

**2018/2019 Puget Sound Steelhead
Harvest Management Report**

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

February 19, 2020

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-2018-9134), which considered the impacts during co-manager Puget Sound salmon fisheries occurring May 1, 2018 through April 30, 2019, 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, 2018 through May 31, 2019 rather than April 30, 2019. The 2018/2019 incidental fishery impacts on wild winter steelhead are well within the limits of the aforementioned 2018 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 2018/2019 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 2018/2019 management cycle were developed pre-season for the Nooksack, 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, but were not finalized by comanagers. 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 documents.

The incidental take statement (ITS) for steelhead in the 2018/2019 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 2018 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 2018). However, it is the position of the co-managers that the pre-terminal aggregate also includes non-ESA listed natural-origin steelhead (Parker and Stohr 2018) from the Olympic Peninsula. Regardless, assumptions of the 2018 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, 2018 and May 31, 2019. 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 2018/2019 tribal and recreational fisheries in the Snohomish, Green, Puyallup and Nisqually rivers (management units) averaged 0.4% (Table 1). 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 *2018/2019 Washington Sport Fishing Rules, July 1, 2018 to June 30, 2019*. For the 2018/2019 season, WDFW did need to implement several emergency freshwater fishing rules (Appendix B) in the Puget Sound DPS. The emergency rules closed sections of rivers, entire rivers, or river systems, to fishing for all steelhead and other game fish or all species. Generally, closures are put in place to address conservation concerns, 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.

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. The estimated mortality of Snohomish wild winter steelhead in tribal

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

terminal fisheries was three, substantially lower than the pre-season projection of 62 including net-drop out. For the state managed fisheries, estimated mortality of Snohomish fish was eight (estimated per methods described within “Harvest Summary”). Together, mortalities were 11, and terminal harvest rate is estimated as 1.1% (3.7% projected pre-season).

Duwamish/Green: There was no scheduled early winter hatchery steelhead (EWS) fishery in Duwamish/Green River for the 2018-2019 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 three 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 (1,004), with a hooking mortality rate of 10% applied ($.029 \times 1004 \times 0.1 = 3$ fish). As such, the estimated terminal harvest rate is 0.3% (0.4% was projected pre-season).

Puyallup: For the Puyallup river system, tribal fisheries report zero mortalities. No mortalities are reported by the state based on catch record card accounting. However, catch record cards only account for retained fish. Since sport regulations prohibit the retention of un-marked steelhead, an estimate of wild steelhead encounters is not available. The resulting estimate of terminal harvest rate is 0.0%.

Nisqually: The Nisqually Tribe’s coho fishery operated during early November 2018, with no wild steelhead encountered. No steelhead were harvested during the tribal commercial chum fishery which closed on December 18th, but one wild steelhead was harvested in mid-January during a ceremonial and subsistence chum fishery. WDFW did not open a chum directed sport fishery in 2019. The estimated winter steelhead terminal harvest rates is 0.05% (5.0% was projected pre-season).

A hatchery-origin directed EWS fishery opened in the Nooksack River terminal area from December 15, 2017 to January 15, 2018. Permitted fishers from Lummi Nation were required to report their catch on a weekly basis; one steelhead with an unknown mark status was reported. The Nooksack tribal fishers harvested 15 winter steelhead, all hatchery origin, during their early-winter steelhead fishery. The Lummi Nation’s selective spring Chinook C&S fishery encountered and released 38 natural-origin winter steelhead, 17 of which were considered kelts (i.e. not bright in color). Applying an 18.5% mortality rate to the fish released resulted in an estimated seven mortalities; three estimated kelts and four bright-fish mortalities. The Nooksack Tribe incidentally caught seven winter steelhead (three were confirmed kelts) during their traditional net Chinook C&S fishery in May 2019.

Tribal steelhead catch in other rivers was low or zero during the 2018/2019 winter steelhead management timeframe.

Table 1. Incidental harvest and hooking mortalities in terminal fisheries from November 2018 through May 2019 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 Mortality Estimate	Escapement	Terminal Harvest Rate ^{h/}	
	Total	Wild	Encounters	Hooking Mortality			Estimated	Preseason Estimate
Nooksack^{a/}	24; plus 6 kelts	14 mortalities				n/a		
Samish	0	0				1,341		
Stillaguamish	0	0	36	4	4	422 ^{b/}		
Snohomish	8	3	83	8	11	965	1.1%	3.7%
Lake Washington/Cedar	0	0	0	0	0	0		
Green	0	0	29	3	3	972 ^{c/}	0.3%	0.4%
Puyallup	0	0	0	0	0	847	0.0%	n/a
White	0	0	0	0	0	719 ^{c/}		
Nisqually^{d/}	1	1	0	0	1	1,950	0.05%	5.0%
Skokomish	8	8				864		
East Hood Canal						16		
West Hood Canal						236 ^{e/}		
South Hood Canal						112		
Dungeness	0	0				467 ^{f/}		
Elwha	0	0				N/A ^{g/}		
Sequim Pt Townsend						42 Snow Creek		
Port Angeles						150 McDonald Creek		
						Sum 1.45%/4 = 0.4%		

^{a/} The Nooksack River 'Tribal Total' includes 38 encountered fish released from tangle-net selective Chinook C&S fishery conducted by Lummi fishers with an 18.5% release mortality. One steelhead from the early-winter steelhead fishery was reported but origin was not determined. Wild catch includes all mortalities including those associated with release mortalities from the tangle-net fishery and three kelts caught in the traditional net Chinook C&S fishery.

^{b/} Stillaguamish estimate represents only un-expanded index reach survey data. Expanded estimate is 1,758.

^{c/} Includes returns from wild broodstock program; broodstock collection numbers removed.

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

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

^{g/} Sam Brenkman, ONP, personal communication.

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

Marine Waters - Tribal and Recreational Fisheries

Preliminary tribal catch in pre-terminal marine waters during management year 2018/2019 (May 1, 2018 - April 30, 2019) is 20 steelhead of mixed origin. Eighty percent of this catch occurred in Marine Catch Area (MCA) 5 which is outside the Puget Sound Distinct Population Segment. If any of these steelhead harvested in MCA 5 were destined for rivers terminating in MCA 5 (e.g. Hoko River, Pysht River, Lyre River, etc.) those steelhead would not be listed under the ESA. 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.

The April 2018 to March 2019 hatchery steelhead catch estimate for marine recreational fisheries was 42, 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 2018).

The total marine harvest in tribal and WDFW managed recreational fisheries in pre-terminal marine areas between April 2018 to March 2019 was 62 (20 tribal and 42 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 were conducted in 2019 to estimate escapement (Table 1). The 2019 preliminary wild winter steelhead escapement estimate for the Snohomish River is a total system estimates 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.

- The Nooksack River escapement is based on 2019 redd counts within mainstem, forks and tributary habitats identified as spawning habitat during comprehensive surveys conducted in 2009-10 (i.e. base years). In areas not surveyed in the current spawning season, estimates are expansions based on the percentage of redds observed in those areas during the base years. This omits Nooksack steelhead which spawn in Canada.
- The Samish River escapements estimate is redd count based. Indexes are surveyed on the mainstem and on Friday Creek, and expansions are used to estimate escapement within habitat miles not surveyed in the current year. This expanded value is then added to four index tributaries surveyed.

- 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.
- 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.
- 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.
- 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.
- 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 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.
- 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. With the exception of 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.

- The 2019 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.
- 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.
- 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, 2018/2019 terminal run-size was lower than forecast for Snohomish River, Green River, and Puyallup 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, 2018/2019.

Management Unit	Forecast	Observed
Snohomish	2,192	976
Green	1,391	1,004 ^{a/}
Puyallup^{b/}	1,748	1,566
Nisqually	1,740	1,951

a/ Fish taken for broodstock included.

b/ Forecast and Observed are estimated from wild terminal runsize for the Puyallup, Carbon and White rivers. Wild steelhead (broodstock) taken for the White River supplementation program and Blank Wire Tagged fish are not included.

Harvest Monitoring

For the 2018/2019 season, the harvest of winter-run (and summer-run) steelhead by the sport fishery harvest was estimated from the Catch-Record-Cards. The preliminary harvest of winter

(2018/2019) and summer (2018) steelhead can be found in Appendix A. The attached draft 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 Chinook and Sockeye Creel Surveys

A Chinook salmon recreational creel survey was conducted from September 1 to October 31, 2018 on the Green/Duwamish River. All areas downstream of the Auburn-Black Diamond Bridge were surveyed. During the creel survey time period, there was a report of one wild steelhead (a 12-inch juvenile steelhead) that was caught and released by an angler fishing for salmon.

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 2018/2019 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=17) were also caught in 2018 outside of the winter accounting period, from June through October, in a small number of terminal areas primarily associated with hatchery summer-run steelhead programs. The majority of summer steelhead (n=11) were caught incidentally during the Stillaguamish River Chinook C&S fishery. The remaining six incidental landings were spread out between Tulalip Bay (n=2), Bellingham Bay (n=2), Nooksack River (n=1), and Green River (n=1; presumably a hatchery-origin steelhead).

Research Fisheries

Harvest oriented research activities in Marine Catch Area 5 (Van Will et al. 2019) as well as in Lake Washington had no incidental steelhead encounters during the 2018/2019 season.

Literature Cited

NMFS. 2018. Impacts of the Role of the BIA Under its Authority to Assist the Development of the 2018-2019 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 208. NMFS Consultation Number: F/WCR-2018-9134. May 9, 2018.

Parker, J. and J. Stohr. 2018. 2018-2019 Puget Sound Chinook Harvest Plan memo to Mr. Barry Thom. April 13, 2018.

Van Will, P., L. Kearey, C. McConnell and B. Patton. 2019. Joint US and CA Juan de Fuca Chum Sampling Program 2018: Report to Southern Endowment Fund. 45 pgs..

WDFW. 2018. Washington Sport Fishing Rules Effective July 1, 2018 – June 30, 2019. Washington Department of Fish and Wildlife, Olympia, WA. 138 pgs.
<https://wdfw.wa.gov/sites/default/files/publications/01998/wdfw01998.pdf>

Appendix A. Recreational harvest of marked hatchery-origin steelhead in the Puget Sound region during 2018-2019 season. - PRELIMINARY estimates, Eric Kraig, WDFW; 12/9/2019. Catch in colored cells will be verified with the reporting anglers: pink=illegal; green=unusual.

System	Area	Race	2018										2019			Total
			Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar		
Marine Water *	Area 9: Admiralty Inlet	S		16	3	3										22
		W	20													20
Dungeness R. System *	Dungeness River	S								3						3
		W									20	7	7			34
Green-Duwamish R. System *	Green (Duwamish) River (King Co.)	S				3										3
		W								7	7					14
Hoko R. System *	Hoko River	W									7	14	7	7	35	
Lyre R. System *	Lyre River	W									7				7	
Nooksack R. System *	Nooksack R., No. Fork	W									7			7	14	
	Nooksack R., below North Fork	W									7		20		27	
	Nooksack R. System Totals	W									14		20	7	41	
Sekiu R. System *	Sekiu River	W										7			7	
Skagit R. System *	Cascade R.	W									7				7	
	Sauk River	S					6	3							9	
		W												7	7	
	Skagit River	S								6					6	
		W	7										7		14	
	Skagit R. System TOTALS	S					6	3	6						15	
	W	7								7		7	7	28		
Snohomish R. System *	Skykomish River	S			1943	349	36	75	78							2481
		W									44	93	87	3		227
	Skykomish R., No. Fork	S			46	28	4									78
		W										3				3
	Skykomish R., So. Fork	S			4		7								11	
	Snohomish River	S			32	18			11							61
		W									3	9	6			18
	Snoqualmie River	W									3	32	3		38	
	Tokul Creek	W									3		17		20	
	Wallace River	S						14	4							18
		W									9	9	9			27
	Snohomish R. System TOTALS	S			2025	395	47	89	93							2649
		W									62	146	122	3		333
Stillaguamish R. System *	Canyon Creek	S			3										3	
		W										7				7
	Pilchuck Creek (Stillaguamish System)	W										20				20
	Stillaguamish R., No. Fork	W									20	20		7	47	
	Stillaguamish R. System TOTALS	S				3									3	
	W									20	47		7		74	
Puget Sound Region TOTALS		S		16	2028	404	53	92	102						2858	
	W	27								130	262	170	24	14	627	

Appendix B. Recreational emergency regulations issued affecting steelhead in the Puget Sound region during the 2018/19 season (May 1, 2018 through April 30, 2019).

The Puget Sound emergency sport fishing rules affecting freshwater/winter steelhead for the 2018/2019 season can be found at the following WDFW webpages. The rules are presented in order of date, oldest to most recent:

- Closed the mainstem of the Stillaguamish River from Marine Drive to the forks, to all fishing June 1 through June 30, 2018. This was closed due to concerns for impacts on a critically low number of Chinook returning.
<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2134>
- Release steelhead in all sections of the Green (Duwamish) River starting the first Saturday in June (June 2, 2018) until further notice. Low numbers of hatchery summer steelhead are expected to return to the Green River in 2018, and this action protects returning adult hatchery summer steelhead and increases the likelihood of achieving broodstock collection goals this year.
<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2137>
- Closed the Skagit River to all fishing from the mouth to the Highway 530 Bridge in Rockport on June 28 and 29, and July 2 and 3, 2018. This was to avoid gear conflicts with treaty fisheries scheduled on these dates.
<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2157>
- Closed all tributaries to the Elwha River outside Olympic National Park to all fishing on July 13, 2018. This was done to correct the pamphlet error which had unintentionally opened these tributary fisheries while there is a fishing moratorium on the Elwha River and tributaries to help facilitate recolonization following the removal of two dams.
<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2171>
- Closed Nisqually River to all recreational anglers on Sundays from August 11 through September 30, 2018, from the mouth to military tank crossing bridge (one mile upstream of mouth of Muck Creek). This complies with fisheries agreements made during North of Falcon, and avoids gear conflicts between tribal and recreational fishers.
<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2180>
- Removed selective gear rule requirements from August 16 through October 31, 2018, for all species angling, on the Big Quilcene River from Rodgers Street to Highway 101. This allowed angler to more effectively target hatchery coho, by removing the restrictions of using only unscented flies/lures with one single-point barbless hook, and no use of bait.
<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2184>
- Closed the Samish River to all fishing from the river mouth to the I-5 Bridge on September 15, 2018, until further notice. The return of fall Chinook to the Samish Hatchery was projected to be below the number needed to make their egg take goals for 2018.
<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2207>
- Closed the Skagit River to all angling from the river mouth to 200 feet upstream of the mouth of the Baker River on October 2, 3, 9, and 10, 2018. This was to avoid gear conflicts with tribal fishers in that area. Fishing remained open above this section as scheduled.
<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2219>
- Changed the recreational fishery dates to be open October 9 and closed October 10 and 11, 2018, on the Skagit River from the river mouth to 200 feet upstream of the mouth of Baker River. The treaty fishery had been rescheduled for October 10 and 11, and consequently recreational closure dates were adjusted to avoid gear conflicts.
<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2226>
- The lower Samish River was reopened to sport fishing as of October 13, 2018, to all species, from the mouth (Bayview-Edison Rd) to I-5. The hatchery broodstock needs for Chinook had been met. (This section had been closed by emergency regulation on September 15 until further notice. See above.)
<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2231>
- Closed the Skagit River to all fishing from the mouth to a line projected across the thread of the river 200 feet upstream of the mouth of the Baker River, October 22 through noon on October 23, 2018. The coho return was greater than forecasted, and angling opportunities were expanded. This closure was put in place to avoid gear conflicts with treaty fishers on those dates.
<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2236>

- Closed all fishing on the Dungeness River from the mouth to the Gray Wolf River at the Dungeness Forks Campground, from October 26, 2018 until further notice. Coho returns were below forecast, and there was risk that they would not reach their broodstocking nor spawning escapement goals for 2018.

<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2237>
- On November 1, 2018, angling on the Dungeness River from the mouth to the Gray Wolf River at the Dungeness Forks Campground was reopened (in accordance with the permanent rule) as river flow levels returned to normal and coho returns increased to the point that broodstock goals would be expected to be met.

<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2240>
- On November 10, 2018 through March 8, 2019, the Department opened the Hoko River hatchery steelhead fishery to retain steelhead whose adipose or ventral fin was clipped, or fish whose dorsal fin is less than 2 1/8" in height. In 2016 and 2017, spring smolt steelhead releases by the Makah Fish Hatchery could not be clipped due to warm river temperatures, in which such handling could compromise fish health. This dorsal fin height requirement has been used elsewhere to discern hatchery from wild steelhead adults.

<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2242>
- On November 10, 2018 through January 31, 2019, the Department opened the Sekiu River hatchery steelhead fishery to retain steelhead whose adipose or ventral fin was clipped, or fish whose dorsal fin is less than 2 1/8" in height. In 2016 and 2017, spring smolt steelhead releases by the Makah Fish Hatchery could not be clipped due to warm river temperatures, in which such handling could compromise fish health. This dorsal fin height requirement has been used elsewhere to discern hatchery from wild steelhead adults.

<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2243>
- Closed Whatcom Creek from the mouth to the markers below the footbridge downstream of Dupont St, to all fishing from November 15, 2018, until further notice. The return of hatchery chum was low and there were concerns that the broodstock goal would not be met, thus compromising future hatchery chum returns.

<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2248>
- Opened the Wallace River from 200 feet downstream to 200 feet upstream of the salmon hatchery water intake, to gamefish angling from December 1, 2018 to February 15, 2019; the hatchery weir is open and passable. Dolly Varden / bull trout: min. size 20", may be retained as part of trout daily limit; other trout at minimum size 8", except cutthroat trout and wild rainbow trout at a minimum size 14"; trout daily limit 2; other gamefish at statewide min. size/daily limit. Wallace hatchery salmon hatchery broodstock goals have been met, and there is sufficient steelhead anticipated to provide harvestable opportunity.

<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2253>
- Closed the North Fork Stillaguamish to fishing from January 1 to February 15, 2019, from the mouth upstream to the Swede Heaven Bridge (included the Fortson Hole area). The Whitehorse Hatchery did not have enough early winter steelhead broodstock on hand to meet egg take goals.

<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2260>
- Closed to fishing the Skykomish River from the mouth to the forks, and the Wallace River from the mouth to 200 feet above the hatchery water intake, from January 7 to February 15, 2019. The Wallace River and Reiter Ponds hatcheries had less than half of the early winter steelhead broodstock on hand needed to meet egg take goals.

<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2259>
- Reopened the Skykomish and Wallace rivers to fishing according to permanent rule on January 14, 2019, as well as opening the Wallace River from 200 feet downstream to 200 feet upstream of the hatchery water intake, through February 15, 2019. The Wallace River and Reiter Ponds hatcheries had collected enough early winter steelhead broodstock to meet egg-take goals.

<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2263>
- Opened catch and release fishing for gamefish on the Skagit River from the Dalles Bridge to the Cascade River Road Bridge, and on the Sauk River from the mouth to the Darrington Bridge, from February 1 through April 30, 2019. The Skagit River Resource Management Plan received Federal approval, allowing this fishery to proceed.

<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2269>
- On February 1, 2019, reopened the fishery for hatchery steelhead and other gamefish, according to permanent rules, on the North Fork Stillaguamish River from the mouth of French Creek upstream to Swede Heaven Bridge. The Whitehorse Hatchery met their broodstock collection goals for early winter steelhead, and the fishery allows for opportunity to catch any remaining hatchery steelhead.

<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=2272>