

**Testimony of Guido Rahr  
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**Before the  
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Madam Chairman, members of the Committee, I appreciate the opportunity to appear before you today to provide my views on the Pacific Salmon Stronghold Conservation Act (“Salmon Stronghold Act”). My name is Guido Rahr and I am the President and Chief Executive of the Wild Salmon Center, a science-based, international conservation organization dedicated to protecting the healthiest and most productive wild salmon ecosystems across the Pacific Rim. I was the first full-time staff member of Wild Salmon Center at its inception in 1998 and initiated the organization’s effort to identify and protect the remaining “strongholds for native salmonid fish along the Pacific Rim,” a very new concept in salmon conservation at the time. I have a Masters of Environmental Studies from Yale University and 22 years of experience developing programs for regional and international conservation organizations, including Oregon Trout, the Rainforest Alliance, the United Nations Development Programme, and Conservation International. I am the founder of the World Conservation Union Salmon Specialist Group, led the creation of new salmon and river conservation organizations in the United States and Russia, and have written numerous publications on salmon conservation, most notably “A Proactive Sanctuary Strategy to Anchor and Restore High Priority Wild Salmon Ecosystems” (Rahr, et al. 2006).

In my testimony today, I will explain: 1) why enacting the Pacific Salmon Stronghold Conservation Act is critical to maintaining and increasing the long-term abundance and diversity of wild Pacific salmon in North America, and 2) how U.S. leadership can stimulate action from other Pacific Rim salmon-bearing nations, whose cooperation is vital to protect our salmon fisheries. If there is one message from my testimony today that I hope stays with you, it is this: Congressional direction is absolutely necessary to implement a winning, science-based salmon conservation strategy. Enacting the *Pacific Salmon Stronghold Conservation Act* (“Salmon Stronghold Act”) will provide the critical missing link in current salmon conservation and management policies by harnessing public and private efforts to protect North America’s healthiest wild salmon rivers, and the communities and wildlife that depend on them.

I want to acknowledge the extraordinary leadership and support of the bill’s co-sponsors, Chairwoman Cantwell and Senator Murkowski—two Senators who were among the first to recognize the value of preventative action to avoid paying billions of dollars in watershed restoration costs down the road. I also want to commend the other six original co-sponsors of the bill, which included each and every West Coast Senator.

**THE ECONOMICS, ECOLOGY AND CULTURE OF WILD SALMON ECOSYSTEMS**

Healthy wild salmon ecosystems provide myriad ecological, economic and cultural benefits. Ecologically, salmon are what is known as a “keystone” species, a key link in the food web upon which over 137 other species depend, including bears, eagles, orcas, and other wildlife (Cedarholm, et al. 2000). Salmon even provide valuable nutrients to our forests and plants through the decomposition of their nitrogen-rich carcasses.

Salmon are also an “indicator” species, informing us about the health of our freshwater and marine systems. Not coincidentally, many of our most productive salmon rivers provide our communities with critical ecological services, such as clean drinking water, flood control, irrigation and pollution filtration. Abundant and diverse salmon populations tell us that our system is healthy and will continue to provide those and other valuable services.

Salmon are a highly migratory and transboundary species, which have a tremendous impact on the ecological health of communities around the northern Pacific Rim. They create thousands of truly sustainable jobs, generating billions of dollars of economic value, while providing an important component of food security as they are a nutritious and natural source of protein for local consumption and export. Accordingly, salmon require international cooperation with other salmon-bearing nations across the Pacific Rim.

Finally, more than any other species, salmon connect the people to the oceans and rivers of the Pacific Rim. They are deeply embedded in our identity, and are a primary source of food and cultural identity for native peoples across the Pacific Rim.

## **A MORE STRATEGIC APPROACH TO SALMON CONSERVATION**

Today, in the western United States, we are at a crossroads. Salmon are now extinct over 40% of their native range, and many other salmon populations have declined to the point that they are protected under the federal Endangered Species Act. Fortunately, there are still river systems that are home to relatively healthy wild salmon and steelhead populations. These are the “salmon strongholds”: the crown jewels of productive salmon ecosystems. While they are the best of what we have left, without pro-active planning and management, they may be next in line to suffer the threats that have caused the decline of so many other salmon populations.

Scientists predict that the impacts of climate change will both decrease the flow of water in our rivers, and heat them to the point that many systems will not be habitable for salmon and steelhead. In addition to the effects of climate change, the human population of the Pacific Northwest is predicted to double by the year 2040, potentially doubling not just the demand for the fish themselves, but doubling the demands on the clean water and healthy forests needed to support wild salmon runs.

Unless we are able to implement a realistic long-range strategy to protect our rivers from these and other threats, we likely will join the growing number of places in the world where wild salmon and all that they symbolize and provide are just a memory. Our ability to learn from the past and establish a comprehensive and strategic approach to salmon conservation will likely determine whether future generations can continue to enjoy the many values these extraordinary species embody.

## **THE PACIFIC SALMON STRONGHOLD CONSERVATION ACT OF 2009**

Today, our scientists have a deeper understanding of what wild salmon need to thrive and prosper than ever before. Reduced to its most elemental components, salmon require:

1. Sufficient natural and healthy functioning river systems, estuaries, and marine habitat to live out their life cycle;

2. Harvest management that enables enough wild salmon to return to the spawning grounds of their home rivers, and protection from the ecological impacts of large scale releases of juvenile salmon from hatcheries; and
3. Genetic diversity to build resilience, adapt to environmental conditions, and evolve.

Current federal salmon policy only partially addresses these basic needs, largely through the Endangered Species Act (recovery of salmon populations listed as threatened or endangered; implemented through the Pacific Coastal Salmon Recovery Fund), the Magnuson Stevens Fisheries and Management Reauthorization Act (setting national standards to conserve and manage anadromous and other high seas migratory species to prevent overfishing, rebuild overfished stocks, and facilitate long-term protection of essential fish habitats), and the U.S.–Canada Pacific Salmon Treaty (promoting international cooperation for bi-national salmon harvest allocations and a ban on high seas salmon fishing).

One critical missing component in this policy is a federal focus on the conservation of healthy wild salmon ecosystems—salmon strongholds—as a preventative, proactive approach. We have invested millions of dollars in salmon recovery efforts, but these efforts alone will not be sufficient to prevent the need for future listings or safeguard against future declines. It is also important to note that while salmon recovery is a vital element of our federal salmon conservation strategy, no salmon population to date has been recovered and removed from the Endangered Species list. While recovery proceeds, we must ensure that our healthy wild salmon populations remain intact. This approach will save hundreds of millions of dollars in future restoration costs and emergency funding.

The *Pacific Salmon Stronghold Conservation Act of 2009* creates this essential policy by directing federal resources toward conservation of the healthiest and most productive wild Pacific salmon strongholds in North America.

### **Protecting Strongholds Implements a Key Principle of Conservation Biology – Safeguard Core Centers of Abundance and Diversity**

Approximately two-thirds of historic salmon populations persist around the Pacific rim, and wild Pacific salmon remain incredibly diverse, with at least 50 evolutionary significant units in just the lower 48 (Augerot, 2005). Yet, only a small percentage of globally significant wild salmon rivers currently enjoy protection. For those that remain unprotected, a wide range of conservation strategies must be employed to sustain their productivity (Pinsky, et al. 2009).

The Salmon Stronghold strategy applies rigorous scientific analyses to the following three steps:

1. Identifying “stronghold” rivers based on levels of abundance and diversity of wild salmon and steelhead populations within each salmon “ecoregion” throughout the species North American range;
2. Optimizing the most efficient combination of rivers necessary to conserve the greatest range-wide abundance and diversity; and

3. Investing in the “highest conservation value” actions in strongholds to maintain ecological function by addressing factors that limit the salmon population health and prevent emerging threats.

There is broad agreement among scientific colleagues in and outside of government that the identification and protection of a portfolio of salmon strongholds represents a critical plank in any broader salmon conservation and management strategy.

### **Cooperative Conservation – a Public-Private Model for Maintaining Healthy Watersheds**

Federal land managers and regulators often have responsibilities or interests in coastal watersheds, but seldom does a single government entity have jurisdiction or management authority over an entire watershed or salmon ecosystem. It is more often the case that watersheds are “managed” by multiple entities, including federal and state agencies, Tribes, and, of course, private landowners and water management authorities. Coordinating these entities for a shared purpose is complex, but absolutely necessary to ensure watershed function and resilience.

The Salmon Stronghold Act brings all of these players to the table around voluntary, incentive-based efforts to ensure that salmon strongholds retain and increase the benefits they currently produce. Wild Salmon Center and its conservation partners have worked closely with local communities to protect watersheds through many strategies and tools, including supporting sustainable fisheries and working landscapes. Leveraging the efforts of non-governmental bodies who champion these models will make federal policy more effective and has the potential to generate significant private resources.

Several conservation organizations, including those participating in the North American Salmon Stronghold Partnership (Stronghold Partnership), have worked closely with cities, towns, Tribes, timber companies, farmers, ranchers, and commercial and recreational fishers to find mutually beneficial solutions to complex land management and resource issues. This approach is producing encouraging results in areas once paralyzed by dispute and mistrust.

Expanding these efforts beyond their current recovery focus to find voluntary solutions to conserve healthy wild salmon rivers should be encouraged and enabled by federal policymaking. The Salmon Stronghold Act will create the framework enabling key stakeholders to coordinate, cooperate, and innovate to implement science-based conservation and management plans in salmon strongholds.

### **THE MODEL WORKS – THE NORTH AMERICAN SALMON STRONGHOLD PARTNERSHIP**

Now in its fourth year, the Stronghold Partnership has demonstrated that a broad and diverse group of stakeholders is dedicated to ensuring that strongholds continue to provide valued ecological, economic, and cultural benefits. The first step in this partnership has been an ongoing effort among a diverse group of salmon experts to identify strongholds. Collaborating closely with federal and state agencies and non-governmental organizations represented on the Stronghold Partnership Board, salmon experts operating at the watershed level have worked diligently to score and rank their wild populations. This collaborative effort, which continues to take place throughout the salmon bearing states, has not only ensured that strongholds are identified accurately but also yielded a broad understanding among local partners of the goals of the Salmon Stronghold Act.

The “watershed-level” buy-in that this collaborative process has fostered allows stakeholders in identified strongholds to leverage stronghold designation, and access resources provided under the Act to achieve local conservation goals. This has already been demonstrated as partners in several pilot strongholds have actively sought to participate in the program, and begun to leverage stronghold status to identify critical needs, determine conservation strategies, and implement innovative projects. Technical and financial resources made available as a result of the Stronghold Act will provide vital support to these local and regional partners, ensuring that preventative strategies reach the ground.

### **The Salmon Stronghold Act - What Difference Will It Make On The Ground?**

Given the significant federal resources already invested in salmon conservation, partners introduced to the Stronghold Partnership regularly ask what needs the Partnership – and the Act which supports it – meet that cannot be met through other programs.

- First and foremost, the Board will focus resources provided under the Act on activities that promote the development and implementation of *prevention-based strategies* in strongholds. These proactive approaches to salmon conservation will explicitly complement the restoration-based principles advanced through current federal investments in recovery.
- Second, the Salmon Stronghold Act authorizes technical and financial support to advance *cross-cutting, programmatic initiatives*. Programmatic initiatives include the development and refinement of conservation policies and management strategies that address threats and reduce limiting factors across multiple strongholds.
- Third, the Act will direct the federal agencies to help lead and coordinate the development and implementation of prevention based strategies and programmatic initiatives.

#### **Prevention-based Strategies in and across Strongholds**

In the Pacific Northwest, partners in several salmon stronghold river basins have already identified specific needs that must be met in order to prevent the decline of healthy watersheds and strong salmon populations. However, the very fact that these rivers are “healthy” today has made it extremely challenging for local partners to garner the resources necessary to meet these needs. For example, the magnificent Smith River in Northern California has united a broad and diverse group of stakeholders to maintain its outstanding water quality and habitat, yet the Smith rarely qualifies for federal or state funding because it has few species (one) listed as endangered, and it is not included on the 303(d) list of impaired water bodies. As a result, because the basin is “too healthy”, local stakeholders cannot obtain sufficient funding to even conduct baseline escapement monitoring, which is vital to determining the amount of salmon returning from the ocean to the river to spawn. This lack of funding impedes fish managers’ ability to set conservation-minded harvest levels and establish science-based escapement targets. These conditions prohibit the State from ensuring that appropriate management strategies are in place to conserve strong populations.

The extraordinary coastal rivers of Washington’s Olympic Peninsula provide another example of this gap in federal salmon policy. Home to five species of Pacific salmon, which inhabit some of the healthiest watersheds in the lower 48 states, no comprehensive watershed plan exists to conserve the Peninsula’s salmon populations. Localized plans, such as those formulated by the Quileute and Quinault Tribes and

local Lead Entities, are severely underfunded because partners cannot leverage the crisis conditions necessary to prompt federal investment.

Only through monitoring and careful planning can partners in strongholds identify the preventative measures necessary to safeguard the health of functioning watersheds. This Act will enable partners to garner sufficient funding to identify conservation needs in stronghold basins and ensure that the management strategies are in place to maintain currently strong salmon populations into the future. If prevention is not supported now, emerging threats like development and climate change will surely require that we pay more in the future to restore what has been lost.

### **Programmatic Initiatives to Address Challenges across Multiple Basins**

While watershed level conservation strategies are critical, many challenges faced by salmon managers are more effectively addressed through policies which accelerate the development and implementation of conservation strategies across a much larger range. This approach is sorely lacking within the current portfolio of federal salmon conservation grant programs, which focus heavily on implementing strategies at the watershed scale (for example, PCSRF funds are allocated on a state by state basis, each state allocates funds to recovery basins for habitat protection and restoration actions, and priorities are determined by each recovery basin, e.g. Lead Entities in WA.) The Salmon Stronghold Act advances a broader range-wide approach through its support for *programmatic initiatives*. Programmatic initiatives catalyze innovative approaches to proactively respond to emerging threats, reform inefficient policies, and integrate management strategies. Three examples of these are described below. Note the broad range of challenges presented in these examples, which indicate the potential of programmatic initiatives to address both the root causes of conditions that limit populations today as well as threats to populations in the future.

Climate Change. Perhaps no greater threat challenges the health of Pacific Salmon across their range than climate change. The establishment of a network of salmon strongholds supported under the Salmon Stronghold Act will ensure that strongholds are maintained as core centers of abundance and genetic diversity. Maintaining diversity, scientists tell us, may be the key to ensuring species' resilience over the long term in the face of changing watershed conditions. Although the federal government currently supports climate change research, no forum and few resources exist to translate ongoing climate change research into policies that are targeted to wild salmon conservation. For example, current research into "downscaling" regional climate change impacts will be vital to helping researchers evaluate impacts across strongholds. Because of its focus on inter-agency coordination, the Stronghold Partnership provides an extraordinary forum to apply this emerging research to develop and recommend the policies necessary to safeguard strongholds and promote resilience among strong wild salmon populations.

Innovative Demonstration Projects. Cross-cutting initiatives funded under the Act may include pilot projects that, if replicated successfully, would address challenges faced by multiple strongholds. On the north coast of Oregon, for example, strong salmon populations are threatened by unsustainable harvest levels in the Tillamook-Clatsop State Forest, an area encompassing over one half million acres of extraordinary salmon habitat. The high harvest is driven by the reliance of local county budgets on revenues derived from logging. A broad consortium of stakeholders convened by Wild Salmon Center is working with local and state leaders, industry, and NGO partners to identify revenue that could be generated from non-extractive uses of the forest. By recognizing the value of—and generating

revenues from—watershed services like clean water and carbon sequestration, local counties could offset decreases in timber receipts resulting from reductions in harvest to sustainable levels.

This promising idea has been applied to other resource management challenges that have not involved salmon conservation. Unfortunately, funding to further develop the concept in Oregon and elsewhere is limited because few, if any, federal or state grant programs can provide the funds necessary to demonstrate the concept. Because of the Stronghold Partnership's commitment to support policy innovations that address the root causes of watershed degradation, this approach could be demonstrated in Tillamook and have widespread applications across other strongholds.

Policy Reform to Accelerate Conservation. Countless local, state, and federal resource management policies have unintended adverse impacts on the stewardship of salmon strongholds. One example is the permitting process which seeks to protect aquatic and wetland resources from development but often impedes locally-led habitat protection and restoration efforts. Under provisions of Section 7 of the Endangered Species Act, a federal agency that funds or authorizes activities that may affect a listed anadromous fish species must consult with the National Marine Fisheries Service to ensure that proposed actions are not likely to jeopardize the continued existence of the species. While this regulation is necessary, its one-size-fits-all approach makes no accommodation for thoroughly reviewed activities proposed to enhance ecosystem function. Consequently, the permitting process often obstructs restoration project implementation due to the added expense and/or unmanageable duration of the application and review processes. Likewise, sections 401 and 404 of the Clean Water Act, which govern projects impacting wetlands and water quality respectfully, similarly do little to distinguish between permitting for potentially harmful development activities and habitat enhancement projects. These permitting processes often lead to significant delays, cost over-runs, and sometimes cancellation of valuable ecosystem enhancement projects.

In recent years, conservation organizations, federal agency personnel, and even members of Congress have proposed streamlining the permitting processes to support conservation projects. Similar to the challenge of funding the activities described above, however, these efforts have been difficult to sustain among local watershed groups who are critical to the success of the process. If deemed a priority by the Board, funds provided under the Stronghold Act could support cooperative efforts underway in the states to streamline permitting, thereby accelerating the rate of conservation in strongholds.

### **Enhanced Coordination**

Since the life cycle of salmonids crosses public and private ownerships, political jurisdictions, and diverse ecosystems, a coordinated approach among federal, state, and tribal governments, landowners, and non-governmental organizations is critical to successfully conserving and managing strong salmon populations. Unfortunately, federal partners in stronghold basins currently have little guidance or ability to lead strategies like those described above, focusing instead on the reactive approaches to salmon conservation due to current mandates. With congressional direction under this Act, federal partners who are now participating enthusiastically in the Stronghold Partnership will not be forced to leave the table to address recovery priorities, as proactive conservation and management of healthy wild salmon populations will become a complementary mandate to recovery for the agencies.

This Act, therefore, will make existing efforts to protect healthy salmon ecosystems more effective by coordinating the entire family of federal agencies and departments to take actions compatible with maintaining core areas of wild salmon abundance and diversity. For example, in the Pacific Northwest,

the U.S. Forest Service is implementing an innovative policy to identify and manage “key watersheds” to maximize and protect valued ecological and economic resources produced from these areas. Several key watershed designations include salmon strongholds, yet many of these watersheds encompass other federal and state landowners which do not adopt such preventative and far sighted strategies. Coordinated federal leadership in these basins would amplify the benefits of the Forest Service’s policy over a broader scale, increasing the efficiency and effectiveness of basin-wide conservation planning.

In addition, many landowners in stronghold basins are faced with a complex and overlapping array of existing incentive-based programs administered by multiple federal and state agencies. This legislation will provide a forum, the Stronghold Partnership Board, for partners to coordinate these programs to bundle and deliver incentives in a more efficient and results-oriented manner.

### **International Cooperation**

This legislation will also help the U.S. promote the stronghold approach across the Pacific Rim. This is extremely important since salmon are highly migratory, with some species spending portions of their life history in the waters of other Pacific Rim nations. Because environmental conditions or human actions across the Pacific can have an impact on Chinook returns in Alaska, for example, salmon represent a global “canary in the coal mine”, integrating freshwater, estuarine and marine habitats into one enormous ecosystem. These interdependencies are recognized by the North Pacific Anadromous Fish Commission and the U.S.-Canada Pacific Salmon Treaty.

The Salmon Stronghold Act will complement these official government bodies by establishing a civil society-led initiative to coordinate the creation of a Pan-Pacific network of salmon strongholds, stretching from Japan through the Russian Far East across British Columbia to California. This network will ensure the long term viability of wild salmon over a much larger spatial scale and will serve as a forum to share lessons learned and leading edge conservation science tools and methodologies with other nations. With strong federal, state, tribal and non-governmental participation, this network will share experiences directly with local citizens in stronghold basins throughout the North Pacific.

Other Pacific salmon countries are beginning to recognize the need to protect salmon strongholds and engage in the Partnership’s efforts to conserve them. For example, Canada’s Pacific Fisheries Resource Conservation Council adopted the stronghold approach and officially joined the Stronghold Partnership Board. Voluntary, incentive-based protection efforts are now underway in British Columbia’s Harrison River, which was recognized as a salmon stronghold pilot site in February 2010.

U.S. leadership in establishing a stronghold policy and program will help recruit supporters from other salmon-bearing nations, including promising initiatives underway in the Russian Far East and northern Japan. At the triennial “State of the Salmon” international congress, several leading voices for salmon conservation and sustainable management from other nations showed great interest in pursuing similar policies based on the proposed Salmon Stronghold Act legislation, so its enactment would further those efforts.

### **Conclusion**

Salmon strongholds offer our greatest hope of preserving the long term viability of wild salmon populations and the economic, ecological, and cultural values they sustain. In the face of climate change, development, and countless other threats on the horizon, federal leadership through the

Salmon Stronghold Act presents a long overdue approach to stem the tide of species extinction and loss. If we succeed, we will be leaving our children some of the most beautiful rivers and the miracle of healthy wild salmon runs, returning to the clear waters of home as they have for millions of years.

I would like to express my support and appreciation for the leadership of Senator Cantwell in sponsoring this important legislation. The Salmon Stronghold Act has broad support throughout the western United States and we stand ready to do anything we can to help pass this Act into law. Thank you very much.

**References Cited:**

Augerot, X. 2005. Atlas of Pacific Salmon: the first map-base status assessment of salmon in the north Pacific. University of California Press, Berkley, California.

Cederholm, C.J., et. al. 2000. Pacific Salmon and Wildlife-Ecological Contexts, Relationships, and Implications for Management. Special Edition Technical Report, Prepared for D.H. Johnson and T.A. O'Neil (Managing Directors) Wildlife-Habitat Relationships in Oregon and Washington. Washington Dept. of Fish and Wildlife, Olympia, WA.

Pinsky, M.L., D.B. Springmeyer, M.N. Goslin, and X. Augerot. 2009. Range-Wide Selection of Catchments for Pacific Salmon Conservation. *Conservation Biology*. 23: 680-691.

Rahr, G. and X. Augerot. 2006. A Proactive Sanctuary to Anchor and Restore High-Priority Wild Salmon Ecosystems. Pages 465-489 in R.T. Lackey, D.H. Lach, and S.L. Duncan, editors. *Salmon 2100: the future of wild Pacific salmon*. American Fisheries Society, Bethesda, Maryland.