2019/2020 Puget Sound Steelhead

Harvest Management Report

Washington Department of Fish and Wildlife and Puget Sound Treaty Indian Tribes

February 10, 2021

This annual post-season report, developed by the Washington Department of Fish and Wildlife (WDFW) and the Puget Sound Treaty Indian Tribes (PSTIT), is submitted in compliance with the terms and conditions of the National Marine Fisheries Services' (NMFS) biological opinion (F/WCR-2019-00381), which considered the impacts during co-manager Puget Sound salmon fisheries occurring May 1, 2019 through April 30, 2020, on ESA listed threatened Puget Sound steelhead.

Due to steelhead return timing and co-manager steelhead management timeframes, terminal fishery impacts on winter steelhead are reported for November 1, 2019 through May 31, 2020 rather than April 30, 2020. The 2019/2020 incidental fishery impacts on wild winter steelhead are well within the limits of the aforementioned 2019 consultation, i.e. 4.2% for the four wild winter index steelhead management units (Snohomish, Green, Puyallup, and Nisqually).

This report also contains preliminary estimates, where available, of the 2019/2020 winter-run steelhead spawning escapements and a brief description of escapement and catch monitoring that occurred.

Preseason Planning

Annual steelhead harvest management plans for the 2019/2020 management cycle were developed pre-season for the Snohomish/Stillaguamish, Green, and Hood Canal management units, although not all were finalized by co-managers. For the Puyallup and Nisqually management units, respective chum terminal harvest management plans described expected incidental steelhead impacts. Collectively, these plans provided Puget Sound steelhead forecasts, either as an expected number of hatchery and wild returns, or as an expected freshwater terminal runsize harvest rate (i.e. Nisqually River winter steelhead). Harvest management strategies were described within these preseason planning documents.

The incidental take statement (ITS) for steelhead in the 2019/2020 Puget Sound salmon BiOp limited wild steelhead impacts such that the average, terminal harvest rate for four wild winter steelhead management units (Snohomish, Green, Puyallup and Nisqually) should not exceed 4.2%. For the other management units, fisheries management measures and harvest impacts are expected to not exceed those implemented in recent seasons. The BiOp also authorized harvest of up to 325 steelhead in Puget Sound marine water (pre-terminal) fisheries. The 2019 BiOp assumed the pre-terminal aggregate was 'an unknown proportion of ESA listed steelhead, unlisted hatchery steelhead, and hatchery and natural-origin fish from Canada' (NMFS 2019). However, it is the position of the co-managers that the pre-terminal aggregate also includes non-ESA listed natural-origin steelhead (Parker and Susewind 2019) from the Olympic Peninsula. Regardless, assumptions of the 2019 BiOp are adhered to in this reporting.

Harvest Summary

Estimates of winter steelhead harvest in terminal tribal fisheries, summarized below (Table 1), are based on a preliminary accounting of tribal landings and catch sampling to estimate the

number of wild steelhead which were incidentally harvested between November 1, 2019 and May 31, 2020. Where appropriate, a release mortality rate (18.5%) is applied to wild steelhead released during selective net fisheries. Net drop-out mortality is not included in this accounting; by convention it has been estimated to be 2% of the landed catch.

Hooking mortality in recreational fisheries is estimated as 10% of the estimated number of encounters with wild steelhead. In the Snohomish River basin, the number of recreational fishery encounters is estimated from the length and timing of the recreational season, by using temporally corresponding harvest rates from a base period (using historical catch record card data and terminal run size estimates). This estimated harvest rate is then multiplied by the current terminal run size to estimate the number of fish encountered. A similar method is used in the Green River basin, using a harvest rate from a set of base years on the river, and applying that percentage to the terminal run size estimate. In Puyallup River basin recreational fisheries, the estimated wild-steelhead impacts are based on catch record card estimates¹. Terminal harvest rate estimates are provided for areas where the BiOp requires terminal harvest rates to not exceed a 4.2% average (e.g. Snohomish, Green, Puyallup and Nisqually management units).

Wild steelhead mortalities associated with the 2019/2020 tribal and recreational fisheries in the Snohomish, Green, Puyallup and Nisqually rivers (management units) averaged 0.33% (Table 1). Standard annual spawning surveys in these systems were restricted due to COVID-19 safety protocols in 2020, but the impacts are considered minimal and insignificant to these estimates. The following summary discussion focuses on the four management units for which a maximum, average incidental mortality rate of 4.2% was specified in the incidental take statement of the current BiOp rate.

Freshwater - Tribal and Recreational Fisheries

In general, the tribal terminal-area fisheries that impacted listed steelhead operated as specified in the pre-season annual management plans. Wild steelhead mortality associated with these fisheries was lower than the number projected pre-season. Freshwater recreational winter steelhead fisheries managed by WDFW in the Puget Sound DPS were conducted as described in the pre-season, annual management plans and the *2019/2020 Washington Sport Fishing Rules, July 1, 2019 to June 30, 2020.* For the 2019/2020 season, WDFW implemented several emergency freshwater fishing rules (Appendix B) in the Puget Sound DPS. Generally, these are closures put in place during the season to address conservation concerns as they arise, and/or to facilitate sufficient broodstock collection for hatchery programs. Emergency rules may be repealed as conditions change in-season. Overall, wild steelhead mortality associated with fisheries was lower than the number projected pre-season.

The following discussion focuses on the four management units for which the incidental take statement in the BiOp specified a harvest rate. Winter steelhead impacts in other basins within Puget Sound are also presented.

¹ Catch record cards (CRCs) provide estimates on retained fish while sport regulations instruct anglers to not record released fish on CRCs while prohibiting the retention of un-marked steelhead.

Snohomish: The stock composition of wild winter steelhead harvested in tribal fisheries conducted in Areas 8A and 8D is approximated by referring to the post-season, reconstructed abundance of the Snohomish and Stillaguamish returns, and assumptions about the composition of catch in sub-areas of 8A. Two winter steelhead were caught in catch areas 8A/8D with zero estimated mortalities of Snohomish wild winter steelhead in tribal terminal fisheries, lower than the pre-season projection of 17 including net-drop out. For the state managed fisheries, estimated mortality of Snohomish wild fish was 14 (estimated per methods described within "Harvest Summary"). With wild mortalities estimated at 14, the terminal harvest rate of wild fish is estimated as 0.9% (2.3% projected pre-season).

Duwamish/Green: There was no scheduled early winter hatchery steelhead (EWS) fishery in Duwamish/Green River for the 2019-2020 season as the Green River EWS hatchery program was discontinued in 2014. No wild winter steelhead were harvested by tribal fishers in the Duwamish/Green River chum fishery. For state managed fisheries, mortalities are estimated as four fish; this value is estimated by using the average harvest rate during this same time period in years where harvest of wild steelhead was allowed (0.029), multiplied by the terminal run size (1,135), with a hooking mortality rate of 10% applied (.029 x 1,135 x 0.1=4 fish). As such, the estimated terminal harvest rate is 0.35% (0.3% was projected pre-season).

Puyallup/White: For the Puyallup river system, tribal fisheries report one mortality in the White River. No mortalities were reported by the state. The estimate of terminal harvest rate of wild fish is 0.08%.

Nisqually: The Nisqually Tribe's coho fishery operated during early November 2019, with no wild steelhead encountered. No steelhead were harvested during the tribal commercial late chum fishery. WDFW did not open a chum directed sport fishery in 2019. The estimated winter steelhead terminal harvest rates is 0% (5.0% was projected pre-season).

Nooksack: A hatchery-origin directed EWS fishery opened in the Nooksack River terminal area in 2019. Permitted fishers from Lummi Nation were required to report their catch on a weekly basis; four steelhead with intact adipose fin were reported. The Nooksack tribal fishers harvested two winter steelhead, one hatchery-origin and one natural-origin, during their early-winter steelhead fishery. The Lummi Nation's selective spring Chinook C&S fishery encountered and released 19 natural-origin winter steelhead. Applying an 18.5% mortality rate to the fish released resulted in an estimated four mortalities. The Nooksack Tribe incidentally caught 24 winter steelhead (eight were confirmed kelts) during their traditional net Chinook C&S fishery in May 2020.

Tribal steelhead catch in other rivers was low or zero during the 2019/2020 winter steelhead management timeframe.

Table 1. Incidental harvest and hooking mortalities in terminal fisheries from November 2019 through May 2020 and preliminary escapement estimates for wild winter steelhead throughout Puget Sound. Terminal harvest rates are presented for the four management units as required under the Biop.

Management Unit	Tribal Catch		Recreational	Estimates	Total		Terminal Harvest Rate ^{h/}		
	Total	Wild	Encounters	Hooking Mortality	Mortality Estimate	Escapement	Estimated	Preseason Estimate	
Nooksack ^{a/}	41; plus 8 kelts	33 mortalities				N/A			
Samish	0	0				N/A			
Stillaguamish	1	1	43	4	5	504 ^{b/}			
Snohomish	1	0	137	14	14	1,598	0.9%	2.3%	
Lake Washington/Cedar	0	0	0	0	0	0			
Green	0	0	33	4	4	1,112 ^{c/}	0.35%	0.3%	
Puyallup	0	0	0	0	0	688			
White	1	1	0	0	1	520 ^{c/}	0.08%	<0.01%	
Nisqually ^{d/}	0	0	0	0	0	1,411	0.0%	<5.0%	
Skokomish	0	0				526			
East Hood Canal						34			
West Hood Canal						120			
South Hood Canal						89			
Dungeness	0	0				N/A ^f			
Elwha	0	0				N/A ^g			
Sequim Pt Townsend						42 Snow Creek 44 ⁱ McDopald			
Port Angeles						Creek			
		Sum 1.33%/4 = 0.33%							

^{a/} The Nooksack River 'Tribal Total' includes 19 encountered fish released from tangle-net selective Chinook C&S fishery conducted by Lummi fishers with an 18.5% release mortality. Six steelhead from the early-winter steelhead fishery were reported with five determined to be un-clipped. Wild catch includes all mortalities including those associated with release mortalities from the tangle-net fishery and eight kelts caught in the traditional net Chinook C&S fishery.

^{b/} Stillaguamish estimate represents only un-expanded index reach survey data. Expanded estimate is 2,045

^{c/} Includes returns from wild broodstock program passed upstream (BWT fish; n=77); broodstock collection numbers (n=24) removed.

^{d/}WDFW did not open sport winter chum fishery.

e/The catch is recorded out of season. The Catch Record Card is under further review.

^{f/}Chris Burns, Jamestown S'Klallam Tribe, personnel communication.

^g/Olympic National Park and Lower Elwha Klallam Tribe, personal communication. SONAR estimate available for HOR+NOR; origin determinations will be finalized upon further reviews.

^{h/} Harvest rate estimates are subject to rounding error.

 $^{i\prime}\mbox{Based}$ on only four surveys.

Marine Waters - Tribal and Recreational Fisheries

Preliminary tribal catch in pre-terminal marine waters during management year 2019/2020 (May 1, 2019 - April 30, 2020) is one steelhead of unknown origin, which occurred in Marine Catch Area (MCA) 5 and may have been destined for a river terminating in MCA 5 (e.g. Hoko River, Pysht River, Lyre River, etc.) which would be outside the ESA listed Puget Sound Distinct Population Segment. The Stillaguamish – Snohomish terminal winter (November-May) steelhead fishery occurs in Areas 8A and 8D and this harvest is accounted to those regional terminal management units with one assumed wild Stillaguamish steelhead (Table 1) caught in area 8A.

The April 2019 to March 2020 hatchery steelhead catch estimate for marine recreational fisheries was 32, all in Area 9-Admiralty Inlet, based on catch record card (CRC) data (Appendix A). All were identified as marked. No estimate of un-marked steelhead encounters is available as unmarked steelhead are required to be released, and sport regulations instruct anglers to not record released fish on their CRC (WDFW 2019).

The total marine harvest in tribal and WDFW managed recreational fisheries in pre-terminal marine areas between April 2019 to March 2020 was 33 (one tribal harvest and 32 hatchery origin steelhead in WDFW managed harvest), less than the 325 allowed by the Biological Opinion incidental take statement for steelhead.

Winter Steelhead Escapement and Runsize Estimates

Surveys of wild steelhead escapements in 2020 were impacted to various degrees by restrictions stemming from COVID-19 safety protocols. Impacts varied from no impacts, to short term interruption of surveys for a couple of weeks, to complete cancellation of the survey season. The 2020 preliminary wild winter steelhead escapement estimate for the Snohomish River is a total system estimate, while the Nisqually River and Green River estimates are near total estimate as some peripheral tributary habitats are not surveyed nor interpolated from surveyed habitat. The Puyallup River estimate is best described as an index estimate. High flow and turbidity influenced survey accuracy and frequency in many systems, so all estimates should be considered minimums.

For the purposes of this report, estimation methods are briefly described below.

- No escapement estimate is available for Nooksack River or Samish River for the 2020 winter steelhead return as surveys were cancelled due to restrictions implemented due to COVID-19 safety protocols.
- The Stillaguamish escapement estimates are based on cumulative redd counts in spawning index reaches of the North Fork Stillaguamish and its tributaries. This data is considered an index of escapement and not a total watershed escapement because reaches below Deer Creek on the North Fork, and the entire mainstem and South Fork Stillaguamish are not survey-able in the Spring due to poor visibility from turbidity. Annual surveys were interrupted in 2020 in compliance with COVID-19 safety

protocols/restrictions, resulting in a lack of data for most of April. Regression analysis was used to provide an escapement estimate by index; redd counts from survey index reaches completed in 2020 were compared to historical data for the same index reaches and periods, and to season totals for those reaches. Minimal bias is expected in the estimate.

- The Snohomish escapement estimates are based on cumulative redd counts in index spawning reaches. In areas not surveyed in the current season, redds are estimated based on redds per mile estimates of surveyed adjacent or similar index reaches. Annual surveys were interrupted in 2020 in compliance with COVID-19 safety protocols/restrictions, resulting in a lack of data for most of April. Regression analysis was used to provide an escapement estimate by index; redd counts from survey index reaches completed in 2020 were compared to historical data for the same index reaches and periods, and to season totals for those reaches. Minimal bias is expected in the estimate.
- The Green River estimate is based on standard redd surveys of the mainstem and index reaches in the Newaukum Creek and Soos Creek drainages which collectively comprise most of the suitable steelhead spawning habitat in the Green River basin. Surveys were interrupted for a few weeks during March/April due to COVID-19 safety protocols/restrictions, with minimal negative bias on the estimate.
- Steelhead spawning escapement for Lake Washington basin is estimated based on the number of redds that are observed in the Cedar River during the winter steelhead spawning period (March-June). The Cedar River is surveyed every 7-10 days for steelhead spawning (redd surveys) between early March and early June each year using float surveys. Within the Sammamish River system, historic spawning ground surveys and more recent smolt trap monitoring indicate that steelhead are not likely to spawn in tributaries to the Sammamish River, and spawning surveys are not currently conducted in tributaries to the Sammamish River (Big Bear Creek, Cottage Lake Creek, North Creek, Issaquah Creek).
- The Puyallup River escapement estimate was developed from spawning ground survey data collected by WDFW and Puyallup Tribal Fisheries biologists. Data collected by biologists were numbers of steelhead redds within index creeks and river sections throughout the Puyallup River basin. COVID-19 safety protocols/restrictions did not influence the estimate for the Puyallup Basin.
- The White River escapement estimate is a combination of spawning ground survey data from the mainstem of the White River and Boise Creek below the Buckley Diversion Dam, and adult counts passed upstream of Mud Mountain Dam from the Buckley Trap.
- The Nisqually River escapement estimate is derived from the number of redds enumerated during spawning ground surveys in the Nisqually River Basin. Staff from the Nisqually Indian Tribe, JBLM, and WDFW survey most of the known available steelhead habitat in the Nisqually River and most tributaries throughout the steelhead season.
- The Skokomish estimate is based on standard surveys of the Mainstem, North Fork, South Fork and tributaries which are thought to comprise most of the suitable steelhead spawning habitat. Surveys were interrupted due to COVID-19 safety protocols/restrictions for most of April including three weeks of peak spawning, resulting in a conservative escapement estimate.

- The East Hood Canal estimate is based on surveys in the Big Beef Creek and Dewatto River.
- The West Hood Canal estimate is based on surveys in the Hamma Hamma River, Duckabush River, and Little Quilcene River. Challenging survey conditions and limited resources have precluded robust escapement estimates for the Dosewallips and Big Quilcene rivers.
- The South Hood Canal estimate is based on surveys in the Union and Tahuya rivers.
- The Dungeness River preliminary wild steelhead escapement is based on redd surveys conducted by Jamestown S'Klallam tribe. Index surveys are done on the Dungeness and its tributary, Gray Wolf River. Apart from Canyon Creek, smaller tributaries are not surveyed as they harbor insignificant spawning habitat. Spawn timing curves were developed in 2015 (low water) when conditions allowed surveys for the full season. Expansions estimates are reached by applying the percent spawn timing completed to the cumulative redd count. Redds per mile from reaches with similar spawning habitat and/or proximity are applied to reaches that are not surveyed on a regular basis. Supplemental surveys are performed as able. COVID-10 safety protocol/restrictions interrupted surveys during the peak of the spawning season and final results are presumed biased low as a result.
- The Elwha River escapement estimate is typically based on DIDSON multi-beam SONAR data (provided by Keith Denton, Lower Elwha Klallam Tribe, and NMFS/NOAA). The SONAR estimates winter steelhead and summer/fall Chinook from mid-January through late September. Tangle net surveys between early February and mid-June are used to capture live adult salmonids to differentiate species of salmonids over the course of the run timing and to determine the end of the steelhead run. Captured steelhead are determined as hatchery or natural origin by checking for CWTs, the presence or absence of an adipose fin, and the condition of their dorsal and pectoral fins. The SONAR technology has been in operation since the two Elwha dams were removed between 2012 and 2014. For 2020, hatchery-origin and natural-origin determinations will be finalized upon further review.
- McDonald Creek escapement estimates are redd-based counts. Indexes are surveyed on the mainstem area from RM 5.1 to the mouth. No expansion estimates are used to estimate total escapement upstream of the index area. Spawning is primarily in the main creek with tributaries having limited habitat available for spawning. Surveys for the season were interrupted periodically due to COVID-19 safety protocols/restrictions, and stream flows from mid-March to June.
- The Sequim/Pt. Townsend escapement estimate description is comprised of the adult count at the Snow Creek weir, plus redd-based downstream escapement estimate; no other streams are surveyed.

Based on preliminary estimates of terminal harvest mortality and escapement, 2019/2020 terminal run-size was lower than forecast for Nisqually and Puyallup river management units, but higher for the Snohomish and Green river management units (Table 2).

 Table 2. Preliminary accounting of the terminal runsize of wild winter steelhead compared to forecasted levels for four Puget Sound management units, 2019/2020.

Management Unit	Forecast	Observed					
Snohomish	1,270	1,612					
Green	996	1,135 ª/					
Puyallup ^{b/}	1,490	1,213					
Nisqually ^{b/}	1,951	1,411					

a/ Fish taken for broodstock included.

b/Forecast estimates are simply last year's wild terminal runsize. The forecast value including HOR fish is 1,590.

Harvest Monitoring

For the 2019/2020 season, the harvest of winter-run (and summer-run) steelhead by the sport fishery harvest was estimated from the Catch-Record-Cards. The harvest estimates of winter (2019/2020) and summer (2019) steelhead can be found in Appendix A. These estimates show no wild steelhead being harvested in the Puget Sound DPS. Phone surveys of anglers have shown that close to 100% of all unmarked fish recorded onto Catch-Record-Cards by respective anglers are released by recreational anglers. Phone surveys also indicated that some anglers were confused about the statewide "Wild Steelhead Release" rule, particularly on the Columbia River (Eric Kraig, WDFW personnel communication).

Recreational Salmon Creel Survey

A Chinook salmon recreational creel survey was conducted from August 20 through October 31 on the Green/Duwamish River. All areas downstream of the Highway 18 eastbound bridge were surveyed. During the creel survey time period, two rainbow trout and no steelhead were reported as caught by anglers.

Tribal Fisheries

Commercially retained tribal steelhead harvest is accounted on commercial sales receipts (fish tickets) and recorded in the TOCAS database. The majority of catch taken during the 2019/2020 season terminal fisheries was sampled to determine the hatchery-wild composition. Scales are collected from wild catch, when feasible, to quantify age composition, and this information is utilized in forecasting.

In addition to winter steelhead catch accounted in Table 1, steelhead (n=5) were also caught in 2019 outside of the winter accounting period, from June through October 2019, in a small number of terminal areas primarily associated with hatchery summer-run steelhead programs. Summer steelhead were caught incidentally in Port Susan/Tulalip Bay (n=2), Dungeness Bay (n=1), and Green River (n=2); these are presumably hatchery-origin steelhead.

Research Fisheries

Harvest oriented research activities in Marine Catch Area 5 associated with PSC Chum salmon GSI research had no incidental steelhead encounters during the 2019 season. The Lake Sammamish warm-water test fishery provided monthly reports to NOAA on catch and by-catch before becoming inactive in mid-March 2020.

Literature Cited

- NMFS. 2019. Impacts of the Role of the BIA Under its Authority to Assis the Development of the 2019-2020 Puget Sound Chinook Harvest Plan, Salmon Fishing Activities Authorized by the U.S. Fish and Wildlife Service, and Fisheries Authorized by the U.S. Fraser Panel in 2019. NMFS Consultation Number: F/WCR-2019-00381. May 3, 2019.
- Parker, J. and K. Susewind. 2019. 2019-2020 Puget Sound Chinook Harvest Plan memo to Mr. Barry Thom. April 22, 2019.
- WDFW. 2019. Washington Sport Fishing Rules Effective July 1, 2019 June 30, 2020. Washington Department of Fish and Wildlife, Olympia, WA. 140 pgs. https://wdfw.wa.gov/sites/default/files/publications/02077/wdfw02077.pdf

System	Area	Race	2019									2020			Total
			Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Marine Water	Area 9: Admiralty Inlet	S				5									5
		W										9	9	9	27
Dungeness R. System	Dungeness River	S							5						5
		W								4					4
Green-Duwamish R. System	Green- Duwamish River (King Co.)	S		6	36	36	36	107	119						340
Puyallup R. System	Puyallup River	W													
Snohomish R. System	Skykomish River	S		51	90	56	11	7	5						216
		W											3		3
	Snohomish River	S		5				2							7
		W									3				3
	Snoqualmie River	W									3				3
	Tokul Creek	W											3		3
	Wallace River	S						2	2						4
		W								3					3
Stillaguamish River System	Stillaguamish River North Fork	S						10	20						30
		W								4	4				8
Puget Sound Region TOTALS		S	0	62	126	97	47	128	151	0	0	0	0	0	611
		W	0	0	0	0	0	0	0	11	10	9	15	9	54

Appendix A. Recreational harvest of marked hatchery-origin steelhead in the Puget Sound region during 2019-2020 season (Eric Kraig, WDFW; 2/16/2021).

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Appendix B. Recreational emergency regulations issued affecting steelhead in the Puget Sound region during the 2019/20 season (May 1, 2019 through April 30, 2020).

The Puget Sound emergency sport fishing rules affecting freshwater/winter steelhead for the 2019/2020 season can be found at the following WDFW webpages. The rules are presented in order of date, oldest to most recent:

- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2320</u> Closed several sections of the Stillaguamish River and its tributaries from May 25 through September 15 2019, to fishing for trout and other gamefish. This was closed to protect returning wild Chinook.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2326_</u>Allows retention of hatchery steelhead in the Green (Duwamish) River when it opens for steelhead fishing Saturday, May 25 2019. The Green River was schedule to be open for catch-and-release May 25; pre-season forecasts indicate harvestable numbers of hatchery steelhead are available.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2332</u>. Allows juvenile anglers to target hatchery steelhead returning to Reiter Ponds on the Skykomish River, from one hour before sunrise until noon on June 1, July 6, and August 3 2019.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2346</u> Closed waters to all fishing on Green (Duwamish) River from Tacoma Municipal Watershed Boundary to the Friday Creek confluence. This is an additional measure to protect water quality on the Municipal Watershed.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2353</u>Closed Skagit River to all fishing from mouth to the Baker river on June 27 and 28, and July 1 and 2 2019. Closure is to avoid gear conflicts with treaty fisheries scheduled on those dates.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2359</u> Closed all fishing on Skagit River from Gilligan Creek to the Baker River For July 9 2019, to avoid gear conflicts with treaty fisheries.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2375</u> Closed Nisqually River recreational angling on Sundays August 1 through November 15 2019, from the mouth to military tank crossing bridge. This is in accordance with fishery agreements during North of Falcon, to avoid gear conflicts.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2416</u> Closed Skagit River to all angling from the Highway 9 Bridge to the Baker River, October 7 through October 9 2019, to avoid gear conflicts.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2419</u> Closed Skagit River to all angling from the Highway 9 Bridge to the Baker River, October 14 through October 15 2019, to avoid gear conflicts.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2439</u> Closed Whatcom Creek from the mouth to the markers below the footbridge downstream of Dupont St, to all fishing, from November 22 through December 31 2019. This was closed to ensure broodstock are available for future hatchery returns.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2450</u> Closed the mainstem Stillaguamish and the North Folk
 Stillaguamish rivers to retention of hatchery steelhead from December 19 2019 until further notice. The Whitehorse Ponds hatchery does not have adequate early winter steelhead broodstock to meet goals.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2451</u> Closed the following to retention of hatchery steelhead, from December 19 2019 until further notice: Snohomish River from mouth to confluence of the Skykomish and Snoqualmie rivers; Skykomish River from the mouth to the confluence of the NF Skykomish and SF Skykomish rivers; Wallace River; Snoqualmie River from the mouth to the falls; Tokul Creek. The Wallace River, Reiter Ponds, and Tokul Creek hatcheries did not have enough broodstock on hand to meet goals.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2449</u> Release of all steelhead required December 12 2019 until further notice, for Hoko River from the mouth to the Ellis Creek Bridge. Hatchery steelhead are needed to meet hatchery broodstock goals.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2461</u> Closed the mainstem Nooksack and all forks, to hatchery steelhead retention January 1 through 31 2020, as hatchery steelhead returns are not meeting escapement goals. Nooksack River mouth to the confluence of North and South forks; NF Nooksack from Highway 9 Bridge to Nooksack Falls; MF Nooksack from mouth to Bellingham diversion dam; SF Nooksack from mouth to Skookum Creek.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2467</u> Returned the following rivers to permanent rules regarding hatchery steelhead retention allowed: Skykomish River from Wallace River to confluence of North and South forks; Wallace River from mouth to 200 feet upstream of hatchery water intake; Snoqualmie River from boat ramp at Plumb Access to Snoqualmie Falls; Tokul Creek from mouth to posted boundary marker downstream of diversion dam; NF Stillaquamish River from French Creek to Swede Heaven Bridge. Broodstock retention has concluded.
- <u>https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2465</u> Returned Hoko River, mouth to Ellis Creek Bridge, to permanent rules regarding retention of hatchery steelhead. Broodstock needs have been met.