

Washington Department of Fish and Wildlife  
Natural Resources Building  
1111 Washington St. SE  
Olympia, WA 98501

### Attachment 1

#### **Petition for Rule Amendment and Repeal: 2023-2024 winter steelhead season on Olympic Peninsula** *Materials and Rationale Supporting Petition to Amend and/or Repeal Portions of WDFW Proposed Rules*

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The purpose of this Petition for Rule Amendment and Partial Appeal is to protect wild Olympic Peninsula steelhead, which are currently proposed for listing under the Endangered Species Act (“ESA”). The Conservation Angler respectfully requests that the Washington Fish and Wildlife Commission (“Commission”) amend the 2023-2024 fishing regulations for Olympic Peninsula steelhead to prohibit all steelhead angling from December 1, 2023 through February 15, 2024. This amendment is necessary for the following reasons:

- Wild early-run winter steelhead are important to the conservation of Olympic Peninsula steelhead.
- Wild early-run-winter steelhead are depleted on the Olympic Peninsula and the run timing is now more compressed, hindering their capacity to adapt to and remain productive during climate change.
- Based on information that the Washington Department of Fish and Wildlife (“WDFW”) has presented during public town halls on Olympic Peninsula steelhead fishing regulations, it appears that WDFW does not consider fishing impacts on wild early run winter steelhead.
- WDFW has also inadequately considered climate change and sublethal fishing impacts.
- By failing to consider these impacts, WDFW is not ensuring that it is conserving this fish species, one of its primary responsibilities by statute.
- The Commission should, as part of its oversight responsibility, amend the rules to prohibit fishing from December 1 through February 15 because WDFW lacks sufficient information to responsibly manage the early run-timed component of a species that is proposed for listing under the ESA.

#### **1. Wild early-run winter steelhead are depleted**

A recent publication indicates the peak of entry timing in contemporary populations of steelhead in the Queets, Quillayute, Hoh, and Quinault Rivers peaks 1-2 months later than they did historically in the 1950s, indicating that early returning hatchery steelhead have replaced wild steelhead (Figure 1: McMillan et al. 2022). This is likely a result of over-harvesting early wild steelhead in attempts to maximize harvest on hatchery fish. Consequently, the breadth of migration timing has contracted by up to 26 days (equivalent of a 37% reduction in the range of migration timing) (Figure 1). Depletion of early returning wild steelhead has likely contributed to the substantial declines in population abundance since the 1950s, and as we explain below, recovery of wild steelhead on the Olympic Peninsula will partly – if not largely – depend on rebuilding the run timing and allowing them to adapt to climate change. The Commission must start protecting the early run timing component now.

#### **2. Failure to account for climate change impacts on steelhead run-timing and spawn timing.**

WDFW states that it is committed to sustaining wild steelhead. That requires protecting diversity. However, WDFW has yet to change fishing regulations to help conserve or rebuild diversity, which puts Olympic Peninsula steelhead at risk.

As outlined above, there is clear and conclusive research demonstrating that the early-entering component of the wild steelhead run has been greatly depleted since the 1950s, and run timing is a critical trait that allows fish to adapt to climate change (McMillan et al. 2022).

WDFW must account for climate impacts. Weather patterns in western Washington, including the Olympic Peninsula, are predicted to change in ways that will result in the region's climate becoming more like southern Oregon and northern California by 2080 (Fitzpatrick and Dunn 2019). In addition, glaciers on the Olympic Peninsula are expected to largely disappear by 2070 (Fountain et al. 2022).

These changes are already contributing to climate effects that adversely affect later returning wild steelhead. For instance, last year a substantial portion of redds that were dug in late April and May in the Sol Duc and Calawah Rivers were dewatered within days to weeks of being formed. WDFW does not monitor or evaluate whether later spawned redds are dewatered, and therefore it is unaware of this climate change impact on the population. WDFW's lack of adequate monitoring leads to uninformed management decisions, which contribute to the decline of wild steelhead.

Last, winter steelhead enter and spawn significantly earlier in warmer, more southerly climates without glaciers compared to populations on the Olympic Peninsula, and their juveniles emerge earlier in response to the earlier onset of summer low flows (Busby et al. 1996). The depletion and lack of recovery of early entering winter steelhead demonstrates that considerable population structure exists, and gene flow is limited between the early and late spawners. Under these circumstances it is expected that the early run component will become the most important for population persistence and the late run that is currently most abundant will likely decline (Pontarp et al. 2015). Although run timing is a fundamental mechanism allows salmonids to respond to climate change (Manhard et al. 2017), WDFW management has not informed anglers of the issue nor developed regulations that would conserve and rebuild the most depleted part of the population.

The Commission must start protecting the early run timing component now. When this year's fishing season ends, there will be only 46 years until 2070 when OP glaciers disappear, the equivalent of approximately 9-10 generations of steelhead from that epochal event. That leaves limited time to rebuild this important component of the species.

### **3. Failure to account for sublethal impacts associated with catch and release practices.**

WDFW does not account for sublethal effects on steelhead that are caught and released. While catch and release mortality is often relatively low (~3-5%) (Hooton 2001) and WDFW uses a conservative assumption of 10%, a mounting body of evidence has revealed a range of sub-lethal effects. These effects include, but are not limited to, changes in blood chemistry, elevated levels of stress hormones, and fungal infections, all of which can alter behavior and reduce fitness of fish that are caught and released. As outlined below, these effects appear substantial (potential losses in productivity of ~20-30%) and could be having greater than expected impacts given that fish are caught during or just prior to breeding.

Several publications have examined sublethal effects of catch and release on fish physiology and behavior, including research on steelhead and Atlantic salmon (which display similar catch and release mortality rates and patterns as steelhead).

One steelhead study in Idaho reported the number of eyed eggs produced by females did not differ among fish that were caught and released versus those that were not (see Pettit 1977), while another found that fight time and air exposure did not affect survival or reproductive success of hatchery steelhead (see Whitney et al. 2019).

Those findings do not necessarily mean there is not an effect, however, because the Idaho studies only tested production of eyed eggs and did not evaluate survival from egg to fry.

More recently, a study in Oregon tracked survival through the juvenile and adult life stage (see Johnson et al. 2023). Like Idaho, they did not find an effect at the eyed egg stage, but there was a strong negative effect on fry to adult survival in fish caught by anglers (see Johnson et al. 2023). Specifically, steelhead caught by anglers and hauled to the hatchery produced 46–53% fewer offspring than those that swam into the hatchery voluntarily. Because steelhead caught by anglers were also held in the hatchery for longer periods than those that entered voluntarily, however, it is difficult to isolate stress effects from catch and release and extended captivity.

Sublethal effects are seen in other salmonids as well. A study on Atlantic salmon found a 27% reduction in reproductive success of females that were caught by anglers (Bouchard et al. 2022), which is about half the fitness loss documented in the Oregon steelhead study. A prior study on Atlantic salmon found reduced production of juveniles by larger females (Richard et al. 2013) and in contrast to the steelhead research, another found females exposed to stressful exercise produced fewer eggs (Papatheodoulou et al. 2021). A follow up to Papatheodoulou et al. (2021) found that offspring from females that were stressed during or just prior to spawning were shorter, had smaller yolk sacs and had lower survival (Papatheodoulou et al. 2023). They concluded that angling effects need to be managed when fisheries are capturing mature/spawning fish.

In sum, repeated capture and stress may not only alter reproductive success, but it may also select against older, larger individuals and alter the genetic frequency of bolder and aggressive individuals within populations (see Koeck et al. 2018; Prokkola et al. 2021), which is concerning if larger and bolder individuals are also the fittest fish (see Sutter et al. 2012).

WDFW has failed to incorporate any measure of sublethal impact in its risk assessments and, therefore, the rules based on WDFW's incomplete analysis put wild steelhead at significant risk.

WDFW steelhead fishing rule development process does not pose, let alone answer, those questions. Therefore, the uncertainty arising from these questions was not factored in during the setting of fishing regulations.

#### **4. Failure to account for impact on productivity from fishing during low flows in winter and spring, and loss of juvenile steelhead from dewatering events**

During the last several years, the Olympic Peninsula has experienced prolonged periods of low flows across all rivers due to low snowpack and/or drought (even with three consecutive La Niña events). It is unclear how the changing patterns in weather and streamflow are affecting the ability of fish to migrate upstream and reach their spawning destinations in a timely manner (e.g., Raymond 1979). It is also unknown if intensive angling and high encounter rates during periods of low flows are influencing and/or contributing to migration and spawning patterns.

This year is likely to be a strong El Niño year, which is expected to produce lower than average precipitation. Low flows could impede the upstream migration and again make fish more vulnerable to excessive levels of catch and release. California has long established low flow thresholds for angling and considering our climate is moving in that direction, it is time WDFW did the same. At the least, WDFW should start accounting for low flow impacts on encounter rates and on spawning escapement success.

**5. WDFW's failure to address uncertainty places conservation risk on wild fish.**

WDFW has not demonstrated that it is managing conservatively for wild fish since encounter rates are not calibrated for the impact of guides, who catch more fish, versus private anglers, who catch fewer fish. WDFW also has not addressed whether anglers are accurately self-reporting their encounters when they are creel or surveyed. Finally, WDFW has not identified mechanisms for sensing or measuring effort shift within the region which means there is no means to anticipate if effort shifts will be measured nor accounted for in estimating encounter rates until the damage from over-fishing is done.

For the reasons provided herein, The Conservation Angler respectfully requests that the Commission amend the 2023-2024 fishing regulations to close fishing for coastal steelhead on the Washington's western coast and on the Olympic Peninsula from December 1, 2023 through February 15, 2024.

**Petitioner**

*David A. Moskowitz*

**David A. Moskowitz**

Petition Submitted via electronic mail to WDFW by:

The Conservation Angler  
16430 72<sup>nd</sup> Ave West  
Edmonds, WA 98026

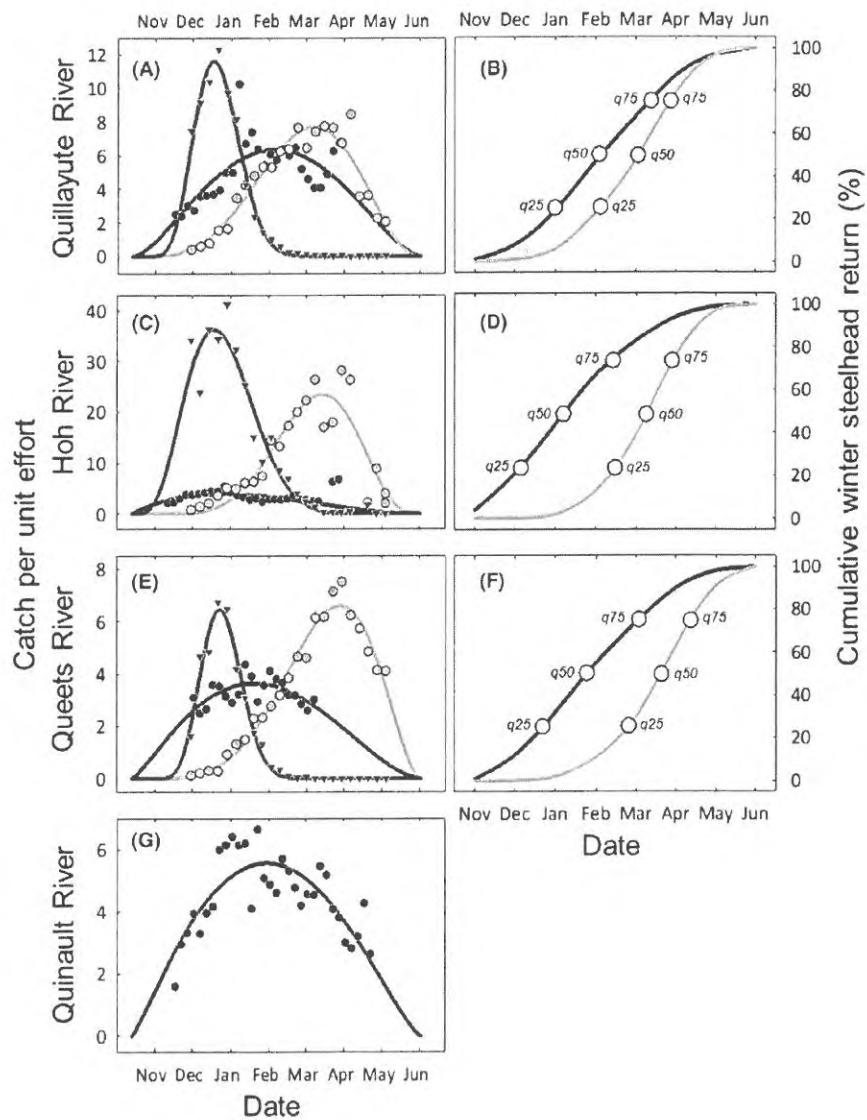
Contacts: David Moskowitz, Executive Director (971)235-8953  
John McMillan, Science Director  
Pete Soverel, Board Chair

**Petition Contents:**

RCW Form 34.05.330  
Attachment 1: Materials supporting the request for amendment or repeal.  
Figure 1 regarding run timing  
WDFW Regulations Summary Page from Nov. 27 Town Hall

Figures

Figure 1. Historical (circa 1955–1963) and contemporary (2000–2017) migration timing estimates based on CPUE of wild and hatchery winter steelhead (left panels) in the (A–B) Quillayute, (C–D) Hoh, and (E–F) Queets rivers, and comparison of cumulative run timing with estimates of dates at which 25% ( $q_{25}$ ), 50% ( $q_{50}$ ), and 75% ( $q_{75}$ ) of the run had passed for historical and contemporary wild winter steelhead (right panels). Dark gray lines and triangles represent contemporary hatchery returns; black lines and black circles represent historical wild returns; and light gray lines and light gray circles represent contemporary wild returns. Run timing estimation in the (G) Quinault River was limited to the historical period because contemporary CPUE data were not available.

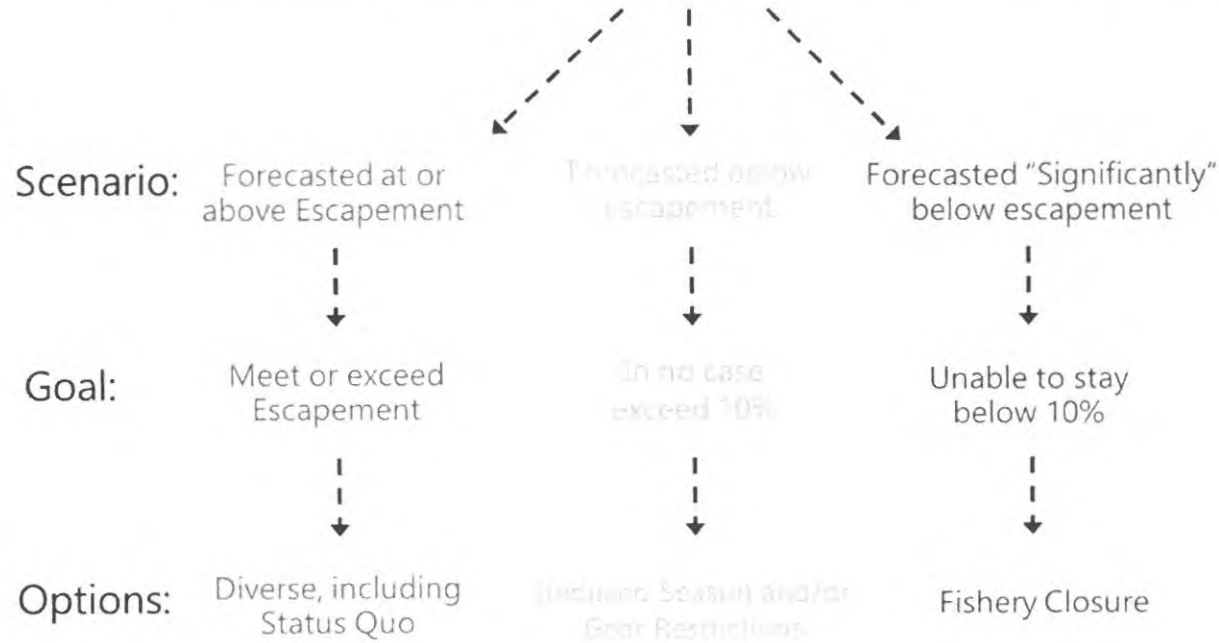


# 2023/24 Coastal Steelhead Rules

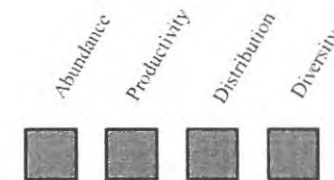
- **Willapa System**-Open Dec. 1-March 31 (select tributaries Feb. 28), selective gear rules, one single point barbless hook, release wild rainbow trout, 2 hatchery steelhead bag limit. Fishing from a floating device allowed.
- **Chehalis River**-TBD: Co-manager conversations ongoing
- **Humptulips River**-TBD: Co-manager conversations ongoing
- **Quinault River**- Closed Nov. 30
- **Queets/Clearwater River**-Closed Nov. 30
- **Quillayute System**-Open Dec. 1-March 31, selective gear rules, one single point barbless hook. Expanded boat fishing in Sol Duc River. Fishing from a floating device allowed in mainstem Quillayute, below hatchery on Sol Duc, below 101 bridge on Calawah and below mouth of Mill Creek (above hatchery) on Bogachiel. Release wild rainbow trout, 2 hatchery steelhead bag limit.
- **Hoh River**-Open Dec. 1-March 31, selective gear rules, one single point barbless hook. Fishing from a floating device allowed; Wednesday through Saturday from mouth to Oxbow boat ramp, and Sunday through Tuesday from Oxbow to Morgan's Crossing. Release wild rainbow trout, 2 hatchery steelhead bag limit.



# River Specific Regulation Options



System	Run-to-River Forecast	Escapement Goal	Wild Steelhead Relative to Goal	Sport Impact Limit
Willapa	4,085	4,206	-121	409
Chehalis	7,148	8,600	-1,452	214
Humptulips	1,343	1,600	-257	67
Upper Quinault	1,870	1,600	270	135
Queets/Clearwater	4,150	4,200	-50	208
Hoh	3,389	2,400	989	495
Quillayute	9,096	5,900	3,196	1,598



**Lininger, Tami L (DFW)**

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**From:** David Moskowitz <david@theconservationangler.org>  
**Sent:** Wednesday, November 29, 2023 7:00 PM  
**To:** Susewind, Kelly (DFW); bbakerwdfw@gmail.com; Anderson, James R (DFW)  
**Cc:** Cunningham, Kelly J (DFW); Losee, James P (DFW); Linville, Molly F (DFW); Ragen, Timothy J (DFW); Parker, Steven S (DFW); Lehmkuhl, John F (DFW); Smith, Lorna D (DFW); Commission (DFW); John McMillan  
**Subject:** Petition to Amend or Repeal an Administrative Rule for Coastal Steelhead  
**Attachments:** WA WDFW petition (form) Draft 1.pdf; TCA\_Petition\_RuleAmendment\_Repeal\_2023-2024\_wintersteelheadseason\_Olympic\_Peninsula-11-29-23.pdf; WDFW Townhall 11-27-23 Summary.jpg; WDFW Townhall-1.jpg

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External Email

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Dear Director Susewind, Chair Baker and Fish Committee Chair Anderson:

Please find a petition under RCW 34.05.330 to amend or repeal coastal steelhead regulations for the 2023-24 season.

The regulations proposed for coastal steelhead – closure of many rivers while opening Willapa, the Hoh and Quillayute with expanded boat fishing are a recipe for baking in low escapements in the future by concentrating mobile and opportunistic anglers on limited water with few restrictions will likely expose many wild steelhead to multiple encounters.

The Conservation Angler is generally opposed to management by closure. WDFW and the Commission have many tools at their disposal to limit the impact of angling short of closures: daily limits on the number of anglers and and guides, no fishing out of boats, gear restrictions linked to the degree of depressed returns (bait bans, fly fishing only, fly fishing dry lines unweighted flies, etc.) which limit encounter rates.

Given the decision-making timeframe for adopting regulatory measures, in this instance, we see immediate closure of all coastal rivers from December 1- February 15 to be unavoidable.

The presence of hatchery steelhead is an avoidable limiting factor to the long-term health of wild steelhead in WA.

Going forward, we encourage WDFW and the Commission to develop a more complete and nuanced angling regime that might include gear/method and limited entry options to preserve angling opportunity while constraining encounter rates for future seasons.

Allowing angling in a watershed where the population is not expected to meet the spawning escapement goal seems short-sighted. TCA urges WDFW to move beyond season-to-season management in order to begin rebuilding wild steelhead populations in Washington.

The current approach is not moving the dial to protect or rebuild the early returning wild steelhead which are the most at-risk component of the populations.

Sincerely,

David A. Moskowitz

**Attachments for WDFW and the WFWC Fish Committee**



RCW 34.05.330 Form  
Supporting Materials  
Summary of Regulations Announced at the Nov 27 Town Hall

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*Tout ce qui est impossible reste à accomplir.* ~ Jules Verne  
All that is impossible remains to be accomplished.