reduced over the past several decades in response to the declining salmon populations. The states and tribes have implemented actions through management agreements to ensure fisheries are operated in a manner that protects the weaker salmon populations while ensuring federal court orders that require salmon harvest to be shared equitably between treaty Indian and non-Indian citizens are upheld. Formal actions include International Agreements through the Pacific Salmon Treaty with Canada as well as *U.S. v. Oregon* court ordered agreements for Columbia River fisheries that include ESA provisions to ensure that Columbia River harvest does not jeopardize wild salmon populations. These harvest actions have greatly reduced fisheries from past levels with significant economic consequences to Northwest communities that rely on fisheries as well as economic and cultural effects on the Columbia River tribes. State managers, with federal assistance, are further developing selective fishery practices to enable better fishery access to hatchery-produced fish while avoiding or minimizing impacts to wild fish.
4. **Hatchery actions** - The federal, state, and tribal managers in the Columbia basin have been and continue to develop and implement operational plans for Columbia River salmon hatcheries to ensure that they are operated in a way that supports wild salmon recovery while continuing to provide hatchery fish mitigation to support Pacific Ocean and Columbia River fisheries and the economies that depend on these fisheries. A federally supported process included a recent basin-wide inventory by a panel of scientists called the Hatchery Scientific Review Group (HSRG). The HSRG has provided a set of recommendations for operation of each Columbia Basin hatchery consistent with wild fish recovery. The agencies and tribes are cooperatively addressing hatchery management measures in the basin and the federal power system agencies have committed to investing in hatchery reform and monitoring as part of their support of basin-wide salmon recovery efforts.
5. **Predation actions** - The effects of certain natural predators of salmon in the basin has increased dramatically from historical levels. This is partly due to changing habitat, more appealing to certain fish and birds, and partly due to increased numbers of predators due to various protection measures, including the Marine

Mammal Protection Act (MMPA). Although the predation of salmon by birds, fish, and marine mammals may be natural, there are specific circumstances in the Columbia basin where the predation has grown to a level where it is significantly out of balance with historic levels and cannot be ignored in a comprehensive recovery strategy. Because of this reality, the hydro- power operators fund large programs to reduce northern pike minnow fish predation on juvenile salmon, re-locate record numbers of Caspian terns to alternative bird colony locations, and programs to reduce predation by record numbers of double-crested cormorant bird colonies.

The states of Washington, Oregon, and Idaho were authorized and funded to remove certain identifiable predatory California sea lions at Bonneville Dam beginning in 2008, following several years of failed attempts to reduce sea lion predation through extensive hazing efforts. However, the conditions associated with the current requirements of Section 120 of the Marine Mammal Protection Act (MMPA) are challenging and expensive to implement, limited in scope, and legal challenges have slowed the progress in reducing impacts to salmon. The most recent increase in predation on the Columbia River fishery resources is associated with Eastern Steller sea lions. These animals are expanding in numbers, with an increasing impact on both Columbia River salmon and sturgeon populations.

The habitat, hydro, harvest, hatchery, and predation recovery actions represent a major monetary and social investment in the region, underscoring the importance of maintaining salmon populations to the citizens and governments of the four states and tribes that reside in the Columbia basin. The people of the Northwest have supported restoration efforts, and are willing to bear the costs, because of the importance of salmon to our heritage, the cultural value to Native Americans, and the economic value of salmon to our communities. State and federal agencies, tribal and local governments, and the public, have developed these salmon recovery plans through an extraordinary collaborative effort and are committed to rebuild these depleted salmon populations.

### **Sea Lion Population Status and Foraging Behavior**

The U.S. California sea lion population has rebounded since the MMPA was enacted and is now estimated at nearly 310,000 animals. The species is very healthy, in robust condition and is likely at or above historical population levels. Archeological and anthropologic evidence demonstrates that California sea lions were not historically found in the lower Columbia River. Observations of this species in the Columbia River have occurred only in the past 40 years. Studies have shown that only a small segment of the population actually forages in the lower Columbia estuary (about 500-1,000 males per year), with even a smaller segment that travel far upstream. Until recently, the animals that did migrate to the Columbia River area remained in the adjacent Pacific Ocean or lower estuary area of the Columbia River, where species other than salmon make-up the vast majority of their diet. Beginning twelve years ago, there was a change in foraging behavior of some male California sea lions that entered the Columbia River. In 2003, over 100 individuals travelled 145 miles up the Columbia River to prey on threatened and

endangered adult salmon near Bonneville Dam. The fish in this area are very vulnerable to sea lion predation as they mill for extended time searching for fish ladders to pass over the dam. The male sea lions, that move inland over 100 miles from the ocean to eat salmon, are individual animals that exhibit feeding behaviors unlike the overwhelming majority of the population. However, because these individuals require a significant amount of nourishment on a daily basis, and the target prey is increasingly salmon as the sea lions move farther up the Columbia River, it doesn't take a large number of animals to significantly impact the ESA listed wild salmon populations that are migrating upriver to spawn. Studies have recorded individual male California sea lions that have nearly doubled their weight during three months time spent foraging on salmon in the Columbia River.

Beginning in 2008, Eastern Steller sea lions also began to significantly increase in numbers in the river and their presence far upstream. Although the number of individual California sea lions recorded at Bonneville Dam has reduced since the states removal program was initiated in 2008, the Eastern Steller individuals near the dam have increased in recent years and are now consuming salmon at similar rates as the California sea lions.

### **Sea Lion Predation Impact to Columbia River Salmon**

The U.S. Army Corps of Engineers (USACE) estimates that over 42,000 salmon and steelhead have been consumed by sea lions within 1/4 mile of the dam in the past twelve years. These salmon mortality estimates (ranging from 1.1 to 4.2% of the run since 2003), include just the sea lion predation that can be observed from the dam itself, and are only a fraction of overall predation in the lower Columbia River. A state research analysis, based on consumption rates, estimates that the total impact of California sea lion predation in the Columbia River is likely around 16-20% of the annual spring salmon return to the river. Additionally, the observed rate of sea lion scars on live salmon passing Bonneville Dam has ranged from 11- 37% of the run in recent years. These are fish that escaped the sea lion attack, but have been damaged in the process. The long term mortality associated with these injuries is unknown.

Having survived various sources of mortality as downstream migrating juveniles and again as returning adults, many of these adult wild salmon still have over 500 miles to travel before completing their journey from the river mouth to their spawning grounds, if they make it past the foraging sea lions.

There are thirteen separate Columbia River salmon and steelhead population segments that were listed under the ESA during 1991-2005, with multiple individual populations within each population segment. There are 32 separate ESA- listed wild spring Chinook salmon populations, at various levels of extinction risk, that are exposed to this concentrated sea lion predation during the late winter and spring period.

In order to ensure the survival and recovery of the listed salmon, it is important to have protection and recovery actions that are tailored to the needs of each individual population. To accomplish this, actions are planned and implemented in each watershed

where these unique populations reside. The efforts to improve survival in the local watersheds can include significant land use changes effecting urban and rural development, logging, agriculture, dam operations, reductions in hatchery fish produced, and closure of local fisheries. These local efforts, and associated costs, cannot alone adequately protect and restore salmon. Additional survival improvement actions are implemented in places the various hatchery and wild salmon populations share as they all migrate downstream through the Columbia River to the ocean as juveniles and back upstream through the Columbia River and into various tributaries to spawn as adults. The local actions must be combined with additional actions outside of the watershed, including predation reduction, to achieve a cumulative increased survival effect. Each incremental survival improvement during the salmon's life experience becomes an essential component of recovery.

For example, both sport and commercial fishing regulations for spring salmon in these same waters require that only marked hatchery fish can be retained, while unmarked wild salmon must be released unharmed. Harvest opportunity on the healthy hatchery salmon is controlled by limits on incidental impacts to wild salmon that are released while fishing for hatchery fish. Tribal fisheries are prosecuted consistent with federal treaty trust responsibility, but are also limited by status of wild fish and often reduced to levels below their minimum cultural and subsistence needs. The sport, commercial and tribal impact limits to wild fish are adjusted based on annual abundance of the returning fish. If runs are low, harvest on the target hatchery fish is further curtailed to reduce incidental impacts on wild fish. The harvest impact limits are established in Federal Court agreements that comply with ESA, are reduced significantly from past levels, and represent an increase in survival of wild salmon through this particular source of mortality. The NMFS endorsed comprehensive recovery plans recognize and count on this increase in survival of salmon through the fisheries. Fisheries are closely monitored to ensure the expected salmon recovery contribution is met.

The National Marine Fisheries Service (NMFS) has endorsed recovery plans that list predation (including sea lion predation) as one of the highest limiting factors in the estuary portion of the returning adult salmon migration route. This means that sea lion predation must also be managed effectively, to increase salmon survival through this particular source of mortality, in order to meet the recovery objectives for the listed populations.

### **Salmon Management Objective**

The fundamental objective shared by states, federal agencies, and tribes is to reduce the sea lion predation of salmon so there is an increase in the overall survival of the wild salmon. Additionally, the region cannot afford to allow salmon predation by sea lions to increase, or it would effectively cancel out a portion of other recovery actions that collectively add up to billions of dollars invested by the region. The idea is to reduce predation, not eliminate it, which is consistent with the approach taken to manage other sources of impact to the salmon. Sea lions, birds, and fish should be able to continue to predate on salmon, just as people that benefit from the Columbia River water, power, and fishery resources should not be completely extracted from a manageable level of those

benefits. However, if salmon are to continue to exist and rebuild, all sources of mortality must be managed within a balance that makes it possible to achieve recovery. It is the combined effect of these reductions that will make it possible to meet the goal.

### **Sea Lion Predation Impact to Columbia River Sturgeon**

While managers have focused on California sea lion predation of salmon, a new management problem has arisen with Eastern Steller sea lion predation of Columbia River sturgeon. Since 2008, the number of Eastern Steller sea lions present in the Columbia River as far as 145 miles inland to Bonneville Dam has increased significantly. The Steller sea lions are arriving in the Columbia River in the fall and concentrating on sturgeon as a primary food source before the salmon begin to return to the Columbia River in the spring. The Steller sea lion consumption of listed salmon is also increasing, about equal to the California sea lion consumption at Bonneville Dam in the past two years, but the most dramatic increase has occurred with consumption of sturgeon. Washington and Oregon biologists estimate the sea lion consumption of sturgeon increased to over 10,000 fish in 2011 and continues at that rate today.

The Columbia River sturgeon population below Bonneville Dam rebounded from depressed levels 60 years ago. However, recent years have seen a decline in sturgeon numbers and managers have repeatedly reduced harvest and added protections in an attempt to maintain a healthy sturgeon population. The state Fish and Wildlife Commissions have adopted a complete shut-down of harvest of lower Columbia sturgeon beginning in 2014. State managers are concerned about the increasing and unregulated impact of Steller sea lions on the future health of the sturgeon population. There is particular concern with increasing sea lion predation of large female sturgeon (above five feet in length) that are mature and ready to reproduce. There is currently no provision in Section 120 to manage sea lion predation of a fishery resource other than ESA-listed salmon and steelhead. H.R. 1308 provides states and tribes the ability to manage sea lion predation on all natural fish resources of concern in the Columbia basin, including sturgeon.

### **Managing Under Section 120 Authorization**

The current Section 120 provisions require that an individual and identifiable sea lion is causing a significant negative impact to the decline or recovery of ESA-listed salmon or steelhead stocks before it is eligible for removal by the states. These provisions require a significant amount of added work by state and federal biologists to meet the requirements of removal authority under section 120. These requirements have increased costs, reduced the numbers of sea lions removed, limited the geographic area in which the problem can be managed, have been the focus of legal challenges, and slowed progress towards reducing the impacts to salmon.

Section 120 as currently written cannot be used when small numbers of predators are involved because of the difficulty in demonstrating a “significant negative impact” to a listed salmon or steelhead population. At present, the resource managers are not permitted to take proactive measures to prevent smaller, manageable problems from growing into major ones. Section 120 requires managers to wait until the problem of

predation is very large and nearly unmanageable before removal authority can be issued. For example, sea lion predation in the Willamette River (an Oregon tributary of the lower Columbia River), has been on the increase in recent years and is impacting ESA listed salmon populations and sturgeon. However, the Section 120 authority is currently limited to Bonneville Dam predation and the significance of even that large a scale of impact to salmon continues to be challenged in federal court.

Managers are unable to address the Willamette River predation problem and it continues to grow annually to a more significant level. A more efficient and effective legal tool through H.R. 1308 would provide the means for the states and tribes to manage the sea lion predation in the inland areas of the lower Columbia and tributaries proactively, before the number of animals exhibiting the behavior expand to levels that are more problematic and costly to manage.

The NMFS convened a Pinniped Task Force in 2010 to review the progress of the states in exercising the first three years of the Section 120 permit. The majority of the Task Force members recommended exploring ways to increase the level of removal of California sea lions. We appreciate the current authority that has been granted by NMFS through Section 120 and will work directly with NMFS to defend that authority as we address the most recent legal challenge. We believe it is important to maintain this authority to provide some level of relief and hopefully prevent the California sea lion predation level from increasing further while we await additional legislation. In six years of the program, the states' have removed 58 California sea lions under Section 120 permits, 13 of which have been transferred to zoos and aquariums.

### **Need for a Reasonable Resource Management Tool**

It is important that state and tribal natural resource managers have the necessary tools to restore a balance between abundant and healthy sea lion populations and the endangered and threatened salmon and steelhead populations in the Columbia River, and in other areas where sea lion predation develops into an additional new threat to ESA-listed salmon recovery efforts. It is also important that managers have the tools to address other developing resource management challenges such as increasing threats to sturgeon in the Columbia River.

The benefit of a law that enables efficient and timely permanent removal of California sea lions, that travel far inland to feed on wild salmon, is to reduce a recent and significant source of mortality and avoid compromising the ongoing federal, state and tribal efforts to recover ESA-listed salmon and steelhead populations in the Columbia River basin. It is not our contention that California sea lion predation is more significant than other sources of mortality to Columbia River ESA-listed salmon, but simply that it is significant and that resource managers must have the ability to deal with sea lions predation in a timely and reasonable manner as we do with other resource management issues.



### **Closing Comments**

We appreciate the work of the Natural Resource Committee Chairman, Representative Doc Hastings, and representatives Jaime Herrera-Beutler, Greg Walden, Kurt Schrader, and Mike Simpson in drafting H.R. 1308 in an effort to provide the states and tribes a more effective and efficient means to protect Northwest salmon, steelhead and sturgeon resources. We are thankful that our Northwest Congressional representatives understand the enormous investment that the region is making to recover salmon and are prepared to assist us in effectively managing for their recovery.

I want to thank the Subcommittee Chairman, Representative John Fleming, M.D., for the opportunity to provide this written testimony and to speak to the members of this Subcommittee regarding our concerns for recovery of salmon in the Northwest. This amendment to the MMPA will enable the states and Columbia River Treaty Tribes to more effectively manage predatory sea lions in circumstances where they exhibit behavior that threaten Northwest salmon and other fishery resources.