

4(d) Rule Limit 6
Final Evaluation and Recommended Determination

Title: Skagit River Steelhead Fishery Resource Management Plan

Plan Submitted by: Sauk-Suiattle Indian Tribe
Swinomish Indian Tribal Community
Upper Skagit Indian Tribe
Washington Department of Fish and Wildlife

ESU/DPS: Puget Sound Steelhead Distinct Population Segment

4(d) Rule Limit: ESA 4(d) Rule Limit 6

NMFS Tracking Number: WCR-2021-03137

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1. Introduction

On December 8, 2021, the Sauk-Suiattle Indian Tribe, Swinomish Indian Tribal Community, Upper Skagit Indian Tribe, and Washington Department of Fish and Wildlife (WDFW), (co-managers of the Skagit River basin fishery resources), provided the National Marine Fisheries Service (NMFS) with a ten-year Skagit River steelhead fishery resource management plan (RMP) for review under Limit 6 of the Endangered Species Act (ESA) 4(d) Rule for salmon and steelhead (Sauk-Suiattle Indian Tribe et al. 2021). NMFS initiated its review of the 2021 RMP, including additional meetings with the co-managers to clarify aspects of the plan, and on December 14, 2021, issued the co-managers a letter of sufficiency (Jording 2021), indicating NMFS would begin its formal evaluation process under the ESA.

As part of NMFS' 4(d) Rule review process, on December 23, 2022, NMFS published a proposed evaluation and preliminary determination (PEPD) in the Federal Register (87 FR 78944) for a 30-day public review and comment period. During this review and comment period, NMFS received 28 comments from the general public, including from fishing and conservation organizations. The comments ranged from fully supportive of NMFS' proposal to approve the 2021 RMP, to fully against NMFS' approval of the RMP, with the vast majority of the comments falling into the fully supportive category, with some concerns described about the management of the fishery, as proposed. A summary of the substantive comments received and NMFS' responses to them can be found in Section 3 of this document.

NMFS has thoroughly reviewed all of the comments received and considered them in evaluating whether the 2021 RMP adequately addresses the criteria of Limit 6 of the 4(d) Rule with regard to affects to the Puget Sound steelhead Distinct Population Segment (DPS), the Northern Cascades Major Population Group (MPG), and, in particular the Skagit steelhead populations. The following sections present NMFS' final evaluation and recommended determination (ERD) for the 2021 RMP, under Limit 6 of the 4(d) Rule for salmon and steelhead.

2. Evaluation

On July 10, 2000, NMFS issued a final Endangered Species Act (ESA) 4(d) Rule (65 FR 42422) adopting regulations (50 CFR 223.203) to protect 14 salmon and steelhead evolutionary significant units (ESUs) listed as "threatened" under the ESA. The 4(d) Rule was amended in 2005 (70 FR 37160) to describe the final listing determinations for 16 ESUs. The 4(d) Rule applies the take prohibitions in section 9(a)(1) of the ESA to salmon and steelhead listed as threatened, and sets forth specific circumstances when the take prohibitions would not apply, known as 4(d) Limits.

Under Limit 6 of the 4(d) Rule for Joint Tribal/State Resource Management Plans, ESA section 9 take prohibitions for listed species do not apply to fishery activities described in an RMP, developed jointly by the Tribes and the States of Washington, Oregon, and/or Idaho, provided that:

- The Secretary of Commerce has determined pursuant to 50 CFR 223.204(b), and the government-to-government processes therein, that implementing and enforcing the RMP would not appreciably reduce the likelihood of survival and recovery of listed salmon and steelhead
- The joint plan (RMP) will be implemented and enforced within the parameters set forth in *U.S. v. Washington* (*U.S. v. Washington* 1979) or *U.S. v. Oregon* (*U.S. v. Oregon* 2009)
- The Secretary of Commerce has taken comment on how any RMP addresses the 4(d) rule Limit 4 criteria (§223.203(b)(4))

The Puget Sound Steelhead Distinct Population Segment (DPS) was listed under the ESA on May 11, 2007 (72 FR 26722). NMFS conducted the required 5-year status reviews in 2011 and 2016 and determined that the species' classification as "threatened" remained appropriate (79 FR 20802). The Skagit River steelhead, which are the subject of the 2021 RMP, are included in the Puget Sound Steelhead DPS.

2.1 Background

The Skagit RMP, submitted by co-managers, would provide for management of Skagit River steelhead, in the Skagit River terminal area, for 10 years beginning in 2023. Historically, the Skagit Basin has maintained the largest steelhead natural origin populations and has been one of the most productive steelhead basins of the Puget Sound Steelhead DPS (Busby et al. 1996; Hard et al. 2007; Ford 2022). The most recent status review (NMFS 2016a) and the latest biological viability assessment update (Ford 2022) found that, in general, broad patterns of steelhead abundance across the Puget Sound DPS are similar to those summarized in the prior status review which had considered data through 2009 (Ford et al. 2011).

Reviews of Skagit River steelhead population abundance depict a reduction of annual mean spawners 6,993 (years: 1980-2004) to 5,418 (2000-2004) to 4,078 (2007-2011) (Hard et al. 2015), though more recent reviews reported an increase to 7,181 annual mean spawners (2015-2019) (Ford 2022). This suggests that the Skagit River steelhead population abundance, under current conditions, oscillates, but overall Skagit River steelhead have maintained abundances well above critical thresholds (Sauk-Suiattle Indian Tribe et al. 2021). While the population estimates have generally declined since the early 1980s, there is no significant evidence to

determine population trends at this time (Hard et al. 2015; Ford 2022). Steelhead spawners in the Skagit River reached the lowest estimate of roughly 2,000 spawners in 2009. The Skagit River continues to maintain steelhead abundances well above the critical thresholds to be considered at “very low risk” of extinction in 100 years (Hard et al. 2015; Sauk-Suiattle Indian Tribe et al. 2021) (Figure 1).

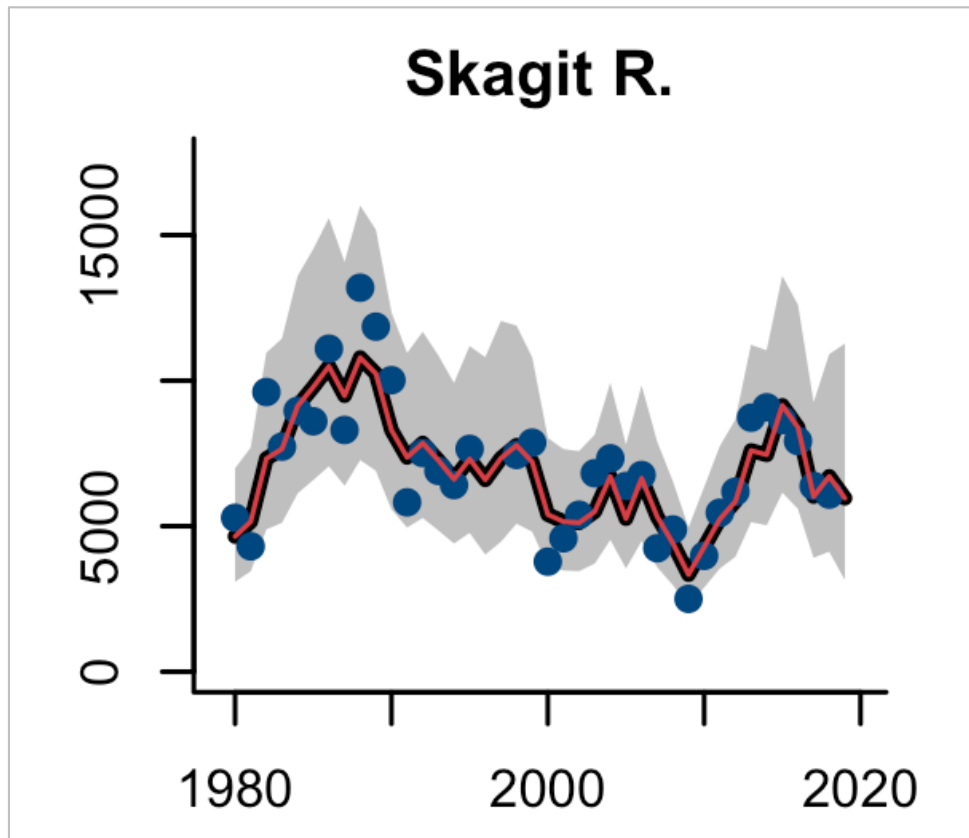


Figure 1. Smoothed trend in estimated total (line, with 95% confidence interval in gray) population spawning abundance. Points show the annual raw spawning abundance estimates. For some trends, the smoothed estimate may be influenced by earlier data points not included in the plot. Note: For this DPS, all abundance data are only for natural-origin spawners. No information on hatchery fraction is available (excerpt from Figure 95; Ford (2022)).

Skagit River steelhead comprises about 38 percent, on average, of the total return of natural-origin winter steelhead to Puget Sound (NWFSC 2015; NMFS 2019). The range of spawner abundance in the Skagit River has remained consistent over the last 30 years (1990-2020) of available data (Ford et al. (2022)). NOAA Fisheries developed a Puget Sound steelhead recovery

plan with federal, state, tribal, local, and private partners. The final recovery plan was completed in 2019 (NMFS 2019).¹

Despite recent increases in Skagit steelhead spawner estimates, the co-managers' RMP recognizes that substantial improvements in the productivity of the species and protection of its habitat are necessary to ensure the long-term recovery of Skagit Basin steelhead populations.

The 2021 RMP would allow for fisheries impacting natural-origin steelhead in the Skagit Terminal Area (the project area, which is defined in Section 2.2; Figure 2) for a period of 10 years. The fisheries would include tribal ceremonial, subsistence, and commercial fisheries and non-tribal recreational, catch and release steelhead fisheries. In establishing the allowable harvest rates for natural-origin steelhead, the Skagit RMP includes all sources² of landed and non-landed Skagit steelhead mortality in the Skagit terminal area (i.e., directed and incidental take in other Skagit terminal area fisheries).

The 2021 RMP proposes to continue fisheries as managed by the co-managers under the recently expired RMP that was in place from 2018-2022, including the use of a tiered harvest-rate regime based upon annual forecasted run size for adult steelhead abundance in the Skagit Terminal Area Basin (Sauk-Suiattle Indian Tribe et al. 2021). The allowable harvest impact rates vary from 4 percent to 25 percent of the annual forecasted Skagit River steelhead abundance Basin (Sauk-Suiattle Indian Tribe et al. 2021) (Table 3). The co-managers structured the stepped harvest abundance levels and impact rates based on critical and viable thresholds (McElhany et al. 2000; NMFS 2019) to establish conservative fishery harvest implementation and ensure the sustainability of the Skagit SMU.

In addition to the abundance-based limitations, Skagit fisheries directed on steelhead would be restricted seasonally; tribal fisheries would typically operate between December 1 and April 15, and non-tribal recreational fisheries would operate no earlier than February 1 through April 30. For 2021 RMP fisheries, seasonal and area regulations would vary depending on the preseason abundance estimates.

The 2021 RMP also proposes to develop and utilize an in-season update fishery during the ten-year management period based on the long-standing tangle-net test fishery. These updates would further inform annual harvest management by making appropriate adjustments, in season, to the

¹ For more information on Puget Sound steelhead, please visit NOAA Fisheries' webpage at: <https://www.fisheries.noaa.gov/west-coast/endangered-species-conservation/puget-sound-steelhead>

² The Skagit RMP would govern the overall Skagit steelhead impacts from all steelhead and salmon fisheries in the Skagit Terminal Management Area. (Sauk-Suiattle Indian Tribe et al. 2016a).

allowable impact rate accordingly during the fishing season (Sauk-Suiattle Indian Tribe et al. 2022).

Should new information become available that would indicate a deviation from the steelhead fishery management regime described in the 2021 RMP or substantial changes come to light, the co-managers would consult with NOAA Fisheries and determine an appropriate course of action (Sauk-Suiattle Indian Tribe et al. 2021).

NMFS consulted with the applicants during the development of the 2021 RMP through technical work group meetings with the co-managers to provide technical assistance, to exchange information, to discuss what would be needed to conserve listed species, and to be consistent with legally enforceable tribal rights and the Secretary's trust responsibilities³.

2.2 4(i) NMFS will approve a fishery management plan only if it clearly defines its intended scope and area of impact, and sets forth the management objectives and performance indicators for the plan.

The 2021 RMP clearly defines the co-managers' intended scope and area of impact. The 2021 RMP (in Section 1.0, Scope of the Plan) addresses direct and incidental impacts on adult steelhead from salmon and steelhead fisheries. The area of impact includes the Skagit River Basin, as well as the marine area of Puget Sound directly outside the mouth of the Skagit River (i.e., marine Area 8, collectively referred to as the Skagit Terminal Area) (McClure 2017) (see Figure 2). The steelhead-directed fisheries include tribal C&S and commercial fisheries, as well as non-tribal recreational catch-and-release steelhead conducted within the Skagit River Basin. Additionally, the annual harvest rate limits on steelhead limit the total impact from all fisheries affecting steelhead, directly or indirectly. The 2021 RMP accounts for all sources of landed and non-landed natural-origin steelhead mortalities in the Skagit Terminal Area.

The RMP does not include management of other fisheries outside of the Skagit Terminal area, such as coastal marine water fisheries, freshwater fisheries in other Puget Sound basins for trout or warmwater species, or marine fisheries for halibut, rockfish, or other non-salmonid species.

³ Executive Order (E.O.) 13175. Consultation and Coordination with Indian Tribal Governments, <https://www.govinfo.gov/content/pkg/FR-2000-11-09/pdf/00-29003.pdf>. November 6, 2000.

Secretarial Order 3206. American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act, https://www.doi.gov/sites/doi.gov/files/elips/documents/3206_-_american_indian_tribal_rights_federal-tribal_trust_responsibilities_and_the_endangered_species_act.pdf. June 5, 1997.

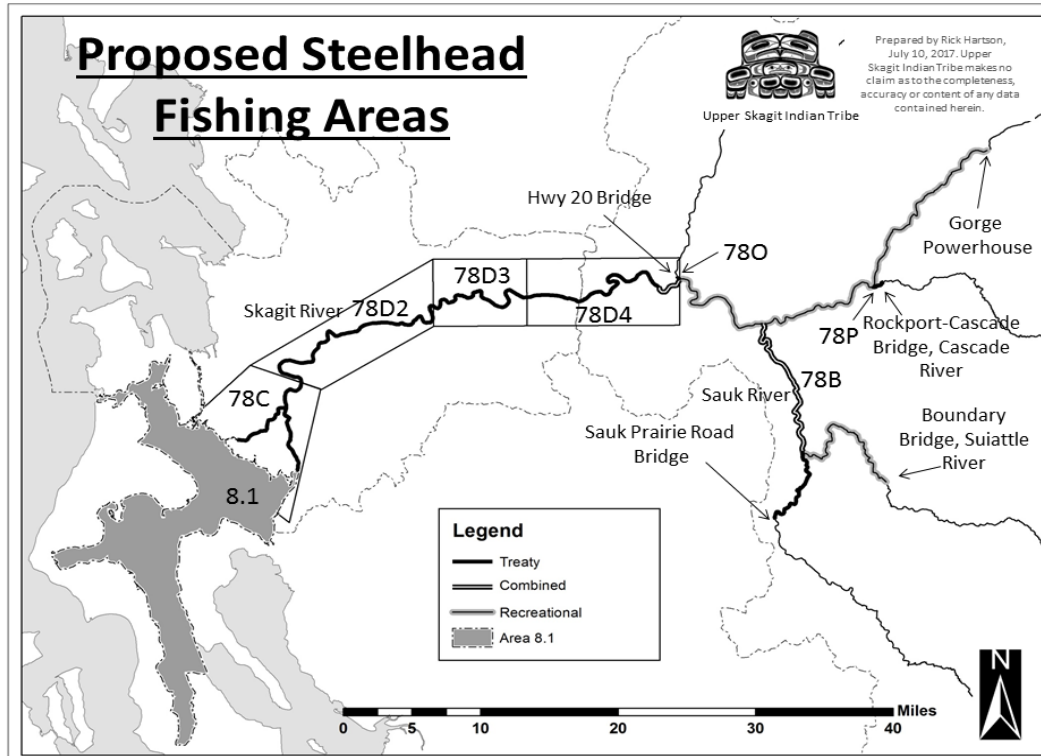


Figure 2. Map of Skagit River Steelhead RMP proposed fishing areas (Hartson 2017 in McClure 2017).

The 2021 RMP includes management objectives that build on the objectives from the previous RMP (Sauk-Suiattle Indian Tribe et al. 2016b; Sauk-Suiattle Indian Tribe et al. 2021). The management objectives of the 2021 RMP, described in the RMP in Section 2.0, Objectives and Principles, are to:

- 1) acknowledge Skagit-origin steelhead as an independently managed component of the Puget Sound Steelhead Distinct Population Segment (DPS), for harvest management purposes, and;
- 2) conduct Skagit River Terminal Area fisheries, pursuant to *U.S. v. Washington*⁴, in a manner which would not appreciably reduce the likelihood of survival and recovery of ESA-listed Puget Sound steelhead.

Performance indicators for the 2021 RMP, listed in the RMP in Section 9.1, Performance Indicators, are intended to annually evaluate the effectiveness of management at achieving these management objectives (Sauk-Suiattle Indian Tribe et al. 2021). The performance indicators

⁴ Pursuant to *U.S. v. Washington*, the RMP recognizes the importance of the exercise of Indian treaty rights, within the usual and accustomed fishing areas legally defined for each tribe.

include a combination of spawning escapement estimates and landed catch reports. For the duration of the 2021 RMP, annual accounting of recreational encounters, all landed catch, estimates of non-landed mortalities, and estimation of spawning escapement would provide the basic information needed to monitor population abundance trends and assesses management performance relevant to the management objectives.

The performance indicators for evaluating the RMP focus on the following questions:

- 1) Is the pre-season forecast accurately predicting the abundance of returning adults?
- 2) The accuracy and precision of the forecast method would be evaluated each year and the error of the pre-season forecast evaluated.
- 3) Are the fisheries managed consistent with the allowable impact rates? Post-season estimates of impact rates would be compared with the allowable rates for treaty and non-treaty fisheries identified during the pre-season planning process.
- 4) Are the number of spawners consistent with expectations? The estimated number of spawners would be compared with the range as predicted in the risk assessment simulations and forecasts.
- 5) Is the range of spawn-timing maintained or increased? Spawn-timing information would be collected to assess long-term changes.

The Skagit River co-managers have methods in place to monitor fisheries and observe spawning timing and frequency so to assess natural escapement of steelhead (Section 9.1, Performance Indicators; Sauk-Suiattle Indian Tribe et al. 2021). These methods would be reviewed, evaluated, and where necessary modified, to enhance resulting data quantity and quality.

2.3 4(i)(A) The RMP clearly defines the populations within the affected listed ESUs, taking into account spatial and temporal distribution, genetic and phenotypic diversity, and other appropriate identifiable unique biological and life history traits. Populations may be aggregated for management purposes when dictated by information scarcity, if consistent with the survival and recovery of the listed ESU/DPS, if the plan describes the reasons for using such units in lieu of population units and describes how the management units are defined, given biological and life history traits, so as to maximize consideration of the important biological diversity contained within the listed ESU/DPS, and help ensure consistent treatment of listed salmonids across a diverse geographic and jurisdictional range.

In Section 3.0, Management Unit & Population Structure, the 2021 RMP clearly defines the affected populations of steelhead in the Skagit River, taking into account spatial and temporal

distribution, genetic and phenotypic diversity, and other appropriate identifiable, unique biological and life history traits. The Skagit SMU comprises four demographically independent populations (DIPs) (Myers et al. 2015) as delineated by NOAA (NMFS 2019), which have been identified as:

- 1) Skagit River Summer and Winter Run;
- 2) Nookachamps Creek Winter Run;
- 3) Sauk River Summer and Winter Run; and
- 4) Baker River Summer and Winter Run⁵.

Consistent with available abundance estimates, interim recovery objectives, and data utilized in the Puget Sound steelhead recovery plan (NMFS 2019; Ford 2022), the co-managers would continue to manage Skagit Basin steelhead in aggregate as the Skagit steelhead management unit (SMU). The 2021 RMP states that fisheries will be managed at the SMU level, rather than the DIP level because population-specific data are currently insufficient to manage at the population (i.e., DIP) level for steelhead in the Skagit River Basin (NMFS 2019). Population-specific information was used, where available, in the development of steelhead management objectives listed in the RMP in Section 11.0, Data Gaps (Sauk-Suiattle Indian Tribe et al. 2021).

⁵ Myers et al. (2015) noted that many of the Puget Sound Technical Recovery Team (PSTRT) members and reviewers considered the Baker River Summer and Winter Run steelhead to have been extirpated; however, genetic analysis suggests that the Baker River *O. mykiss* are similar to Skagit River steelhead (Myers et al. 2015; Sauk-Suiattle Indian Tribe et al. 2021).

- 2.4 4(i)(B) The RMP utilizes the concepts of “viable” and “critical” salmonid population thresholds, consistent with the concepts contained in the technical document entitled “Viable Salmonid Populations (NMFS, 2000).” Proposed management actions must recognize the significant differences in risk associated with viable and critical population threshold states and respond accordingly to minimize the long-term risks to population persistence. For populations with a high degree of confidence to be above critical levels but not yet at viable levels [such as the Skagit SMU steelhead populations] harvest actions must not appreciably slow the population’s achievement of viable function.**

In Section 5.0, Critical and Viable Thresholds, the 2021 RMP utilizes the concepts of viable and critical salmonid population thresholds consistent with McElhany et al. (2000) to establish population thresholds. Relying upon the concepts contained within McElhany et al. (2000), three different methods were evaluated by the co-managers to establish a critical threshold for the Skagit SMU:

1) Method 1-Depensation

Peterman (1977; 1987) provided a rationale for depensation and suggested relating the escapement level at which depensation occurs to the size of the population in the absence of fishing (equilibrium escapement level). Based on Peterman’s work, the comanagers established the critical level equal to 5% of the equilibrium spawner size (8,949), or 447 spawners for the Skagit SMU.

2) Method 2- Effective Population Size

The number of effective breeders per year, rather than the annual spawner abundance, determines the genetic stability of a salmonid population over time. Based on Waples (2004), the co-managers established an annual effective size, or number of successful breeders, for each population within the Skagit SMU. A critical threshold value for annual spawning escapement was chosen such that, for each potential population within the Skagit SMU, the annual effective size or number of successful breeders, would not be lower than 50 if the ratio of effective breeders to spawners is at least 0.40. For the Skagit SMU, with three extant populations, the critical threshold under these specifications equates to 375 spawners.

3) Method 3 - Quasi-extinction threshold (QET)

Based on Hard et al. (2015) regarding quasi-extinction thresholds for Skagit Basin populations, the co-managers established a QET of greater than 287. This is the total of all the predicted QET values for each DIP within the Skagit SMU (see Table 1).

Table 1. Hard et al. (2015) summary of QETs and preliminary recommendations for viable abundance thresholds for populations of steelhead in the Skagit River (Sauk-Suiattle Indian Tribe et al. 2021).

Population	QET	Viable
Nookachamps Creek Winter	27	616
Sauk River Summer & Winter	103	11,615
Skagit River Summer & Winter	157	32,388
Total	287	44,619

Upon consideration of the above methods, the co-managers selected a relatively conservative critical threshold of 500 spawners for the Skagit SMU for use in the RMP, higher than any value suggested by any of the methods (see Table 2)(Sauk-Suiattle Indian Tribe et al. 2021). The RMP states in Section 8.3, Risk Analysis of Proposed Fishing Regime, that the projected frequency of spawners compared to the critical threshold is an important consideration in the evaluation of the proposed management regime.

For populations with a high degree of confidence to be above critical levels but not yet at viable levels, such as the Skagit River steelhead populations (see Figure 3), harvest actions must not appreciably slow the population’s achievement of viable function. Because data are not available at the DIP level, based on the sum of the population viable thresholds (Hard et al. 2015), the co-managers selected a viable threshold equal to 44,619 adult steelhead for the total Skagit SMU (see Table 1)(Sauk-Suiattle Indian Tribe et al. 2021); though the 2021 RMP recognizes that that substantial improvements in habitat capacity and productivity would be needed before the Skagit SMU can approach this level of improvement. Until that time, the co-managers propose that harvest management objectives should be based on quantitative understanding of current population productivity, as defined by current habitat function (Sauk-Suiattle Indian Tribe et al. 2021).

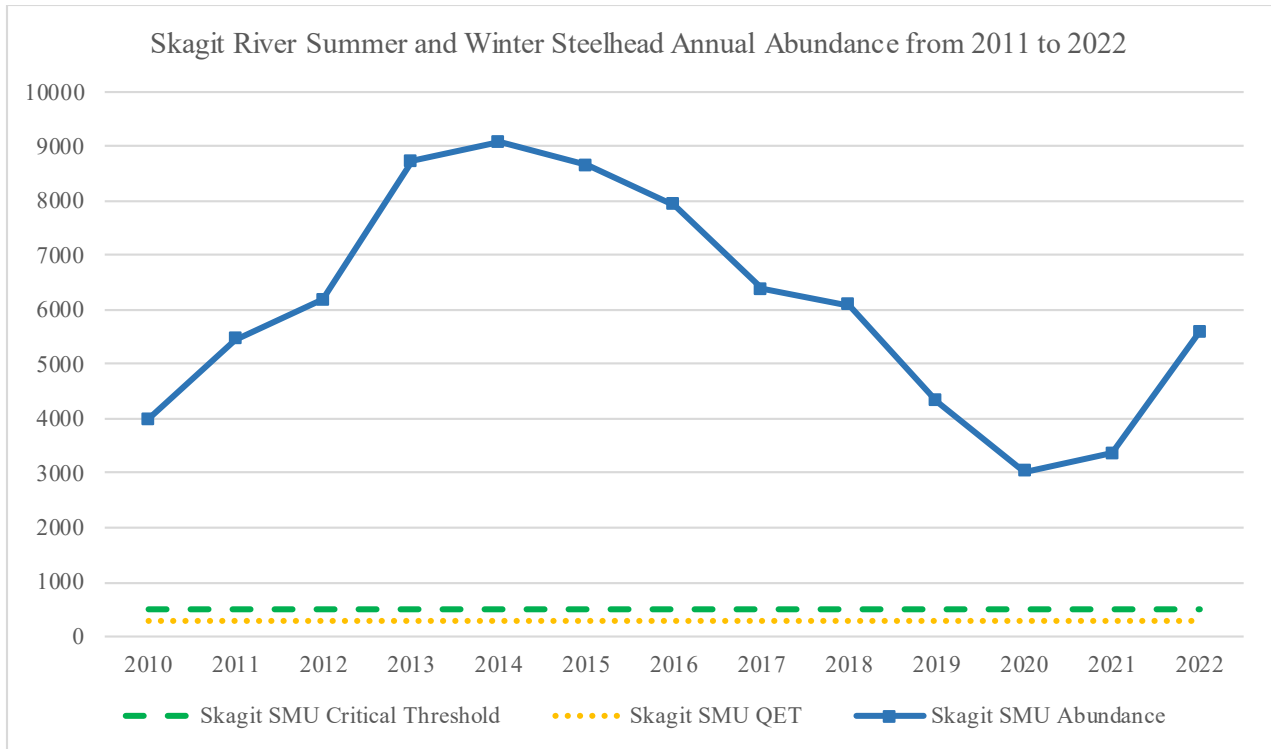


Figure 3. Skagit SMU annual population abundance from 2010 to 2022 (WDFW 2022a) as well as the Skagit River QET (287 steelhead represented by the dotted line) established by Hard et al. (2015) and the Skagit SMU critical threshold (500 steelhead represented by the dashed line) proposed by the co-managers.

Consistent with these concepts, the co-managers identified two additional reference points for use in their risk analysis, which simulates the implementation the RMP’s management framework:

R_{MSY} – Rebuilding threshold equal to the spawner level that would maximize the long-term yield (adult recruits per spawner) at Maximum Sustained Yield (MSY) under current habitat conditions. A similar reference point has been used in previous NMFS and co-manager analyses.

R_{60} – Rebuilding threshold equal to 60% of the point on the spawner-recruit function where less than one recruit is produced per spawner (e.g., equilibrium point on spawner-recruit function). The intent of assessing the proposed management regime relative to this threshold is to ensure that the habitat productivity and capacity are “probed” on a regular basis and that sufficient spawners are provided to recolonize underutilized habitat.

The additional reference points of R_{MSY} and R_{60} are used as an interim measure to track progress of the Skagit SMU. Monitoring these reference points helps to ensure that habitat productivity and capacity are examined on a regular basis, and that sufficient spawners are available to recolonize underutilized habitat so as to not appreciably slow the Skagit SMU’s achievement of

viable function (Sauk-Suiattle Indian Tribe et al. 2021). Table 2 provides an overview of the critical, viable, and rebuilding reference points used in the harvest risk analysis described in the RMP.

Table 2. Summarization of the critical, viable, and rebuilding reference points described in the Skagit River Steelhead RMP for the Skagit SMU (Sauk-Suiattle Indian Tribe et al. 2021).

Reference Point	Spawner-Recruit Function	
	Ricker	Beverton-Holt
Critical (C)	500 steelhead	
Viable (V)	44,619 steelhead ⁶	
Rebuilding - MSY (R_{MSY})	3,912 steelhead	2,127 steelhead
Rebuilding – 60% Equilibrium (R_{60})	5,370 steelhead	4,844 steelhead

The co-managers recognize the potential for long-term habitat degradation resulting in the possible reduction of Skagit SMU steelhead productivity due to changing marine and freshwater environments. The proposed steelhead fisheries described in the 2021 RMP address this uncertainty through a conservative, tiered harvest rate that is linked to abundance, monitoring, and adaptive management of Skagit SMU steelhead throughout the proposed ten-year duration of the plan.

2.5 4(i)(C) Set escapement objectives or maximum exploitation rates for each management unit or population based on its status, and a harvest program that assures that those rates or objectives are not exceeded. Maximum exploitation rates must not appreciably reduce the likelihood of survival and recovery of the ESU. Management of fisheries where artificially propagated fish predominate must not compromise the management objectives for commingled naturally spawned populations.

Section 8.0 (Conservation Management) of the 2021 RMP sets maximum allowable harvest impact rates for the Skagit SMU based on the forecasted terminal run size. Each abundance tier and its associated maximum allowable abundance-based harvest rates are described in Table 3. The co-managers are also continuing to develop an in-season run size update based on the long-

⁶ The 2019 Puget Sound steelhead recovery plan (NMFS 2019) has set an interim recovery target for the Skagit River of an average total run abundance of 15,000 and with an intrinsic productivity at least equal to what was observed from 1978 through 2017.

term relationship between the annual tangle net test fishery and the annual final run size estimate. The co-managers propose to continue to develop and begin utilizing this in-season update process during the term of the RMP (Sauk-Suiattle Indian Tribe et al. 2022).

Table 3. Stepped steelhead fishing regime used for managing steelhead fisheries in the Skagit SMU as described in the Skagit River Steelhead RMP (Sauk-Suiattle Indian Tribe et al. 2021). The Allowable Harvest Rate includes all fishing-related impacts to the Skagit steelhead SMU within the Skagit Terminal Area.

Natural Origin Steelhead Run size (pre-season forecast/in-season run update)	Allowable Harvest Impact Rate
<u>Terminal Run</u> < 4,000	4%
4,001 < <u>Terminal Run</u> ≤ 6,000	10%
6,001 < <u>Terminal Run</u> ≤ 8,000	20%
<u>Terminal Run</u> > 8,001	25%

The highest rate tier proposed in the RMP (25% at runs >8,000) is substantially lower than the harvest rates calculated by both the Ricker or Beverton-Holt models (see Appendices B and C of the 2021 RMP). Both models indicate a harvest rate below 40 percent would be unlikely to cause even a small frequency of potential spawner abundances below the critical threshold of 500 fish (see Section 8.3 of the 2021 RMP).

The tiered fishing regime described above in Table 3 would be used with an annual pre-season forecast of abundance to develop an annual harvest plan. For annual development of treaty and non-treaty Skagit steelhead fisheries, the co-managers would account for the anticipated direct and incidental steelhead impacts, from fisheries directed at steelhead and salmon, within the Skagit Terminal Area, to ensure the total Skagit adult steelhead impacts remain below the allowable harvest impact rate (Sauk-Suiattle Indian Tribe et al. 2021).

2.6 4(i)(D) Display a biologically based rationale demonstrating the harvest management strategy will not appreciably reduce the likelihood of survival and recovery of the ESU in the wild, over the entire period of time the proposed harvest management strategy affects the population, including effects reasonably certain to occur after the proposed actions cease.

The harvest impact analyses described in Section 8.0 of the 2021 RMP examine both the short-term and long-term⁷ impacts of the proposed fishery regime on the abundance of Skagit Basin steelhead. The time period of the proposed harvest management strategy is ten years (until April 30, 2032). Simulations of the proposed fishery management regime described in the RMP were conducted using the following steps (Sauk-Suiattle Indian Tribe et al. 2021):

- Step 1: Initiate the simulation with the number of spawners randomly drawn from a normal distribution with mean and standard deviation estimated from the observed spawners from 1978-2007.
- Step 2: Apply the proposed harvest rate protocol (Table 3) and obtain a number of harvested fish.
- Step 3: Subtract the number of harvested fish from the number of returning mature fish to obtain a number of spawners.
- Step 4: Use the spawner recruit parameters to compute the next random number of recruits, and multiply this by a random variable representing environmental and demographic stochasticity
- Step 5: Run for 25 cycles (generations).
- Step 6: Repeat for N=1,500 simulations.

It is important to note that these analyses provide a perspective on the short and long-term (25 cycles) effects of the 2021 RMP on the abundance of Skagit steelhead, however, the co-managers recognize that the freshwater and marine environments are dynamic, with the potential for long-term degradation resulting in a reduction of the productivity of Skagit steelhead. The 2021 RMP addresses this uncertainty through a conservative, stepped harvest rate linked to abundance, monitoring and adaptively monitoring Skagit SMU steelhead. In addition, the analysis explicitly incorporates estimation error in the simulations to address the uncertainty. Given these caveats, the results from the harvest risk analyses are summarized in Table 4.

⁷ Long-term effects include 25 steelhead generations (Sauk-Suiattle Indian Tribe et al. 2021).

Table 4. Summary of simulation results on risk expressed as the proportion of resulting escapements that meet or exceed the threshold criteria. Each criteria is provided and the metric is the probability for achieving that criterion in the 1,500 iteration model runs (Sauk-Suiattle Indian Tribe et al. 2021).

Spawner Reference Point	Ricker			Beverton-Holt		
	No Fisheries	Proposed Fishery Regime	Expected difference	No Fisheries	Proposed Fishery Regime	Expected difference
< Critical (C)	0%	0%	0% points (0.0%)	0%	0%	0% points (0.0%)
> Viable (V)	0%	0%	0% points (0.0%)	0%	0%	0% points (0.0%)
> Rebuilding (R _{MSY})	92%	88%	-4% points (-4.3%)	99%	99%	0% points (0.0%)
> Rebuilding (R ₆₀)	78%	68%	-10% points (-12.3%)	82%	75%	-7% points (-8.5%)

The risk analysis presented in the 2021 RMP’s suggests that implementation of the proposed fishery regime would affect the frequency with which the population would attain the rebuilding abundance reference points. Under the proposed fishery regime, and using the Ricker model, the spawner abundances are projected to exceed R_{MSY} 88 percent of the time and would exceed R₆₀ 68 percent of the time. This would result in a 4.3 percent and 12.8 percent reduction in the frequency of meeting or exceeding the R_{MSY} and R₆₀, respectively, when compared to the no fishing scenario. Similarly, using the Beverton-Holt model, R_{MSY} would be exceeded 99 percent of the time (no difference), and R₆₀ 75 percent of the time—an 8.5 percent reduction in frequency of meeting or exceeding the R₆₀ rebuilding reference, when compared to the no fishing scenario.

Puget Sound steelhead have experienced periods of relatively good and relatively poor marine survival during the last 30 years. For example, in the Skagit River, the 1987 through 2006 brood years produced about 25 percent fewer recruits than would be predicted from a longer-term dataset (1978-2007 brood years).

The resilience of the proposed management regime to reduced productivity was tested by simulating reductions in productivity of 15 to 35 percent for an entire 25-cycle period. The number of spawners remained above the critical threshold in all simulations. Even at a 35 percent reduction in average survival over 25 cycles, the frequency of cycles with spawners exceeding R_{MSY} was 75 percent for the Ricker model and 91 percent for the Beverton-Holt model as presented in Table 5. The management approach proposed in this Plan, with harvest rates stepping down to 4 percent, provide for protection of the SMU even over prolonged periods of poor survival.

Table 5. The effects of reductions in survival over a 25-cycle simulation on the performance of the management system (Sauk-Suiattle Indian Tribe et al. 2021).

Survival Reduction	Ricker		Beverton-Holt	
	% < Critical (C)	% > R_{MSY}	% < Critical (C)	% > R_{MSY}
0%	0%	88%	0%	99%
15%	0%	85%	0%	98%
20%	0%	83%	0%	97%
25%	0%	81%	0%	96%
30%	0%	79%	0%	94%
35%	0%	75%	0%	91%

Based on the results described above, NMFS does not expect that the abundance-based tiered harvest regime, proposed in the RMP for a period of ten years, would reduce the frequency of the Skagit steelhead attaining the calculated R_{MSY} escapement level by more than 4.3 percent, under the Ricker model and 0 percent under the Beverton-Holt model, relative to the no-fishing scenario (Table 5). The proposed harvest regime would not affect the frequency with which the population may attain viability abundance at 41,619 (0 percent with and without harvest; Table 5). Additional information included in section 8.3 of the RMP indicates that the frequency that the Skagit steelhead would potentially meet or exceed abundances of 16,000 (slightly higher than the Puget Sound steelhead recovery plan’s interim objective of 15,000) would be reduced by 5.3 and 5.9 percent, respectively, for the Ricker and Beverton-Holt models.

As further discussed in the biological opinion for this matter, the proposed harvest management regime is unlikely to appreciably reduce the survival and recovery of Skagit Basin steelhead populations, because:

- the proposed RMP would not increase the frequency of spawner abundances that are at or below the critical threshold, which would maintain the low extinction risk to Skagit steelhead;
- the proposed RMP would have a minor effect (0-4 percentage points) on spawner abundances that meet or exceed the calculated R_{MSY} escapement, which would ensure that the population can maintain optimal productivity;
- the proposed RMP would have a low effect (7-10 percentage points) on the frequency of spawner abundances that meet or exceed 60 percent of the calculated equilibrium spawner abundances (R_{60}), and maintain the ability of the population to continually test the capacity of the basin for expansion; and,

- the proposed RMP would have a low effect (0-5.9 percent) on the populations ability to attain viable abundances (Recovery Plan interim viability abundance: 15,000) under the current habitat conditions.
- Under assumptions of lower rates of survival for the Skagit steelhead (-15% to -35% reduction; Table 5), the RMP's proposed fishery would affect the frequency of meeting or exceeding the R_{MSY} , lowering the frequency of attainment but to a lesser degree than the assumed reduction in survival. As an example, the 25% survival reduction scenario (Table 5) would only result in a 7-percentage point and 3-percentage point reduction in exceedance frequency of the R_{MSY} under the Ricker and Beverton-Holt models, respectively, as compared to the values in Table 4.

Additional Fishery Management Actions implemented to reduce impacts to steelhead life-history diversity

The co-managers have also chosen to implement additional fishery management actions that would have conservation benefits for specific populations or diversity components of the Skagit SMU (Sauk-Suiattle Indian Tribe et al. 2021). These include:

Protection of Kelts

In developing viability criteria for Puget Sound steelhead, the PSTRT stated that iteroparity, or repeat spawning, is an important consideration in a comprehensive evaluation of viability for steelhead. Post-spawn adult steelhead that out-migrate to the ocean are called kelts (Trammell et al. 2016; NMFS 2019). Kelts may return back to freshwater to spawn again. Repeat spawners are important in strengthening population diversity (and also for population persistence through temporal risk spreading), and can be especially influential on viability in small populations, like the Nookachamps, during periods when marine mortality varies widely (Hard et al. 2015; Myers et al. 2015).

The Puget Sound steelhead recovery plan lists working with co-managers to improve kelt abundance and survival as an action to implement to reduce harvest pressures on natural-origin populations (NMFS 2019). In support of recommendations by the Puget Sound steelhead recovery plan, the 2021 RMP provides protection for kelts by:

- 1) Closing recreational fisheries directed for adult steelhead no later than April 30 to limit mortalities on kelts;
- 2) Tribal fisheries directed at Skagit steelhead focus on the timeframe from January through April, a time when kelts are not abundant. This is confirmed by the Skagit steelhead test fishery results.

- 3) Other tribal net fisheries encounter steelhead, both pre-spawn and kelt, incidental to target species. However, steelhead are not targeted in these fisheries and some of these fisheries may be conducted as a steelhead non-retention (steelhead must be released), as a conservation measure. In this case, a steelhead mortality rate of 18.5 percent is applied to all released steelhead.

Building these actions into the 2021 RMP reduces the overall impact to kelt survival, thus improving the potential for repeat spawning in following years.

Protection of the Nookachamps Creek Population

The Nookachamps Creek population is the smallest extant steelhead DIP in the Skagit River and, potentially, the smaller size could increase the risk of extirpation. However, intensive surveys in Nookachamps Creek in 2015 and 2016 reported approximately 250 steelhead spawners present in both years (Fowler and Turnbull 2016). While the population is small and significantly lower than the population viability objective (616; Hard et al. 2015), this level of spawner abundance also significantly exceeds the QET abundance of 27 adults, also identified in Hard et al. 2015. The Nookachamps also has only a winter run timing life history (NMFS 2019). The 2021 RMP provides additional protection for the Nookachamps Creek population by limiting recreational fisheries for adult steelhead to areas upstream of the Dalles Bridge in Concrete, WA (RM 54.1). This is 35.3 river miles upstream of the relatively small Nookachamps Creek population. In addition, since Nookachamps steelhead generally exhibit an earlier run timing (Hard et al. 2015), treaty fisheries would not concentrate on the early returns, but spread fishing effort across the entire return period and confine higher effort fisheries to the February to April timeframe (Sauk-Suiattle Indian Tribe et al. 2021).

Protection of Summer Run Timing Population Component

Genetic, run-timing, and spawn-timing information suggest that steelhead return to the Skagit and Sauk rivers throughout the year, including the summer months. The PSTRT concluded that “there is likely to be some population substructure that should be considered in maintaining within-population diversity” (Myers et al. 2015).

Locations where summer-timed fish have been reported include: Finney Creek, Day Creek, and the Cascade River, included in the Skagit River Summer-Run and Winter-Run DIP; the upper Sauk River, and the South Fork Sauk River, included in the Sauk River Summer-Run and Winter-Run DIP. However, despite extensive surveys by the co-managers, river miles 8.0 to 11.6 of Finney Creek is the only location where summer-timed fish are known to spawn (Sauk-Suiattle Indian Tribe et al. 2021). The summer-timed steelhead enter Finney Creek in October and November, with spawning occurring primarily from February through March. Based upon

the time and area limitations for the majority of steelhead-directed fisheries identified in the RMP (i.e., February-April; mainstem Skagit and Sauk rivers), and the run- and spawn-timing of the Finney Creek summer-timed steelhead, the proposed fisheries are projected to have limited impacts on the summer-timed steelhead.

The 2021 RMP provides protection for the summer-timed component of the populations by: 1) opening recreational fisheries directed at adult steelhead no earlier than February 1 (summer steelhead are in spawning tributaries and not in mainstem at this time); and 2) not opening any tribal fisheries directed at summer-timed steelhead.

Protection of Early-Timed Winter Steelhead

The PSTRT identified maintenance of the historical breadth of spawn-timing as a consideration in the viability of a population, and hypothesized that the early-winter spawn-timing of the Nookachamps Creek population has been altered relative to historical conditions (Hard et al. 2015). More broadly, there are concerns that fisheries directed at the harvest of early-returning hatchery fish may have resulted in the loss of the early-winter component of wild steelhead (NMFS 2016b).

Early-winter hatchery steelhead (Chambers Creek stock) have not been released in the Skagit River since 2012, and this RMP provides protection for any early winter component of the natural-origin return by not allowing any recreational fisheries directed at adult steelhead prior to February 1. Treaty fisheries would not concentrate on the early returns, but rather be designed to access steelhead across the entire return period. This would have the effect, generally, of a reduced fishery effort in the pre-February timeframe.

Although tribal net fisheries for steelhead could be conducted between December 1 and April 15, in practice (as in fishery years 2018-2022) most effort would continue to be applied between February and early April, continuing early winter steelhead protection measures outlined in NMFS (2018). Fisheries would be scheduled to access fish in designated fishing areas (i.e., Area 8, Area 78C, and Area 78D) and for durations which would be estimated to result in catches within the tribal share based on the strength of the run and consistent with the management framework. Tribal share, expected effort, and expected catch per unit of effort would be used to estimate expected harvest for each opening. Each tribe would monitor the fishery in real-time and manage the fishery appropriately to ensure that harvest rates listed in Table 3 are observed.

2.7 4(i)(E) Include effective monitoring and evaluation programs to assess compliance, effectiveness, and parameter validation. At a minimum, harvest monitoring programs must collect catch and effort data, information on escapements, and information on biological characteristics such as age, fecundity, size, and sex data, and migration timing.

In Section 9.0, Monitoring and Adaptive Management, the 2021 RMP includes effective monitoring and evaluation programs to assess compliance, effectiveness, and parameter validation.

Methods to monitor fisheries proposed in the 2021 RMP include: catch accounting such as fish tickets for tribal net fisheries and Catch Record Cards for recreational fisheries, a non-retention tangle net test fishery, and ground-based in-season creel surveys (Sauk-Suiattle Indian Tribe et al. 2021). Methods to observe spawn timing and frequency include: foot surveys, float surveys, and fixed-wing or helicopter aerial surveys, depending on stream size and visibility, to achieve a census of total redds in each index reach (Sauk-Suiattle Indian Tribe et al. 2021). Fisheries data collected by the co-managers, combined with escapement estimates, would provide the basis for catch composition, return age structure, and run reconstruction for each year (Sauk-Suiattle Indian Tribe et al. 2021).

Tribal net fisheries are monitored to assess encounters and retention of steelhead in both directed and non-directed fisheries. Depending on forecasted returns of steelhead, fisheries would be implemented to retain or not to retain steelhead. Retained steelhead for tribal commercial sales and fish taken for C&S purposes are enumerated through normal catch accounting, i.e., fish tickets, which are corroborated by tribal enforcement and/or tribal biologists. The landings documented by fish tickets are compiled in near real time into a database managed by the co-managers (Sauk-Suiattle Indian Tribe et al. 2021). Retained steelhead are assessed for hatchery:wild composition via the presence or absence of adipose clip and scanned for Passive Integrated Transponder (PIT) tags. Scales are collected from wild steelhead sufficient to estimate age composition. The tribes would also assess sex and spawning condition (pre-spawn or kelt) of landed steelhead, and tissue samples would be collected to assess isotopic chemistry, so to inform managers of the contribution of resident rainbow trout to steelhead populations (Zimmerman and Reeves 2000). Recent assessment of Skagit River resident rainbow trout contribution to steelhead production has been documented (Bodensteiner 2020).

Steelhead in non-retention fisheries are enumerated and reported by fishers or by tribal staff (i.e., Enforcement or Natural Resources), and when available information such as sex, length, and markings of non-retained steelhead would be collected. Non-retention mortality in the tribal fisheries is assessed at 18.5% for released steelhead.

The co-managers have submitted annual harvest reports and fishing plans to NOAA each year under the prior RMP (2018-2022). Descriptions of the activities summarized in the reports and plans are below as they would also be expected to continue under the implementation of the 2021 RMP.

The Upper Skagit Tribe conducts a non-retention tangle net test fishery to ensure biological information are being collected to adequately characterize sex ratios, age structure, timing, detection of out-of-basin strays (hatchery or wild), and collection of DNA material useful to better assess abundance and to provide information essential to development of the 2021 RMP. Tangle net fisheries operate starting in management week 8 (Mid-February) until management week 18 (beginning May). During tangle net fisheries, each steelhead encountered is measured for length, assessed for marks and PIT tag (and are PIT tagged if not present), sex, and a tissue sample is collected for future DNA analysis. These fish are sampled and released. Impacts from this fishery, in the form of estimated post-release mortality, are counted toward the overall, annual, allowable impact rate (see Table 3) and are estimated at 18.5 percent of approximately 100-150 fish annually encountered in the fishery.

For sport catch WDFW regulations require each license holder to record retained marked hatchery steelhead on Catch Record Cards (CRC) in both pre-terminal and terminal (e.g., Skagit basin) areas. Landed catch of hatchery steelhead in freshwater and marine catch is estimated for each management year (April thru March) from a subsample of CRCs. Estimates of landed catch are adjusted down to account for non-response bias, because successful anglers are more likely to return their CRCs (Alexandersdottir et al. 1994). The bias adjustment for 2018-19 large freshwater streams (stream with 20 or more fish reported on CRCs) is 1.02 (Eric Kraig, pers. Comm., WDFW). There is no bias adjustment for catch estimates for small freshwater streams (stream less than 20 fish reported in CRCs). Reporting requirements would be reviewed and amended as needed to address steelhead encounters, retention, and release mortality appropriate to this RMP.

Recreational directed wild steelhead fisheries would be monitored through in-season creel surveys to ensure that impact limits are not exceeded. Creel surveys would follow the general approach described in WDFW Methods Manual-Creel Information from Sport Fisheries (Hahn et al. 1993) and summarized below.

To assess angler effort, catch, total harvest and impacts to other stocks and species WDFW would conduct a ground-based creel survey conducted by trained personnel during the steelhead fishery. During the creel interview information collected would include angler effort and catch data.

Information collected from angler interviews would include number in party, angler type (i.e., boat or shore), gear types used (conventional gear, fly), whether or not anglers have completed their trip, start and stop time, number of trailers and cars associated with the party, and the number of fish by species encountered and released or kept and any marks or tags. Because the fishery would be actively monitored and creel data entered and calculated as collected, the fishery would be managed on a daily or weekly basis. If encounter rates and thus potential mortality is greater than expected, the fishery impacts can be projected forward and the fishery would be closed with a minimum 48-hour notice to the public prior to the time the impact limit would be achieved.

Data collected by the tribes and WDFW in these fisheries and with escapement estimates provide the basis for catch composition, return age structure and overall run reconstruction that are used for population trend monitoring. The tribes and WDFW also communicate regularly and share data on run size, timing and catch to ensure appropriate management of steelhead.

2.8 4(i)(F) Provide for evaluating monitoring data and make any revisions of assumptions, management strategies, or objectives that the data show are needed.

For the ten-year duration of the 2021 RMP, annual accounting of recreational encounters, all landed catch, estimates of non-landed mortalities, and estimation of spawning escapement would be collected to provide the information needed to monitor population abundance trends and assess management performance against the harvest objectives (harvest rate ceilings and abundance thresholds) described in Section 8 of the 2021 RMP (Sauk-Suiattle Indian Tribe et al. 2021) and shown in section 1.5, above. Catch and escapement sampling to describe the age structure of populations needed are critical to developing analyses needed to improve the basis of management e.g., improving forecasting capability, quantifying recruitment, and developing escapement goals (Sauk-Suiattle Indian Tribe et al. 2021).

The co-managers propose to submit to NMFS an annual, post-season report assessing the performance of the management plan relative to the harvest objectives and resulting run size.

2.9 4(i)(G) Provide for effective enforcement and education. Coordination among involved jurisdictions is an important element in ensuring regulatory effectiveness and coverage.

The WDFW Law Enforcement Program enforces regulations enacted by the Fish and Wildlife Commission for non-treaty commercial and recreational fishing regulations (WDFW 2022b). These officers may also, upon request, assist city, county, other state, and tribal law enforcement

agencies, and cooperate with the U.S. Fish and Wildlife Service, NMFS Enforcement, and the U.S. Coast Guard in fisheries enforcement.

Certain recreational fisheries may be assigned high priority for enforcement and are more intensively monitored. Officers are assigned to work during open fishing days and restricted periods, and conduct additional checks during closed periods. Officers carry out bank and boat patrols to check and assist anglers. Covert surveillance may also be conducted where reports of violations have been received.

The WDFW Law Enforcement Program would consist of vehicle, boat, foot, and launch monitoring and; assures compliance with established seasons, catch limits, gear restrictions, boat restrictions and compliance with creel surveyors, focuses protection on federally listed species, provides presence to reduce user group conflict, provides boating safety enforcement, and provides assistance to tribal enforcement or other law enforcement entities on an as need basis.

Individual tribal governments monitor and enforce their own commercial, subsistence, and ceremonial regulations for its on- and off-reservation fisheries. Tribal enforcement officers can be cross-deputized, and may cooperate with other tribal, state and federal fisheries enforcement agencies. Violations of tribal regulations involve fines or prosecution by tribal justice agencies. Officers are assigned to monitor all tribal U&A fishing areas, fisheries compliance for gear, area, and retention specifics, and other tribally imposed regulations and requirements. Officers patrol these fisheries from shore and boat, where they can also assist tribal fishers. Officers also patrol closed water for fishing out of season or in closed waters. The Skagit tribes have also provided leadership on the removal of derelict and phantom gear in the Skagit. A mandatory system of reporting lost gear (Swinomish, Sauk-Suiattle, Upper Skagit Indian Tribe) has proven effective at limiting incidental mortality. Tribal regulations state that any gear fishing outside of legally-opened fishery periods is fishing illegally. Therefore, fishers are required to report any lost or derelict gear immediately on loss or closure of the fishery. Tribal enforcement attempts to locate and remove any derelict gear in a timely manner.

WDFW consults with recreational angler organizations, such as their Steelhead and Cutthroat Policy Advisory Group, and other interested citizens through their Fish and Wildlife Commission hearings. In these forums, WDFW considers proposals for changes in recreational angling regulations, and discusses their rationale for annual regulation decisions. This process is intended to demonstrate the conservative effects of steelhead fishing regulations and improve compliance.

Tribal fisheries management agencies develop fisheries regimes under the oversight of their tribal Councils or fisheries committees. For many tribes, harvest opportunity is currently limited

to harvest of a relatively small number of steelhead that are used for subsistence or ceremonial purposes. Tribal fishers or their representatives participate in tribal decision-making, and are briefed by tribal management staff on the conservation measures, such as those incorporated in the 2021 RMP. Interactions among tribal fishers and management staff ensure that tribal fishing regulations are practicable and enforceable (Sauk-Suiattle Indian Tribe et al. 2021).

2.10 4(i)(H) Include restrictions on resident and anadromous fisheries that minimize take of listed species, including time, size, gear, and area restrictions.

In the 2021 RMP, the co-managers provide restrictions on resident and anadromous fisheries that minimize take of ESA-listed species, including time and area restrictions. Size and gear restrictions are already in place to target steelhead and limit incidental catch of non-target species. These restrictions are described in Section 1.6 above. Seasonal timing of fisheries and area restrictions minimize take of kelts, summer-run populations, early-timed winter-run populations, and Nookachamps Creek winter-run steelhead.

2.11 4(i)(I) Be consistent with plan and conditions established within any Federal court proceeding with continuing jurisdiction over tribal harvest allocations.

The Skagit River Steelhead RMP was developed to be consistent with the Puget Sound Salmon Management Plan (1985) and the Federal court orders under *United States v. Washington* (1974) that guide fisheries harvest management in Puget Sound (Sauk-Suiattle Indian Tribe et al. 2021).

2.12 4(i)(ii) The co-managers monitor the amount of take of listed salmonids occurring in its fisheries and provides to NMFS on a regular basis, as defined in NOAA Fisheries' letter of concurrence for the RMP, a report summarizing this information, as well as the implementation and effectiveness of the RMP. The co-managers shall provide NMFS with access to all data and reports prepared concerning the implementation and effectiveness of the RMP.

As described in Section 9 of the RMP, Monitoring and Adaptive Management, the co-managers would monitor the amount of take of ESA-listed salmonids occurring in RMP fisheries and provide that information to NMFS, on a regular basis, as would be defined in NOAA Fisheries' letter of concurrence for the 2021 RMP, a Skagit SMU report summarizing this information, as well as the implementation and effectiveness of the RMP.

The Puget Sound area co-managers would provide to NOAA Fisheries an annual report (“Puget Sound Steelhead Harvest Management Report”) for compliance with ESA reporting requirements for the Puget Sound salmon fisheries. The Skagit co-managers would continue to contribute to this report, but would also provide a supplemental, Skagit RMP-specific report.

The effectiveness of management in achieving the objectives stated in the 2021 RMP would be evaluated annually by the co-managers, referencing the performance indicators identified in Section 9.1 of the 2021 RMP. The Skagit SMU report would provide the observed landed catch and estimated mortality in tribal and recreational fisheries, the estimated number and age composition of natural spawners, terminal harvest rates, any information on illegal harvests, results from any genetic analysis, and other data collected that would be useful in the evaluation of this plan. Significant deviations from the pre-season agreement would be described and evaluated. As already provided for the 2016 RMP, NMFS would continue to have access to all data and reports prepared concerning the implementation and effectiveness of the 2021 RMP.

2.13 4(i)(iii) The co-managers confer with NMFS on its fishing regulation changes affecting listed ESUs/DPSs to ensure consistency with the approved RMP. Prior to approving a new or amended RMP NMFS will publish notification in the Federal Register announcing its availability for public review and comment. Such an announcement will provide for a comment period on the draft RMP of not less than 30 days.

The 2021 RMP, in Section 1.0, Scope of Plan, specifies that the co-managers would confer with NMFS when new information becomes available or substantial changes come to light to consider appropriate actions. In these cases, NMFS would assess any new information to ensure consistency with the 4(d) determination on the RMP. If necessary, NMFS would publish notification in the Federal Register announcing availability for public review and comment on a new or amendment of this RMP for 30 days.

2.14 4(i)(iv) NMFS provides written concurrence of the RMP which specifies the implementation and reporting requirements. NMFS' approval of a plan shall be a written approval by NMFS' Regional Administrator. On a regular basis, NMFS will evaluate the effectiveness of the program in protecting and achieving a level of salmonid productivity commensurate with conservation of the listed salmonids. If it is not, NMFS will identify ways in which the program needs to be altered or strengthened. If the responsible agencies do not make changes to respond adequately to the new information, NMFS will publish notification in the Federal Register announcing its intention to withdraw the limit for activities associated with the RMP. Such an announcement will provide for a comment period of not less than 30 days, after which NMFS will make a final determination whether to withdraw the limit so that the prohibitions would then apply to those fishery harvest activities.

NMFS would continue to evaluate the effectiveness of the harvest program described in the 2021 RMP in protecting and achieving a level of salmonid productivity commensurate with the conservation of listed Puget Sound steelhead. NMFS will work with the co-managers during the annual pre-season planning process and review annual post-season reporting to assess implementation and performance of the RMP. If the harvest program did not continue to meet the 4(d) criteria, NMFS would identify ways to alter or strengthen the 2021 RMP so the co-managers could make changes to respond adequately to the new information. If those changes were not made by the co-managers, NMFS would take action by publishing notification in the Federal Register announcing its intent to withdraw the 4(d) authorization. A public comment period of at least 30 days would accompany this notification. NMFS would then make a final determination whether to withdraw the limit on fishery harvest activities described in the 2021 RMP.

3. Responses to Public Comments Received

As described in the introduction section of this document, NMFS received 28 comment emails/letters on the PEPD. In reviewing the submitted public comments, NMFS recognized several, consistent themes across some of the comment letters/emails. These comment themes represent: support for the proposal; do not support the proposal; suggestions for specific fishery regulation changes; concern for the proposal in terms of the ability to enforce the fisheries; criticism of the analysis in the PEPD and/or Skagit RMP; criticism that NMFS has not thoroughly considered the impacts of the RMP on recovery of steelhead. NMFS' responses to these comments are presented in the following sections.

1) For the proposed recreational fishery, several commenters expressed the need for the fishery to utilize specific gear restrictions, boat restrictions, or restrictions on

guided fishing. Most gear restriction comments suggested that the use of nets in the steelhead-directed fishery was concerning. Others suggested that the recreational fishery be opened earlier in the season (before February 1, annually). Some commenters re-iterated that the fishery should remain catch and release only. Boating restriction suggestions varied but most comments suggested no boating under power in the mainstem Skagit River, and no fishing from boats in the Sauk River. Finally, several commenters expressed opinions about the proposed fishing areas, including the desire to move the lower recreational fishing boundary, in the mainstem Skagit River, down to the Gilligan Creek area to represent the historical boundary and further disperse the recreational fishing activity.

NMFS' requirement, for a 4(d) Rule determination, is to assess whether the RMP, as proposed, meets the criteria to qualify for the 4(d) Rule exemption. In making its determination, NMFS takes public comment on how the plan addresses those criteria as evaluated in its PEPD. During the public review process for NMFS' determination on a proposed plan, such as the PEPD for the Skagit RMP, the general public may also provide comment or offer opinions on issues outside the scope of NMFS' determination such as many of the comments described above

In this case, NMFS sought public comment on NMFS' proposed determination based on the information and analysis presented in the PEPD for the Skagit RMP per the criteria under the ESA 4(d) Rule, Limit 6. NMFS either approves or disapproves of the RMP, depending on the results of its determination. The PEPD was NMFS' proposed determination that the Skagit RMP meets the criteria of the 4(d) Rule, Limit 6 based on NMFS's evaluation of the information contained in the RMP.

NMFS appreciates that commenters may have strong feelings about how specific fisheries are managed regarding time, location, gear, and other elements. However, the in-season management of fisheries, along with the details regarding specific time, place, bag limits, gear, boat use, etc. fall to the state and tribal co-managers. The use of gear and adjustments to fishing in time and area are tools used to ensure the fisheries meet the conservation objectives in the RMP and will vary from year to year in response to stock strength and other resource use objectives. NMFS' role is to determine whether the plan that has been proposed appreciably reduces the likelihood of survival and recovery of the Puget Sound steelhead DPS by evaluating how it meets the criteria of the 4(d) Rule, together with a discussion of the biological analysis underlying that determination. and that adequate mechanisms are described and will be in place to ensure that the objectives described in the plan are met. In this case NMFS has determined that the Skagit RMP, inclusive of its descriptions of the basic management and enforcement structure of the proposed annual fisheries, addresses the criteria: 4(i)(E), 4(i)(G), and 4(i)(iii).

2) One commenter was concerned with the WDFW's ability to appropriately monitor the fishery, while another commented that the recent-year Skagit steelhead fisheries were some of the most well monitored fisheries they had participated in.

NMFS has concluded that the Skagit RMP describes monitoring and enforcement activities for both the treaty tribal fisheries, which are monitored by the Skagit River Tribes, as well as the recreational fisheries, which would be monitored by WDFW, and that these measures, if implemented as described including increased creel surveys for the recreational fisheries and fish sampling procedures for tribal fisheries meet the criteria under the 4(d) Limit. NMFS concluded that the enforcement provisions as described in the RMP will provide adequate enforcement of the annual fishing regulations, as described in the Skagit RMP. The fisheries under the previous RMP, conducted from 2018-2022, resulted in thorough monitoring and complete reporting of all required aspects of the fishery providing additional confidence that the same will occur in fisheries implemented under provisions of the proposed RMP.

3) Comments received in two letters from fishery conservation organizations voiced concern that the analysis in the PEPD and/or RMP does not adequately address all of the 4(d) Rule, Limit 6 criteria, that the plan and NMFS' review do not address the full extent of the fishery impacts, and that the RMP lacks a clear adaptive management strategy. We address the primary concerns raised in these letters below.

3.a) Trout Unlimited commented that the PEPD was focused on the “Jeopardy” standard and not focused on the effects of the RMP to the “recovery” of steelhead. The Conservation Angler letter also expressed concern that the RMP does not address the “massive gap” between contemporary run size and recovery goals.

NMFS disagrees with this assertion and would reference the sections of the PEPD that focused on the RMP assessment of effects to the critical, rebuilding and viable abundance references in Section 2.4 and 2.5 and the effects of the harvest framework on Skagit steelhead presented in Section 2.6, above. The analyses referenced and the information presented in these sections demonstrated that the RMP will likely have a small, overall impact on the ability of the Skagit steelhead to meet spawning levels that not only maximize the productivity of the basin's currently available habitat but also will have a very low negative effect on the viability of Skagit steelhead. The PEPD also assessed the likely effects of the RMP on the Skagit steelhead's ability to reach spawning abundance levels associated with viability, as described in Hard et al. (2015) and the Puget Sound Steelhead Recovery plan (NMFS 2019). In Section 2.6, above, the PEPD states that:

The proposed harvest regime would not affect the frequency with which the population may attain viability abundance at 41,619 (0 percent with and without harvest; Table 5). Additional information included in section 8.3 of the RMP indicates that the frequency that the Skagit steelhead would potentially meet or exceed spawner abundances of 16,000 (slightly higher than the Puget Sound steelhead recovery plan's interim objective of 15,000) would be reduced by 5.3 and 5.9 percent, respectively, for the Ricker and Beverton-Holt models, relative to the no fishing scenario.

These small reductions in the frequency of meeting those spawner abundance levels, in excess of the interim recovery abundance object (NMFS 2019), relative to the “no fishing”

scenario, will have a minor impact on the ability of the Skagit steelhead to maintain viable function and expand run sizes and spawner abundances as measures to address the habitat limitation are implemented.

3.b) Trout unlimited commented that the RMP lacks a clear adaptive management strategy and lacks performance indicators for habitat use.

NMFS' Response: NMFS disagrees that the RMP lacks an adaptive management strategy. As described in Sections 2.7-2.9, above, the RMP proposes adequate annual planning, monitoring and reporting procedures to allow NMFS to assess the effectiveness of the fisheries managed under the RMP, in terms of annual performance relative to the annual object for overall harvest rates and resulting spawning abundance, but also to assess the effects to the life history (diversity) aspects of the steelhead—run timing, iteroparity, etc. Additionally, the RMP proposes to use the annual results from the implementation of the RMP, adaptively, during the term of the RMP to increase the precision of the management frame work, e.g., updating the pre-season forecasting methods to incorporate pre- and post-season differences in run size estimates. The co-managers will annually submit reports on the performance of the RMP implementation, relative to the annual run size estimates, the application of the allowable harvest rate, and the post-fishery assessment of spawning abundance and resulting harvest rates to NMFS, who will review the results and, when necessary, discuss any adaptive management strategies that can be implemented, in future years, to address any resulting concerns related to the expected impact levels.

Regarding the need for performance indicators related to overall habitat use, by steelhead, in the Skagit River basin. While NMFS agrees that additional information on the overall use patterns of adult steelhead spawners and perhaps juvenile use throughout the Skagit system would be informative and could help refine the current assessment methodology, it is not necessary in order to analyze the impacts of the proposed RMP for consistency with the 4(d) criteria, given the proposed harvest rates and existing estimates of productivity. Concerns relating to this spatial distribution attribute on the overall estimate of system capacity is addressed in response 3.d., below.

3.c) Trout Unlimited expressed concerns that the RMP's stock-recruitment modeling did not adequately account for the role of iteroparity (repeat spawning) in the estimated Skagit River steelhead productivity and suggested that the RMP should be utilizing an integrated population model (IPM) (Scheuerell et al. 2021) based management strategy evaluation

NMFS appreciates the references for alternative and additional tools to examine underlying population dynamics, specifically the ability to model the effects of defined life-history attributes, such as iteroparity, on the overall productivity of the population. The spawner-recruit analysis developed in the RMP, while not including a specific analysis of the impact of repeat spawning uniquely, on overall productivity, certainly includes the production from repeat spawners, within the brood-year recruitment estimates. While this does not indicate

the change in overall productivity from the absence of repeat spawning (demonstrating their overall importance to maintaining productivity), the RMP itself fully recognizes the importance of iteroparity to viable steelhead populations and that the Puget Sound Steelhead Recovery Plan (NMFS 2019) identifies conserving and expanding the levels of iteroparity in the PS steelhead DPS.

To that end, the RMP, as described in Section 2.6, above, identifies specific attributes of the proposed fisheries to reduce impacts to post-spawn adult steelhead:

In support of recommendations by the Puget Sound steelhead recovery plan, the 2021 RMP provides protection for kelts by:

1. Closing recreational fisheries directed for adult steelhead no later than April 30 to limit mortalities on kelts;

2. Tribal fisheries directed at Skagit steelhead focus on the timeframe from January through April, a time when kelts are not abundant. This is confirmed by the Skagit steelhead test fishery results.

3. Other tribal net fisheries encounter steelhead, both pre-spawn and kelt, incidental to target species. However, steelhead are not targeted in these fisheries and some of these fisheries may be conducted as a steelhead non-retention (steelhead must be released), as a conservation measure. In this case, a steelhead mortality rate of 18.5 percent is applied to all released steelhead.

The proposed fisheries will occur in locations that minimize overlap with spawning steelhead. Additionally, available information on the timing and proportion of kelts (post-spawn adults) emigrating from the Skagit River system shows that the vast majority of post-spawn adults leave the system in May and June, after the steelhead-directed fisheries have closed – April 15 for tribal fisheries and April 30 for the recreational catch and release, see figure 4, also limiting the interaction of the fishery with post-spawn adult steelhead. Additionally, the RMP specifies that the number of kelts impacted (direct and indirect mortality) by the annual fisheries will be estimated and reported.

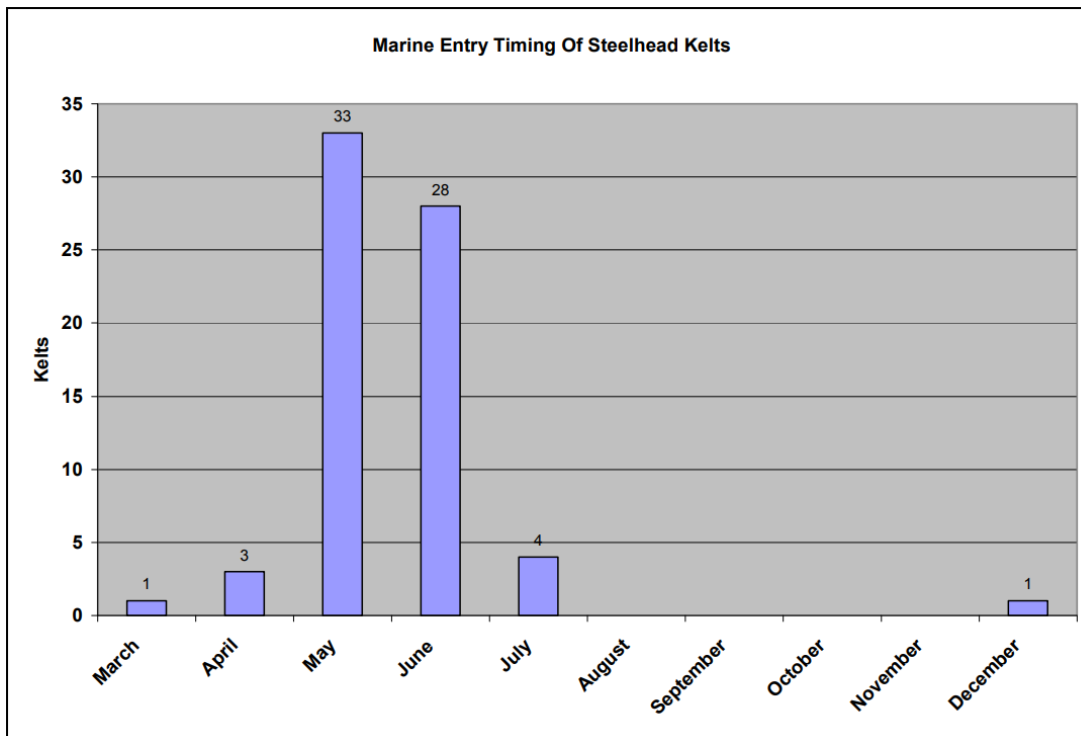


Figure 4. Marine entry-timing of Skagit River steelhead kelts. Numbers observed by month (Pflug et al. 2013).

3.d) The Conservation Angler commented on concerns with the RMP’s underlying stock-recruitment modeling. These comments focused on the whether the use of the an aggregated (basin wide) spawner and adult-recruit model could be masking underlying, small-scale mechanisms in the river system and leading to an inaccurate appearance of a density dependent relationship at the adult-recruitment level.

The concern expressed here is that density-dependence within the Skagit River may be incompletely characterized by the RMP’s spawner/recruit analysis. That is, the use of adult spawner-to-adult recruit estimates in the RMP analysis (as opposed to adding in multi life stage density-dependent relationships), and the aggregation of the spawners and recruits at the basin-wide scale, could result in system capacity parameters that may underestimate the system capacity and result in management objectives that underutilize available productive habitat.

In interpreting traditional Ricker or Beverton-Holt spawner-recruit relationships, the assumption is that the inflection point (where the recruits/spawner drops below one) reflects the onset of density dependent effects in the population, and that association is typically interpreted to mean the population is close to reaching the capacity of the available habitat. Research suggests, however, that the presence of density dependence at the watershed level does not necessarily mean that a given population is at capacity. Signals of density dependence can occur even at very low population levels where there is abundant, un- or under-utilized habitat. For

example, in the Snake River basin Walters et al. (2013) found strong density dependence at the juvenile stage when formerly large populations declined to very low levels, despite no concurrent changes in habitat. Similarly, Atlas et al. (2015) documented density dependence in a highly depleted population of steelhead in British Columbia, despite the availability of ample high-quality habitat. Additionally, standard application of stock-recruit models assume density dependence is occurring at the watershed scale. Walters et al (2013) and Atlas et al. (2015) suggest density dependence is occurring at smaller, more localized scales. If density dependence is occurring at smaller scales, then stock-recruit curves, based on capacity estimates generated from the basin-scale, may underestimate carrying capacity and thus result in management plans and recovery goals that may not fully use the available habitat for an entire river basin. Incorporation of spatial effects, temporal lag effects (e.g., Finstad et al. (2013)), and juvenile dispersal distances (Einum et al. 2008), may improve model predictions.

While there is potential that the use of basin-wide, adult-to-adult productivity estimates could mask higher system capacity for spawners, there is consistent relationship, over the larger, 40-year timeseries (1978-2018) of Skagit steelhead adult recruitment estimates that does demonstrate a generally inverse relationship for recruitment at higher abundances (Figure 5). Over this timeframe the average spawner abundance that resulted in positive recruitment was 6,118, while the average spawning abundance resulting in negative recruitment was 8,377. While this does not, conclusively demonstrate that the spawning capacity of the Skagit River is not underestimated by the use of the basin-wide, adult-to-adult spawner-recruit data, this general pattern of negative recruitment at higher spawner abundances, including abundances just over 13,000 spawners, indicates that the capacity parameters (Ricker=9,529; BH=10,321) calculated for the RMP recruitment analyses are reasonable for the assessment of effects from the RMP harvest levels. Additionally, more recent work (Scheuerell et al. 2020), discussed below, estimated a lower current carrying capacity (7,700) than the RMP assessment.

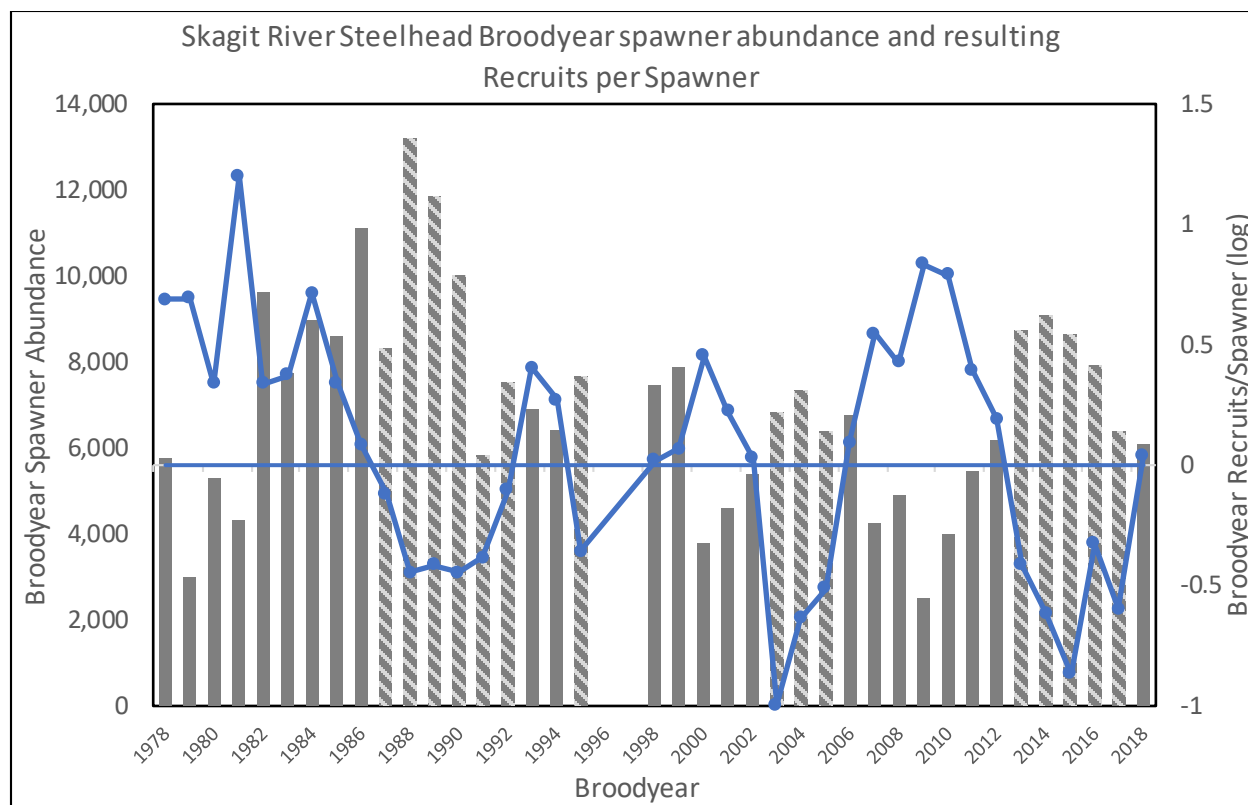


Figure 5. Skagit River steelhead annual spawning abundance (data source: Sauk-Suiattle Indian Tribe et al. (2021); WDFW (2022a)) and broodyear estimated productivity (log). Blue line represents broodyear-specific productivity estimates (data source: Sauk-Suiattle Indian Tribe et al. (2021)). Vertical columns represent annual spawner abundances, with solid, dark gray representing abundances which resulted in positive recruitment and striped columns representing abundances which resulted in negative recruitment on a log-normal scale.

An additional assessment provided in the Skagit RMP takes a conservative approach to the co-manager’s analysis of effect to the abundance of the Skagit steelhead. It incorporates a range of assumed survival reductions—15-35 percent, in 5 percent increments due to climate change, specific events like landslides, or other causes—into the iterative modelling process described above. These assumed levels of reduced survival are applied to the resulting recruits generated by each of the recruitment functions (Ricker and Beverton-Holt). This additional assessment looked to evaluate the RMP harvest regime’s effect on abundance under assumptions of reduced productivity. These additional, more conservative assumptions of the productivity of the Skagit steelhead can be used to evaluate the uncertainties related to a potential overestimate of the current spawner-recruit relationship in the base parameters developed in the RMP.

A more recent analysis of the Skagit steelhead population dynamics, including an examination of environmental covariates, as well as the impact of past hatchery steelhead releases, on the productivity of the Skagit steelhead was published in 2020. Scheuerell et al. (2020) developed a Bayesian Integrated Population Model (IMP) model to examine the underlying relationship of Skagit steelhead spawner abundance and resulting adult recruitment and tested this relationship against environmental covariates affecting survival at different life-history stages—peak winter Skagit River flows, low summer Skagit River flows, North Pacific Gyre Oscillation, and historical hatchery releases into the Skagit basin.

The resulting analysis from the model development in Scheuerell et al. (2020) was the selection of the Beverton-Holt form of underlying spawner/recruit relationship, with the parameterization of median intrinsic productivity (alpha) of 4.8 (CI 1.4-41.0) and a median carrying (beta) of 7,700 (CI 5,900-12,000) and an optimal yield (recruits) at approximately 2,000-3,000 spawners. This results in a harvest rate (HR) at MSY (2,000-3,000 spawners) of nearly 80 percent at the median intrinsic productivity estimate of 4.8 recruits/spawner and a harvest rate of roughly 29 percent at the low end of the credibility interval (1.4 R/S), both of which are higher than the proposed maximum HR of 25 percent in the 2021 RMP. Additionally, the Scheuerell et al. (2020) work looked at the probability of overfishing the population (defined as reducing the resulting spawner level to below the S_{MSY} (2,000-3,000 spawners) and found that harvest levels at 75 percent of MSY (roughly 60 percent HR at median alpha (4.8) or roughly 22 percent HR at low alpha 1.4) could increase the probability of overfishing the population by roughly 15 percent when compared with no fishing over (Panel b in Figure 6, reference lines for 25 percent Harvest rate added). This is an important frame of reference for the abundance-based harvest rates proposed in the 2021 RMP. The 2021 RMP would only implement allowable rates of up to 25 percent at run sizes exceeding 8,000 adults. Based on the work in Scheuerell (2020), this would result in minimal chance for fisheries proposed in the RMP to overharvest the population to below its most productive spawning abundances. In fact, even at the highest proposed rate of 25 percent, the resulting spawning abundance (>6,000) from the highest allowable harvest rate on the smallest abundance allowed in the RMP (8,001) would be nearly 3 times the S_{MSY} estimated in the Scheuerell work (2,000-3,000 spawners) and 1.5-3 times the S_{MSY} calculated in the RMP assessment. (2,100-3,900). This spawning level would also exceed the RMP's higher rebuilding abundance reference (R_{60}) points (Table 2).

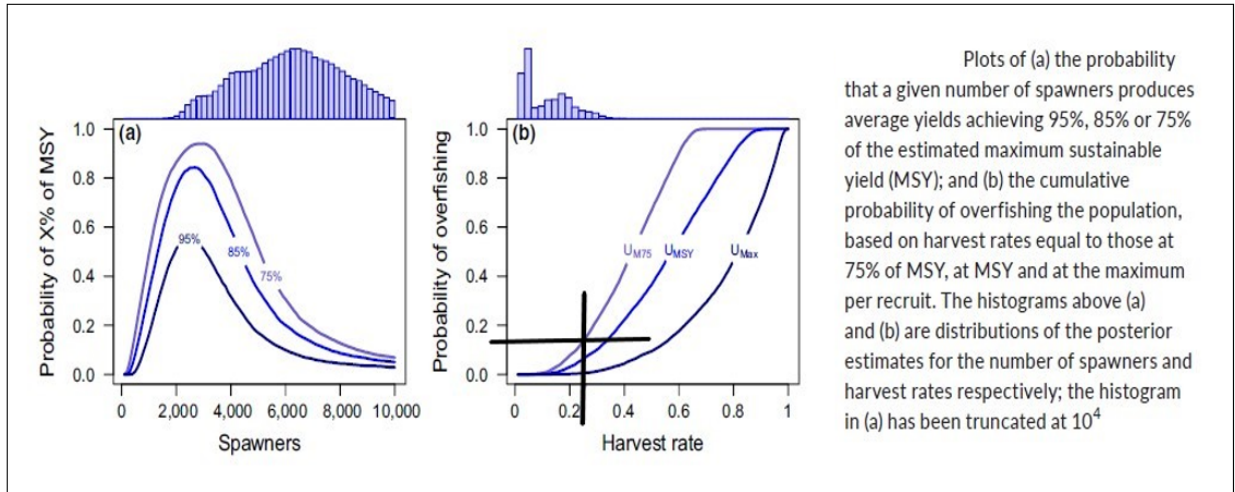


Figure 6. Probability plots for Skagit River steelhead spawner levels and harvest rates. Excerpted from Scheuerell et al. 2020 (Figure 6), with panel b lines approximating the 2021 RMP's maximum allowable harvest rate of 25 percent.

Considering that the RMP's underlying spawner-recruit analysis results indicate that the Skagit steelhead MSY harvest rate is 41% (Ricker model; Sauk-Suiattle Indian Tribe (2018)) and the MSY harvest rate from the Scheuerell 2020 modeling indicated that MSY harvest rates could be significantly higher than that, while still maintaining the highest levels of productivity, system wide, the rates that are proposed in the RMP—from 4%-25%, depending on run-size—are sufficiently low and would provide for escapement levels that would run as high as those seen from 1978 forward, e.g. >10,000, and that these abundances would continue to test the total spawning capacity of the system to produce larger runs.

3.e) The Conservation Angler commented that the supplemental EA produced alongside the PEPD does not include the full extent of the potential recreational fishing impacts on the Skagit steelhead, particularly the early returning fish in December and January.

NMFS Response: While the RMP details most specifically the management period for potential direct steelhead fishing in the Skagit—December 1 through April 30 (April 15 for tribal fisheries)—the annual total allowable harvest rate is applied to all steelhead harvest impact for the entire, annual steelhead management period. These harvest impacts include estimates of from all annual fisheries that impact Skagit steelhead indirectly, including the early winter fisheries referenced in the Conservation Angler letter, as well as the directed steelhead fisheries during the defined period in the RMP (December 1 through April 30).

This is stated within the Supplemental EA as well as in the original 2018 final EA.

The supplemental EA clearly states, in Section 2.2, on page 11, lines 13-15, that:

“The proposed stepped harvest rates would include both direct and incidental harvest of wild steelhead in the action area.”

Additionally, the final 2018 EA, that is being supplemented for this process, Section 1.2 Description of the Proposed Action, also clearly states that:

“The Skagit RMP would not govern management of ongoing fisheries that incidentally catch Puget Sound steelhead (i.e., fisheries for Puget Sound salmon and unlisted hatchery steelhead). However, in establishing the permissible harvest rates for Skagit-origin steelhead, the Skagit RMP accounts for all sources of landed and non-landed Skagit steelhead (i.e., the proposed direct steelhead harvest and anticipated incidental take of steelhead in ongoing Puget Sound fisheries)”

3.f) The Conservation Angler commented that the “FMP” does not adequately protect important population parameters critical to resilience and recovery, including: VSP parameters such as diversity and spatial structure; early return timing portions of the winter run, and summer steelhead.

The RMP acknowledges and provides a management framework to reduce impacts to a variety of important life-history and diversity elements for steelhead in the Skagit River. As detailed in Section 2.6 above and included in the PEPD for public review, the RMP addresses the conservation concern for these elements by detailing implementation of specific measures for annual harvest planning that will reduce, proportionally, the impact to these elements.

NMFS’ review of these measures is described in Section 2.6, above, and in the final biological opinion (NMFS 2023), in section 2.5, Effects of the Action, finds that these measures, when combined with the overall low rates of allowable harvest at the various run sizes, will provide adequate protection to these essential diversity elements.

3.g) The Conservation Angler commented that the plan [RMP] does not provide any means of bridging the gap between current run sizes and recovery goals.

We refer the reader to the response to 3.a, above.

3.h) Trout Unlimited stated their support for the continued cessation of a hatchery steelhead program in the Skagit River.

While the RMP does mention that the co-managers have interest in “evaluating the risks and benefits of implementing a wild broodstock program” (RMP section 4.1 Abundance and Productivity), the RMP does not include any elements associated with a hatchery program.

4. Determination

NMFS has reviewed the 2021 Skagit River Steelhead Fishery RMP submitted by the Sauk-Suiattle Indian Tribe, Swinomish Indian Tribal Community, Upper Skagit Indian Tribe, and the Washington Department of Fish and Wildlife, and evaluated it against the requirements of Limit 6 of the ESA salmon and steelhead 4(d) Rule including consideration of the public comments on its PEPD. Based on this evaluation, our determination is that the 2021 RMP adequately addresses the requirements of Limit 6 of the 4(d) Rule and would not appreciably reduce the likelihood of survival and recovery of the Puget Sound steelhead DPS. If the Regional Administrator concurs with this determination, ESA take prohibitions would not apply to the fisheries implemented in accordance with the approved RMP.

5. Reevaluation Criteria

NMFS will reevaluate this determination if: (1) the actions described by the RMP are modified in a way that causes an effect on the listed species that was not previously considered in NMFS' evaluation; (2) new information reveals effects that may impact listed species in a way not previously considered; or (3) a new species is listed or critical habitat is designated that may affect NMFS' evaluation of the RMP.

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7. Public Comments Received

Comment Letter #1



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Fwd: Comments on Skagit River Steelhead Fishery RMP

1 message

Anthony Siniscal - NOAA Federal <anthony.siniscal@noaa.gov>
To: James Dixon - NOAA Federal <james.dixon@noaa.gov>

Fri, Dec 23, 2022 at 12:29 PM

FYI. Also, I just changed the setting so that all the emails sent to the AHMB comments email will be forwarded to you automatically.

----- Forwarded message -----

From: <pnwguideservicewa@gmail.com>
Date: Fri, Dec 23, 2022 at 9:03 AM
Subject: Comments on Skagit River Steelhead Fishery RMP
To: <salmon.harvest.comments@noaa.gov>

Dear NOAA,

I am writing to encourage the opening of the Skagit and Sauk rivers during the 2023 winter steelhead return. With the river predictions exceeding our escapement goals this season, it's in everyone's best interest to open these phenomenal rivers up for sport anglers.

By opening these rivers up, it will help alleviate some of the fishing pressure we see on the OP rivers now a days.

I would suggest closing the Sauk to fishing from a vesse! During the 2021 season, the amount of fishing pressure from people in boats was mind blowing. In order to ensure that we as anglers don't have a substantial impact on the fishery, we should not allow fishing from a vessel in the Sauk. Lastly, if the rivers were to only be open five days a week, I would suggest the allotted days be Monday-Friday every week. The reason for my suggestion is in 2021, the weekends saw an unhealthy amount of anglers, which could have a negative impact on the fishery.

Thank you for your time,

Richard Davidson

Sent from my iPhone

Comment Letter #2



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Fwd: Comments on Skagit River Steelhead Fisheries RMP

1 message

Salmon Comments - NOAA Service Account <salmon.harvest.comments@noaa.gov>
To: James Dixon - NOAA Federal <james.dixon@noaa.gov>

Fri, Dec 23, 2022 at 12:59 PM

----- Forwarded message -----

From: **Brett Wedeking** <myarrowsaim@gmail.com>

Date: Fri, Dec 23, 2022 at 12:48 PM

Subject: Comments on Skagit River Steelhead Fisheries RMP

To: <salmon.harvest.comments@noaa.gov>

I encourage NOAA to issue a new 10 year permit to extend the Skagit River spring steelhead fishery. The RMP was written with extensive biologist and tribal input and worked as it was supposed to for the last five years, including those years when run forecasts dictated there were not enough wild fish returning to hold a spring fishery. Biologists have already shown the sport and tribal fisheries on the Skagit do not impact the run enough to cause a decline in abundance.

This biologically sustainable fishery is important to the economy of the Skagit Valley and other Washington State communities. It's important to have more eyes on the water to dissuade would-be poachers and the fishery holds an important place in the history of both recreational and tribal angling traditions (the tribal fisheries dating back thousands of years).

It's time to approve a new permit and let WDFW and co-managers set the regulations for the new seasons to come.

Thank you,

Brett Wedeking
Seattle, WA

Comment Letter #3



James Dixon - NOAA Federal <james.dixon@noaa.gov>

"Comments on Skagit River Steelhead Fisheries RMP"

1 message

Loop, Derek <dloop@traylor.com>

Fri, Jan 6, 2023 at 3:16 PM

To: "salmon.harvest.comments@noaa.gov" <salmon.harvest.comments@noaa.gov>

I am 5th generation to fish the Sauk and Skagit, my teenaged kids are the 6th. Fishing is life to my family, and we have a connection, even a bond to this system, it is in our DNA. I would rather not have this fishery re-open for CnR if it means Gill nets are going to be used to kill these fish, lets be honest, Gill nets are what destroyed this fishery to begin with, I have seen this with my own eyes and the generations before me (I have been fishing them for 50 years, my family has been since the 1800s). Question, does that 10% figure equate to the tribes being able to intentionally kill 500 endangered fish? (based on 5k fish returning). Or does this allow the Tribes to intentionally kill 10% of the CnR encountered fish? I.e. CnR fisherman land 300 fish so 10% of that is 30 fish intentionally killed by the tribes..... Still 30 to many, but it sure is better than them killing 500 true native steelhead... No one should be able to kill wild steelhead. Not to mention, the treaty's language states over and over they have a right to 50% of the harvestable run. If the harvestable number is 0, 50% of zero is still 0.... There are harvestable numbers of hatchery coho and chinook, there are also plenty of pinks for subsistence. There should never be commercial fishing within any river. Commercial activities should only occur in the oceans to prevent any one run from being destroyed.

Derek Thomas Loop

Concrete Washington 98237

360-299-7149

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to whom they are addressed.

Comment Letter #4



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fishery RMP

1 message

myarrowsaim@gmail.com <myarrowsaim@gmail.com>
To: salmon.harvest.comments@noaa.gov

Tue, Jan 17, 2023 at 2:12 PM

I applaud NOAA for preliminarily approving a new permit for a wild steelhead fishery on the Skagit River. The stipulations and regulations in the last permit worked as intended and showed that the tribal and recreational fisheries, when allowed per the plan requirements, do not impact the overall health or recovery of Skagit Basin wild steelhead.

I do have one huge issue with the new plan. Why are recreational anglers not allowed to target steelhead before 2/1 each season but the tribes are allowed? The plan insinuates that tribes will spread their netting efforts out through the whole season, but they are allowed to net and kill wild fish beginning 12/1 and recreational anglers are not allowed to catch and release steelhead until 2/1. How is that at all fair and how does that make any scientific sense?

If the the Nookachamps Creek steelhead are an early returning component and rec anglers are fishing upstream near Hamilton or Birdsvie (common early season fishing areas) how does that affect Nookachamps fish. It would seem that a directed tribal lower river kill fishery in that pre 2/1 timeframe would be much more detrimental to sensitive early returning fish than a catch and release fishery directed well upstream. I call foul on that part. That is punishing catch and release rec anglers and giving tribes more leeway to kill fish that NOAA recognizes are more vulnerable than the overarching population.

Thank you,

Brett Wedeking
Seattle, WA

Comment Letter #5



James Dixon - NOAA Federal <james.dixon@noaa.gov>

“Comments on Skagit River Steelhead Fisheries RMP”

1 message

Jolene Rosamonda <rosamonda_rn@hotmail.com>

Tue, Jan 17, 2023 at 4:34 PM

To: "salmon.harvest.comments@noaa.gov" <salmon.harvest.comments@noaa.gov>

Skagit county is home to me just as much as the rivers. I understand the need for regulations and setting goals for the Steelhead. As well as alluring the tribes to have a large presence in this topic. However! Nets in December? If the fish are not harvest in a matter that is useful, meaning not sitting in trucks, or rotting over several days, then they should be held to the same standard. Or limits! Why can't the tribes have limits? Or no fishing from a boat? These are simple interventions that will still allow for recreation and guides, and tribal members, to use this recreational resource.

Jolene

Sent from my iPhone

Comment Letter #6



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fishery RMP

1 message

Joseph Mara <joeey@waistdeepmedia.com>
To: salmon.harvest.comments@noaa.gov

Tue, Jan 17, 2023 at 6:53 PM

I support the plan as it currently exists. Also let's get this catch and release season announcement going eh?

Comment Letter #7



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Public comment re: Skagit Steelhead fishery

1 message

Jonathan Terhaar <jonofark@mac.com>
To: salmon.harvest.comments@noaa.gov

Wed, Jan 18, 2023 at 11:45 AM

Close any retention. Allow catch and release.

Easy.

Comment Letter #8



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Skagit river spring fishery

1 message

Nate Weinberg <natew1283@gmail.com>
To: salmon.harvest.comments@noaa.gov

Wed, Jan 18, 2023 at 2:04 PM

Wanted to add my comment on how important I feel that this fishery is. I know the local tribes rely on it for an economy along with salmon as well. As far as the sport fishery of catch and release, it brings untold amount of money to local businesses that otherwise wouldn't see too much business in the areas this type of year. From the local diners and restaurants that are filled with fisherman for breakfast or afternoon after, too the local shops and gas stations that are used to stop and grab supplies. Most importantly, it's part of being a Washingtonian and our culture here in the NW. We love these fish and want to protect them as well but feel statistics support that catch and release is safe for the fish enough to maintain a season. Thanks.

Comment Letter #9



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

1 message

Larry Wasserman <wasser.larry@gmail.com>

Wed, Jan 18, 2023 at 7:53 PM

To: "salmon.harvest.comments@noaa.gov" <salmon.harvest.comments@noaa.gov>

I would like to provide the following comments regarding the Skagit River Steelhead Resource Management Plan. In particular, I would like to address the closure to recreational fishing from the lower river to the Dalles Bridge to protect Nookachamps Creek steelhead. Having been a salmon biologist for two of the Skagit Indian Tribes for nearly 30 years, I have some familiarity with the available data, and I have not seen any data to support this closure.

There are three main points I would like to make.

First, the 2021 RMP document states that

"fisheries will be managed at the SMU level, rather than the DIP level because population-specific data are currently insufficient to manage at the population (i.e., DIP) level for steelhead in the Skagit River Basin (NMFS 2019). Population-specific information was used, where available, in the development of steelhead management objectives listed in Section 11.0, Data Gaps (Sauk-Suiattle Indian Tribe et al. 2021)."

Despite this statement, the closure of recreational fisheries to the Dalles Bridge is based on managing at the DIP level, rather than the SMU level. The very reason given for the closure of over 35 miles of the Skagit River is based on what appears to be an inconsistency in the management regime for the river. Either the managers will manage at the DIP level or the SMP level. It can't be both and still be consistent with the underlying principles of the Plan.

Second, there is no evidence presented regarding how many, if any, Nookachamps Creek steelhead migrate past their natal stream. No evidence is presented how far these fish might migrate, yet the fishing closure extends more than 35 miles upstream. No evidence or estimate is presented how large of an impact on Nookachamps steelhead might be expected as a result of a recreational fishery conducted within all or a portions of this 35 mile exclusion zone. Given their reported early run timing there is no evidence presented to support a closure throughout the entire spring season. The managers and NOAA should feel an obligation to provide meaningful justification for the closure of 35 miles of the Skagit River when it remains one of the few rivers open to recreational steelhead fishing in the springtime in Washington State.

Third, the RMP states

"Protection of the Nookachamps Creek Population The Nookachamps Creek population is the smallest extant steelhead DIP in the Skagit River and, potentially, the smaller size could increase the risk of extirpation. The Nookachamps also has only a winter run timing life history (NMFS 2019). The 2021 RMP provides additional protection for the Nookachamps Creek population by limiting recreational fisheries for adult steelhead to areas upstream of the Dalles Bridge in Concrete, WA (RM 54.1). This is 35.3 river miles upstream of the relatively small Nookachamps Creek population. In addition, since Nookachamps steelhead generally exhibit an earlier run timing (Hard et al. 2015), treaty fisheries would not concentrate on the early returns, but spread fishing effort across the entire return period and confine higher effort fisheries to the February to April timeframe (Sauk-Suiattle Indian Tribe et al. 2021)."

This appears to be the sole justification for over 35 miles of the river being closed to recreational fishing, while at the same time Tribal fishing will "spread fishing effort across the entire return period and confine higher efforts fisheries to the February and April timeframe." While I am certainly completely supportive of the Tribal fisheries, there is no analysis of the relative impacts of the Tribal fisheries compared to the potential impacts of a catch and release fishery for some time and some area above Nookachamps Creek. If the fishery can sustain a limited Tribal harvest, why can't it also sustain a low impact catch and release recreational fishery? The managers and NOAA should feel some obligation to explain this disparity.

This closure results in a very congested fishery within the river in the area above the Dalles Bridge, and puts almost all the fishing pressure the area of the Sauk and Upper Skagit. Were some portion of the Skagit to remain open in the 35 miles proposed for closure, and assuming that the number of anglers would not increase (although I have no basis for this assumption) the small recreational impacts to Skagit steelhead would be dispersed and not be targeted to a more restricted geographic distribution of fish. It would also provide recreational opportunities in the very popular area of Hamilton to Concrete.

I have the following suggestion to reconcile these concerns.

1. Open the Skagit River to recreational fishing starting at some point removed from Nookachamps Creek. One suggestion would be to open the fishery upstream of Gilligan Creek. This would provide a significant buffer for those Nookachamps fish (if there are any) that migrate past the creek from interactions from recreational fishers
2. If cause for concern is the earlier run timing of Nookachamps steelhead, only open a recreational fishery above Gilligan Creek starting after the majority of Nookachamps Creek spawning has occurred. Perhaps mid February or early March. This would insure protection of most if not all of the early spawning Nookachamps Creek steelhead.

The managers and NOAA should really provide better evidence based reasons for restricting the fishery as proposed. It is certainly understandable if the underlying reason is the lack of WDFW funding to undertake monitoring in this expanded area, but if this is the case, the Department should say so.

If the reason is to avoid conflicts between Tribal and recreational fisheries (which, based on my experience working for the Skagit Tribes for nearly 30 years and fishing the Skagit River for even longer is an infrequent occurrence) then that should be stated as the justification rather than for the obscure reasons presented in the Plan.

Thank you for your consideration of my comments

Larry Wasserman

Bow, WA

Comment Letter #10



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Notice: Public review and comment period - NMFS' review of a Skagit River steelhead fishery Resource Management Plan

Guy Fleischer <guy.fleischer@wildsteelheadcoalition.org>
To: James Dixon - NOAA Federal <james.dixon@noaa.gov>
Cc: Greg Topf <greg.topf@wildsteelheadcoalition.org>

Thu, Jan 19, 2023 at 9:17 AM

James: The Board of Directors at Wild Steelhead Coalition (WSC) has agreed unanimously to consider the recent WSC post* as a formal submission of public comment on the preliminary evaluation and pending determination (PEPD) and the draft supplemental Environmental Assessment (EA) regarding the Skagit River Steelhead Fishery Resource Management Plan, per Endangered Species Act (ESA) under the ESA 4(d) Rule, Limit 6.

*REF: <https://www.wildsteelheadcoalition.org/news/in-a-nutshell-review-of-pending-determination-of-skagit-river-steelhead-resource-management-plan>

Again, thanks for all the effort you and your team have put into this important effort to rebuild and recover the threatened Skagit River steelhead and provide meaningful exercise of tribal treaty fishing rights and fishing opportunities for citizens of the State of Washington.

Guy Fleischer
Science Advisor



[Quoted text hidden]



JANUARY 17, 2023 • WILD STEELHEAD COALITION

In a Nutshell: Review of Pending Determination of Skagit River Steelhead Resource Management Plan



By Guy Fleischer, Science Advisor

National Marine Fisheries Service (NMFS) received a request from the tribal and state co-managers in the Skagit River Basin of the Puget Sound to review a steelhead fishery resource management plan (RMP) under NMFS' Endangered Species Act for salmon and steelhead. This RMP would replace the previous expired plan and guide tribal ceremonial, subsistence, and commercial fisheries and state recreational fisheries in the Skagit River terminal area that impact steelhead, including direct and incidental fishery impacts.

NMFS has reviewed the plan and prepared a preliminary evaluation and pending determination (PEPD). NMFS has made this PEPD and a draft supplemental Environmental Assessment (EA) available for public review and comment.

See: <https://www.fisheries.noaa.gov/action/skagit-river-steelhead-fishery-joint-resource-management-plan>

Here is my review of the documents provided.

What's The same:

Fishing opportunities will continue to rely on applying the established tiered harvest-rate regime based upon annual forecasted run size for adult steelhead abundance. Under this scheme, the allowable harvest impact rates vary from 4 percent to 25 percent of the yearly forecasted Skagit River steelhead abundance. Fishing can occur only when the projected run exceeds 4,000 fish due to an otherwise incidental catch.



rate for catch and release is 10%, from the best available science prescribed in the RMP.



What's New:

This RMP will span ten years.

Recognized uncertainty involving management under the 2018 plan was the basis for limiting the initial duration to 5 years.

Fluctuating productivity in wild steelhead is clearly described.

The document recognizes that the productivity of Skagit River steelhead, measured as recruits per spawner, has fluctuated widely over the available data series, with observed lows in the early 2000s and early 2010s lower than in the period before the mid-1990s, a critical weakness not correctly recognized in the previous RMP. What is crucial is continued monitoring of productivity to inform and update stock and recruitment measurements as a means to track and if necessary, update the derived sustainable yield reference points (RMSY and R60).

What's improved:

Protection of kelts.

In addition to the previous closing recreational fishing for adult steelhead no later than April 30, tribal fishing directed at steelhead will be focused from January to April, a time frame shown with low numbers of kelts. Also, some other fisheries (targeting spring Chinook and sockeye) showing kelt bycatch "may be conducted as a steelhead non-retention (steelhead



"

Early winter steelhead protection measures.

Tribes could conduct tribal net fisheries for steelhead between December 1 and April 15; in practice (as in fishery years 2018-2022), the most effort would continue to be applied between February and early April, continuing early winter steelhead protection. Also, no recreational fisheries will be allowed for adult steelhead **before February 1**. This is much better than the original intended use of Chamber's Creek fish to provide the early run fish. The document states, "*Treaty fisheries would not concentrate on the early returns, but rather be designed to access steelhead across the entire return period. Generally, this would have the effect of a reduced fishery effort in the pre-February timeframe.*" Overall, another positive step.

Resident trout.

The tribes plan to assess the sex and spawning condition (pre-spawn or kelt) of landed steelhead, and tissue samples would be collected to determine isotopic chemistry to inform managers of the contribution of resident rainbow trout to steelhead populations. Further, an assessment of Skagit River resident rainbow trout has been completed, documenting the contribution to steelhead production, another positive step in a commonly ignored part of steelhead life history.



Summary:



that recognize the diversity and complexities of steelhead life history.

I also see forward thinking in the document that recognizes the need for catch and escapement sampling *"to describe the age structure of populations needed are critical to developing analyses needed to improve the basis of management, e.g., improving forecasting capability, quantifying recruitment, and developing escapement goals."* One essential item not described in the documents is the recent adoption of more advanced stock assessment models for Skagit River wild steelhead. The improved steelhead modeling approach, which considers critical environmental conditions and missing or inherently messy data, is currently being used for forecasts.

For those interested, this was the topic of one of my recent [blogs](#).

Finally, there is no mention of hatcheries or broodstock to augment steelhead populations in the Skagit. Given what we know about the adverse hatchery effects on wild fish, this is also a sign of genuine commitment to wild steelhead recovery in the Skagit River system.

The public review and comment period ends **on January 23, 2023**. The address for providing email comments is salmon.harvest.comments@noaa.gov. Feel free to use any or all of the above points for public comments any individual wants to make.

In the email's subject line, include the following identifier: **"Comments on Skagit River Steelhead Fishery RMP."**



NEXT 
2022 Wild Steelhead Coalition Scholarship

WILD STEELHEAD COALITION 4742 42ND AVE SW #462, SEATTLE, WA 98116
INFO@WILDSTEELHEADCOALITION.ORG

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Comment Letter #11



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

1 message

Kit Blue <houseofblues_6@comcast.net>
To: salmon.harvest.comments@noaa.gov

Thu, Jan 19, 2023 at 9:03 PM

After reading through the supplied data, I would like add my support for the new 10 year RMP proposal for the Skagit River steelhead fishery.

Kit Blue
Sent from my iPhone

Comment Letter #12



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

1 message

Jeff Dodd <jeffdodd@comcast.net>

Thu, Jan 19, 2023 at 9:27 PM

To: "salmon.harvest.comments@noaa.gov" <salmon.harvest.comments@noaa.gov>

I strongly support the updated Skagit Steelhead Resource Management Plan.

Thank you,

Jeff Dodd

Snohomish, WA

Comment Letter #13



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

1 message

tfreeburg@frontier.com <tfreeburg@frontier.com>

Fri, Jan 20, 2023 at 8:58 AM

To: "salmon.harvest.comments@noaa.gov" <salmon.harvest.comments@noaa.gov>

Greetings,

As a life long resident of Washington state, I have fished for Steelhead for years, and with great sadness watched this fishery decline to its current state. I currently live within 50 miles of the Skagit, and would gladly participate in a fishing opportunity on that great river system, should the opportunity arise.

Make no mistake, the general population understands how fragile the entire marine environment is, and I for one would treat this opportunity with great respect. That being said, it is time to reopen a limited fishery.

Also, more engaged individuals, especially those who would enjoy a catch and release fishing opportunity, will be an additional resource to help preserve and protect this resource from those who might abuse this opportunity.

Thank you,
Thomas Freeburg
Snohomish,WA

Comment Letter #14



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Skagit RMP

1 message

Dale Dennis <ddennis11@outlook.com>

Fri, Jan 20, 2023 at 4:24 PM

To: "salmon.harvest.comments@noaa.gov" <salmon.harvest.comments@noaa.gov>

I whole heartedly support the 2023 Skagit Steelhead Resource Management Plan.

Sent from [Mail](#) for Windows

Comment Letter #15



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

1 message

John Townsell <bookmasterjt@yahoo.com>

Fri, Jan 20, 2023 at 4:50 PM

Reply-To: John Townsell <bookmasterjt@yahoo.com>

To: "salmon.harvest.comments@noaa.gov" <salmon.harvest.comments@noaa.gov>

I would like to express my approval of the Skagit River Steelhead Fisheries RMP. It is a very good proposal.

John Townsell
5408 Rockefeller Ave.
Everett, WA 98203

Comment Letter #16



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

1 message

Eamon Hoffman <ehoffman1998@gmail.com>
To: salmon.harvest.comments@noaa.gov

Sat, Jan 21, 2023 at 4:27 AM

Please allow and further this fishery. It seems to be one of the Fisheries that co managers can agree on. Declining the RMP would just further the opinion of how are fisheries are ran in this state. Some of us rely on these fisheries for our livelihood, even in the sportsman category.

Eamon Hoffman, ExploreNWGuideService.

Comment Letter #17



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

1 message

sandiegoluis84@gmail.com <sandiegoluis84@gmail.com>
To: salmon.harvest.comments@noaa.gov

Sun, Jan 22, 2023 at 8:49 PM

To whom this may concern,

I have been a long time steelhead fisherman and now guide. The Skagit and Sauk have always had a special place in my heart. The scenery doesn't do it justice, the fishing is definitely a bonus. It would be nice to have an announcement soon to be able to make plans and accommodations for this fishery.

I do believe from past season that it will attract many anglers new and old. I would like to see some more of the lower Skagit open to anglers. I suggest no fishing from a boat from the Dalles bridge to HWY 9 to spread out the pressure of all types of anglers.

Luis San Diego
Pugetropolis Sportfishing
206.679.1516

Comment Letter #18



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fishery RMP

1 message

Sandy Atkinson <atkinson.es@comcast.net>

Sun, Jan 22, 2023 at 9:33 PM

To: "salmon.harvest.comments@noaa.gov" <salmon.harvest.comments@noaa.gov>

Hello James Dixon,

I wholeheartedly approve this updated 2021 Skagit River Steelhead Fishery RMP. I agree with extending the duration to 10 years. It is good to see that the proposed tiered harvest (Table 3) is the same as that in the 2016 RMP.

It is my personal experience fishing under the 2016 RMP in previous fisheries, that the recreational fishery is closely monitored. I was checked by a creel-checker during most of my trips.

I still do not agree with the high 10% mortality estimate for the recreational fishery. This figure makes more sense for a summer fishery. In the much colder water of the Feb-Apr time frame, the mortality will be closer to 2.5%. Nevertheless, even with the more conservative mortality estimate, Table 3-3 in the SEA shows that actual overall mortality is well below allowable limits in the RMP.

Overall, I feel that this 2021 RMP allows for an excellent Catch & Release fishery for Skagit/Sauk steelhead with minimum impact on the resource.

Best regards,

Edward (Sandy) Atkinson
Evergreen Fly Fishing Club
360-548-3642

Comment Letter #19



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

1 message

Tom Kearns <tretmk@gmail.com>
To: salmon.harvest.comments@noaa.gov

Mon, Jan 23, 2023 at 9:23 AM

I am submitting a comment regarding the personal impact of opening a catch and release season on the Skagit & Sauks Rivers.

The comment is specifically focused on the trespass and traffic violations of fishermen who access the Sauk River via Bryson Rd.

In 2021 WDFW set a catch and release season open from February to April. At the same time fishing on the Olympic Peninsula was closed. This resulted in a flood of fishermen concentrating on the Skagit & Sauk.


Bryson Rd. is a one lane residential access dead end road. Lane width is about 15 feet. No traffic control signs are posted. The speed limit is set at 20 mph.

A non-standard parking lot was constructed by the Sauk Suiattle tribe for river access. The parking area has a capacity of less than 5 vehicles. No boat launch access is provided.

Bryson Rd. traffic, especially during the weekends, experienced speeds of over 40 mph. Full size trucks with guide boat sized trailers sped down the road and were forced to make 180 degree turns when parking was not available after rounding a blind curve. My property experienced trespassers and littering. The river bank had earlier been constructed by the federal NRCS rockery of slopes over 1:1 forcing fishermen to trespass on my upstream property.

Skagit County and WDFW game wardens were not effective in traffic control and trespass control.

It is recommended that signage be installed along the road to inform drivers parking is limited. A portable radar speed indicator be installed to warn the drivers of excess speed.

 **sauk fishery personal damage .docx**
19K

March 3, 2021

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

HARD COPY TO FOLLOW

RE: Sauk River Fishing Private Property
Damages

Dear Mr. Susewind:

I am taking this time to tell you of the negative impact of your Department's decision to allow fishing on the Sauk River until April 13, 2021.

My wife and I have lived at 55266 Bryson Rd, Darrington WA since 1993. Unfortunately, we have approximately 2,000 lf of river frontage on the west bank. Bryson Rd. is a single lane paved road with a 20-mph speed limit. Our northern property line abuts Bryson Rd.

Your opening OF fishing on the Sauk combined with the closing of fishing on the Olympic Peninsula is causing us damage due to the concentration of fishing pressure to a small area. Damages are:

1. Traffic increase of approximately 500%,
2. Speeding traffic
3. Trespass
4. Property damage

Bryson Road is a narrow one lane road that travels east from HWY 530 approximately three eights of a mile to a nonconforming parking area owed by the Sauk Suiattle Tribe. There are four residents living on this road. Two of the four are on the north side less than 100 feet of the intersection. The last two residents ARE north and south of the road approximately one quarter of a mile from HWY 530. The road is marked as 20 miles per hour speed limit.

TRANFFIC INCREASE

I estimate the traffic increase caused by fishermen as over 500 %. Unfortunately, the fishermen are a) new to the area thereby unfamiliar with conditions, and b) drive at unsafe speeds. This occurs because most fishermen are new to the Sauk River due to other river closures. The likelihood of a traffic accident and personal or property damage has proportionately increased. Pets and children live in the residents along the road.

I estimate traffic on Bryson Rd to be over 20 trips of fishermen each way per day on the weekends. Most steelheaders know the Sauk run is best late in the season. Therefore, it is reasonable to judge the traffic will only get heavier as the season moves along. Unfortunately, a few vehicles with boat trailers have driven the road. There is no boat access. Reaching the unimproved parking area, they will have difficulty turning around without the potential of damage or trespass. Having lived on Bryson Rd. for such a time, I know this level of traffic far exceeds what used to be when fishing was coordinated over the entire Puget Sound Region without dramatic system closures. To confirm my impression of the traffic, I recommend you speak with the creel checkers who were at the parking area and on the Sauk on Sunday.

SPEEDING TRAFFIC

With the increase in traffic there has been an increase in speeding. There is increased competition for the best fishing locations. I have observed at least two vehicles speeding up and down the road at over 40 mph on Saturday. Speeding on Sunday was a common occurrence. The road is not designed for that speed. It is unsafe. The Skagit County Sheriff's Department has advised me that unless their deputies observe the speeding, they can do nothing to control it. They do not patrol this area. There are small children and pets are in the area.

TRESSPASS

I do not have the time to patrol my property for trespassers. The fishermen look upstream at the end of Bryson Rd and decide to hike over my 2,000 of river frontage. It is extremely difficult to access the upstream area without trespassing. For approximately 1250 lf, the top of bank is over 15 feet above the water line. Traversing the steep slope is exceedingly difficult and dangerous. They have caused damage to the riverbank as it is not stable. The County has also abandoned the Sub Flood Control District established to protect the area. Since then, the river has exaggerated its alignment increasing the angle of flow to more than 45 degrees on the west bank in several areas resulting in severe bank erosion. This winter alone, more than 30 feet of the western bank has been eroded away. Other areas have eroded into our property. When we bought the property, it had less than 300 feet of river frontage. We now have almost 2,000 liner feet.

Over this weekend, there have been 8 trespassers on our property that I have seen. All are fishermen using our property as along stream access. I have spoken to them all. Their first reaction is "this is the top of the riverbank. I can walk here." I then point out my fences and signs. Fencing runs parallel to the bank and cross the property to the top of the high bank. I point out that the river's high-water mark is below the top of the bank. The side slope is 1:1 slope or greater overgrown with trees, brush, rip rap and heavy shrubs. After confronting them I escort them off my property to Bryson Rd. I do not have time to patrol my property nor be exposed to lawsuits when they injure themselves.

PROPERTY DAMAGE

Increased traffic and trespassing have resulted in property damage. Fences will need repair. Installation of new NO TRESPASSING signs will need to be installed. Revegetation may even be required. Loss of personal time and tranquility has and will continue to make an imposition on us by your increased fishing. As new people frequent the area and learn of the "Free Access," trespass during all months of the year outside of fishing season will become a problem when heretofore trespass has not been an issue. Trespassing has also resulted in stolen private property.

CONCLUSION

Washington Department of Fish and Wildlife shall revise its management to eliminate the changed conditions due to concentrating fishing pressure on the Sauk River, especially at Bryson Rd. The Department will coordinate with Skagit County Public Works by fund traffic calming measures to ensure traffic does not exceed 20 mph. WDFW shall patrol the area adequately to ensure trespassing on private land is stopped. WDFW will ticket those found trespassing. WDFW will reimburse me for damages and installation of new fencing and signage.

I look forward to your response outlining your department's efforts to control this situation that has causing my wife and I damage. I can be reached at (360) 436-0384.

Sincerely

Tom Kearns

55266 Bryson Rd

Darrington WA 98241.

Comment Letter #20



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Skagit River Steelhead Fishery Joint Resource Management Plan

1 message

shownt@gmail.com <shownt@gmail.com>
To: salmon.harvest.comments@noaa.gov

Mon, Jan 23, 2023 at 4:11 PM

To whom this may concern,

I would like to submit the following comments for review regarding the PEPD. The section of river between Darrington and the Suiattle River has the highest density of Winter Steelhead spawning activity in the entire Skagit Basin. I urge NOAA to prevent any fishing operations in this section to provide a sanctuary for fish that rely on that habitat for spawning. I fully understand and support treaty fishing rights and I would hope the Sauk Suiattle tribe can fish lower or upper in their U&A so as not to disturb spawning activity. In paragraph 4 on page 21 it describes the creel protocol for rec fishers but it fails to mention keeping track of guided fishers. Guided commercial fishers can inflate catch numbers of rec fish caught because they in general catch more fish than non-guided anglers and thus put the rec fishery at risk of early closure during seasons of low returns. I urge the NOAA to require language about keeping track of guides in the creel protocol of the RMP.

Thanks for your time,

Shawn Turnbull

Comment Letter #21



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

1 message

Gregory Fitz <gregorysfitz@gmail.com>
To: salmon.harvest.comments@noaa.gov

Mon, Jan 23, 2023 at 4:34 PM

NOAA Fisheries:

I'm an angler based in Olympia, WA. I've valued the recent spring wild steelhead seasons on the Skagit and Sauk Rivers and am providing brief comments on the draft RMP because the recovery of these populations is important to me, and I believe, the region as a whole.

While I have enjoyed the recent fishing opportunities, and look forward to more in the future, I want to make it clear that the recovery of viable, sustainable populations of wild steelhead is my priority and should be the clear priority of the co-managers. As much I want a chance to keep fishing, I think a cautious approach is necessary. I worry that co-managers push towards fishing opportunity when stakeholders demand it and are inclined to risk excessive opportunity for fishing seasons to appease that political pressure.

Therefore, regarding the current draft RMP, my primary concern is that the co-managers do not seem to have updated the management framework from the last plan. I wonder how the last few years of open seasons have impacted recovery? I wonder if the thresholds for impacts shouldn't be reevaluated further to ensure enough fish are reaching their spawning grounds? There seems to be a lack of adaptive management in the new draft, which concerns me since it will govern the next decade of potential fishing seasons.

I would add that the fishery monitoring on the Skagit and Sauk seems to be the most extensive, and highest standard, of any of Washington's wild steelhead fisheries. I think it is a gold standard and applaud the co-managers for their commitment. (I desperately wish our steelhead fisheries on the OP and Coast were done even half as well, frankly.) That said, I know that some anglers are missed by creel monitoring. I know of a number of fish caught that weren't captured by monitoring or reported in the creel survey. I wish the RMP would prioritize the creation of an online digital reporting/monitoring system. With the prevalence of smart phones among anglers, it would facilitate much more comprehensive data collection around fishery impacts and real-time returns.

I applaud the co-managers efforts to reduce bycatch of steelhead kelts in the Chinook and Sockeye fisheries.

I see a discrepancy in the start dates for tribal and recreational fisheries targeting steelhead. I understand that most fishery activity takes place in the overlapping period of February through April, but for consistency's sake I believe the official start dates should match.

Thank you for the opportunity to provide comments. I'm not sure of the process or timeline to approve the RMP in the near term, but I hope there is time for co-managers to fold in these opportunities for additional rigor to ensure wild steelhead have the best chance possible to rebuild their numbers in the watershed and low-impact fisheries can continue to be a part of the management landscape.

Thank you,

Greg Fitz
Olympia, WA

Comment Letter #22



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

3 messages

David Moskowitz <david@theconservationangler.org>

Mon, Jan 23, 2023 at 4:20 PM

To: salmon.harvest.comments@noaa.gov

Cc: james.dixon@noaa.gov, "Eleazer, Edward J (DFW)" <Edward.Eleazer@dfw.wa.gov>, John McMillan <john@theconservationangler.org>

Dear James,

I have attached comments from The Conservation Angler regarding NOAA's assessment of Skagit River Steelhead Fisheries.

I would appreciate an acknowledgement that you have received our comments.

Regards,

David Moskowitz

--

David A. Moskowitz

Executive Director

The Conservation Angler

david@theconservationangler.org

www.theconservationangler.org

971-235-8953



Tout ce qui est impossible reste à accomplir. ~ Jules Verne

All that is impossible remains to be accomplished.

 **TCA_comments_NOAA_Skagit_PEPD_Final_Jan23_2023.pdf**

487K

James Dixon - NOAA Federal <james.dixon@noaa.gov>

Mon, Jan 23, 2023 at 4:31 PM

To: David Moskowitz <david@theconservationangler.org>

Cc: salmon.harvest.comments@noaa.gov, "Eleazer, Edward J (DFW)" <Edward.Eleazer@dfw.wa.gov>, John McMillan <john@theconservationangler.org>

Good afternoon David,

I did receive the comments from the Conservation Angler and will review.

Appreciate your participation,

[Quoted text hidden]

--

James Dixon

Sustainable Fisheries Division

NOAA Fisheries West Coast Region

360-522-3673

james.dixon@noaa.gov

David Moskowitz <david@theconservationangler.org>

Mon, Jan 23, 2023 at 4:45 PM

To: James Dixon - NOAA Federal <james.dixon@noaa.gov>

Cc: salmon.harvest.comments@noaa.gov, "Eleazer, Edward J (DFW)" <Edward.Eleazer@dfw.wa.gov>, John McMillan <john@theconservationangler.org>

Thank you James.

[Quoted text hidden]



January 23, 2023

James Dixon
Sustainable Fisheries Division
National Marine Fisheries Service West Coast Region
1009 College St. Southeast, Suite 210
Lacey, Washington 98503
Sent via email to: salmon.harvest.comments@noaa.gov

RE: Comments on the PEPD and EA for the Skagit River Steelhead Fishery RMP

Dear Mr. Dixon,

The Conservation Angler submits these comments on the Proposed Evaluation and Pending Determination (PEPD) and Environmental Assessment (EA) for Skagit River Steelhead Fishery Resource Management Plan (RMP). As required by the 4(d) Rule developed pursuant to the Endangered Species Act (ESA), NOAA has an obligation to evaluate whether the RMP meets the criteria under Limit 6 of the 4(d) Rule and whether implementation of the RMP will appreciably reduce the likelihood of survival and recovery of ESA-listed Puget Sound steelhead.

According to the PEPD, NOAA's preliminary determination is the RMP would not appreciably reduce the likelihood of survival and recovery of ESA-listed Puget Sound steelhead. The Conservation Angler (TCA) believes the preliminary determination PEPD and EA are incomplete, fail to consider the best available science, and are not substantiated by the analysis in the PEPD or EA. Below we provide specific comments where the PEPD and supplemental Environmental Assessment (EA) are insufficient. We request that NOAA revise the current RMP to account for these limitations and issue a new PEPD and EA prior to approving the revised RMP.

- 1. The proposed fishery in the supplemental EA does not include the full extent of potential recreational fishing impacts on steelhead, particularly for the depleted early-returning component of the steelhead population.**

Rebuilding and sustaining diverse life histories is critical to recovery of wild steelhead in the Skagit River. Diversity in run and spawn timing improves resiliency to environmental factors such as poor freshwater and marine survival and a changing climate, thereby increasing the likelihood that the population and DPS meet recovery goals.

Historically a significant proportion of the Skagit's wild steelhead population made entry into the river in December and January with spawning documented beginning in early February, a month prior to the current start of Skagit spawning surveys in early March (Pflug et. al. 2013).

To protect those fish, the supplemental EA on Pg. 12 and Pg. 15 state that recreational fisheries shall not be opened prior to February 1. However, WDFW is, and has been, operating an annual recreational steelhead fishery that runs from December through end of January (Figure 1). WDFW's rationale for the fishery is to allow anglers to remove hatchery steelhead in the Cascade River, Sauk River, and upper Skagit (Figure 2a-c), even though hatchery steelhead are no longer released into the basin. We could not find language addressing this component of the fishery. Nor did we find any estimation of how char and trout anglers may impact steelhead during their respective seasons. Therefore, the PEPD and EA failed to address important aspects of the proposed action.

TCA's staff and Board President (Pete Soverel) are intimately familiar with the Skagit River and have spent time on the river during the "hatchery steelhead" season. Based on those observations, along with reports from other anglers and colleagues, there are numerous anglers fishing for steelhead throughout the Skagit River basin during that two-month season, including the middle and lower Skagit that are not mentioned as having "hatchery steelhead" seasons in the WDFW regulations. A cursory social media search this year, for instance, displays numerous posts and photos of anglers fishing for and catching wild winter steelhead throughout the Skagit River basin. And as documented in Figure 2, guides and fishing shops are actively promoting the "wild" steelhead fishery from December through January. Although wild steelhead are caught and released, there is unintentional mortality and potential for sublethal impacts, whose impacts will add up considering the number of anglers fishing during this period that is not evaluated in this decision document. The supplemental EA must be revised to address recreational angling impacts that are occurring from December through January and determine whether that fishery is consistent with recovery goals.

2. The FMP does not adequately protect important population parameters that are critical to the resilience and recovery of wild steelhead.

The PEPD and EA do not explicitly evaluate how fisheries may impact Viable Salmonid Population (VSP) parameters such as diversity and spatial structure. For example, there is only a coarse suggestion that Treaty fisheries will be operated temporally in a way that does not further compromise early-entering wild winter run steelhead, but specifics are not provided. Therefore, NMFS has failed to provide a reasonable basis for this determination that is supported by the best available science.

Wild steelhead recovery partly depends on rebuilding the early-timed component of the population (NMFS 2019), and yet there is no evaluation of whether the proposed fishery will constrain the population's ability to do so. Additionally, the levels of iteroparity (repeat spawning by wild steelhead) are low (less than 10 %) and the PEPD barely reviews wild summer steelhead, which are critically depleted and close to extinction. This is problematic because early-entering fish may spawn and kelt earlier, making them more vulnerable to March and April fisheries. These essential diversity and spatial structure issues are not considered in the EA, nor is there any consideration or evaluation for potential impacts to wild summer steelhead, either in the winter steelhead fishery or in trout and char fisheries that occur later in the year. Last, there are three extant Distinct Individual Populations (DIPs), and one extinct DIP, associated with the spatial structure of the Skagit River basin. However, the PEPD and EA do not quantify fishery impacts on these individual DIPs, and instead, only focus on the aggregate abundance. This is problematic because the current RMP could exploit weaker DIPs at unsustainable rates and reduce

the strength of the existing population structure. Considering these factors, and that the Skagit River once supported diverse and abundant populations of wild summer and winter steelhead, TCA is greatly concerned about the future because the fate of the overall population now rests almost entirely upon a small slice of that former diversity: maiden spawning, later-entering winter steelhead. The PEPD must be revised to determine how a fishery will affect these important population parameters, and if this cannot be determined or evaluated, the proposed fishery approval must be denied until the evaluation is revised and plans for measuring these critical diversity elements are incorporated in the co-managers' fishery plans.

3. The supplemental EA does not provide sufficient evidence to substantiate its claim that the proposed fishery structure will not appreciably affect Skagit steelhead (EA page 14 lines 2-6) because the population has reached its capacity.

Models describing the role of density dependent population regulation have long been used to establish fishery management targets and make inferences about carrying capacity, yet many of those models are simplistic and have limited ability to incorporate biological and ecological mechanisms related to spatial structure and diversity. The status and productivity of the Skagit River winter steelhead population is evaluated in the 2021 RMP quantitatively via stock-recruit models (i.e., Ricker and Beverton-Holt results on Pg. 26), which show evidence of density dependent population regulation. The models (based on relatively recent data) were used to generate escapement thresholds where the population is expected to maximize long term fishery yield (R_{msy}) and exceed the replacement level of recruitment (R_{60}) to ensure enough fish are escaped to test the capacity of the existing habitat. The presence of density dependence appears to be interpreted as strong evidence that Skagit wild steelhead are utilizing the existing habitat at full capacity. While this is a classic interpretation of such models, ample evidence exists to suggest these relationships may be mischaracterized when populations are at relatively low levels (Achord et al. 2003) and if spatial distribution (Finstad et al. 2013) and diversity (Ricker 1963) are not explicitly accounted for, resulting in erroneous assumptions about capacity, inaccurate estimates of population vital rates, and increased uncertainty in accurate forecasting.

For example, studies on Chinook salmon in the Snake River revealed strong negative density dependence even when populations were at low levels and in cases where the populations had declined but the freshwater habitat had remained relatively unchanged (Achord et al. 2003; Walters et al. 2013). Similarly, Atlas et al. (2015) found density dependence strengthened as abundance of steelhead declined to critically low levels due to poor marine survival, not declines in habitat quality. Hence, evidence of density-dependence is not, in and of itself, sufficient to make claims about habitat capacity unless there is more information to explicitly determine when and where recruitment is limited.

Stock-recruit models generally aggregate the effects of density dependence from adult to adult for whole populations, which is the case in the Skagit River. This makes it difficult to identify the life stage and/or locations at which density dependence is strongest and can result in incorrect conclusions about the factors limiting abundance and productivity. In salmonids, particularly highly fecund ones that are anadromous, the greatest period of mortality in life of salmonids occurs during the first weeks to months of life at the fry stage when they are small and very poor swimmers (see citations below). Limited capacity for dispersal from the redd of appears to be a general phenomenon for many salmonids such as Atlantic Salmon and Brown Trout (Elliott 1993; Einum et al. 2008, Einum et al. 2011) and has been

suggested for steelhead (Hume and Parkinson 1987, Close and Anderson 1992; Kocik et al. 1995; Sogard et al. 2009). Mobile adults with relatively sessile offspring has been shown to affect density dependence at different developmental stages in salmonids, whereby density dependence typically impacts survival early in life (fry stage) when dispersal is limited before eventually influencing growth and/or dispersal later in life (parr) when they are larger and can swim longer distances (Elliott 1993; Einum et al. 2006). Hence, even if abundance of adults is low, there can be strong density dependent effects on survival very early in life when dispersal of small juveniles is limited. Accordingly, reduced abundance does not necessarily alleviate competition that tends to occur at local scales, such as the habitat unit or stream reach, and suitable habitat may go unused (i.e. Einum and Nislow 2005). The simultaneous nature of high mortality rates early in life combined with limited dispersal means stock recruit models can easily overestimate the amount of habitat that fry can access to alleviate the effects of competition.

In this way, density dependent effects and the potential for habitat utilization partly depend on the spatial distribution of spawning adults. For instance, spatial clustering of redds can produce negative density dependent signals even when populations are at low levels (e.g., Walters et al. 2013). At low population sizes spawners often contract into core areas that are consistently used year after year (Finstad et al. 2013; Thurow et al 2020). One way to expand the spatial distribution is to increase the number of spawning fish, which will force fish into lesser used patches or unoccupied habitats (Isaak and Thurow 2006; Walters et al. 2013; Flitcroft et al. 2014). While Skagit steelhead are not at critically low levels, they are greatly reduced from their historical abundance (Gayeski et al. 2011) and the proposed RMP harvest strategy will reduce the largest run sizes of adults by up to 20% - 25%. If the spawner targets generated by the models in the RMP are too low because they overestimate the compensatory capacity by underestimating the strength of density dependence at low escapements, then the proposed high harvest rate tiers will slow or prevent recovery of steelhead by limiting expansion of spatial distribution.

Ultimately, evidence of density dependence does not necessarily mean the population is meeting or exceeding the potential for the habitats to support larger population sizes, and thus, the fundamental basis of the assumption that this plan will achieve escapements capable of testing under-seeded or unused habitats is not based on the most current understanding of the role of density dependence in salmonids. As a result, NMFS has not considered all the best available science on this issue. Given the importance of high escapements to increasing spatial distribution and maximizing the capacity of the habitat, a final determination on the RMP should evaluate the effect of spawner distribution on the stock-recruit models.

1. This plan does not provide any means of bridging the massive gap between contemporary run size and recovery goals, focusing only on maintaining the status quo.

The co-managers have selected an admirable viability goal of 44,619 steelhead for steelhead in the Skagit River, unfortunately the RMP makes the assumption that the only path to reaching this goal is through improvements in habitat quality and quantity. The PEPD and Supplemental EA accept the co-managers assertion that the RMP will allow for escapement levels that test the capacity of the habitat on a regular basis, yet the escapement level above which fisheries are allowed is set at the R_{msy} point of roughly 4,000 spawners. The R_{60} targets are expected to result in “excess” adults capable of dispersing to underutilized habitats when escapements reach 4,844 to 5,370 spawners. In years such as the upcoming 2023 season, where the forecast is for a run size of approximately 5,200 adults, the proposed 10% impact rate could

result in an escapement below the R_{60} point, which would limit the potential for steelhead to reach their management threshold and achieve a trajectory towards recovery. It is also important to note, however, that this assumption does not account for diversity and spatial structure, and thus, the analysis is likely underestimating the escapement needed to fully utilize the existing habitat.

In addition, the RMP includes substantial work demonstrating the population will not reach critical abundance under the proposed fishery, but it does not adequately address how proposed harvest rates may impact the population's ability to reach its viability goal of 44,619 steelhead. There is a massive gap between the current run sizes and the viability goal, and we are deeply concerned that despite rhetoric about "salmon recovery", the RMP is almost solely focused on maintaining the status quo rather than seeking ways to achieve viability. In fact, the minimum escapement targets necessary to achieve the R_{msy} and R_{60} goals are similar to the recent run sizes of ~ 3,000 to 6,000 fish. The rapid increase in harvest rate tiers at escapements over 6,000 and 8,000 fish could compromise the ability of Skagit steelhead to truly test the capacity of the habitat. Considering the vast investments made in salmon and steelhead recovery throughout Puget Sound, the RMP needs to outline a path with more conservative harvest tiers to determine whether the population is truly limited by habitat or whether its productivity is also limited by its current low levels of abundance and diversity. Simply put, the RMP reads as a plan to maintain the population at its current level rather than a component of a recovery strategy aligning habitat and harvest objectives on a path toward viability.

Thank you for your effort and for the opportunity to provide feedback. Please reach out to us if you have any questions or comments.

Sincerely,

s/ David A. Moskowitz

David Moskowitz
Executive Director



John McMillan
Director of Science

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Figures

1. WDFW fishing regulation pamphlet information for hatchery steelhead in the a.) Cascade River, on pg. 28, b.) Sauk River, on page 39, and c.) upper Skagit River on pg. 40 through January 31. Information located in the WDFW regulation pamphlet. Accessed online January 15, 2023 at: <https://www.eregulations.com/washington/fishing/>

a.

CASCADE RIVER - SKAGIT CO.		
from mouth to Rockport-Cascade Rd. Bridge CRC (826)		
All species	July 1-July 15	Anti-snagging rule. Night closure. Closed to all fishing Sundays, Mondays, and Tuesdays.
	Sept. 16-Oct. 31	Anti-snagging rule. Night closure. Closed to all fishing Sundays, Mondays, and Tuesdays.
Dolly varden/ bull trout	July 1-July 15	Min. size 20". May be retained as part of trout daily limit.
	Sept. 16-Oct. 31	Min. size 20". May be retained as part of trout daily limit.
	Dec. 1-Jan. 31	Min. size 20". May be retained as part of trout daily limit.
Other trout	July 1-July 15	Statewide min. size/daily limit. Except: Cutthroat trout and wild rainbow trout: min. size 14".
	Sept. 16-Oct. 31	Statewide min. size/daily limit. Except: Cutthroat trout and wild rainbow trout: min. size 14".
	Dec. 1-Jan. 31	Statewide min. size/daily limit. Except: Cutthroat trout and wild rainbow trout: min. size 14".
Other game fish	July 1-July 15	Statewide min. size/daily limit.
	Sept. 16-Oct. 31	Statewide min. size/daily limit.
	Dec. 1-Jan. 31	Statewide min. size/daily limit.
Salmon	July 1-July 15	Min. size 12". Daily limit 4. Up to 2 adults may be retained. Release all salmon other than hatchery Chinook.
	Sept. 16-Oct. 31	Min. size 12". Daily limit 4. Release all salmon other than coho.
from Rockport-Cascade Rd. Bridge upstream CRC (826)		
All species		Selective gear rules.
Steelhead (hatchery)	June 1-Jan. 31	Statewide min. size/daily limit.
Other game fish	June 1-Jan. 31	Catch-and-release.

b.

game nsn	Day-Last Day of Feb.	
SAUK RIVER - SKAGIT/SNOHOMISH CO.		
from mouth to Darrington Bridge (Sauk Prairie Rd. Bridge) CRC (828)		
All species		Internal combustion motors prohibited. Selective gear rules.
Steelhead (hatchery)	June 1-Jan. 31	Statewide min. size/daily limit.
Other game fish	June 1-Jan. 31	Catch-and-release.
from Darrington Bridge (Sauk Prairie Rd. Bridge) to White Chuck River CRC (828)		
All species		Selective gear rules.
Steelhead (hatchery)	June 1-Jan. 31	Statewide min. size/daily limit.
Other game fish	June 1-Jan. 31	Catch-and-release.

c.

	Sept. 1-Oct. 31	Min. size 12". Daily limit 2. Release Chinook and chum.
from Cascade River Rd. (Marblemount Bridge) to Gorge powerhouse at Newhalem CRC (830)		
All species		Internal combustion motors prohibited. Selective gear rules.
Steelhead (hatchery)	June 1-Jan. 31	Statewide min. size/daily limit.
Other game fish	June 1-Jan. 31	Catch-and-release.

Figure 2. An example of a local guide service/fishing shop promoting recreational fishing trips for wild steelhead from November through January 31, a season that is supposed to be only open for hatchery steelhead, which are not even released into the Skagit River. Site accessed online on January 10, 2023 at: <https://emeraldwateranglers.com/pages/skagit-sauk-rivers-wa>



Skagit River, WA | Wild Steelhead

Spey Casting the Skagit and Sauk Rivers, WA

One of western Washington's many great watersheds, the Skagit in winter and early spring is an annual journey for many dedicated fly-fishers. Local folks as well as those from afar, travel to the Skagit in hopes of fulfilling a dream of the coveted, twenty pounder on a fly. The take alone of a fifteen-pound or better wild steelhead on the upper river the Skagit generally flows fairly clear down to Rockport and the confluence with the Sauk. We highly recommend the use of spey rods on this and the Sauk.

Pricing: Full Day \$575 – \$100 Additional 3rd Angler – Lunch/beverages, flies and all equipment included – Fishing License, WA Sales Tax and Gratuity not included

Season: November – January 31, TBD Beyond

Species: Wild Steelhead

[EWA Cancellation Policy](#)

Additional Information:

Flies: Intruders, General Practitioner, Metal Detector, Mega Moal, Skagit Minnows, Morrish's Trailer Trash, River Rats, Fergus Rock Star, Skunks, Purple Perils, Skykomish Sunrises

Ideal Flows: 2500 – 9000 cfs

Clothing/Equipment Lists: [Summer](#) season, [Winter](#) season

Rods and Lines: 11 1/2 – 13 1/3 foot, 5-8wt spey rods, Rage, Skagit, Scandi, Scout and OPST heads with various tips from floating T-10, T-14 and T-18

Species: Wild Steelhead

Duration: Full day trip 8-9 hours fishing time

Distance from Seattle: 2 hours

Comment Letter #23



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Skagit / Sauk 2023

1 message

Tyler Sturrock <tyler.sturrock@gmail.com>
To: james.dixon@noaa.gov

Mon, Jan 23, 2023 at 5:00 PM

Hello,

Hope this message finds you well.

I would like to express continued interest in having a catch and release season on the Skagit / Sauk - Spring 2023. Please provide the chance to pursue our state fish and enjoy what the Pacific Northwest can offer. I strongly believe the mortality rate of catch and release fishing does compare to the mortality rate of commercial by-catch.

Keep the Wild Wild. Please let us Fish!

Thank you,
Tyler

Comment Letter #24



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

1 message

Patrick Mahoney <pmahoney26@gmail.com>
To: salmon.harvest.comments@noaa.gov

Mon, Jan 23, 2023 at 5:49 PM

Please allow for a catch and release only season on the Skagit River system this Winter. Thank you for your consideration.

Pat Mahoney

Sent from my iPhone

Comment Letter #25



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

1 message

Brian Cowan <briancowan3@gmail.com>

Mon, Jan 23, 2023 at 6:15 PM

To: "salmon.harvest.comments@noaa.gov" <salmon.harvest.comments@noaa.gov>

Hi

Thank you for your thoughtful crafting of the proposal. I wanted to comment that I think it would be great to have part of some of the rivers fishing be limited to not fishing from a boat. The Sauk is a madhouse with many boats covering the whole Sauk in a day and catching numerous fish. I think if part of the river had to be fished on foot while using boats for access that would extend the season and spread out some of the crowds.

I am in favor of the season you have crafted and am looking forward to it.

Thanks

Brian

Comment Letter #26



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

1 message

Othon Hamill <ophamill@gmail.com>
To: salmon.harvest.comments@noaa.gov

Mon, Jan 23, 2023 at 7:25 PM

Hello!

I applaud the RMP being revised and revisited, but am concerned about losing angler support. I strongly believe the most impassioned body for conservation, on average, is the portion of the population that's held a fish themselves.

The unilateral open/close distinction would be better replaced by a more gradual scale, allowing more angler/fish interaction but at a much less frequent scale. I'd propose the fishery start thinning down how many days a week the fishery is open earlier to remain open later, for recreational, no harvest fishing, for even one weekday per week. Map the same fish impact, just cut more out of the early season for a portional gain later in the season. That would limit far-traveling sport anglers and high-impact multi-day anglers while mollifying locals. Locals who often more committed to conservation, and remain closer to the fish populations.

In addition, the RMP relies heavily upon ground-conducted creel surveys. As someone who has fished more than 10 days a year for more than a decade I have once come upon a creel surveyor. Once. I know the evidence is anecdotal, but that's beyond p-values and an experience echoed by other anglers. I wish the state would formally consider guide reporting systems in this RMP, as few as there still are in the Skagit basin.

Best wishes,
-Othon Hamill

Comment Letter #27



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fisheries RMP

1 message

Jonathan Stumpf <Jonathan.Stumpf@tu.org>

Mon, Jan 23, 2023 at 10:32 PM

To: "salmon.harvest.comments@noaa.gov" <salmon.harvest.comments@noaa.gov>

Cc: Gary Marston <Gary.Marston@tu.org>

Jamie-

Thank you for consideration of our comments on the Skagit River steelhead fisheries proposed 10-year Resource Management Plan.

Please reach out with any questions.

Thanks,

Jonathan



Jonathan Stumpf / Washington Advocate, Wild Steelhead Initiative
jonathan.stumpf@tu.org / 303-918-8802

Wild Steelheaders United
www.wildsteelheaders.org

Trout Unlimited
www.tu.org

Skagit_River_RMP_2023_TU.pdf
135K



Trout Unlimited
Wild Steelheaders United

January 23, 2023

James Dixon
NMFS Sustainable Fisheries Division,
510 Desmond Drive, Suite 103
Lacey, WA 98503

RE: Comments on Skagit River Steelhead Fisheries RMP

Dear Mr. Dixon,

Trout Unlimited (TU) appreciates this opportunity to comment on the joint state and tribal Skagit River steelhead fishery Resource Management Plan (RMP) prepared by the Sauk-Suiattle Indian Tribe, Swinomish Indian Tribal Community, Upper Skagit Indian Tribe, and the Washington Department of Fish and Wildlife (WDFW), collectively called the co-managers and the Proposed Evaluation and Pending Determination (PEPD) and a draft supplemental Environmental Assessment (EA) prepared by NOAA Fisheries.

With over 300,000 members and supporters – including 4,000 members in the state of Washington and over 35,000 supporters of Wild Steelheaders United, TU is North America's largest nonprofit organization dedicated to the protection, conservation, and restoration of cold-water fish and their watersheds. Our strength is derived from our grassroots members and volunteers working together with our staff toward the common goal of ensuring resilient fish populations for future generations. TU is dedicated to using the best available science to guide our efforts, and we have the benefit of applying the expertise of our staff fisheries scientists to support policy and science efforts requiring careful analysis.

As required by the 4(d) Rule developed pursuant to the Endangered Species Act (ESA), NOAA has an obligation to evaluate whether the RMP meets the criteria under Limit 6 of the 4(d) Rule and whether implementation of a new 10-year RMP will appreciably reduce the likelihood of survival and recovery of ESA-listed Puget Sound steelhead.

The Skagit River catch-and-release steelhead fishery is a key component of the WDFW's 2020 Quicksilver Portfolio, a management plan for restoring Puget Sound steelhead and fisheries, which was developed by the Puget Sound Steelhead Advisory Group, an advisory committee in which our staff participated. TU members are eager to continue having our opportunity to fish for the Skagit's magnificent wild steelhead, but we want to keep doing so in a well-structured and regulated fishery that is sustainable and does not undermine continuing efforts to increase the abundance, diversity, productivity, and spatial distribution of wild steelhead in the Skagit Basin. We offer our comments with this goal in mind.

While we appreciate the work that has been put into prosecuting a sufficiently managed fishery over the past five years, as directed by the 2018 RMP, we feel little consideration was given to our previous organizational comments that we submitted for the 2017 draft RMP and PEPD and in the Final Environmental Assessment issued in April 2018. Even six years later, in this new proposed RMP, much of what we provided in our comments has not been accounted for, considered, or updated.

1. The PEPD is focusing on jeopardy, without considering how the RMP will aid or hinder actual recovery. NOAA's preliminary determination that the RMP will not "appreciably reduce" the likelihood of recovery is based on an acceptance of unsubstantiated assertions in the RMP and not on an independent analysis applying the best available science. While we appreciate the work that the co-managers have put into prosecuting and managing the fishery, little analysis has been done to assess and quantify the impacts the fishery is having on recovery of steelhead. While the Skagit steelhead population is the largest in Puget Sound, it is still well below its viable population level of 44,619 (Hard 2015) and the interim recovery target of 15,000 (NMFS 2019). As such, fisheries should take a cautionary approach to tiered exploitation rates to ensure that align with recovery and rebuilding of the stocks.
2. The RMP lacks a clear adaptive management strategy. While the RMP does include a set of Performance Indicators for evaluation of this plan, it is not clear to what frequency these will be measured. However, missing from this list of PIs and one we believe should be included as a performance indicator is the spawning habitat evaluated on the degree to which it is utilized on an annual basis. This includes evaluating the spatial/temporal distribution of spawners in the basin from redd surveys to assess whether the population(s) are at carrying capacity as asserted by the spawner-recruit assessments. Habitat improvements and expanded habitat should be incorporated into the assessment of escapement thresholds to ensure that the habitat is being allowed to be fully seeded. Furthermore, we believe the creel alone is insufficient to ensure robust in-season management of this fishery and urge WDFW to strengthen their management approach by adopting electronic reporting of all recreationally caught steelhead, whether retained or released.
3. Iteroparity is not properly accounted for in the stock recruit analysis. Despite the growing body of literature on the use and implementation of integrated population model (IPM) (Scheuerell et al. 2021) based management strategy evaluations (MSE) (Punt et al. 2016), we see little consideration in this plan to move the RMP in this direction. The IPM explicitly accounts for iteroparity by accommodating a more complex age structure that includes repeat spawners and by also estimating kelt survival rate. This model can incorporate different sources of fishing-related retention and non-retention mortality, and accounts for variation in population parameters over time simulating various harvest control rules. We strongly support the use of IPM-based MSE for future implementation of the Skagit River steelhead fishery.
4. While we understand the co-managers are interested in evaluating the possible role of an integrated winter steelhead hatchery program as stated in the RMP, we believe it is necessary that the Skagit River remain free from the influence of hatchery fish until 2034. In the lawsuit settlement in 2014 between WDFW and Wild Fish Conservancy (WFC), which stated that for a period of 12 years, no early winter hatchery steelhead will be released into the Skagit River (only in coordination and agreement with WFC and the co-managers, could the use of a native broodstock program be considered). Additionally, the WDFW's Quicksilver Portfolio (WDFW 2020) recommends annual assessments of fisheries and progress toward recovery for a period

of eight years after the WFC/WDFW 12-year settlement period is complete, which would end in 2034.

While we applaud the co-managers efforts to develop a new ten-year RMP, this RMP looks too much like the 2017 RMP and in our opinion, needs to be improved with the considerations and shortcomings we outlined before it meets ESA requirements and receives final approval from NOAA. Fortunately, NOAA has the opportunity, through the mandatory consultation process required by Section 7 of the Endangered Species Act, to remedy those shortcomings. Specifically, NOAA, in consultation with the co-managers, should develop a “reasonable and prudent alternative” that contains additional measures necessary to have both a tribal and sport fishery that do not jeopardize the recovery of the Skagit Management Unit (SMU) and provide sustainable fisheries.

Again, we appreciate the opportunity to provide comment on this new ten-year RMP and look forward to working with the co-managers and NOAA to achieve an outcome that provides sustainable fisheries and recovery of Skagit River steelhead.

Sincerely,

Jonathan Stumpf
Washington Advocate - Wild Steelhead Initiative
Trout Unlimited
jonathan.stumpf@tu.org

Gary Marston
Science Advisor - Wild Steelhead Initiative
Trout Unlimited
gary.martson@tu.org

References

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Comment Letter #28



James Dixon - NOAA Federal <james.dixon@noaa.gov>

Comments on Skagit River Steelhead Fishery RMP

1 message

Henley Ashmun <henleyashmun@gmail.com>

Mon, Jan 23, 2023 at 10:57 PM

To: "salmon.harvest.comments@noaa.gov" <salmon.harvest.comments@noaa.gov>

I agree with the updated Skagit steelhead RMP, except for banning directed recreational catch and release angling for steelhead before 2/1 each season, while giving tribal fisheries the opportunity to begin netting 12/1 each season.

Thank you,

Henley Ashmun