

Stock Status and Harvest Management Plan for Steelhead Returning to the Skagit River for the 2011-2012 Run Period

**Developed for the Steelhead Cutthroat Advisory Group
September, 2011**

Prepared by

**Upper Skagit Indian Tribe,
Swinomish Tribe, Sauk-Suiattle Tribe
and the
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This is a preliminary plan that has not yet been reviewed or agreed to by tribal co-managers. The information is likely to be refined after co-manager review and input. Any sport fishing rule changes required will be put in place via the emergency fishing rule process.

1.0 Introduction

This document specifies the procedures under which the parties, the Washington Department of Fish and Wildlife (WDFW), the Upper Skagit Tribe, the Swinomish Tribe, and the Sauk-Suiattle Tribe, agree to manage the 2011-2012 winter steelhead fisheries in the Skagit River System. These agreements apply for the 2011-2012 winter-run steelhead season only.

The details of the management procedures agreed for use during the 2011-2012 management season—the 2012 spawn year, are as follows:

- a. Location of Watershed
- b. Summary Description of Watershed
- c. Watershed map

2.0 Management Objectives

a. Wild fish population goals (VSP parameters)

For wild steelhead, the management objective since 1994 has been to limit the catch of wild steelhead to less than 16% of the wild run size (the mean harvest rate observed from 1988-1989 through 1993-1994), in order to test the productive capacity of the Skagit, and identify more precisely the optimum wild steelhead spawning level in the Skagit. Following a poor wild return during the 1999-2000 season, the parties agreed, before the 2000-2001 season, to implement an additional restriction: a floor escapement level below which fisheries directed at wild steelhead would not be opened. Since the 2000-2001 season, this floor escapement has been set at 6,000 wild steelhead. This number is somewhat above the upper end of the range of MSH escapement levels that were calculated in 1991 by WDFW and NWIFC statisticians (range of MSH escapements was 2,600 to 4,800), and that were re-calculated by a consultant for Washington Trout in 1997 (highest expected catch value was at an escapement of 4,000). Thus, the maximum allowable catch of wild steelhead during the season is the greater of either the incidental catch incurred while harvesting hatchery steelhead and other species (which cannot exceed 16% of the wild run size), or the lesser of either the amount by which the run size exceeds the 6,000-fish floor, or 16% of the wild run size. In mathematical terms, this maximum allowable catch is calculated as:

$$C_{\max} = \text{Min}(\text{WTRS} * 0.16, \text{Max}(C_{\text{inc}}, \text{Min}(\text{WTRS} - 6000, \text{WTRS} * 0.16)))$$

where C_{\max} is the maximum allowable catch, C_{inc} is the number of wild winter steelhead harvested incidentally to fisheries directed at hatchery steelhead and other species, WTRS is the wild terminal run size of Skagit steelhead, “Min” means “take the minimum of the quantities listed in the parentheses”, and “Max” means “take the maximum of the quantities listed in the parentheses”.

The floor escapement level, 6,000 wild steelhead, and the 16% harvest rate ceiling above that floor, are both interim values that may be revised as additional information becomes available.

Recent analyses by Hayman (2008)¹ have demonstrated that a 16% harvest rate ceiling does not significantly impede progress to recovery for Skagit wild steelhead.

b. Fishery goals

Because of the uncertainty regarding the MSH escapement level for Skagit wild winter steelhead, and the lack of in-season data on sports catch and run size, both the sport and the tribal fisheries will be managed according to fishing schedules that are set preseason and are not adjusted during the season. Thus, for the 2011-2012 season, the management objective for Skagit wild winter-run steelhead is to achieve escapement objectives while allowing some sport fishing opportunity and exercise of the treaty right to fish on harvestable hatchery steelhead.

Since the 2011-2012 wild terminal run size (WTRS) forecast, approximately 4,200 steelhead, is below the floor escapement level of 6,000 fish, and because Puget Sound wild steelhead have been listed as “Threatened” under the Endangered Species Act, the tribes and the state have designed their fishing schedules for 2011-2012 with particular concern for incidental catches of wild steelhead so as not to exceed² the maximum allowable catch of wild steelhead during the season. These schedules and the expected impact on steelhead stocks will be evaluated post-season, and will not be adjusted during the season—any adjustments to the schedules would be taken care of in future seasons, depending on whether the schedules result in harvests that exceed the maximum allowable catch, or fall well under that maximum.

The scheduled fishing time coincides with the return timing of hatchery steelhead. These schedules and the expected impact on steelhead stocks will be evaluated post-season, and will not be adjusted during the season—any adjustments to the schedules would be taken care of in future seasons, depending on whether the schedules result in harvests that exceed the maximum allowable catch, or fall well under that maximum. The scheduled fishing time coincides with the return timing of hatchery steelhead.

¹Hayman, R.A. 2008. Calculation of exploitation rates that meet ESA jeopardy standards for Skagit wild steelhead. Skagit River System Cooperative, La Conner, WA. 22p.

² The words “not to exceed” are deliberately chosen, and do not mean the same as “achieve”, which would imply that the maximum allowable catch is a target. The expected harvest rate on wild steelhead in 2010-2011 (see Section F, below) is substantially less than 16%, and the recent 5-year average has been 5.5%.

Table 1. Management goals, forecast run size estimates, and estimated number of harvestable steelhead for the Skagit River in the 2011-2012 management season.

	Forecast Run Size	Escapement Goal	# Available for Harvest
Marblemount Hatchery Winter Steelhead	918	150	
Wild Steelhead	4265	See Discussion	0

c. Hatchery fish production goals

The total number of steelhead smolts to be released from the Marblemount Hatchery facility in 2011-2012 is 229,000, per the Future Brood Document. This will require about 150 adult spawners. These fish are collected at Marblemount Hatchery and the Baker River Trap.

Run Type	Program Type	Program Purpose	Release Facility	Program Size/Release	Broodstock Requirement
Winter Steelhead	Segregated (Chambers Origin)	Harvest	Marblemount Hatchery	199,000	150
			Baker River	30,000	

3.0 Preseason Forecasts of Abundance

a. Wild steelhead forecast

To forecast the wild adult steelhead terminal run size for return season 2011-2012, we calculated a terminal run size based on average, age specific brood year adult return rates, using the 1998-2008 brood year data (Table 3). We have, in the past, produced forecasts that used age composition grouped on the basis of simple ocean age categories (2-salts, 3-salts, etc), or total ages (age 4, age 5, etc), and, while total age (Table 4), ocean age (Table 5), and generalized age (Table 6) return rates use the same data as the age specific (Table 3) return rates that we used for this year’s forecast, the drawback of using non-age specific data is that each age group contains several brood years, but the return rates that are calculated from those data assume that each age group consists of only one brood. Thus, the co-managers have agreed to use age specific brood year return rates to forecast this year’s wild run size, and, therefore, to manage the 2011-2012 winter-run steelhead season based on a forecast of a **wild**, terminal area run size of **4,265** steelhead (Table 3).

b. Hatchery steelhead forecast

Comprehensive age composition data was analyzed from return years 1986 through 2010, corresponding to smolt release years 1982–2009; brood years 1981–2008 (Table 1). While age composition estimates for return years 1997 through 2000 were unavailable, most of the return years before and after 1997–2000 had sufficient numbers of scale samples to capture their return year age compositions.

We used available return year age data, developed age specific smolt release year return rates, and calculated average smolt to adult return rates for all corresponding release years (Table

1), under the assumption that all hatchery fish were released as smolts at age 1+. Because of the long time series, several different return rate averages may be used to forecast the expected 2011-2012 hatchery run. Because the average smolt to adult return rate (0.47%) for the most recent complete³ release years, 1999–2006, is significantly less than in earlier years (the average smolt to adult return rate for release years 1984–1993 is 1.76%, and the average for the entire data set is 1.19%), averages of return rates that include those earlier years may not represent current conditions. Therefore, we used the averages of release year return rates since release year 1999 to forecast the 2011-2012 terminal area hatchery return (Table 2). Using average return rates for each age group, the run size forecast for hatchery winter steelhead in the 2011-2012 season is **918** (Table 1).

¹Planned program reduction due to budget reduction.

4.0 Wild Steelhead Stock Status and Fishery Performance

- a. Historical Wild Runsize
- b. Fishery performance

c. Expected Harvest Rates

WDFW has non-retention rules in place for wild steelhead during recreational fisheries. In addition to the fishing schedules listed in Table 9 above and the text describing the Non-treaty recreational emergency rules, WDFW anticipates that they will conduct fisheries targeting hatchery spring Chinook in June and July, after the end of the steelhead season (but during the 2010-11 wild steelhead catch allocation period), that will catch wild steelhead. These fisheries are subject to North of Falcon negotiations that have not yet been conducted, so the precise schedules are not yet known. However, for purposes of projecting the expected harvest rates on wild steelhead, we will assume the same fishing schedules that were used in 2010 (i.e., open June 1 through July 15). Under this assumption and with the schedules listed in Table 9 and the emergency rule text, the expected release mortality from wild fish encounters, during the Non-Treaty recreational fisheries on Skagit wild steelhead, for the 2011-2012 run-year is approximately **0.313%** (about 13 wild fish at the preseason forecast run size). Release mortalities include a kelt adjustment.

5.0 Fishery Management Plan

Catch Allocation Periods and Management Periods

Skagit steelhead catch allocation and management periods will be as described below. Because steelhead may enter the Skagit on any month of the year, there is no clear break between annual runs, and, for purposes of determining which run a particular catch is assigned to, an ending date for the run must be designated. For wild steelhead on the Skagit, which the co-managers have redefined as one population (i.e., there are not separate “summer” and “winter” wild spawning

³ The 2006 release year data do not yet include the relatively rare 4-salt returns.

populations), that ending date has been set at June 30. Thus, all wild steelhead caught or estimated to spawn between July 1 and the subsequent June 30 (the wild steelhead *catch allocation period*) are assigned to one run. These dates were chosen because the majority of steelhead intercepted in the commercial and sport fisheries during May and June are kelts (postspawn outmigrating steelhead), which may have entered the river months earlier, and, after the kelt outmigration ends, there is a significant drop off in catches of wild steelhead. Though a finite date cannot be defined, an annual cutoff date is needed for management purposes, the co-managers have chosen to make it the end of June.

For hatchery steelhead, the cutoff dates are somewhat different. This is because two distinct populations of hatchery steelhead—Chambers Creek winters and Skamania summers—have been planted in or near⁴ the Skagit, so, to evaluate these programs, they are accounted for separately. For Skagit Bay and River, the winter-run hatchery steelhead *catch allocation period* runs from November 1 through April 30, and the summer-run hatchery steelhead *catch allocation period* runs from May 1 through October 31. WDFW has regulations for recreational steelhead fishing that are in effect June 1 through April 30, which encompass most of both the summer-run and winter-run hatchery steelhead *catch allocation periods*.

Winter-run Hatchery Steelhead Management Periods by River Area

<u>Area</u>	<u>Dates</u>
Skagit Bay and Skagit River Area 1 (WDFW Area 78C)	November 27, 2011–April 15, 2012
Skagit River Area 2 (WDFW Area 78D-2)	December 4, 2011–April 15, 2012
Skagit River Area 3 (WDFW Area 78D-3)	December 11, 2011–April 15, 2012
Skagit River Area 4 (WDFW Area 78D-4)	December 18, 2011–April 15, 2012
Skagit River Area 5 (WDFW Area 78D-5)	January 1, 2012–April 15, 2012
Sauk River mouth to Darrington Bridge, and the lower 1 mile of the Cascade River	

Tribal Fishery

Sport Fishery

The Permanent Rules governing sport fishing seasons for Baker, Cascade, Sauk, Suiattle, and Skagit Rivers for the 2011-2012 winter game fish seasons are listed in WDFW’s Sport Fish Rules—“Fishing in Washington”, 2011-2012 pamphlet edition. Retention of hatchery origin steelhead is allowed in the Skagit River and its tributaries when legally taken in the times and areas listed (Table 9). Up to two hatchery steelhead, missing their adipose fin and having a healed scar in its place may be retained per day. Steelhead are defined as “A sea-run rainbow trout 20” in length or over”. Steelhead may be caught and released until the daily limit is retained. Retention of steelhead with an intact adipose fin is not allowed.

⁴Skamania stock summers are no longer planted in the Skagit; however, they are planted in the nearby Snohomish System, and strays from those plants may enter and are caught in the Skagit.

Emergency Rules governing sport fishing seasons for the following rivers and sections will be enacted by WDFW in the 2011-2012 winter game fish seasons. These regulations will be put into effect due to forecasted returns below the floor escapement value in order to reduce impacts to wild steelhead. Depending on in-season evaluation, WDFW may institute additional restrictions on the suite of sport seasons as needed by emergency regulation. Those additional regulations are as follows:

CASCADE RIVER, from mouth to Rockport-Cascade Road Bridge, ***Closed to all fishing Feb 16-Feb 28;***

CASCADE RIVER, from Rockport-Cascade Rd Bridge upstream, ***Closed to all fishing February 1-February 28;***

SAUK RIVER, from mouth to Darrington Bridge ***Closed to all fishing, February 1-April 30;***

SAUK RIVER, from Darrington Bridge to Whitechuck River, ***Closed to all fishing February 1-February 28;***

SKAGIT RIVER from mouth to Hwy.536 at Mt. Vernon (Memorial Hwy. Bridge) ***Closed to all Fishing February 1-June 1;***

SKAGIT RIVER, from Hwy. 536 at Mt. Vernon to mouth of Gilligan Creek, ***Closed to all fishing February 1-March 15;***

SKAGIT RIVER from mouth of Gilligan Creek to the Dalles Bridge at Concrete, ***Closed to all fishing February 1-March 15;***

SKAGIT RIVER, from the Dalles Bridge at Concrete to Hwy. 530 Bridge at Rockport ***Closed to all fishing February 1-April 30;***

SKAGIT RIVER from the Hwy. 530 Bridge at Rockport to Cascade River, ***Closed to all fishing February 16-April 30;***

SKAGIT RIVER, From Cascade River to Gorge Dam powerhouse at Newhalem, ***Closed to all fishing February 1-March 15.***

Table 9. The sport fishing seasons for Baker, Cascade, Sauk, Suiattle, and Skagit Rivers for the 2010-2011 winter game fish seasons—WDFW’s Sport Fish Rules—“Fishing in Washington”, 2010-2011 pamphlet edition.

BAKER RIVER (Skagit Co.) from mouth to Rockport-Cascade Rd. Bridge Concrete (824)	ALL SPECIES - night closure and anti-snagging rule.		
	Dolly Varden/Bull Trout	Sept. 1-Oct. 31	Min. size 20". May be retained as part of TROUT daily limit.
	All Other TROUT	Sept. 1-Oct. 31	Min. size 14". Daily limit 2.
	Other Game Fish	Sept. 1-Oct. 31	Statewide min. size/daily limit.
From fish barrier dam to headwaters and all tributaries and their tributaries except Channel Creek (824)	All species	First Sat. in June-Oct. 31	Statewide min. size/daily limit.
Channel Creek (Whatcom Co.)	All species	First Sat. in June-Sept. 15	Statewide min. size/daily limit.
CASCADE RIVER (Skagit Co.) from mouth to Rockport-Cascade Road Bridge (826)	ALL SPECIES – June 1-July 15 and Sept 16-Nov. 30: anti-snagging rule and night closure.		
	Dolly Varden/bull trout	June 1-July 15	Min. size 20". May be retained as part of TROUT daily limit.
	All Other TROUT	June 1-July 15	Min. size 14". Daily limit 2.
	Other Game Fish	June 1-July 15	Statewide min. size/daily limit.
	Dolly Varden/bull trout	Sept. 16-Feb. 28	Min. size 20". May be retained as part of TROUT daily limit.
	All Other TROUT	Sept. 16-Feb. 28	Min. size 14". Daily limit 2.
	Other Game Fish	Sept. 16-Feb. 28	Statewide min. size/daily limit.
	SALMON	June 1-July 15	Min. size 12". Daily limit 4 hatchery CHINOOK only. Up to 2 may be adults.
Jordan Creek (Skagit Co.)	SALMON	Sept. 16-Nov. 30	Min. size 12". Daily limit 4 COHO only.
	All Game Fish	First Sat. in June-Oct. 31	Statewide min. size/daily limit.
CASCADE RIVER (cont.) from Rockport-Cascade Rd Bridge upstream (826)	All Game Fish	First Sat. in June-Feb. 28	Catch-and-release except up to 2 hatchery Steelhead may be retained. Selective gear rules. Internal combustion motors prohibited.
Boulder, Marble, Found, and Kindy creeks (Skagit Co.)	All Game Fish	First Sat. in June-Oct 31	Catch-and-release. Selective gear rules.
SAUK RIVER (Skagit/Snohomish Co.) from mouth to Darrington Bridge(828)	All Game Fish	First Sat. in June-Apr 30	Catch-and-release except up to 2 hatchery STEELHEAD may be retained. Selective gear rules. First Sat. in June-Feb 28: Internal combustion moors prohibited
Hilt, White, and Dan’s creeks (Skagit/Snohomish Co.)	All Game Fish	First Sat. in June-Oct 31	Catch-and-release except up to 2 hatchery STEELHEAD may be retained. Selective gear rules.
SAUK RIVER (Skagit/Snohomish Co.)from Darrington Bridge to Whitechuck River (828)	All Game Fish	First Sat. in June-Feb. 28	Catch-and-release except up to 2 hatchery STEELHEAD may be retained. Selective gear rules. First Sat. in June-Feb 28: Internal combustion motors prohibited
Clear Creek (Snohomish Co.) above Asbestos Creek Falls	All Game Fish	First Sat. in June-Oct 31	Statewide minimum size/daily limit.
SAUK RIVER (Skagit/Snohomish Co.)from Whitechuck River upstream including NORTH FORK and SOUTH FORK to Elliot Creek (828)	All Game Fish	First Sat. in June-Oct 31	Catch-and-release except up to 2 hatchery STEELHEAD may be retained. Selective gear rules. Internal combustion moors prohibited.
Falls, Cadet, Elliot creeks (Snohomish Co.)	All Game Fish	First Sat. in June-Oct 31	Statewide minimum size/daily limit. Selective gear rules.
Sloan Creek (Snohomish Co.)	All Game Fish	First Sat. in June-Oct 31	Catch-and-release. Selective gear rules.
SAUK RIVER,SOUTH FORK (Snohomish Co.) above Elliot Creek (828)	All Game Fish	First Sat. in June-Aug 31	Catch-and-release except up to 2 hatchery STEELHEAD may be retained. Selective gear rules. Internal combustion moors prohibited
SKAGIT RIVER (Skagit/Whatcom Co.) The mouth is defined by a line projected from terminus of jetty with McGlenn Island to white monument on east end of Ika Island, then to white monument on east end of Craft Island, then to white monument near corner of the levee on west side of Dry Slough, and then to the white monument on east side of Tom Moore Slough.			

SKAGIT RIVER from mouth to Hwy. 536 at Mt. Vernon (Memorial Hwy.Bridge) (830)	ALL SPECIES - Feb. 15-May 31: selective gear rules.			
	Dolly Varden/bull	Year-round	Min. size 20". May be retained as part of TROUT daily limit.	
	All Other TROUT	Year-round	Min. size 14". Daily limit 2.	
	Other Game Fish	Year-round	Statewide min. size/daily limit.	
	SALMON	Sept. 1-Dec. 31	Min. size 12". Daily limit 3. Release CHINOOK and CHUM	
FISHER SLOUGH Hill Ditch, mount to I-5 Bridge (Skagit Co.) (830)	Trout	First Sat. in June-Oct.31	Min. size 14". Daily limit 2.	
	Other Game Fish	First Sat. in June	Statewide min. size/daily limit.	
SKAGIT RIVER from Hwy. 536 at Mt. Vernon (Memorial Hwy. Bridge) to mouth of Gilligan Creek (830)	ALL SPECIES - July 1-Nov 30: night closure. Aug. 16-Nov: anti-snagging rule.			
	Dolly Varden/bull trout	June 1-Mar. 15	Min. size 20". May be retained as part of TROUT daily limit.	
	All Other TROUT	June 1-Mar. 15	Min. size 14". Daily limit 2.	
	Other Game Fish	June 1-Mar. 15	Statewide min. size/daily limit.	
	All Game Fish	Feb. 16-Mar. 15	Catch and release except up to 2 hatchery STEELHEAD may be retained. Selective gear rules. Unlawful to fish from a floating device while under power.	
SKAGIT RIVER from mouth of Gilligan Creek to the Dalles Bridge at Concrete (830)	SALMON	Sept. 1-Dec. 31	Min. size 12". Daily limit 3. Release CHINOOK and CHUM.	
	Nookachamps Creek (Skagit Co.) and all tributaries and their tributaries	All Game Fish	First Sat. in June-Oct 31	Statewide minimum size/daily limit. Selective gear rules.
	Hansen Creek (Skagit Co.) and all tributaries and their tributaries	All Game Fish	First Sat. in June-Oct 31	Statewide minimum size/daily limit. Selective gear rules.
	Jones Creek (Skagit Co.)	All Game Fish	First Sat. in June-Oct 31	Statewide minimum size/daily limit. Selective gear rules.
	SKAGIT RIVER from the Dalles Bridge at Concrete to Hwy. 530 bridge at Rockport (830)	ALL SPECIES - July 1-Nov. 30: night closure and anti-snagging rule.		
Dolly Varden/bull trout		June 1-Feb. 15	Min. size 20". May be retained as part of TROUT daily limit.	
All Other TROUT		June 1-Feb 15	Min. size 14". Daily limit 2.	
Other Game Fish		June 1-Feb 15	Statewide min. size/daily limit.	
All Game Fish		Feb. 16-Mar. 15	Catch and release except up to 2 hatchery STEELHEAD may be retained. Selective gear rules. Unlawful to fish from a floating device while under power.	
SKAGIT RIVER from the Dalles Bridge at Concrete to Hwy. 530 bridge at Rockport (830)	SALMON	Sept. 16-Dec. 31	Min. size 12". Daily limit 3. Release CHINOOK and CHUM.	
	CLOSED WATERS - June 1-Aug. 31: closed between a line projected across the thread of the river 200' above the east bank of the Baker River and line projected across the thread of the river 200' below the west bank of the Baker River.			
	ALL SPECIES - July 1-Nov. 30: night closure and anti-snagging rule.			
	Dolly Varden/bull trout	June 1-Feb. 15	Min. size 20". May be retained as part of TROUT daily limit.	
	All Other TROUT	June 1-Feb 15	Min. size 14". Daily limit 2.	
SKAGIT RIVER from the Hwy. 530 bridge at Rockport to Cascade River (830)	Other Game Fish	June 1-Feb. 15	Statewide min. size/daily limit.	
	All Game Fish	Feb. 16-April . 30	Catch-and-release except up to 2 hatchery STEELHEAD may be retained. Selective gear rules, except lawful to fish from a floating device equipped with a motor, but not while under power.	
	SALMON	Sept. 16-Dec. 31	Min. size 12". Daily limit 3. Release CHINOOK and CHUM.	
	Jackman Creek (Skagit Co.)	All Game Fish	First Sat. in June-Oct.31	Statewide minimum size/daily limit. Selective gear rules.
	SKAGIT RIVER from the Hwy. 530 bridge at Rockport to Cascade River (830)	ALL SPECIES - June 1-Nov. 30: night closure and anti-snagging rule.		
Dolly Varden/bull trout		June 1-Feb. 15	Min. size 20". May be retained as part of TROUT daily limit.	
All Other TROUT		June 1-Feb. 15	Min. size 14". Daily limit 2	
Other Game Fish		June 1-Feb. 15	Statewide min. size/daily limit.	

	All Game Fish	Feb. 16-Apr. 30	Catch-and-release except up to 2 hatchery STEELHEAD may be retained. Selective gear rules, except lawful to fish from a floating device equipped with a motor, but not while under power.
	SALMON	June 1-July 15	Min. size 12". Daily limit 4 hatchery CHINOOK only. Up to 2 adults may be retained.
	SALMON	Sept. 16-Dec. 31	Min. size 12". Daily limit 3. Release CHINOOK and CHUM.
Illabot, Rocky, Bacus, and Olson creeks (Skagit Co.)	All Game Fish	First Sat. in June-Oct. 31	Statewide minimum size/daily limit. Selective gear rules.
SKAGIT RIVER From Cascade River to Gorge Dam powerhouse at Newhalem	All Game Fish	June 1-Mar. 15	Catch-and-release except up to 2 hatchery STEELHEAD may be retained. Selective gear rules. Internal combustion motors prohibited.
Diobsud, Bacon, Alma, Thorton, Goodell, Newhalem, and Ladder creeks (Skagit/Whatcom Co.)	All Game Fish	June 1-Mar. 15	Catch-and-release except up to 2 hatchery STEELHEAD may be retained. Selective gear rules.
SKAGIT RIVER (Whatcom Co.) Gorge Dam upstream to Ross Dam, and all tributaries except Stetattle Creek (830)	All Game Fish	First Sat. in June-Oct. 31	Statewide minimum size/daily limit.
STETATTLE CREEK (Whatcom Co.) above mouth of Bucket Creek (about 1.5 miles upstream)	All Game Fish	First Sat. in June-Oct. 31	Statewide minimum size/daily limit.
ROSS LAKE TRIBUTARY STREAMS (Whatcom Co.) from one mile upstream of Ross Lake to headwaters (except Ruby Creek and Big Beaver Creek)	All Game Fish	July 1-Oct 31	Statewide minimum size/daily limit.
Big Beaver Creek from ¼ mile upstream of Ross Lake markers to headwaters, including tributary streams and beaver ponds	All Game Fish	July 1-Oct. 31	Catch and release and selective gear rules. Internal combustion motors prohibited.
SUIATTLE RIVER (Skagit Co.) (832)	ALL SPECIES – Selective gear rules.		
	Dolly Varden/bull trout	First Sat. in June-Oct 31	Min. size 20". May be retained as part of TROUT daily limit.
	All Other TROUT	First Sat. in June-Oct 31	Min. size 8". Daily limit 2
	Other Game Fish	First Sat. in June-Oct 31	Statewide min. size/daily limit.
SUIATTLE RIVER (Skagit Co.) (832) Big (above TeePee falls), Grade, Tenas, All, Straight, Buck (above upper boundary of Buck Creek Campground), Lime, Downey, Sulphur, Milk, and Canyon creeks (Skagit/Snomish Co.)	All Other TROUT	First Sat. in June-Oct 31	Statewide minimum size/daily limit. Selective gear rules.
WHITECHUCK RIVER (Snomish Co.)	ALL SPECIES – <i>selective gear rules.</i>		
	Dolly Varden/bull trout	First Sat. in June-Oct 31	Min. size 20". May be retained as part of TROUT daily limit.
	All Other TROUT	First Sat. in June-Oct 31	Min. size 8". Daily limit 2
	Other Game Fish	First Sat. in June-Oct 31	Statewide min. size/daily limit.
Pugh, Owl, and Camp creeks (Snomish Co.)	All Game Fish	First Sat. in June-Oct 31	Statewide minimum size/daily limit. Selective gear rules.

6.0 In-season Fishery Management

- a. Co-manager communication plan
- b. Data sharing timeline
- c. In-season Fishery Change procedures

d. In-Season Update.

There will be no in-season update of either the hatchery or the wild terminal run sizes.

7.0 Monitoring

a. Fishery Monitoring.

The Swinomish and Sauk-Suiattle tribal biology staff will collect biological data from commercial, take home, and C&S catch, and monitor the catch for hatchery and wild origin as well as total catch. Upper Skagit Tribal biology and enforcement staff will monitor the Upper Skagit Tribal fishery and collect steelhead scale data and record hatchery/wild catches.

WDFW will attempt to collect scale samples by enlisting sport fishers to take samples during the recreational fishery.

8.0 Enforcement

9.0 Appendix

Spawn Year (BY)	Hatchery TRS	Hatchery Release	Smolt Release year	Total Age											
				2	3	2	3	4	5	3	4	5	5	5	
				0.1	0.2	1.0	1.1	1.2	1.3	1.S	1.SS	1.2S	1.1S1	1.1S S	1.2S
1978	8,055	358,955	1979												
1979	9,585	308,321	1980												
1980	7,446	194,697	1981												0.0000
1981	4,722	245,393	1982						0.0001				0.0000	0.0001	0.0000
1982	4,683	271,793	1983		0.0000			0.0060	0.0000		0.0000	0.0007	0.0000	0.0001	0.0000
1983	2,766	370,017	1984	0.0000	0.0000		0.0176	0.0027	0.0001	0.0000	0.0000	0.0002	0.0000	0.0001	0.0000
1984	5,843	336,417	1985	0.0000	0.0000	0.0000	0.0145	0.0065	0.0001	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000
1985	13,218	298,357	1986	0.0000	0.0000	0.0001	0.0168	0.0064	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000
1986	8,452	136,096	1987	0.0000	0.0000	0.0001	0.0207	0.0054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1987	6,182	264,376	1988	0.0000	0.0000	0.0000	0.0165	0.0031	0.0000	0.0000	0.0000	0.0004	0.0000	0.0000	0.0000
1988	7,437	286,833	1989	0.0000	0.0000	0.0000	0.0037	0.0022	0.0000	0.0001	0.0000	0.0001	0.0000	0.0000	0.0000
1989	4,907	127,032	1990	0.0000	0.0000	0.0000	0.0236	0.0051	0.0000	0.0000	0.0000	0.0005	0.0000	0.0000	0.0000
1990	5,785	196,893	1991	0.0000	0.0000	0.0001	0.0093	0.0007	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1991	2,125	157,842	1992	0.0000	0.0000	0.0005	0.0047	0.0032	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000
1992	3,833	364,161	1993	0.0000	0.0000	0.0000	0.0048	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
1993	2,931	366,591	1994	0.0000	0.0000	0.0000	0.0055	0.0009		0.0000	0.0000	0.0000			0.0000
1994	1,128	354,122	1995	0.0000		0.0001	0.0048		0.0000	0.0000			0.0000	0.0000	
1995	2,481	289,052	1996		0.0000	0.0001		0.0026			0.0000	0.0000			
1996	2,431	328,461	1997	0.0000			0.0016			0.0000					0.0000
1997	2,402	583,720	1998			0.0000			0.0000				0.0000	0.0000	0.0000
1998	828	445,434	1999	0.0000	0.0000		0.0058	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1999	1,386	449,302	2000	0.0000	0.0000		0.0052	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2000	828	463,460	2001	0.0000	0.0000	0.0000	0.0003	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2001	2,007	273,712	2002	0.0000	0.0000	0.0001	0.0054	0.0022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2002	3,756	513,330	2003	0.0000	0.0000	0.0000	0.0020	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2003	623	529,821	2004	0.0000	0.0000	0.0000	0.0016	0.0028	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2004	1,567	466,100	2005	0.0000	0.0000	0.0000	0.0021	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
2005	1,657	517,000	2006	0.0000	0.0000	0.0000	0.0034	0.0004		0.0000	0.0000	0.0000			
2006	1,381	511,560	2007	0.0000		0.0000	0.0009			0.0000					
2007	2,512	235,010	2008			0.0000									
2008	1,965	174,000	2009												
1999-2010 Release Year Return Average--return/smolt				0.0000	0.0000	0.0000	0.0030	0.0014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Release Year	2009	2008	2010	2009	2008	2007	2009	2008	2008	2007	2007	2006
Smolts Released	174,000	235,010	231,500	174,000	235,010	511,560	174,000	235,010	235,010	511,560	511,560	517,000
Estimated Return	0.0	0.0	3.6	516.8	114.6	3.5	0.2	0.0	2.0	0.0	0.0	0.0
% Composition	0.0000	0.0000	0.0005	0.7857	0.1742	0.0005	0.0002	0.0000	0.0001	0.0000	0.0000	0.0000
Total Estimated 2010-11 Return	658											
2009-2010 Preseason forecast performance--Observed vrs PSF												
2010 OBSERVED Return	0	0	3	567	273	0	0	0	3	0	0	0
Observed % Composition	0.0000	0.0000	0.0003	0.6561	0.3158	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000
1999-2008 Release Year Ave return 2010 FORECAST	0	0	1	627	219	5	0	0	6	0	0	0
PSF % Composition	0.0000	0.0000	0.0001	0.7053	0.2464	0.0002	0.0000	0.0000	0.0009	0.0000	0.0000	0.0000
Postseason difference from PSF	0	0	2	60	54	5	0	0	3	0	0	0
% Error			0.5802	0.1064	0.1971	#DIV/0!			1.0262			

Table 1. 2010-2011 winter-run hatchery smolt to adult return rates by release year and age, preseason forecast, and 2008-2009 postseason versus preseason estimates (continued).

Spawn YR (BY)	Total Age			2	3	4	5	4	5	1-salt	2-salt	3-salt	4-salt	Return/Smolt Release	Repeat spawner	
	Hatchery TRS	Hatchery Release	Smolt Rel. Year	R.0	R.1	R.1S	R.1SS	R.2	R.3							
1978	8,055	358,955	1979													
1979	9,585	308,321	1980													
1980	7,446	194,697	1981													
1981	4,722	245,393	1982				0.0000		0.0000							
1982	4,683	271,793	1983			0.0000	0.0000	0.0002	0.0000							
1983	2,766	370,017	1984		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0177	0.0029	0.0003	0.0209	0.0004	
1984	5,843	336,417	1985	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0148	0.0068	0.0001	0.0216	0.0004	
1985	13,218	298,357	1986	0.0000	0.0001	0.0000	0.0000	0.0001	0.0000	0.0001	0.0169	0.0068	0.0000	0.0238	0.0003	
1986	8,452	136,096	1987	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0208	0.0055	0.0001	0.0264	0.0002	
1987	6,182	264,376	1988	0.0000	0.0002	0.0000	0.0000	0.0001	0.0000	0.0000	0.0167	0.0036	0.0001	0.0204	0.0005	
1988	7,437	286,833	1989	0.0000	0.0001	0.0000	0.0000	0.0001	0.0000	0.0000	0.0039	0.0024	0.0000	0.0063	0.0001	
1989	4,907	127,032	1990	0.0000	0.0007	0.0000	0.0000	0.0013	0.0000	0.0000	0.0244	0.0069	0.0001	0.0313	0.0006	
1990	5,785	196,893	1991	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0001	0.0098	0.0008	0.0004	0.0110	0.0000	
1991	2,125	157,842	1992	0.0000	0.0001	0.0000	0.0000	0.0001	0.0000	0.0005	0.0048	0.0033	0.0000	0.0086	0.0001	
1992	3,833	364,161	1993	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0049	0.0006	0.0000	0.0055	0.0001	
1993	2,931	366,591	1994	0.0000	0.0004	0.0000		0.0001		0.0000	0.0059	0.0010				
1994	1,128	354,122	1995	0.0000	0.0006		0.0000		0.0000	0.0001	0.0054					
1995	2,481	289,052	1996	0.0000		0.0000		0.0000		0.0001						
1996	2,431	328,461	1997		0.0003									0.0000		
1997	2,402	583,720	1998	0.0000			0.0000		0.0000			0.0000	0.0000			
1998	828	445,434	1999		0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0062	0.0030	0.0000	0.0092	0.0000	
1999	1,386	449,302	2000		0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0054	0.0010	0.0000	0.0063	0.0000	
2000	828	463,460	2001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003	0.0002	0.0000	0.0005	0.0000	
2001	2,007	273,712	2002	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0001	0.0054	0.0023	0.0000	0.0078	0.0000	
2002	3,756	513,330	2003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0010	0.0000	0.0030	0.0000	
2003	623	529,821	2004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0016	0.0029	0.0001	0.0046	0.0000	
2004	1,567	466,100	2005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0021	0.0003	0.0000	0.0024	0.0000	
2005	1,657	517,000	2006	0.0000	0.0000	0.0000		0.0000		0.0000	0.0034	0.0004		0.0039	0.0000	
2006	1,381	511,560	2007	0.0000	0.0000					0.0000	0.0010					
2007	2,512	235,010	2008	0.0000						0.0000						
2008	1,965	174,000	2009													
1999-2010 release year return ave-- return/smolt				0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0014	0.0000	0.0047	0.0000	
Release Year				2010	2009	2008	2007	2008	2007	2010	2009	2008	2007			
Smolts Released				231,500	174,000	235,010	511,560	235,010	511,560	231,500	174,000	235,010	511,560			
Estimated Return				0.0	12.1	0.0	0.0	4.4	0.0	3.6	529.1	121.0	3.5	658		
% Composition				0.0000	0.0185	0.0000	0.0000	0.0066	0.0000	0.0055	0.8050	0.1841	0.0054			
2009-2010 Preseason forecast performance--Observed vs PSF																
2010 OBSERVED Return				0	12	0	0	6	0	579	279	3	3	864		
Observed % composition				0.0000	0.0140	0.0000	0.0000	0.0070	0.0000	0.6702	0.3228	0.0035	0.0035			
1999-2008 Rel. Year Ave return 2010 Forecast				0	11	0	0	20	0	1	638	246	5	889		
PSF % Composition				0.0000	0.0119	0.0001	0.0000	0.0229	0.0000	0.0014	0.7172	0.2762	0.0052			
Postseason difference from PSF				0	2	0	0	14	0	578	359	243	2	25		
% error					0.1285	#DIV/0!		2.3530		0.9978	1.2867	80.0197	0.5175	0.0292		

Table 2. Recent winter-run hatchery SMOLT release years and corresponding age specific OCEAN return rates—smolt to adult return rates to Skagit terminal area.

Smolt Release Year	Smolts Released	1-Salt Return Rate	2-Salt Return Rate	3-Salt return rate	4-Salt Return Rate	Brood Year Return Rate
1999	445,434	0.0000	0.0062	0.0030	0.0000	0.0092
2000	449,302	0.0000	0.0054	0.0010	0.0000	0.0063
2001	463,460	0.0000	0.0003	0.0002	0.0000	0.0005
2002	273,712	0.0001	0.0054	0.0023	0.0000	0.0078
2003	513,330	0.0000	0.0020	0.0010	0.0000	0.0030
2004	529,821	0.0000	0.0016	0.0029	0.0001	0.0046
2005	466,100	0.0000	0.0021	0.0003	0.0000	0.0024
2006	517,000	0.0000	0.0034	0.0004		0.0039
2007	511,560	0.0000	0.0010			
2008	235,010	0.0000				
2009	174,000					
2010	231,500					
Average		0.0000	0.0030	0.0014	0.0000	0.0047
Smolts Release		231,500	174,000	235,010	511,560	
2011 Forecast		3.6	529.1	121.0	3.5	658

Table 3. Average wild steelhead brood at age adult return per spawners and 2010-2011 forecast (*table continued on next page*).

Total Age		2	3	4	5	3	4	5	6	4	5	6	7	5	6	7	4	5	4	5	6	
Spawn Year Escap.	Spawn Yr (BY)	1.0	1.1	1.2	1.3	2.0	2.1	2.2	2.3	3.0	3.1	3.2	3.3	4.0	4.1	4.2	1.1S	1.2S	2.S	2.SS	2.SSS	
5,757	1978																					
2,982	1979												0.0000			0.0000						
5,288	1980								0.0675			0.1350	0.0000		0.0000	0.0000					0.0000	
4,308	1981				0.0000			1.1604	0.0361		0.3315	0.2163	0.0000	0.0000	0.0000	0.0000		0.0000		0.0000	0.0000	
9,609	1982			0.0000	0.0000		0.5202	0.4526	0.0167	0.0000	0.0162	0.0754	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
7,732	1983		0.0000	0.0000	0.0000	0.0000	0.4621	0.5516	0.0257	0.0000	0.1353	0.1541	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
8,963	1984	0.0000	0.0173	0.0090	0.0000	0.0173	0.8798	0.7458	0.0238	0.0000	0.0812	0.1668	0.0000	0.0000	0.0000	0.0059	0.0090	0.0000	0.0000	0.0074	0.0000	
8,603	1985	0.0000	0.0094	0.0000	0.0000	0.0000	0.5308	0.3227	0.0061	0.0000	0.1986	0.1341	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0124	0.0000	
11,098	1986	0.0000	0.0000	0.0000	0.0000	0.0000	0.4137	0.3261	0.0000	0.0000	0.0189	0.0000	0.0659	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
8,305	1987	0.0000	0.0000	0.0000	0.0000	0.0000	0.1074	0.5895	0.0352	0.0000	0.0000	0.2289	0.0000	0.0000	0.0176	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
13,194	1988	0.0000	0.0040	0.0000	0.0000	0.0000	0.2120	0.0887	0.0192	0.0000	0.0997	0.0865	0.0084	0.0000	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	
11,854	1989	0.0000	0.0000	0.0000	0.0000	0.0000	0.1480	0.0321	0.0375	0.0123	0.1498	0.1971		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	
10,017	1990	0.0000	0.0000	0.0000	0.0000	0.0000	0.3292	0.2443		0.0000	0.0555			0.0000			0.0000	0.0000	0.0000	0.0000		
5,818	1991	0.0000	0.0218	0.0000		0.0436	0.2677			0.0000				0.0000		0.0000		0.0000		0.0000		
7,514	1992	0.0000	0.0000			0.0000			0.0720			0.0720			0.0000						0.0000	
6,900	1993	0.0000			0.0000			0.3919			0.0784			0.0000				0.0000		0.0000	0.0000	
6,412	1994			0.0000			0.4218			0.0000			0.0000			0.0000	0.0000		0.0000			
7,656	1995		0.0000			0.0000			0.0000			0.0559	0.0000		0.0000	0.0000					0.0000	
7,088	1996																					
7,088	1997																					
7,448	1998		0.0000	0.0762	0.0000	0.0000	0.1524	0.6139	0.0355	0.0000	0.0767	0.0888	0.0063	0.0000	0.0178	0.0063	0.0000	0.0000	0.0000	0.0000	0.0000	
7,870	1999	0.0000	0.0000	0.0000	0.0000	0.0000	0.0726	0.2185	0.0119	0.0000	0.2017	0.1780	0.0000	0.0000	0.0119	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
3,780	2000	0.0000	0.0000	0.0000	0.0000	0.0000	0.7000	0.6299	0.0000	0.0000	0.1853	0.1389	0.0041	0.0000	0.0116	0.0164	0.0000	0.0000	0.0000	0.0000	0.0000	
4,584	2001	0.0000	0.0000	0.0000	0.0000	0.0000	0.2241	0.4917	0.0067	0.0000	0.3151	0.1652	0.0054	0.0000	0.0034	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
5,394	2002	0.0000	0.0173	0.0000	0.0000	0.0087	0.4665	0.4096	0.0093	0.0000	0.0286	0.0278	0.0000	0.0000	0.0046	0.0029	0.0000	0.0057	0.0000	0.0000	0.0000	
6,818	2003	0.0000	0.0064	0.0091	0.0000	0.0032	0.0861	0.1281	0.0023	0.0000	0.1025	0.0271	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
7,332	2004	0.0000	0.0000	0.0000	0.0000	0.0000	0.3879	0.0839	0.0000	0.0000	0.0273	0.0122		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	
6,175	2005	0.0000	0.0117	0.0072	0.0000	0.0000	0.1927	0.0666		0.0072	0.0981			0.0000			0.0024	0.0000	0.0000	0.0000	0.0000	
6,757	2006	0.0000	0.0046	0.0033		0.0068	0.3872			0.0000							0.0000		0.0000			
4,113	2007	0.0000	0.0163			0.0054																
4,887	2008	0.0000																				
2,502	2009																					
4,003	2010																					
4,003	2010																					
Total Age	Age	2	3	4	5	3	4	5	6	4	5	6	7	5	6	7	4	5	4	5	6	
BY 1998-2008 ave. return rate		0.0000	0.0056	0.0106	0.0000	0.0024	0.2966	0.3303	0.0094	0.0008	0.1294	0.0911	0.0026	0.0000	0.0070	0.0042	0.0003	0.0007	0.0000	0.0000	0.0000	
Brood Year		2009	2008	2007	2006	2008	2007	2006	2005	2007	2006	2005	2004	2006	2005	2004	2007	2006	2007	2006	2005	
Outmigration year		2010	2009	2008	2007	2010	2009	2008	2007	2010	2009	2008	2007	2010	2009	2008	2008	2007	2009	2008	2007	
BY Escapement		2,502	4,887	4,113	6,757	4,887	4,113	6,757	6,382	4,113	6,757	6,382	7,332	6,757	6,382	7,332	4,113	6,757	4,113	6,757	6,382	
BY 1998-2008 2011 return		0.0	27.5	43.3	0.0	11.8	1220.0	1403.0	12.4	3.3	874.4	103.6	4.3	0.0	44.9	0.0	1.1	4.8	0.0	0.0	0.0	
BY 1998-2008 age comp.		0.00%	0.66%	1.03%	0.00%	0.28%	29.04%	33.39%	0.30%	0.08%	20.81%	2.46%	0.10%	0.00%	1.07%	0.00%	0.03%	0.12%	0.00%	0.00%	0.00%	

Table 3. Average wild steelhead brood at age adult return per spawners and 2010-2011 forecast (continued).

Total Age		6	6	6	7	6	7	8	5	6	7	7	8	7	8	9	7	8	8	BY Return/ Spawner
Spawn Yr Wild Escape	Spawn Yr (BY)	2.1S	2.1S1	2.1SS	2.1SSS	2.2S	2.2SS	2.2SSS	3.S	3.1S	3.1S1	3.1SS	3.1SSS	3.2S	3.2SS	3.2SSS	4.1S	4.1SS	4.2S	
5,757	1978							0.0000					0.0000		0.0000	0.0000		0.0000	0.0000	
2,982	1979				0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5,288	1980		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4,308	1981	0.2487	0.0000	0.0721	0.0374	0.1082	0.0187	0.0000	0.0000	0.0361	0.0000	0.0187	0.0000	0.0187	0.0000	0.0000	0.0000	0.0000	0.0000	0.2487
9,609	1982	0.0485	0.0000	0.0084	0.0000	0.0419	0.0207	0.0000	0.0000	0.0167	0.0000	0.0069	0.0000	0.0000	0.0111	0.0000	0.0000	0.0000	0.0000	0.0485
7,732	1983	0.0729	0.0000	0.0171	0.0000	0.0428	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0729
8,963	1984	0.0443	0.0000	0.0238	0.0059	0.0238	0.0000	0.0000	0.0000	0.0119	0.0000	0.0000	0.0000	0.0117	0.0000	0.0000	0.0000	0.0000	0.0000	0.0443
8,603	1985	0.0248	0.0000	0.0122	0.0000	0.0061	0.0000	0.0000	0.0000	0.0244	0.0000	0.0000	0.0000	0.0000	0.0340	0.0000	0.0000	0.0000	0.0000	0.0248
11,098	1986	0.0425	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0132	0.0000	0.0000	0.0132	0.0000	0.0000	0.0425
8,305	1987	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0352	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000
13,194	1988	0.0000	0.0000	0.0096	0.0000	0.0000	0.0000		0.0000	0.0096	0.0000	0.0000		0.0169			0.0000			0.0000
11,854	1989	0.0107	0.0000	0.0000		0.0094			0.0000	0.0188						0.0000				0.0107
10,017	1990	0.0222						0.0000	0.0000				0.0000		0.0000			0.0000	0.0000	0.0222
5,818	1991				0.0000		0.0000				0.0000	0.0000		0.0000			0.0000			
7,514	1992		0.0000	0.0720		0.0000				0.0000						0.0000				
6,900	1993	0.0000						0.0000	0.0000				0.0000		0.0000	0.0000		0.0000	0.0000	0.0000
6,412	1994				0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7,656	1995		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0741	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7,088	1996																			
7,088	1997																			
7,448	1998	0.0000	0.0000	0.0000	0.0000	0.0178	0.0000	0.0000	0.0000	0.0178	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0029	0.0000	0.0000
7,870	1999	0.0000	0.0000	0.0000	0.0000	0.0475	0.0000	0.0000	0.0000	0.0237	0.0000	0.0000	0.0020	0.0028	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000
3,780	2000	0.0371	0.0000	0.0058	0.0000	0.0058	0.0041	0.0000	0.0000	0.0058	0.0041	0.0000	0.0000	0.0082	0.0000	0.0000	0.0041	0.0000	0.0000	0.0371
4,584	2001	0.0191	0.0000	0.0000	0.0000	0.0404	0.0054	0.0000	0.0000	0.0169	0.0000	0.0000	0.0000	0.0163	0.0067	0.0000	0.0000	0.0000	0.0000	0.0191
5,394	2002	0.0487	0.0000	0.0139	0.0000	0.0416	0.0029	0.0000	0.0077	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0487
6,818	2003	0.0073	0.0023	0.0000	0.0000	0.0045	0.0000		0.0000	0.0023	0.0000	0.0033		0.0000			0.0000			0.0073
7,332	2004	0.0105	0.0000	0.0000		0.0030			0.0000	0.0122										0.0105
6,175	2005	0.0210							0.0000											0.0210
6,757	2006																			
4,113	2007																			
4,887	2008																			
2,502	2009																			
4,003	2010																			
Total Age		6	6	6	7	6	7	8	5	6	7	7	8	7	8	9	7	8	8	
Age		2.1S	2.1S1	2.1SS	2.1SSS	2.2S	2.2SS	2.2SSS	3.S	3.1S	3.1S1	3.1SS	3.1SSS	3.2S	3.2SS	3.2SSS	4.1S	4.1SS	4.2S	
BY 1998-2008 ave return rate		0.0180	0.0003	0.0028	0.0000	0.0229	0.0021	0.0000	0.0010	0.0112	0.0007	0.0005	0.0004	0.0045	0.0013	0.0000	0.0007	0.0006	0.0004	1.2116
Spawn Year (BY)		2006	2005	2005	2004	2005	2004	2003	2006	2005	2004	2004	2003	2004	2003	2002	2004	2003	2003	1.1500
Outmigration year		2008	2007	2007	2006	2007	2006	2005	2009	2008	2007	2007	2006	2007	2006	2005	2008	2007	2007	
BY Escapement		6,757	6,382	6,382	7,332	6,382	7,332	6,818	6,757	6,382	7,332	7,332	6,818	7,332	6,818	5,394	7,332	6,818	6,818	
BY 1998-2008 2011 return		121.3	2.1	17.9	0.0	146.5	15.1	0.0	6.5	71.7	5.0	4.0	2.7	33.3	9.1	0.0	5.0	4.0	2.7	4,201
BY 1998-2008 age comp.		2.89%	0.05%	0.43%	0.00%	3.49%	0.36%	0.00%	0.16%	1.71%	0.12%	0.10%	0.06%	0.79%	0.22%	0.00%	0.12%	0.10%	0.06%	

Table 4. Recent Wild BROOD year and corresponding TOTAL age return rates.

Brood Year	Age 2 Return Rate	Age 3 Return Rate	Age 4 Return Rate	Age 5 Return Rate	Age 6 Return Rate	Age 7 Return Rate	Age 8 Return Rate	Age 9 Return Rate	Total BY Return Rate
1998		0.0000	0.2285	0.6906	0.1776	0.0125	0.0029	0.0000	1.1123
1999	0.0000	0.0000	0.0726	0.4203	0.2729	0.0028	0.0039	0.0000	0.7725
2000	0.0000	0.0000	0.7000	0.8522	0.1679	0.0409	0.0000	0.0000	1.7610
2001	0.0000	0.0000	0.2241	0.8259	0.2326	0.0272	0.0067	0.0000	1.3164
2002	0.0000	0.0260	0.4665	0.5004	0.0971	0.0057	0.0000		1.0957
2003	0.0000	0.0096	0.0952	0.2378	0.0361	0.0033			0.3820
2004	0.0000	0.0000	0.3879	0.1216	0.0274				0.5370
2005	0.0000	0.0117	0.2096	0.1857					
2006	0.0000	0.0114	0.3905						
2007	0.0000	0.0217							
2008	0.0000								
1998–2008 BY ave	0.0000	0.0051	0.3107	0.5213	0.1445	0.0154	0.0027	0.0000	0.9967
1978–2008 BY ave	0.0000	0.0060	0.3653	0.5148	0.1699	0.0220	0.0053	0.0000	1.0785

Table 5. Recent Wild BROOD year and corresponding OCEAN age return rates.

Brood Year	1-Salt Return Rate	2-Salt Return Rate	3-Salt Return Rate	4-Salt Return Rate	5-Salt Return Rate	6-Salt Return Rate	Total BY Return Rate
1998	0.0000	0.2469	0.8029	0.0625	0.0000	0.0000	1.1123
1999	0.0000	0.2862	0.4202	0.0641	0.0020	0.0000	0.7725
2000	0.0000	0.8969	0.8321	0.0279	0.0041	0.0000	1.7610
2001	0.0000	0.5425	0.6928	0.0690	0.0122	0.0000	1.3164
2002	0.0087	0.5248	0.4889	0.0705	0.0029	0.0000	1.0957
2003	0.0032	0.1950	0.1738	0.0123	0.0000		0.3843
2004	0.0000	0.4152	0.1188	0.0030			0.5370
2005	0.0072	0.3026	0.0972	0.0000			
2006	0.0068	0.3917	0.0033				
2007	0.0054	0.0163					
2008	0.0000						
1998–2008 BY Ave	0.0017	0.4439	0.5042	0.0442	0.0035	0.0000	0.9970
1978–2008 BY Ave	0.0028	0.4753	0.5416	0.0528	0.0066	0.0000	1.0786

Table 6. Generalized Wild age group return rates.

Brood Year	2-Salt Return Rate	3-Salt Return Rate	Other Return Rate	Repeat Spawners	Total BY Return Rate
1998	0.2469	0.7852	0.0418	0.0385	1.1123
1999	0.2862	0.3965	0.0119	0.0779	0.7725
2000	0.8969	0.7852	0.0041	0.0749	1.7610
2001	0.5425	0.6569	0.0122	0.1049	1.3164
2002	0.5171	0.4402	0.0179	0.1205	1.0957
2003	0.1950	0.1642	0.0055	0.0196	0.3843
2004	0.4152	0.0961	0.0000	0.0257	0.5370
2005	0.3026	0.0738	0.0072	0.0234	0.4070
2006	0.3917	0.0033	0.0068	0.0000	0.4018
2007	0.0163	0.0000	0.0054		0.0217
2008	0.0000				
1998–2008 BY Average	0.3464	0.3401	0.0113	0.0539	1.0737

Table 7. Wild Steelhead forecast performance, observed 2010 spawn year return versus the 2010 forecast for ocean age return.

Ocean Age	Observed Return	Preseason Forecast	Absolute diff. between observed and forecast	Error	Observed % of Expectation
1-salt	22	9	13	58.5%	241%
2-salt	3,309	2,931	378	11.4%	113%
3-salt	760	2,500	1,740	228.8%	30%
4-salt	45	267	222	496.4%	17%
5-salt	0	32	32	0.0%	0%
6-salt	0.0	0.0	0	0.0%	0%
	4,136	5,739			

The Swinomish, Sauk-Suiattle, and Upper Skagit Tribes reserve the right to schedule ceremonial fisheries during the steelhead management periods if necessary.

Upper Skagit Indian Tribe

Swinomish Indian Tribal Community

Sauk-Suiattle Indian Tribe

Wash. Dept. of Fish & Wildlife