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POLICY BRIEF

Getting back on track with salmon recovery in Washington state

By Todd Myers,
Director of WPC's Center for the Environment

September 2023

Key Findings

1. Recovery of salmon populations, especially Chinook, has been extremely slow across Washington state.
2. In Puget Sound, between 2004 through 2019, there were declines in the number of spawners in 16 of the 22 Chinook populations.
3. This slow pace has created frustration among those working to recover the species, generating frustration that is leading some to look for silver bullet solutions.
4. Increasingly politics, not science-based prioritization, is guiding recovery strategy, putting resources where it is politically beneficial rather than most effective.
5. To get back on track to salmon recovery, legislators, agency staff, and salmon experts should focus state efforts on science-based grants, guided by local leaders.
6. Washington state should increase funding for science and monitoring to target the most effective use of resources.
7. The legislature should significantly increase overall salmon recovery funding, putting the resources into competitive grant programs.
8. More funding and control should be put into the hands of local salmon recovery managers, who face more accountability for success or failure and apply local knowledge not available to state-level politicians and agencies.

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Thanks to the many activists, salmon-recovery managers, state officials, and tribal members across the state who took the time to talk with me about this paper. Many people across our state work hard every day to help salmon recover and I am grateful for their help. Many of their edits are reflected in the final product. I hope it will be the beginning of a discussion that leads to the fulfillment of our work to see salmon populations grow to sustainable levels.

Getting back on track with salmon recovery in Washington state

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Introduction

Ask any elected official in Washington state about the top environmental priorities and he or she will certainly mention salmon recovery. The issue brings together a wide range of people, including those who care about preserving an iconic Northwest species, commercial and sport fishers, tribes who rely on salmon for economic and cultural benefits and have guaranteed fishing rights, and the general public who care about all of those things.

It makes sense that salmon recovery should align so many interests, but progress on increasing the population of Chinook and other salmon species is frustratingly rare. Successes, as we are seeing with Hood Canal chum, show that progress can be made, but for now they are the exception, not the rule.

The simple truth is that progress is too slow. That is creating tension between groups who have turned to fighting for their share of a shrinking fish population.[1] Each group blames the others and each increases the level of emotional rhetoric to improve their political position.

There is now an opportunity to break this cycle of frustration and recrimination. The state should focus on four steps to get salmon recovery on track.

- Increase funding for science and monitoring to ensure we understand where salmon recovery efforts can be most effectively focused.
- Fund science-based recovery programs rather than politically chosen priorities.
- Put more control and funding in the hands of local watersheds to take advantage of local knowledge and accountability is more likely.
- With the huge increase in the state budget, legislators should use the growth in revenue to make salmon recovery a priority.

Washington state now has the resources to take critical steps to change the course of salmon recovery for the better. Increased funding will only be effective if it is accompanied by a commitment to reversing the trend toward politicizing spending, and instead using a science-based prioritization process by increasing

1 Jenkins, Don, "Farmers give thumbs-down to Inslee's buffer bill," Capital Press, January 20, 2022, https://www.capitalpress.com/ag_sectors/rurallife/farmers-give-thumbs-down-to-inslees-buffer-bill/article_dbf7b8d8-7960-11ec-9966-d762da9b4674.html

funding for science, monitoring, and creating accountability for outcomes by putting those closest to recovery projects in the lead.

Although I spoke with salmon recovery experts and managers across the state, some of this is naturally more applicable to the Puget Sound because that has been my focus. The principles, I believe, are applicable statewide, although each area will have unique challenges.

This combination of efforts will help halt the slow decline of salmon across the northwest and deliver a win for Washington's economy, environment, and culture.

Chinook salmon populations continue to struggle

Across the state, salmon populations continue to struggle, with few watersheds making progress. The State of Salmon in Watersheds report notes, "No salmon species have been removed from the federal Endangered Species Act list in Washington and most of the species on the list are in crisis or not keeping pace with recovery goals."[2] The problems aren't located in just one part of the state.

Chinook have been particularly hard hit. In Puget Sound, between 2004 through 2019, there were declines in the number of spawners in 16 of the 22 Chinook populations. As a result, the state badly missed the 2020 goal for Puget Sound to begin to show improvements in wild Chinook populations in each of the five biogeographical regions.[3]

On the Snake River, NOAA Fisheries notes there have "been improvements in abundance/productivity in several populations" during the past two decades, but that runs continue to be at "moderate-to-high risk."[4] The news on the Lower Columbia River is better, with NOAA's assessment noting the "viability of the Lower Columbia River Chinook salmon ESU has increased somewhat," but cautioning, "the ESU remains at "moderate" risk of extinction."

While some struggling salmon runs receive disproportionate attention, the reality is that the problem is regionwide. A study of "the Coast-wide decline in Survival of West Coast Chinook Salmon" found the percentage of salmon smolt that return as adults, known as SARs, was very low regionwide. Despite the fixation on the Snake River, SARs there "are unexceptional and in fact higher than estimates reported from many other regions of the west coast lacking dams."[5]

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2 Governor's Salmon Recovery Office, "State of Salmon in Watersheds – Executive Summary," https://stateofsalmon.wa.gov/executive-summary/ (Accessed August 9, 2023)

3 Puget Sound Partnership, "Leadership Council Resolution 2011-14Adopting a 2020 ecosystem recovery target for Chinook salmon," June 18, 2011, https://pspwa.app.box.com/s/esy5dvqxv4roopabp9uevds1q47ea0fg

4 National Oceanic and Atmospheric Administration, "Biological Viability Assessment Update for Pacific Salmon and Steelhead Listed Under the Endangered Species Act: Pacific Northwest," January 2022, https://repository.library.noaa.gov/view/noaa/34363

5 Welch, DW, Porter, AD, Rechisky, EL. A synthesis of the coast-wide decline in survival of West Coast Chinook Salmon (Oncorhynchus tshawytscha, Salmonidae). Fish Fish. 2021; 22: 194–211. https://doi.org/10.1111/faf.12514

The fact that salmon across the Northwest are faring poorly is an important but frustrating realization. It would be convenient if we could identify the specific causes of decline and effectively target recovery efforts at salmon populations that are struggling. When the problem is regionwide, however, solutions become more elusive. Although we can identify the runs that are most at risk, it can still be difficult to know the precise prescription for recovery and then discern the benefits of individual habitat restoration projects when confounding factors can mask positive results in the near term.

A complex mix of factors harming salmon

Across the state few watersheds have single, identifiable barriers to salmon recovery. Instead, a variety of factors play a role in harming salmon – a lack of functioning estuaries, predation, warm water, runoff that carries toxins into the water, few floodplains, and other factors. The lesson is that salmon recovery is difficult. To reverse our failure to improve salmon populations in Puget Sound and elsewhere requires a sophisticated approach.

Some of the problems are also politically difficult to face.

Earlier this year, the Washington State Academy of Sciences released a study on the impact of large populations of seals and sea lions (known as pinnipeds) on salmon.[6] Their research concluded that predation by pinnipeds is "a primary driver of increasing mortality rates" among Puget Sound salmon. We might do a lot to increase salmon populations and end up simply feeding more salmon to seals and sea lions.

The complex web of factors also makes it difficult to know if we are prioritizing the right problems and if restoration projects are working.

Variable ocean conditions and their impact on salmon returns mean it can take a long time to see the results of habitat projects. It can take years for trees to grow and provide adequate shade for a stream, or for wood added to a stream to improve habitat conditions. A poor population response could mean that habitat projects didn't have the desired effect, or it could mean that ocean conditions or other conflating factors masked the impact. A white paper from the Puget Sound Partnership's Salmon Science Advisory Group that examined the factors limiting salmon recovery noted that "Projects can take decades to have the desired effect on habitat functions," and that assumes monitoring is adequate to accurately detect results.[7] The paper goes on to note, "Our ability to fully assess the effectiveness of restoration actions would be enhanced by continuing to expand the fish monitoring effort in the region."

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6 Washington State Academy of Sciences, "Pinniped Predation on Salmonids in the Washington Portions of the Salish Sea and Outer Coast," November 2022, https://app.leg.wa.gov/ReportsToTheLegislature/Home/GetPDF?fileName=Pinniped%20Predation%20on%20Salmonids%20in%20the%20Washington%20Portions%20of%20the%20Salish%20Sea%20and%20Outer%20Coast_5d43c6d6-3aad-442a-9271-0315d351eaf2.pdf

7 Bilby, R.E., Blair, G.R., Currens, K.P., Fresh, K.L, Fuerstenberg, R.R., "Factors Limiting Progress in Salmon Recovery," January 22, 2021, https://pspwa.app.box.com/s/k8zaorzygn94kqdk0ggb6hujjg51oz4n/file/767243257690

Looking for a silver bullet

In the current political environment where media drama is the guiding principle, promising to spend billions to remove dams captures the attention of activists in a way that mundane, but more important, threats cannot.

For example, the governor and some activists demand the federal government spend what is likely to be more than $35 billion to destroy the four Lower Snake River dams. That amount is equivalent to nearly 300 years of salmon recovery funding at current state budget levels for one stretch of river.

Despite the fact that salmon populations are low on a wide range of river systems – with and without dams – some focus on dam removal as a solution. Activists point to the removal of the dams on the Elwha River ten years ago, claiming it increased the Chinook population. In fact, Chinook have made little progress.

The slow rate of recovery for Chinook in the Elwha demonstrates that there are no silver bullets. A recent scientific assessment noted that the population increases that have occurred are due to many factors.[8] The authors wrote, "Positive fish responses in the Elwha River IMW may be, in part, due to the multi-pronged approach of restoration. Harvest limitations, natural fish recolonization, and hatchery fish supplementation were combined with the expanded availability of freshwater habitat to accelerate fish response." Recovery involves many complementary actions.

The fight over the Snake River dams is the highest profile and most expensive example of silver-bullet thinking, but not the only one. Removing seals and sea lions, tribal nets, stopping fishing altogether, and protecting riparian areas have all been identified as the key to salmon recovery by various interested parties. Where there is complexity, people can fall pretty to a process known as "satisficing" in which they "engage in sub-optimal decision-making strategies to conserve cognitive effort." When frustration mounts, simple solutions become more attractive.

A battle for political attention

Another source of frustration is that funding for salmon recovery is inadequate to the size of the challenge and many projects and problems are left unaddressed or under-addressed. This has caused salmon advocates to compete for resources, trying to carve the budget pie to suit the projects about which they are most concerned.

Some limited areas of concern have benefitted from the tendency to fund specific types of project. The state is under a federal court order to fix culverts and other barriers to habitat. The recent legislative budget also added $50 million to improve conditions along streams to reduce temperatures and habitat.[9]

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8 Pacific Northwest Aquatic Monitoring Partnership, "Management Implications from Pacific Northwest Intensively Monitored Watersheds," May 31, 2022, https://www.pnamp.org/document/15207

9 United States Court of Appeals, Ninth Circuit, "United States v. Washington," 853 F.3d 946 (9th Cir. 2016)

Opening upstream habitats and reducing stream temperatures are both worthwhile and help salmon. Despite that, these types of projects may not be the best use of salmon-recovery funding and may not remove the key barriers and chokepoints in individual watersheds.

Increasing funding for targeted programs also comes at the cost of other salmon recovery efforts. The Salmon Recovery Funding Board was the first state-funded Salmon program and receives proposals from local organizations and allocates grants using a competitive, science-based ranking. This year its budget was cut by a third compared to the previous biennium even as the state's total salmon-recovery budget increased slightly.

Increasingly, legislators respond to constituent concerns by targeting funding rather than providing resources allocated in competitive grants based on scientific assessment.

Faced with competing legislative priorities, salmon advocates end up selling projects using dramatic and politically appealing claims rather than more mundane, but critical, assessments of the benefits to salmon. Scientific merit is difficult for the public and politicians to assess, so appeals stress emotion – emergencies, tribal sovereignty, job creation, and diversity. While these factors can be worthwhile, using them to displace scientific merit risks creating a situation where the projects that win are the ones that have the most compelling story, not the most compelling data.

Putting science, ongoing learning, and accountability at the center of salmon recovery

Sound salmon policy is a mix of science, effective use of resources, economics, and a determined but objective temperament. That last element is often overlooked, but it may be the biggest impediment to progress right now.

We need to clear away the political drama and other issues that distract us from the important work of addressing the many obstacles to salmon recovery. Now is the time to redouble our focus on science and the process of ongoing learning. That approach isn't as emotionally appealing, but it is grounded in science and most likely to put salmon on the path to recovery.

We must stop being seduced by politically enticing approaches and turn to the critical work of addressing the many challenges faced by salmon, some of which are politically difficult. That takes commitment to incremental, and often invisible, progress. There are four key ideas to put salmon recovery efforts back on track.

A Salmon Science Surge

Many Remarkably, in many places across the state, managers of habitat science have little information about total salmon returns. Without that basic information, it is virtually impossible to assess accurately what recovery projects are working and which are not.

The white paper on salmon recovery in Puget Sound noted, "the clear weakness in ongoing monitoring work is the inability of monitoring to link restoration,

changes in habitat conditions, and fish response at large scales (sub-basin and larger). All these factors are playing a role in limiting fish response to restoration actions and all should be considered in attempts to make habitat restoration more effective."

NOAA's 2022 assessment of salmon populations across the Northwest also highlights the importance of monitoring. The authors wrote, "Development of a monitoring and adaptive management program was required by NMFS in the 2007 supplement to the shared strategy recovery plan, and since the last review, the Puget Sound Partnership has completed this task; however, the program is still not fully functional, neither for providing an assessment of watershed habitat restoration/recovery programs, nor for fully integrating the essentially discrete habitat, harvest, and hatchery programs."

I have been skeptical of calls to increase funding for monitoring. Scientists and watershed managers often want more data to justify their decisions if they are challenged. Excessive amounts of data can be a safety blanket when making a tough decision but it can lead to paralysis by analysis. Additionally, given the shortage of funding for salmon recovery projects, every dollar that goes to monitoring is one that could have been used to improve habitat.

Despite those concerns, a lack of basic information is making it difficult to put the limited resources in the right places. Recent research found that some habitat restoration projects may not be yielding population gains because the existing runs are so small that habitat capacity is not the limiting factor. Spending more resources in these areas, even on high-quality projects, would not increase returns because salmon aren't using the habitat that already exists. Good data can identify the limiting factors and prevent spending where additional habitat is not currently needed.

Monitoring also helps reduce the influence of politics in these decisions. When there is uncertainty or inadequate data, politicians feel free to inject their own agendas because it isn't clear that their favored projects are any better or worse than the alternatives. As a result, responding to constituents becomes the governing factor in prioritization.

Good data makes it more difficult for political interests to override the priorities identified by research.

Fund science-based salmon recovery programs

Other Funding for salmon recovery has increased slightly in recent years. Some of that increase is the result of a federal court order, made against the wishes of the legislature and governor. Funding to restore riparian habitat and reduce stream temperatures is welcome and far superior to the costly and restrictive alternative that had been offered. Opening habitat and improving streamside habitat are important, but the decision to emphasize them was made by legislators and judges, not based on a science-based comparison of needs.

As politically targeted funding has increased, science-based grant programs have been cut. The Salmon Recovery Funding Board saw a significant cut in its funding. Grants from the SRF Board and the Puget Sound Acquisition and Restoration Fund are chosen among proposals that are the top priority by local

watershed experts and prioritized using a science-based system.[10] Although funding for stream buffers, floodplains, estuaries, and to remove culverts can be used in many places across the state, the primary barriers to salmon recovery in each area are different (which is recognized by competitive grant programs like the SRF Board and PSAR), and a system that combines local knowledge and a scientific assessment is the most likely to target and fix those barriers.

Throughout this paper I have used the term "science-based," but I understand that no ranking system is perfect and they include elements of uncertainty and judgment. For example, the ranking system for PSAR includes controversial elements that target particular regions. Despite that, those grant programs rely on scientific assessments from the Washington State Department of Fish and Wildlife (WDFW) among others to prioritize projects. Additionally, a recent assessment of PSAR projects over 15 years found, "The PSAR Large Capital Program review process effectively promotes quality salmon recovery projects..."[11]

Despite the elements of uncertainty and judgement the scientific assessment is still better than political judgment.

The legislature should also reduce the impact of policies designed to undermine the science-based prioritization of salmon recovery projects like the HEAL Act. Although it purports simply to ask natural resources agencies to consider "environmental justice," the goal is to pressure agencies to use social criteria instead of scientific criteria when making decisions. When agencies choose a science-based priority over the HEAL Act's criteria, they must write a report explaining why. Those reports can be used to generate political pressure that pushes agencies to focus less on science. With so little progress in salmon recovery, we should be reducing the influence of politics, not increasing it.

Put local organizations at the center of the process

Even with a sound scientific basis for prioritizing salmon recovery, there are still gaps in our knowledge. Local knowledge, traditional knowledge, and accountability can help fill those gaps.

First, because they answer to their communities, local salmon recovery organizations and tribes face accountability for results that is much more meaningful and direct than politicians or agency staff in Olympia. A project that fails to yield returns will receive scrutiny from local oversight, especially if local governing boards control staff budgets. Local staff also have strong incentives to learn from mistakes since repeated mistakes are more likely to put their jobs and judgment at risk.

Second, experts on the ground may understand the dynamics of a watershed in ways that, while not scientifically tested, are valuable and important. Local and traditional knowledge can be an important part of recognizing the real barriers to

10 Puget Sound Partnership, "Puget Sound Partnership – PSAR Program," https://psp.wa.gov/PSAR.php (Accessed August 9, 2023)

11 Wilson, Megan, "PSAR 15-Year Retrospective Review," Puget Sound Partnership, July 27, 2023, https://pspwa.app.box.com/s/ecxapfz6n06f6tspuqw4f1xgux3td4fh/file/1267149241445

salmon recovery in each part of the state. Statewide, science-based processes may not take advantage of this type of information in a way that local decision-makers and recovery experts would. Adaptive management is more feasible and nimbler at the local level than at a state or federal level.

We must also reduce the permitting and funding barriers that local salmon-recovery organizations now face. Communities with the most valuable projects often lack the resources to do large projects and rely on a variety of grants. Cobbling together multiple grants for a single project is time-consuming, and if there are permitting or other delays, the deadline for some grants can expire, requiring local organizations to make up the gap. Salmon recovery grants should be large enough to allow entire projects to be completed without a patchwork of funding sources. The large-capital grants in PSAR are designed to address this need, but other grant programs should follow suit.

Overhead costs – funding that does not go directly into recovery projects – is always a concern because we want to make sure limited resources are put to best use. However, salmon recovery projects face labor shortages similar to those in the economy generally. We should tolerate some increase in local overhead costs to deal with these increased costs. The goal is to push both capacity and responsibility down to the local level, so although local capacity costs might increase, we should also reduce some of the overhead costs at the state and federal level.

For example, the state has wasted millions of dollars on needless "studies" on the Snake River dams that are simply political documents that do nothing to help salmon and will be badly out of date in a few years. Simply reallocating those resources could go a long way to helping local watersheds.

Increase funding for salmon recovery

There is no way around the reality that improving salmon recovery results will require more funding from the state. Washington's revenue has ballooned in recent years and there is plenty of public money to dedicate to salmon recovery. Rather than increasing funding for salmon proportionate to revenue and the threat faced by salmon, funding has stagnated as a percentage of the budget, with increases in one area (such as removing stream barriers) being offset by reductions elsewhere, such as SRF Board grants.

The governor and legislature need to significantly increase spending on salmon recovery, making it a priority rather than just a media talking point.

Step up for salmon

A commitment to salmon recovery is vital not only because salmon are an important species for the Northwest, but because increased populations will help Southern Resident orca, honor tribal treaty rights, and provide economic benefits for the state. Achieving these goals will take time, but unless we increase our commitment by providing the resources and focusing them where the science guides us, we will continue to stagnate and the frustration that is distracting us will grow.

This paper cannot address all details of this approach and there will undoubtedly be new issues that must be addressed by advocates. Fundamentally,

however, the combination of increased funding, a focus on prioritizing science-based decisions, and local control will put us on a better path to effective salmon recovery.

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About the Author

With more than two decades in environmental policy, **Todd Myers's** experience includes work on a range of environmental issues, including climate policy, forest health, old-growth forests, and salmon recovery. A former member of the executive team at the Washington State Department of Natural Resources, he is a member of the Puget Sound Salmon Recovery Council.

He is the author of "Time to Think Small: How nimble environmental technologies can solve the planet's biggest problems," which outlines how small technologies are empowering people to protect threatened wildlife species, reduce CO2 emissions, and reduce ocean plastic. His previous book "Eco-Fads: How the Rise of Trendy Environmentalism Is Harming the Environment" documented how our environmental policies are driven by a desire to look good rather than to help the environment.

His writing has appeared in the Wall Street Journal, National Review, Seattle Times, and USA Today, and he has appeared on numerous news networks including CNBC, Fox News, the BBC, and CNN. He served as vice president of the Northwest Association of Biomedical Research and received their Distinguished Service Award in 2018 for his support of bioscience. He has also served as president of the Prescription Drug Assistance Foundation, a nonprofit providing medicines to low-income patients.

In 2021, Myers served as president of his local beekeeping club in his quest to build an army of stinging insects at his command. He has a bachelor's degree in politics from Whitman College and a master's degree in Russian/International Studies from the Jackson School of International Studies at the University of Washington. He and his wife Maria live in the Cascade Mountains in Washington state with 200,000 honeybees, and he claims to make an amazing pasta carbonara and an incredible dirty vodka martini with blue-cheese-stuffed olives.