

**Harvest Management Plan
For Steelhead Returning to the Hoh River
In the Winter of 2021-2022**

**Prepared by the
Hoh Tribe and
Washington Department of Fish and Wildlife**

November 2021

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Introduction

The Washington Department of Fish and Wildlife and the Hoh Tribe have prepared the following harvest management plan for the 2021-2022 winter steelhead season in Hoh River Watershed. This plan establishes management guidelines for the steelhead resources of the Hoh River system. The co-managers agree to a philosophy of cooperation in implementing management measures to maintain, perpetuate, harvest, and enhance the steelhead resource and the natural ecosystem that supports it.

This winter steelhead harvest management plan provides current stock status and the agreed to management for the 2021-2022 winter steelhead fisheries in the Hoh River system jointly managed by Hoh Tribe and the Washington Department of Fish and Wildlife (WDFW).

The Hoh River located on Washington's Olympic Peninsula is approximately 28 miles south of Forks and 80 miles north of Aberdeen. The Hoh River watershed is 56 miles (90 km) long, originates at the Hoh Glacier on Mount Olympus and flows west through the Olympic Mountains of Olympic National Park and Olympic National Forest, then through the foothills in a broad valley. As it nears the ocean, the Hoh passes through the coastal strip of the Olympic National Park, and forms the northern boundary of the Hoh Indian Reservation.

The Hoh River's drainage basin is 299 square miles (770 km²). Its discharge, or streamflow, has considerable seasonal variation, with summer streamflow averaging about one-third that of winter flows.

The Hoh River is fed by glaciers on Mount Olympus, such as the Blue Glacier. The glaciers grind rock into fine glacial flour which turns the Hoh River a milky, slate blue color. The river valley is generally broad and relatively flat, causing the glacial sediments to settle out, creating extensive gravel bars, river meanders, and the many side channels characteristic of a braided river.

2.1 Management Objectives

This plan is intended to ensure that Treaty and Non-Treaty fishermen, subject to their respective regulatory authorities, shall be afforded the opportunities to harvest their shares as determined in *United States v. Washington*, 384 F. Supp. 312, aff'd 520 F.2d 676 (9th Cir. 1975), cert. denied 423 U.S. 1086, aff'd sub nom *Washington v. Washington State Commercial Passenger Fishing Vessel Association*, 443 U.S. 658 (1979) and other orders under the court's continuing jurisdiction and to ensure that the escapement goal for wild spawning adults is achieved.

Wild fish population goals (VSP parameters)

Abundance, productivity, spatial distribution, and genetic diversity can define the health of salmonid populations. Hoh steelhead have maintained a relatively steady abundance over the past 35 years, suggesting that productivity of the stock is fluctuating within a range that is able to provide adequate escapement and some harvest. WDFW and the Hoh Tribe have closely monitored the spawning escapement of winter steelhead in the Hoh River since the 1979-1980 return, walking or floating many miles of the mainstem and tributaries to collect counts of redds, used to estimate the number of spawning adults. The Hoh wild stock has maintained a spawning distribution extending into the upper Hoh and the South Fork Hoh, and though year to year fluctuations in number of redds occurs in any given area, the overall distribution of spawners has remained similar through the years.

Fishery goals

The 2021-2022 harvest management plan is intended to provide opportunity for both Treaty and State fisheries while meeting the conservation requirements of wild steelhead in the Hoh River, consistent with court orders.

The fishery goals for the hatchery and wild steelhead returning to the Hoh River for the 2021-2022 winter steelhead season are:

- Achieve a Hoh River wild steelhead escapement of at least 2,400.
- Provide season long tribal and recreational fishing opportunity.

Hatchery fish production

The Hoh Tribe is broodstocking early timed hatchery steelhead returning to the Hoh, producing smolts to plant back into the Hoh River. The Tribe is using their Chalaat Creek facility to hatch and rear these fish, which are 100% adipose clipped prior to releasing at Chalaat Creek.

Historical wild runsize

The size and components of the wild steelhead runs returning to the Hoh River since 2003/04 are presented in Figure 1 below. The agreed to and adopted wild steelhead escapement goal for the basin is 2,400.

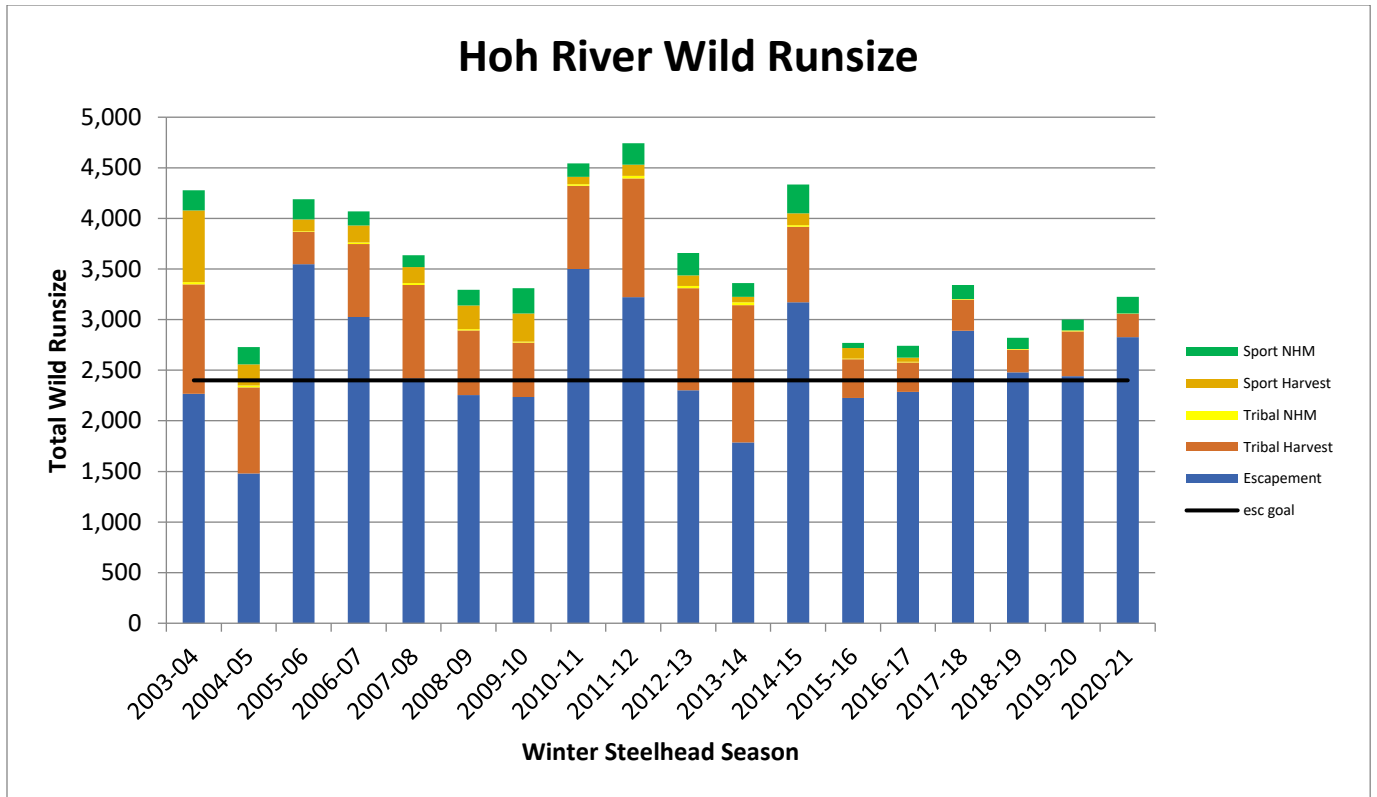


Figure 1. Hoh River total wild run size estimates, with escapement, sport and tribal harvest, non-harvest mortalities.

Fishery performance

During the 18 winter steelhead seasons covering 2003-2004 to 2020-2021, the years for which non-harvest mortality estimates are available for the sport fishery, the Hoh Tribal fishery and State Recreational fishery together have taken an average of 983 wild plus 1,223 hatchery steelhead per season. Average tribal harvest (including ceremonial and subsistence catch) of wild steelhead during that period is 684, ranging from 230 in 2018-2019, to 1,386 in 2013-2014. The Tribe’s hatchery catch averages 819 fish. Tribal catch estimates include a 2 percent place holder for non-harvest mortalities associated with their gill net fishery. Recreational anglers have averaged 299 wild and 360 hatchery fish, including non-harvest mortalities (10% of caught-and-released). Sport catch of wild steelhead range from a high of 908 during the 2003-2004 season to a low of 106 during the 2019-2020 season. The average tribal harvest rate on wild fish during these years is 18.96% of the estimated terminal run size. The corresponding average sport harvest rate is 8.26%. Sport non-harvest mortality on wild fish is estimated from data collected during creel surveys conducted annually on the Hoh River.

Post season assessment

The Hoh Tribe and WDFW seek to promote wild steelhead conservation and fishery stability by annually compiling the following technical information:

1. estimates of catches of wild and hatchery steelhead in each fishery;
2. the previous winter steelhead season's escapement;
3. the upcoming season's hatchery and wild fish run size forecasts;
4. an updated model that accurately reflects expected fishery catches;
5. a tribal fishing schedule and sport fishery regulations that meet fishery goals while honoring court ordered or agreed-to sharing principles and meet the wild steelhead escapement goal of 2,400.

Forecast

Steelhead run size forecasts including NHM for the 2021-2022 winter season in the Hoh are 3,141 wild and 947 hatchery steelhead. The wild escapement goal is 2,400 fish, resulting in 741 harvestable wild fish, or shares of 371. Wild steelhead escapement is anticipated to be 2,643 fish.

Fishery Management Plan

Summary

The expected results of the fisheries described in the 2021-2022 Hoh River Winter Steelhead Harvest Management Plan are displayed in Table 1, below. Due to uncertainty over encounter rates in sport fisheries and concern over a potential shift in effort for the 2021-22 season, recreational non-harvest (release mortality on wild fish is being estimated using a 1.13 interception rate from Bentley et al. (2017), reduced by 50% (estimated reduction in encounters from not allowing fishing from a boat), and a 10% release mortality. Expected hatchery encounters are also reduced by 50% as a result of the no fishing from a boat rule.

Table 1. Summary of 2021-2022 anticipated harvest, associated mortalities, and escapement from the tribal and recreational fisheries.

	Wild	Hatchery
Pre-season Runsize Estimate	3,141	947
Escapement goal	2,400	150
Tribal Harvest (including C&S)	321	258
Shares	371 each	399
Recreational Harvest	177 (NHM)	107
Estimated escapement-2022	2,643	581

Tribal fishery

The Tribal commercial fishery will operate with a prescribed number of fishing days per week, as presented in Table 2, below.

Table 2. The adopted 2021-22 winter steelhead tribal fishery schedule by statistical week.

Statistical Weeks	Days Fished/Week
45-49	0
50-52	2
53-10	1
11-16	Closed to commercial fishing
17-18	1

The Hoh Tribe's fishery generally begins on Monday mornings of each week, and the days scheduled are fished contiguously with commercial fisheries occurring below the Highway 101 Bridge. Changes in the schedule due to unfishable conditions, holidays, or for other reasons are to be communicated to WDFW at least one day prior to the start of the rescheduled fishery. Fisheries in weeks 17 and 18 are dependent on not exceeding wild shares of 371 wild steelhead for the season. Comanagers will check in the second week of March to evaluate catch to date.

Ceremonial-and-Subsistence fisheries may be conducted by the Tribe at times other than the scheduled Treaty fishery. Regulations establishing the day, opening and closing times and numbers of fishers and fish to be taken are to be provided by the Hoh Tribe to WDFW prior to noon of the workday before the start of the fishery. All Ceremonial-and-Subsistence fish will be accounted for and sampled for scales, sex, length, marks, dorsal condition, and coded wire tags. The Tribal harvest rates for the 2021-2022 season include 10 wild & 30 hatchery Ceremonial-and-Subsistence steelhead.

Recreational fishery

The WDFW recreational fishing regulations are set forth in the 2021-2022 *Sportfishing Rules Pamphlet*. However, the state is implementing steelhead regulation changes to all Coastal Rivers in that will go into effect December 1, 2021. Rules will be implemented through Fishing Rule Change (Emergency Regulation) and will supersede the rules in the Sport Fishing Rules pamphlet. Statewide rules require the release of all wild steelhead.

Rules going into effect December 1, 2021;

In the Following Areas;

- Hoh River (Jefferson Co.), from Olympic National Park boundary about 1.5 miles above the mouth of the Hoh River upstream to Olympic National Park boundary below mouth of South Fork Hoh.
- Hoh River, South Fork (Jefferson Co.), outside of Olympic National Park boundary:

Rules for steelhead and trout;

- Fishing from a floating device prohibited.
- Season closed beginning April 1, 2022 (open through March 31).
- Selective Gear Rules in effect (no bait), and only one single-point barbless hook allowed.
- Daily limit statewide minimum size/daily limit (20"/2 fish).

The Pacific Coastal Area segment of the Hoh River, the upper Hoh River and the upper South Fork Hoh River are within the boundaries of Olympic National Park. Fishing regulations inside the park can be found at the park's website, <https://www.nps.gov/olym/planyourvisit/fishing.htm>.

Data sharing timeline

The Hoh Tribe's in-season catch data and WDFW's in-season sport catch data from the creel survey will be exchanged on a regular basis. Weekly phone calls will occur starting in mid-January.

In-season fishery change procedures

Modifications to the pre-season runsize estimates or modifications to fishing schedules will not occur during the 2021-2022 winter steelhead season, except as expressly permitted by this agreement.

Adjustments may be made to the tribal fishing schedule if extreme weather conditions (i.e. river flooding) cause the river to be completely unfishable for at least one day. Such conditions normally occur several times during the winter fishing season. A day scheduled for fishing will be declared unfishable only if river conditions prevent any nets from being set and no catch is made on that date. Make-up days will be taken in the same week as the days lost and taken immediately following the normally scheduled closure. When river conditions prevent days from being made-up within the same week, then days may be added to the following weeks, provided that:

- the total number of fishing days in any subsequent week does not exceed the normally scheduled days plus one and,
- modeled impacts from the added days must not increase the wild harvest rate above that agreed to pre-season, and no adjustments are allowed after the final week as scheduled pre-season.

The Hoh Tribe will notify WDFW by telephone (contact Jennifer Whitney, (360) 302-3030 ext.322 Jennifer.Whitney@dfw.wa.gov), on the day of a postponed fishery, and at least one working day before a rescheduled make-up day.

Fishery monitoring

Commercial catches and hatchery returns will be sampled for size, sex, and age. Commercial catch sampling will be the responsibility of the Hoh Tribe. The Hoh Tribe and WDFW agree that, for the 2021-2022 season, a creel survey of the winter steelhead sport catch in the Hoh River system beginning in January will occur. Recreational catches will be sampled for size, sex, mark, and age during the creel survey.

The Hoh Tribe and WDFW will continue to evaluate fishery related mortalities associated with tribal (net drop-out and predator removal) and recreational (catch-and-release mortalities) fishing gear. The Hoh Tribe and WDFW will conduct steelhead spawner surveys cooperatively as in recent years, and exchange data.

Resolution of any monitoring issues

The parties will meet upon request of either party, within three working days, during the winter steelhead season to review catch and escapement information collected to date and to determine whether the schedules for any of the fisheries (including all tribal and recreational openings) should be modified in order to assure that management objectives are met. A meeting may be called by either party, but any modifications to this plan will be by agreement of both parties.

Enforcement

Each party to this agreement is obligated to enforce its own regulations and to prosecute violators over which a party exercises regulatory authority. Enforcement agencies will cooperate by reporting observed violations by individuals over which the agency has no authority to the agency having authority over the individual. An agency receiving a violation report from another agency will thoroughly investigate the alleged violation and issue a summons to court if warranted. The officers from the agency observing the violation may be required to appear in the appropriate court as witnesses. Upon request by either party, the parties agree to provide the final dispositions (charges filed, fines, penalties, etc.) of all violation referrals.

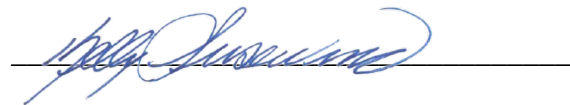
**AGREEMENT BETWEEN
THE HOH TRIBE
and the
WASHINGTON DEPARTMENT OF FISH AND WILDLIFE
on
THE HARVEST MANAGEMENT PLAN FOR WINTER STEELHEAD RETURNING TO
THE HOH RIVER, 2021-2022**

This agreement is the culmination of efforts of the undersigned to design and implement a joint plan for managing winter steelhead returning to the Hoh River in the winter, 2021-2022.

The parties agree to manage by the plan set forth in this document, entitled *Harvest Management Plan for Steelhead Returning to the Hoh River in the Winter of 2021-2022*.

No part of this management plan or the basis thereof shall be construed as a precedent for future years.

AGREED TO THIS 01 DAY OF December, 2021



Policy Representative
Washington Department of
Fish and Wildlife



Policy Representative
Hoh Tribe

2021-2022

Hoh River Steelhead Harvest Management Model w/ Non-harvest Mortality

4 Yr. Means One Day Rates		Week	Monday Date	Schedule (Days)	Wild		Origin Hatchery	
Wild	Hatchery				Scheduled Rate	Expected Catch	Scheduled Rate	Expected Catch
0.0028	0.0354	45-48	-----	0	0.0000	0	0.0000	0
0.0002	0.0143	49	11/29/21	0	0.0000	0	0.0000	0
0.0008	0.0281	50	12/06/21	2	0.0015	5	0.0563	53
0.0008	0.0176	51	12/13/21	2	0.0016	5	0.0353	33
0.0009	0.0209	52	12/20/21	2	0.0019	6	0.0417	40
0.0036	0.0267	53-01	12/27/21	1	0.0036	11	0.0267	25
0.0043	0.0168	2	01/03/22	1	0.0043	13	0.0168	16
0.0039	0.0143	3	01/10/22	1	0.0039	12	0.0143	14
0.0054	0.0145	4	01/17/22	1	0.0054	17	0.0145	14
0.0080	0.0075	5	01/24/22	1	0.0080	25	0.0075	7
0.0098	0.0101	6	01/31/22	1	0.0098	31	0.0101	10
0.0122	0.0050	7	02/07/22	1	0.0122	38	0.0050	5
0.0100	0.0052	8	02/14/22	1	0.0100	32	0.0052	5
0.0136	0.0045	9	02/21/22	1	0.0136	43	0.0045	4
0.0111	0.0024	10	02/28/22	1	0.0111	35	0.0024	2
0.0108	0.0005	11	03/07/22	0	0.0000	0	0.0000	0
0.0181	0.0004	12	03/14/22	0	0.0000	0	0.0000	0
0.0235	0.0005	13	03/21/22	0	0.0000	0	0.0000	0
0.0232	0.0004	14	03/28/22	0	0.0000	0	0.0000	0
0.0232	0.0000	15	04/04/22	0	0.0000	0	0.0000	0
0.0060	0.0000	16	04/11/22	0	0.0000	0	0.0000	0
0.0064	0.0000	17	04/18/22	1	0.0064	20	0.0000	0
0.0056	0.0000	18	04/25/22	1	0.0056	18	0.0000	0
0.2044	0.2251							
Scheduled Treaty Harvest:		Commercial:		18	0.0991	311	0.2403	228
		C&S:			0.0032	10	0.0317	30
		Total:			0.1023	321	0.2720	258
Exploitation Rates:		Hoh Tribe Total Mortality:			0.1023	321	0.2720	258
		State Sport Harvest Total Incl. NHM: Thru Mar. 31			0.0563	177	0.1135	107
		Total ER:			0.1586		0.3855	
		Estimated Escapement:				2,643		
		Forecasts:				3,141		947

2021-2022 Hoh Tribe Winter Fishing Schedule 1/ Hoh River CLOSED to commercial fishing

Week no.	Week of:	Days Open	Mesh size	Opening Date/Time 10:00 AM	Closing Date/Time 10:00 AM
50	December 06	2	6 inch	Monday December 06	Wednesday December 08
51	December 13	2	6 inch	Monday December 13	Wednesday December 15
52	December 20	2	6 inch	Monday December 20	Tuesday December 22
53-01	December 27	1	6 inch	Monday December 27	Tuesday December 28
2	January 03	1	6 inch	Monday January 03	Tuesday January 04
3	January 10	1	6 inch	Monday January 10	Tuesday January 11
4	January 17	1	6 inch	Monday January 17	Tuesday January 18
5	January 24	1	6 inch	Monday January 24	Tuesday January 25
6	January 31	1	6 inch	Monday January 31	Tuesday February 01
7	February 07	1	6 inch	Monday February 07	Tuesday February 08
8	February 14	1	6 inch	Monday February 14	Tuesday February 15
9	February 21	1	6 inch	Monday February 21	Tuesday February 22
10	February 28	1	6 inch	Monday February 28	Tuesday March 1
11	March 07	0	6 inch	1/	1/
12	March 14	0	6 inch	1/	1/
13	March 21	0	6 inch	1/	1/
14	March 28	0	6 inch	1/	1/
15	April 04	0	6 inch	1/	1/
16	April 11	0	6 inch	1/	1/
17	April 18	1	8 inch	Monday April 18	Tuesday April 19
18	April 25	1	8 inch	Monday April 25	Tuesday April 26