



The Quicksilver Portfolio: Summary and Observations of the PSSAG Plan to Recover Steelhead in Puget Sound

Introduction

After three years of work, research and sometimes tough negotiations, the Puget Sound Steelhead Advisory Group (PSSAG) released their document “[Quicksilver: Restoring Puget Sound Steelhead & Fisheries](#)” in May. Tasked by the Washington Department of Fish and Wildlife (WDFW) to build practical consensus around a path forward for steelhead management in Puget Sound watersheds, this portfolio of recommendations provides a new strategic framework to recover Puget Sound’s dangerously low populations of wild steelhead and also establish guidelines for sustainable angling opportunities where they are possible, or could become viable as steelhead numbers improve.

As anyone who has spent time following Washington fisheries policy knows, this dual mandate is a high-wire balancing act between science, politics, tradition, and industry. Because of this, PSSAG sought to bring anglers and steelhead advocates from every corner of the angling and conservation worlds together to find common ground. The group’s members, and the constituencies they represent, sometimes differ on specific strategies for how resource managers should proceed, but at the end of the day, everyone involved in PSSAG is committed to creating a future where wild steelhead, and the long tradition of steelhead angling on Washington’s incredible Puget Sound rivers, are recovered and protected for future generations before it is too late.

Wild Steelhead Coalition (WSC) board members were invited to join PSSAG and have been committed members of the group. Speaking on behalf of WSC’s members, our representatives worked hard to advocate for responsible angling opportunities, science-based fisheries policy, and wild steelhead protection and restoration. While it is important that WSC participates in such groups in order to have our management priorities represented, we also acknowledge that reasonable compromise is the guiding principle of honest negotiations.

The management status quo hasn’t recovered wild steelhead in Puget Sound, and a new path forward is needed. The WSC was founded twenty years ago when a group of anglers lost their popular catch-and-release wild steelhead spring fisheries in Puget Sound. In many ways, these rivers are the organization’s home waters and we are committed to seeing them thrive again. We believe the Quicksilver portfolio offers a positive, collaborative working model for the angling community and a reasonable, adaptive strategy for Puget Sound wild steelhead management.

There is great urgency to this work. Puget Sound’s wild steelhead populations have been reduced to tiny, single-digit percentages of their historical abundance. It is no exaggeration to



say that these incredible fish are hovering near extinction tipping points in many of their home waters. While a few watersheds in the region have shown encouraging signs of tenuous recovery, they are not among the majority of rivers and restoration has a long, long way to go to be considered sustainable and durable. After decades of failed attempts to protect wild steelhead, our generation simply must make the effort, sacrifices and difficult decisions needed to restore these populations and the watersheds they depend upon to thrive. There is no time left, and we cannot allow wild Puget Sound steelhead to finally be lost on our watch.

The PSSAG Quicksilver recommendations now head to state resource managers and tribal co-managers for consideration, funding and implementation. As the angling community takes time to process these newly suggested management guidelines, we wanted to take a moment to explain WSC's support for the process and our thoughts on how PSSAG's recommendations could best be implemented in the coming years. While no single participant got everything they wanted, there is much to recommend in the Quicksilver Portfolio. WSC representatives particularly supported the emphasis on habitat protection and restoration, the call for increased fisheries monitoring and data collection, and protections for wild fish in watersheds like the Skagit Basin, where additional years without hatchery plantings were recommended in order to provide wild steelhead time to demonstrate continued recovery.

Before we dive into our analysis, we also want to take a moment to thank all of the PSSAG members for their years of dedication and good-faith effort to work together as a community on behalf of this incredible, iconic species as well as the fisheries and rivers we all cherish.

Quicksilver Portfolio Summary

The Quicksilver Portfolio offers an extensive plan for the management of Puget Sound steelhead rivers. While it is too long to recount here in its entirety, WSC recommends that anglers and advocates in Washington, and perhaps throughout steelhead country, read the report to familiarize themselves with PSSAG's recommendations, considerations and thinking. The plans are forward-looking and represent contemporary perspectives on fisheries management that could guide steelhead conservation and angling opportunities in Puget Sound for years to come if funded and implemented completely.

The centerpiece of the Quicksilver Portfolio is something PSSAG describes as an Experimental and Adaptive Approach. The authors emphasize that while hundreds of thousands of wild steelhead once returned annually to Puget Sound watersheds, the returns now hover at 5% to 10% of these once-prolific numbers. Wild steelhead teeter on the precipice of extinction in Puget Sound and the management status quo of recent decades has not been able to correct for the historic levels of habitat loss, harvest regimes, and poor hatchery practices that have led to these terrible declines in abundance. New approaches to recovery, while attempting to



provide responsible and sustainable angling opportunities where they are possible, must be pursued.

PSSAG's Experimental and Adaptive Approach proposes that a variety of different management strategies be utilized on different river systems throughout Puget Sound. Their recommendations are determined by a watershed's existing habitat and potential to recover and support sustainable populations of wild fish. These different approaches could prioritize wild steelhead protection, offer multiple possible paths to recovery, and/or also provide a variety of catch-and-release and harvest opportunities for steelhead anglers, depending on the health of individual watersheds.

In order to proceed cautiously, the Quicksilver Portfolio places an emphasis on expanded monitoring of steelhead populations, sportfishing impacts, and hatchery impacts on wild populations. Constant evaluation and data collection, more extensively and widespread than is currently done, is recommended. The Quicksilver report acknowledges that throughout Puget Sound today, we simply lack complete, real-time information on the wild steelhead populations or a complete picture of steelhead smolt mortality. Monitoring and study of Puget Sound watersheds must be expanded and prioritized. Resource managers must then use this data to quickly correct course whenever this information shows what is supporting wild steelhead recovery and what is not.

The Quicksilver Portfolio organizes Puget Sound into three regions: Hood Canal and the East Strait of Juan de Fuca, Central and South Puget Sound, and the North Cascades. Within each of these regions, PSSAG makes watershed-specific recommendations based on three broad management strategies. It also provides benchmarks to help resource managers determine success or failure of recovery and guide future management scenarios as they unfold.

The first strategy involves rivers with good habitat and stable populations where wild steelhead recovery is prioritized. Catch-and-release angling would be allowed when required spawning thresholds are met in these rivers. No hatchery fish would be planted in these watersheds and some of them are already designated as Wild Steelhead Management Zones. The second strategy focuses on rivers with deeply suppressed steelhead numbers, but because of good remaining habitat, are candidates for strong recovery. This second category of rivers would have their steelhead populations jump-started with wild broodstock hatcheries. In some places these conservation hatcheries would be discontinued as soon as the wild fish have reestablished sustainable baselines and in others the broodstock programs would help support catch-and-release angling opportunities as long as their impacts on wild fish genetics were within accepted measurements updated constantly by rigorous monitoring. Finally, in the third category, a few segregated hatcheries would be used to provide angling and harvest opportunities as long as these hatcheries were shown to not impede wild fish recovery outside of the parameters established by State and Federal recovery plans.



In the **Hood Canal and Strait of Juan de Fuca** region, PSSAG points to the promising steelhead recovery efforts occurring on the Elwha and Skokomish Rivers. The Elwha is designated as a Wild Steelhead Management Zone (WSMZ) and a small conservation broodstock steelhead hatchery is currently being used there to help reestablish viable populations of wild winter steelhead following dam removal. PSSAG recommends (as is consistent with a WSMZ) that this hatchery supplementation end as soon as spawning thresholds are met by wild fish. On the Skokomish River, which after years of habitat and flow restoration work has the largest run of wild steelhead among Hood Canal Rivers, Tacoma Power is required to operate a wild winter broodstock hatchery on the river's north fork to aid recovery efforts. PSSAG recommends that this program be discontinued after its required twelve years if wild steelhead demonstrate continued signs of population recovery. PSSAG looks forward to a future where responsible catch-and-release wild steelhead fishing seasons could be considered for the Elwha and/or Skokomish if populations continue to improve and stabilize.

Because opportunities to harvest steelhead are rare in this region, PSSAG recommends segregated hatchery plants on the Dungeness and Big Quilcene Rivers to offer fisheries to anglers who want to keep fish.

The Quicksilver report also notes the important research being done in the ongoing Hood Canal conservation hatchery studies. The report recommends fishery managers use the findings of these research programs to help inform and develop rigorous broodstock hatchery standards and guidelines whenever they are used throughout the region. Hopefully, the lessons learned in the Hood Canal hatchery studies can help broodstock hatcheries minimize their genetic impacts on wild populations and improve smolt survival rates when they are used to support steelhead restoration efforts.

In the **Central and South Puget Sound** region, PSSAG notes that the watersheds of this part of Puget Sound have dramatically suffered from urban development, pollution, logging, industry, dams, and other habitat degradations. Nonetheless, they point towards opportunities for potential steelhead recovery and angling opportunities if conditions improve. Quicksilver notes that the White and Nisqually Rivers, through past management decisions, remaining habitat, and restoration efforts, have the best chance at wild steelhead recovery. They also see good recovery potential for the Green, Puyallup, and perhaps the Cedar Rivers. Quicksilver recognizes the Nisqually remains a Wild Steelhead Management Zone and that the White, Green and Cedar currently have broodstock programs to aid steelhead recovery. Future catch-and-release angling, maybe even harvest opportunities, could be considered if these watersheds start meeting spawning recruitment goals consistently. In addition to conservation broodstock winter plants, the existing summer segregated hatchery program on the Green, to support harvest opportunity, is recommended to continue. The Sammamish and Deschutes are recommended to receive segregated early winter hatchery plants to support steelhead angling and harvest opportunities in the region.



The **North Cascades** region of Puget Sound contains some of the Pacific Northwest's most iconic steelhead rivers, but the wild steelhead populations of many of these famous watersheds are faint remnants of their astounding historical abundance. Years of floodplain development, dam building, destructive logging practices and hatchery supplementation have all contributed to declines. PSSAG points towards the Skagit, Nooksack, Samish and Stillaguamish River Systems as the best potential for wild fish recovery and low impact catch-and-release angling due to good remaining habitat and ongoing restoration efforts. The Quicksilver Portfolio recommends establishing a broodstock hatchery program on the Nooksack to boost early returning wild fish numbers and phase out the existing segregated hatchery program. It recommends that this new program potentially also provide a harvest fishery should it successfully meet recovery goals in the future. PSSAG recommends other harvest fisheries be supported by segregated early-winter returning steelhead hatchery programs on the Stillaguamish and Snohomish Rivers. PSSAG supports the recent catch-and-release spring fishery on the Skagit and Sauk Rivers. It recommends co-managers continue this popular fishery whenever wild fish numbers can support responsible angling opportunity.

The Quicksilver Portfolio recommends a conservative approach to the Skagit system to protect the continued recovery of wild steelhead populations in the watershed. It supports extensive monitoring of fish numbers and angling impacts and recommends the current ban on hatchery steelhead plants be maintained in the Skagit through 2028. At that point it recommends an evaluation of Skagit recovery and a consideration of wild broodstock program should the river not be showing signs of continuing recovery. Whatever is found on the Skagit at that time, it recommends that the Sauk River be managed exclusively as a Wild Steelhead Management Zone.

The North Cascades region is also home to the majority of the remaining summer steelhead populations within Puget Sound. Quicksilver emphasizes the unique nature of these populations and calls for more research to be done on summer steelhead in the Tolt, South Fork Nooksack, Deer Creek, Canyon Creek, and North Fork Skykomish so that adequate restoration and management programs can be developed to protect and restore these important runs. The Quicksilver Portfolio places special emphasis on the Deer Creek and Stillaguamish summer steelhead run now that the popular hatchery program has been discontinued there. On the Snohomish River, summer segregated hatchery plants are scheduled to be phased out in 2022 due to NOAA's requirement to eliminate out-of-basin Skamania summer steelhead in the watershed in order to limit genetic integration with the remaining wild fish. PSSAG supports this closure and recommends these fish be replaced with a wild broodstock program to rebuild stocks and, possibly, allow for some level of angler harvest in the future.

Wild Steelhead Coalition Observations



As stated earlier, the Quicksilver Portfolio of recommendations for Puget Sound is extensive and its implications are far-reaching. There are many important aspects and details in the portfolio worth consideration and discussion among steelhead anglers and advocates. In this spirit, and with an eye towards the recovery of wild steelhead in Puget Sound as our lodestar, WSC would like to take a moment to offer some observations, and clarifications, of our support for the PSSAG Quicksilver Portfolio.

1. Wild Steelhead Priority: The Quicksilver Portfolio emphasizes the need to prioritize wild steelhead recovery. It acknowledges the tiny fraction of these fish that still return to Puget Sound and unequivocally states that we must act now, and do all we can to protect and restore these populations, to have any hope of ensuring viable wild steelhead numbers and Washington's steelhead fishing tradition for future generations. From our perspective, this fact can't be overstated and must be repeated as often as possible. The loss of wild steelhead in Puget Sound is a tragedy. Extinction is a terrifying possibility. All resource management, angling opportunities, policy, and hatchery programs must be weighed with this grim inflection point clearly in mind at all times. Washington simply must make the decisions required to protect and restore wild steelhead now. There is literally no time left. Our members want to be fishing for steelhead in Puget Sound as much as any dedicated steelhead angler anywhere on the West Coast, but it is even more important to us that our children and their children one day have the opportunity. This will only occur if we change course now to ensure there are wild steelhead returning to these beautiful, but struggling, watersheds in the years to come.

2. Habitat: PSSAG dedicates important space in the Quicksilver report to emphasize the need to restore and protect steelhead spawning and rearing habitat throughout Puget Sound. The report offers assessments of wild steelhead recovery based on viable habitat and undammed migration routes on a river-by-river basis. As human development and regional populations grew, massive amounts of steelhead and salmon habitat was lost in Puget Sound watersheds. This essential habitat continues to disappear as the region experiences accelerated urban growth. Puget Sound's best remaining steelhead and salmon habitat must be protected. Where salmonid habitat has been lost, it must be recovered and restored to the best condition possible. Dam removal on the Nooksack, Pilchuck, Elwha, and passage upgrades on the Green are great efforts. Floodplain and tributary habitat restoration is crucial. Without good habitat, there is no possible way to successfully increase wild steelhead numbers in the region's watersheds. Wild fish are resilient, but advocates need to work together to give them the habitat they require to thrive. Best of all, because all native fish exist in an interwoven web, efforts to help steelhead habitat also helps salmon, bull trout, bait fish, sturgeon, lamprey and other native fish, even Southern Resident Orcas. Habitat restoration and protection is critical for biodiversity everywhere, and we must stop this devastating loss in Puget Sound to have a chance at durable, sustaining wild steelhead recovery in these iconic rivers.

3. Monitoring: The Quicksilver Portfolio rightly emphasizes that Washington still knows too little about current steelhead populations, run timing, angling impacts, predation, survival rates, habitat utilization and hatchery impacts. Certainly, many advances have been made in



fishery monitoring and assessment, but in order for resource managers to make the best decisions for wild steelhead recovery, and react and adapt to changing circumstances responsibly and effectively, they need to know much more. Therefore, PSSAG calls for investments in sonar systems to provide current and accurate fish population counts in our rivers. This technology is well demonstrated elsewhere, in Alaska in particular, and allows for critical decisions concerning fishing opportunities and spawning recruitment goals to be made in real time, based on accurate data instead of estimates. We need more measurements of spawning success, smolt survival, broodstock and segregated hatchery impacts on wild steelhead genetics, and catch-and-release angling impacts to find, isolate and respond to the critical impacts on wild steelhead populations going forward. The list goes on and on, but it boils down to this fact: Washington needs more information to ensure that resource management decisions made on behalf of wild steelhead recovery in Puget Sound are always based on well-informed science. Advocates for wild steelhead recovery should work to support funding for critical expansions of monitoring efforts throughout the region.

4. Hatcheries: Hatchery programs remain among the most controversial and contested aspects of steelhead (and salmon) management in the Pacific Northwest. Puget Sound is no exception. Without wading into the well-documented allegiances and perspectives the topic often entails, it is worth noting that the goal of PSSAG was to bring diverse advocacy and angling communities to the table to find a shared path forward. The WSC, as our name implies, prioritizes wild steelhead and their required habitat as the best option for recovery of populations and fisheries. Some of our PSSAG colleagues rely on the use of hatcheries to provide angling opportunities in degraded systems. While we won't always agree, the WSC believes it is important to be at the table to advocate for our policy perspectives and goals. We will always do so in good faith, and with an eye towards consensus building whenever possible.

The Quicksilver Portfolio recommends the use of wild broodstock and segregated hatcheries in some watersheds of Puget Sound. It explicitly demands compliance with strict Federal and State policy and emphasizes increased population monitoring to guard against ill effects on remaining, and hopefully recovering, wild steelhead populations. Where populations are greatly degraded, careful use of conservation broodstock hatcheries are recommended to protect remaining steelhead genetics in specific rivers and give the last remaining steelhead populations a necessary boost towards self-sufficiency. WSC appreciated seeing that the rigorous research being done in Hood Canal was acknowledged by the Quicksilver report. The results of these programs should help guide the use and development of conservation hatcheries throughout the region whenever they are utilized. Where new hatcheries are recommended by PSSAG, it is explicitly understood to only be possible if these programs meet approval after appropriate review established under the National and State Environmental Policy Act processes. The report emphasizes increased monitoring in order to track and adapt, and change course, whenever these programs exceed their allowed impacts on wild fish populations.



It is well-documented that hatcheries can have detrimental effects on wild steelhead recovery and it is crucial that past mistakes not be repeated. But they are also undeniably a facet of contemporary fisheries management. Resource managers must proceed very conservatively and with the utmost caution whenever they grapple with wild steelhead genetics. The wild fish are perfectly adapted to their native watersheds and every effort must be made to protect this fundamental building block of steelhead survival, resiliency and success. This is true in Puget Sound and throughout their native range. WSC is committed to prioritizing wild steelhead restoration and our representatives worked hard to advocate this position in PSSAG negotiations. To ensure fish for the future, as many watersheds as possible must have their distinct populations of wild, native steelhead protected and be allowed to recover.

5. The Skagit River: Comprising the largest watershed of Puget Sound, the Skagit and Sauk Rivers loom large to many in steelhead country. After years of decline, the WSC supported the re-opening of the winter and spring catch-and-release wild steelhead fishery when the watershed began to show signs of recovery. In fact, it was cause for celebration, and an important benchmark for judicious conservation ethics, because it was further proof that wild steelhead will fight to re-build their populations if protected and given access to good habitat. It should inspire all of us to continue restoring as much habitat in the basin as possible in order to help wild fish continue to successfully spawn, grow and restore their numbers.

The Quicksilver Portfolio enthusiastically supports this popular fishery as long as annual spawning goals are met. WSC takes the same stance. We spoke out in support of managers when they declined to open the season last year when pre-season steelhead return estimates looked like they were going to be too low to responsibly sustain a fishery. The priority must be recovery of these endangered wild populations, even if it means not fishing until it is responsible to do so.

A river like the Skagit is a perfect example of where increased monitoring could be useful. A sonar in the lower river could help track daily run numbers accurately. Fishing seasons could be opened and closed immediately if numbers faltered. (Alaska currently, and successfully, manages many rivers precisely this way.) Additional fisheries staff could be used to track angler impact and research dollars could be spent studying spawning success and effective habitat restoration strategies. With meticulous monitoring and management, the mighty Skagit could become an important model of wild steelhead recovery in the 21st Century. Local communities, Washington anglers, and the entire ecosystem would all benefit from this model of visionary watershed and fishery management.

To that end, the WSC was glad to see the Quicksilver Portfolio recommend continuing to hold off on any hatchery interventions in the Skagit until at least 2028. The WSC has fought, and will continue to advocate, for the entire Skagit and Sauk watershed to be designated as a Wild Steelhead Management Zone. During previous WDFW polling, the public also overwhelmingly supported the watershed's designation and protection.



After 2028, the Quicksilver Portfolio leaves open the possibility of a wild broodstock hatchery on the Skagit if wild steelhead populations fall or are growing too slowly. WSC will be watching wild steelhead numbers closely during the next eight years. We hope the basin's wild steelhead populations continue to demonstrate ongoing recovery and that a broodstock hatchery won't even be considered. We believe the resources a new hatchery program would require would be better invested in habitat restoration efforts and expanded monitoring to support durable wild steelhead recovery throughout the Skagit watershed.

No matter what happens during the next few years, the WSC will be at the table working to advocate for this iconic Puget Sound watershed and the incredible strain of wild steelhead that return here each year.

Quicksilver Next Steps and Final Thoughts

After three years of long meetings, compromises and work groups, the recommendations of the PSSAG Quicksilver Portfolio now heads to state, federal and tribal co-managers for evaluation and potential implementation. The steelhead angling and conservation communities also now have time to evaluate the plan and consider its implications. We believe the Quicksilver Portfolio offers some good ideas and will be working hard to support these aspects of the plan as it goes out for consideration. If implemented, the Quicksilver Portfolio could provide guidance for Puget Sound steelhead recovery for years to come. It also offers a collaborative path forward for other regions in steelhead country working to restore their home watersheds and wild steelhead runs.

As we've said before, the Wild Steelhead Coalition was pleased to be included in the process. We take the "coalition" part of our name seriously and always seek productive, practical solutions across broad spectrum of anglers, scientists, conservationists, tribes, agencies, and river advocates. We know that wild steelhead need all the allies they can get. Rich Simms, one of WSC's representatives on PSSAG, summarizes the collaborative process best by saying, "The Quicksilver Portfolio is the result of a diverse group of representatives from across Puget Sound's angling and conservation community working together to establish stronger conservation goals for wild steelhead and provide quality fishing opportunities throughout the Sound. Many of us worked our tails off to get the best we could for wild steelhead recovery and fishing opportunities. These negotiations can be tough, but it is important for WSC to be at the table, working to build consensus and a better way forward."

The resiliency of wild steelhead continues to astound us. We are bolstered by good news coming from the Elwha, Skokomish, Samish, Nisqually, Skagit, Sauk and other rivers showing encouraging signs of tenuous recovery despite generations of habitat loss, overharvest and poor hatchery management compounded with recent years of tough ocean conditions in the North Pacific. We must commit to learning from what is working in these watersheds and



expand those efforts so that incredible Washington rivers like the Snohomish, Skykomish, Stillaguamish, Nooksack, Green and the beautiful rivers of Hood Canal can someday recover their diverse wild steelhead populations before it is too late.

Budgets are always tight and the ongoing economic slowdown resulting from the terrible impacts of the COVID-19 pandemic will undoubtedly limit available resources in the near future. The WSC hopes that the best aspects and ideas of the Quicksilver Portfolio can earn support from managers and the financial resources will be made available to implement this new paradigm for the future of wild steelhead in Puget Sound. We will be keeping a close eye on state budgets and working to intervene in support of wild steelhead recovery wherever we can.