Preliminary 2014-2015

HOOD CANAL STEELHEAD HARVEST MANAGEMENT PLAN

Joint Management Plan
agreed to by:

Jamestown S'Klallam Tribe
Port Gamble S'Klallam Tribe
Skokomish Tribe
Lower Elwha Klallam Tribe
Washington Department of Fish and Wildlife

December 2014

Introduction

The Washington Department of Fish and Wildlife (WDFW), the Skokomish Tribe, the Lower Elwha Klallam Tribe, the Jamestown S'Klallam, the Port Gamble S'Klallam Tribe, and the Point No Point Treaty Council (representing the Jamestown S'Klallam Tribe and Port Gamble S'Klallam Tribe), have prepared the following harvest management plan for the 2014-2015 winter steelhead accounting period in Hood Canal. This plan establishes management guidelines for the steelhead resources of streams of Hood Canal, originating in WRIA 14, WRIA 15, WRIA 16 and WRIA 17 and of marine waters of Hood Canal (Marine Areas 12, 12A, 12B, 12C, 12D, 12H) and Port Gamble Bay (Marine Area 9A).

Hood Canal steelhead populations are part of the Puget Sound steelhead Distinct Population Segment (DPS), which was listed as threatened under the Endangered Species Act in 2007. This plan is designed to be consistent with the objectives and management guidelines of the Puget Sound Steelhead Harvest Management Plan (PSIT and WDFW 2010), which has been submitted to NOAA. In addition, this plan complies with the incidental take statement and terms and conditions for the Puget Sound steelhead DPS in the NMFS biological opinion for the evaluation of the 2014-2015 Puget Sound Chinook Harvest Resource Management Plan (NMFS 2014). In the Biological Opinion, NMFS anticipated that the co-managers would manage summer and winter steelhead fisheries in Hood Canal under regimes which would result in harvest rates similar to those observed from 2000-01 to 2006-07.

Historic Management Units have been identified for Hood Canal winter steelhead, but there is no current evidence of self-sustaining summer steelhead populations. Streams in the historic Skokomish Management Unit included the Skokomish River and its tributaries. Streams in the historic West Hood Canal Management Unit included the Hamma Hamma, Duckabush, Dosewallips, and Big and Little Quilcene rivers and several independent streams. Streams in the historic East Hood Canal Management Unit included the Union, Tahuya, and Dewatto rivers and several smaller independent streams (Figure 1).

In an effort to align these Management Units with Recovery Populations recently finalized by the Steelhead Technical Recovery Team (TRT), a new South Hood Canal Management Unit has been split off from the historic East Hood Canal Management Unit (Puget Sound Steelhead Technical Recovery Team (PSSTRT) 2013). Management Units will hereafter be referred to as Demographically Independent Populations (DIPs). The Skokomish Management Unit, here after referred to as the Skokomish DIP, will continue to comprise the Skokomish River and its tributaries. The West Hood Canal Management Unit, hereafter referred to as the West Hood Canal DIP, will continue to include the Hamma Hamma, Duckabush, Dosewallips, and Big and Little Quilcene rivers. The East Hood Canal Management Unit, hereafter referred to as the East Hood Canal Dip, will be redefined as the Dewatto River and Big Beef Creek, and the South Hood Canal DIP will now include the Tahuya and Union. Each of these DIPs will also include smaller tributaries within the boundaries established by the TRT (Figure 2).

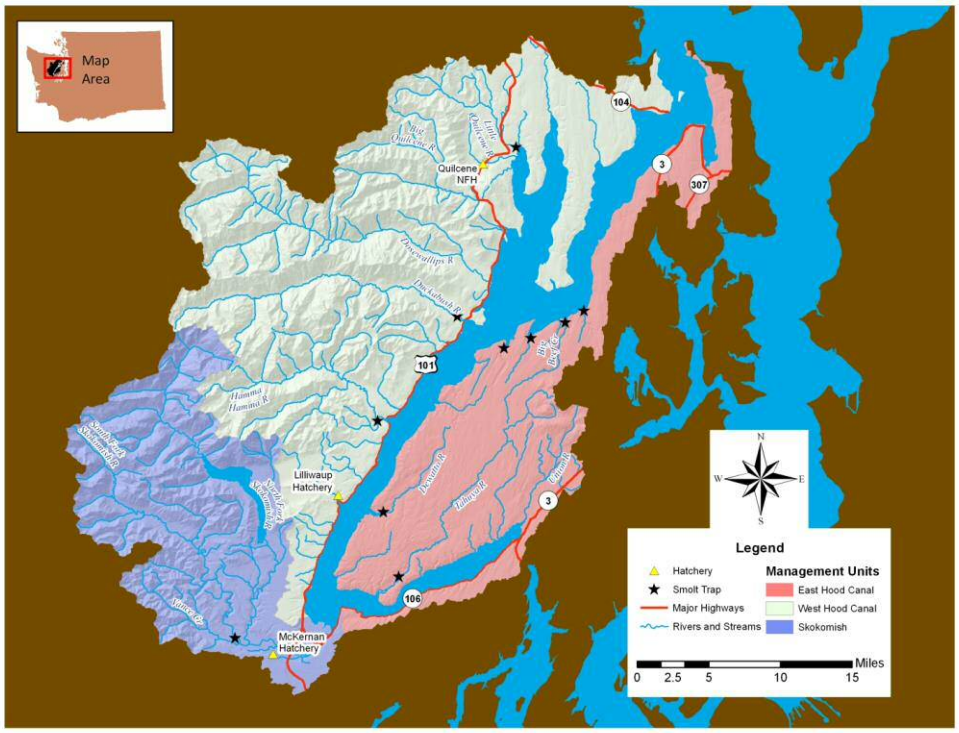

Figure 1. Historic Hood Canal steelhead management units, hatcheries and smolt traps.

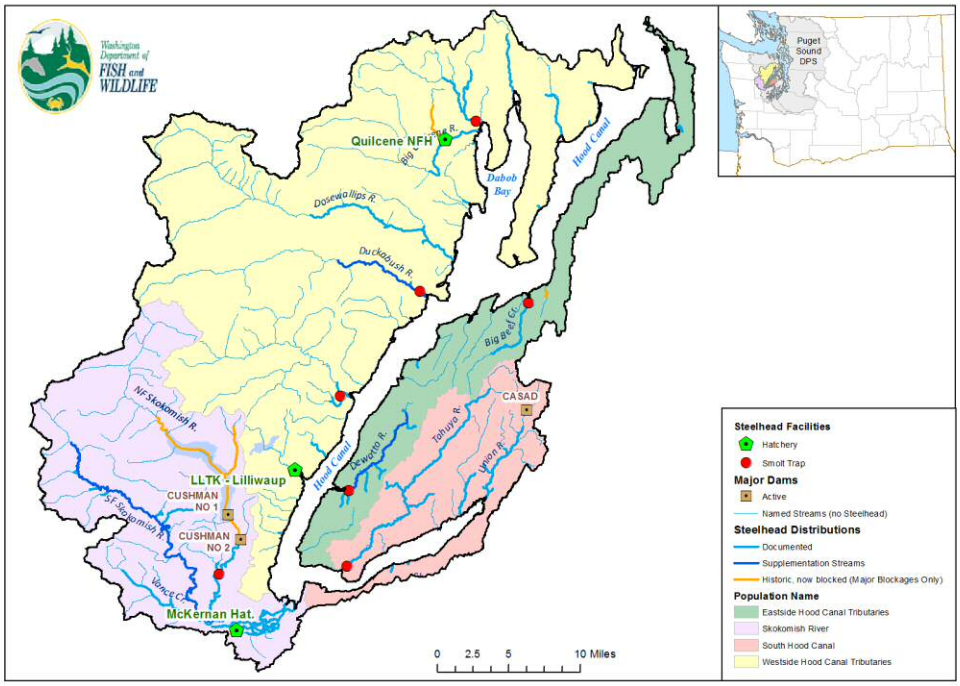

Figure 2. Updated Hood Canal steelhead management units, hatcheries and smolt traps.

1.0 Management Objectives

Wild fish population goals (Viable Salmonid Population parameters)

Population viability can be evaluated using four key characteristics as described in the viable salmonid population (VSP) document (McElhany et al. 2000): abundance, productivity, spatial structure, and diversity. Abundance is the number of individuals in the population at a given life stage or time; productivity or growth rate is the actual or expected ratio of abundance in the next generation to current abundance; spatial structure refers to how the abundance at any life stage is distributed among available or potentially available habitats; and diversity is the variety of genetics, life histories, sizes, and other characteristics expressed by individuals within a population. Each of these characteristics together describes a viable population.

The co-managers continue to work together towards understanding, restoring and maintaining the abundance, distribution, diversity, and long-term productivity of steelhead and their habitats to assure healthy, self-sustaining stocks.

A comprehensive monitoring plan has been developed and implemented as part of the Hood Canal Steelhead Project (see Berejikian et al. 2007), a collaborative effort between National Marine Fisheries Service, Washington Department of Fish and Wildlife, Skokomish Tribe, Port Gamble S'Klallam Tribe, Jamestown S'Klallam Tribe, Point No Point Treaty Council, Long Live the Kings, Hood Canal Salmon Enhancement Group, and U.S. Fish and Wildlife Service.

The co-managers will continue to conduct spawner surveys to monitor steelhead spawning abundance (escapements) in Hood Canal rivers. In addition, information on spawning distribution in each river, within each DIP, and between DIPs provides measures of steelhead distribution and diversity.

Traps are being operated to measure and monitor freshwater smolt abundance and productivity in the Skokomish DIP (South Fork Skokomish River), the West Hood Canal DIP (Hamma Hamma, Duckabush and Little Quilcene rivers), and the East Hood Canal DIP (Dewatto River, and Big Beef, Little Anderson, Stavis, and Seabeck creeks), and the South Hood Canal DIP (Tahuya River) .

Studies have been initiated as part of the Hood Canal Steelhead Project to collect and analyze genetic information to better understand genetic structure and diversity of Hood Canal steelhead. Results for winter steelhead indicate that (1) there appears to be a distinction between steelhead in each river sampled, (2) there appears to be a clustering of steelhead from the Olympic Peninsula (Skokomish, Hamma Hamma, Duckabush, and Little Quilcene) and a clustering of steelhead from the Kitsap Peninsula (Tahuya, Dewatto, and Big Beef Creek) although Little Quilcene and Duckabush steelhead are somewhat intermediate between the two clusters, (3) river flow rate and peak flow timing appear to be secondary landscape factors influencing genetic distance among populations; (4) there is apparent genetic divergence between the natural winter steelhead stocks and the hatchery winter steelhead stocks (Bogachiel and Tokul Creek) which had been released as hatchery smolts in Hood Canal in the past; (4) the effect of past stocking of hatchery rainbow trout is evident upstream of an anadromous barrier in North Fork Skokomish

River samples and in Tahuya Lake samples near the headwaters of the Tahuya River; (5) samples within a river system tend to cluster more closely with each other, regardless of life history type (e.g., parr, smolt) or location (upstream or downstream of anadromous barriers) than to similar life history types from other rivers; (6) anadromous barriers play an important role in shaping the genetic structure of *O. mykiss* as reflected by genetic adaptations to diverse freshwater habitats; (7) there is evidence for partial reproductive isolation between sympatric resident and anadromous forms downstream of anadromous barriers with direct confirmation that resident *O. mykiss* can produce offspring that become anadromous and, thus, are a potential repository of genes for the anadromous life history type; and (7) there appears to be strong maternal control over the expression of offspring life history pathways in streams where resident and anadromous forms are sympatric (Van Doornik and Berejikian 2014, Berejikian et al. 2013, and Van Doornik et al. 2013).

Viable steelhead populations require viable habitat. The co-managers will continue to contribute to habitat protection and restoration efforts. The Hood Canal Coordinating Council (HCCC) working with State, Federal, County agencies, Tribes, regional fisheries enhancement groups, nongovernmental organizations, and other local parties, prepared a Hood Canal / Eastern Strait of Juan de Fuca Habitat Recovery Strategy (HCCC 2005) and a Process Guide (HCCC 2013) to serve as the basis for planning and funding habitat recovery projects. This strategy will be applied to prioritize and implement habitat protection and restoration efforts for steelhead (as well as for ESA-listed Chinook and summer chum salmon). Efforts will also be continued to work with counties and other land-use regulatory authorities within Hood Canal to provide protection to steelhead habitats through the updating and development of land-use regulations, including shoreline management plans, critical areas ordinances, comprehensive plans, minimum stream flow and water quality plans, etc.

The co-managers advocate that a strong adaptive management program be developed and implemented within a framework to integrate habitat, hatchery, and harvest management programs. Adaptive management of steelhead recovery for Hood Canal rivers will be part of the larger adaptive management effort being developed for Puget Sound Steelhead.

Fishery Goals

The provisions of this plan cover all Treaty and Non-Treaty fisheries for winter steelhead occurring in Hood Canal streams and Hood Canal marine areas. The co-managers agree to a philosophy of cooperation in implementing management programs to maintain, perpetuate and enhance the steelhead resource and the natural ecosystem that supports it.

The management intent is to preserve harvest opportunity while not impeding recovery of steelhead populations.

The co-managers agree to enact and recommend for enactment by the Pacific Fishery Management Council and the Pacific Salmon Commission, appropriate regulations for marine salmonid fisheries that will provide for adequate escapement of steelhead into the Hood Canal watersheds to achieve the intent and purposes of this plan.

No escapement objectives have been agreed to between WDFW and the Tribes for any runs of winter steelhead returning to natural spawning areas in Hood Canal rivers. The co-managers agree that the definition of escapement objectives is necessary for efficient fisheries management. Methodologies for the development of escapement rates, goals, thresholds, or ranges for all Demographically Independent Populations (DIPs) will be investigated and considered for adoption by the co-managers in the near future.

Escapement objectives may be based on steelhead productivity and productive capacity under current physical and biotic habitat conditions in each Demographically Independent Population. Given the fact that insufficient information exists on which to base productivity and capacity estimates (e.g., recruit per spawner relationships), various approaches will be considered to develop initial escapement strategies. For example, preliminary analyses using the Ecosystem Diagnosis and Treatment (EDT) methodology have recently been completed for steelhead in the Hamma Hamma, Duckabush, and Dosewallips rivers. The co-managers will consider the merits of these results for use developing Viable Salmonid Population parameters.

Based on past impacts under existing management regimes, the combined impacts from Treaty and Non-Treaty fisheries for each Hood Canal winter steelhead Demographically Independent Population are not expected to exceed recent years harvest rates for winter steelhead returning to all Hood Canal marine and freshwater areas (south of the Hood Canal bridge). In addition, Low Abundance Thresholds (LATs) established at 250 for each of the East and West Hood Canal DIPs may also apply to the South Hood Canal DIP, while no LAT is established for the Skokomish River. LATs are set at double the theoretical critical abundance for the East and West MUs, which provide a protection buffer within which harvest will remain very low and further reduce the risk that abundance will fall to the critical level. Should steelhead abundance increase and exceed the LAT, a less-constraining harvest regime will not be implemented for any DIP until productivity is better quantified, escapement goals based on current habitat function are developed, and recovery goals are defined (PSIT and WDFW 2010). It is expected that there will be few Hood Canal steelhead harvested in Hood Canal terminal marine areas or in pre-terminal marine area fisheries. Incidental harvest of steelhead in commercial fisheries directed at harvesting salmon in marine areas of Hood Canal will be included in the estimation of cumulative impacts to Hood Canal steelhead where such catches can be identified.

Hatchery fish production

The release of hatchery-reared steelhead smolts, for harvest purposes, has been discontinued in Hood Canal with the last hatchery summer-run smolts released in 1981 and the last early-timed Chambers Creek stock winter-run hatchery smolts released in 2004. Few, if any (and then only from releases outside Hood Canal) hatchery winter or summer steelhead adults are expected to return to Hood Canal streams during the 2014-2015 season (or in subsequent seasons).

To aid in the recovery of self-sustainable winter steelhead populations in three Hood Canal streams (namely, the South Fork Skokomish, Duckabush, and Dewatto rivers), a new integrated conservation (supplementation) program, using indigenous stocks, was implemented beginning with brood year 2007. The Hood Canal Steelhead Project (Berejikian et al. 2007) is a collaborative effort between National Marine Fisheries Service (NMFS), Washington

Department of Fish and Wildlife, Skokomish Tribe, Port Gamble S'Klallam Tribe, Jamestown S'Klallam Tribe, Point No Point Treaty Council, Long Live the Kings, Hood Canal Salmon Enhancement Group, and U.S. Fish and Wildlife Service. A Hatchery Genetic Management Plan (HGMP) for the supplementation program has been prepared and submitted to NMFS for review; the HGMP includes a copy of the full supplementation study plan. A longer-term goal of the project is to provide a harvestable surplus of returning winter steelhead adults to support Treaty and Non-Treaty fisheries.

An overview of the Hood Canal winter steelhead conservation hatchery programs is presented in Table 1. Approximately 42,000 two-year old steelhead smolts will be released annually into three Hood Canal streams beginning in 2009. In addition, the programs call for approximately 800 four-year old steelhead adults to be released every other year beginning in 2011. The program is planned to end with eyed egg collections from brood year 2014 and the subsequent releases of smolts in 2016 and adults in 2018; research and monitoring is planned to continue through 2022.

The actual numbers of steelhead smolts and adults released to date and the projected numbers to be released are shown for brood years 2007 through 2012 in Table 2.

Table 1. Hood Canal steelhead hatchery program overview.

Run	Program Type	Program Purpose	Facility	Program Size		Broodstock requirements a/	
Winter steelhead							
S.Fork Skokomish R.	Integrated	Conservation	McKernan Hatchery	28,000	2-yr smolts	30,000	eyed eggs
			Manchester netpens	360	4-yr adults		
Duckabush R.	Integrated	Conservation	Long Live the Kings -	6,667	2-yr smolts	8,620	eyed eggs
			Lilliwaup Hatchery	230	4-yr adults		
Dewatto R.	Integrated	Conservation	Long Live the Kings -	7,400	2-yr smolts	9,566	eyed eggs
			Lilliwaup Hatchery	253	4-yr adults		
a/ Eyed eggs pumped from wild steelhead redds in each river							

Table 2. Smolt and adult steelhead releases from Hood Canal Steelhead Project.

	Smolt releases			Adult releases		
Run	Brood year	Number	Date	Brood year	Number a/	Date
S.Fork Skokomish R.	2007	4,091	April 2008	2007	54	March 2011
	2007	23,747	April/May 2009	2007	17	March 2012
	2008	20,529	April 2010	2008		None planned
	2009	26,642	April 2011	2009	232	March 2013
	2010	23,989	April 2012	2010		None planned
	2011	22,627	April 2013	2011	[360]	March 2015
	2012	27,258	May 2014	2012		None planned
Duckabush R.	2007	1,924	April/May 2009	2007	163	March 2011
				2007	48	March 2012
	2008	4,671	May 2010	2008	66	March 2012
				2008	70	March 2013
	2009	0	April 2011	2009		None planned
	2010	1,743	May 2012	2010	200	March 2014
	2011	2,550	April 2013	2011		None planned
	2012	4,282	May 2014	2012	[230]	March 2016
Dewatto R.	2007	7,375	April/May 2009	2007	226	March 2011
				2007	26	March 2012
	2008	6,808	May 2010	2008		None planned
	2009	6,571	April 2011	2009	228	March 2013
	2010	4,905	May 2012	2010		None planned
	2011	5,272	April 2013	2011	[253]	March 2015
	2012	6,183	May 2014	2012		None planned

a/ Numbers in brackets are planned per the Future Brood Document.

2.0 Wild Steelhead Stock Status and Fishery Performance

For the purposes of this plan, the historic annual returns of winter steelhead have been expressed as the sum of index escapement estimates and reported harvest. The estimated escapements for tributaries comprising the Recovery Populations are shown from 1980-81 through 2014-2015 in Table 3. The estimated harvest, run size and harvest rates for Hood Canal winter steelhead in the West Hood Canal DIP, the East Hood Canal DIP, the South Hood Canal DIP, and the Skokomish DIP are shown for the 2002-2003 through 2013-2014 seasons in Table 4.

Table 3. Spawner escapement estimates for winter steelhead in Hood Canal streams, 1981-2014.

	Winter steelhead spawner escapement								
Year	Little Quilcene	Dosewallips	Duckabush	Hamma Hamma c/	Skokomish	Union	Tahuya	Dewatto	Big Beef
1980-81							94	12	
1981-82					822		86	34	
1982-83					659		44	22	
1983-84					777		172	86	
1984-85					968		185	102	
1985-86					866		142	32	
1986-87					546		119	3	
1987-88					742		102	23	
1988-89					1444		142	22	
1989-90					370		164	no est.	
1990-91					729		122	no est.	
1991-92					172 (min)		73	no est.	
1992-93					no est. a/		75	40	
1993-94					473		77	18	
1994-95		79		13	398		78	22	
1995-96		55		8	no est. a/		92	39	
1996-97		60	19 (min)	35	no est. a/		144	11	
1997-98		49 (min)	6 (min)	18	373	45	126	28	
1998-99	29	99 (min)	29 (min)	21	311	65	340	15	
1999-2000	15	78	36	19	261	50	191	23	
2000-01	8	89	13	3	286	73	133	19	
2001-02	30	52	16	230	156 (min)	49	97	30	
2002-03	16	96	8	134	132 (min)	50	53	18	
2003-04	36	no est. a/	29	214	233	58	168	39	
2004-05	no est. a/	no est. a/	10	123	no est. a/	23	91	23	
2005-06	76	no est. a/	21	70	231	86	183	53	
2006-07	39	no est. a/	16	193	405	21	175	28	
2007-08	41	no est. a/	18	198	285 b/	15	144	49	58
2008-09	6 d/	no est. a/	12	81	567	15	53	15	5
2009-10	40	no est. a/	29	42	363	21	68	13	2
2010-11 e/	31	no est. a/	125	60	478	11	47	92	6
2011-12 f/	10	no est. a/	104	36	564	16	78	55	11
2012-13 g/	36	no est. a/	58	47	1161	8	68	203	55
2013-14 h/	8	no est. a/	63	60	694	6	37	28	3

a/ no escapement estimate was made because of high flows and/or poor visibility during surveys

b/ no surveys in North Fork due to poor visibility

c/ Includes 197, 4, 76, 0, 0, 139, and 131 steelhead adults released into Hamma Hamma River from supplementation program during 2001-02 through 2007-08 seasons, respectively

d/ minimum estimate due to frequency of surveys

e/ 163, 54 and 226 steelhead adults released in Duckabush, SF Skokomish and Dewatto rivers, respectively, during spring 2011

f/ 114, 17, and 26 steelhead adults released in Duckabush, SF Skokomish and Dewatto rivers, respectively, during spring 2012

g/ 70, 232, and 228 steelhead adults released in Duckabush, SF Skokomish and Dewatto rivers, respectively, during spring 2013

h/ 60, ???, and 21 steelhead adults released in Duckabush, SF Skokomish and Dewatto rivers, respectively, during spring 2014

Source: ScORE, updated Aug 2014, WDFW

Table 4. Estimated harvest, run size, and harvest rates for Hood Canal winter steelhead.

Recovery population and river	Fishery	Winter steelhead season 2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Mean a/	
		Steelhead Harvest													
Hood Canal	Treaty	0	0	0	0	0	0	0	0	0	0	0	0		
Terminal Marine Areas	Non-treaty	0	0	0	0	0	0	0	0	0	0	0	0	0	
Skokomish DIP															
Skokomish River	Treaty	0	0	0	0	4	9	6	4	12	24	15	7		
	Non-treaty	0	0	0	0	0	0	0	0	0	0	0	0		
DIP total harvest		0	0	0	0	4	9	6	4	12	24	15	7	15	
West Hood Canal DIP															
Hamma Hamma R.	Treaty	0	0	0	0	0	0	0	0	0	0	0	0		
	Non-treaty	0	0	0	0	0	0	0	0	0	0	0	0		
Duckabush River	Treaty	0	0	0	0	0	0	0	0	0	0	0	0		
	Non-treaty	0	4	0	0	0	0	0	0	0	0	0	0		
Dosewallips River	Treaty	0	0	0	0	0	0	0	0	0	0	0	0		
	Non-treaty	0	0	0	0	0	0	0	0	0	0	0	0		
Big/Little Quilcene Rivers	Treaty	0	0	0	0	0	0	0	0	0	0	0	0		
	Non-treaty	0	0	0	0	0	0	0	0	0	0	0	0		
DIP total harvest		0	4	0	0	0	0	0	0	0	0	0	0	0	
East Hood Canal DIP															
Dewatto River	Treaty	0	0	0	0	0	0	0	0	0	0	0	0		
	Non-treaty	0	0	0	0	0	0	0	0	0	0	0	0		
Big Beef	Treaty	0	0	0	0	0	0	0	0	0	0	0	0		
	Non-treaty	0	0	0	0	0	0	0	0	0	0	0	0		
DIP total harvest		0	0	0	0	0	0	0	0	0	0	0	0	0	
South Hood Canal DIP															
Union River	Treaty	0	0	0	0	0	0	0	0	0	0	0	0		
	Non-treaty	0	0	0	0	0	0	0	0	0	0	0	0		
Tahuya River	Treaty	0	0	0	0	0	0	0	0	0	0	0	0		
	Non-treaty	0	0	0	0	0	0	0	0	0	0	0	0		
DIP total harvest		0	0	0	0	0	0	0	0	0	0	0	0	0	
		Steelhead Total Runsize													
Skokomish DIP															
Skokomish River		132	233	286	231	409	294	573	367	490	588	1176	701	739	e/ f/
West Hood Canal DIP															
Hamma Hamma R.		134	214	123	70	193	198	81	42	60	36	47	60		
Duckabush River		8	33	10	21	16	18	12	29	125	104	58	63		
Dosewallips River		96	79	79	79	79	79	79	79	79	79	79	79		
Big/Little Quilcene Rivers		16	36	50	76	39	41	6	40	31	10	36	8		
DIP total runsize		254	366	262	246	327	336	178	190	295	229	220	210	238	e/ f/
East Hood Canal DIP															
Dewatto River		18	39	23	53	28	49	15	13	92	55	203	28		
Big Beef							58	5	2	6	11	55	3		
DIP total runsize		18	39	23	53	28	107	20	15	98	66	258	31	113	
South Hood Canal DIP															
Union River		50	58	23	86	21	15	15	21	11	16	8	6		
Tahuya River		53	168	91	183	175	144	53	68	47	78	68	37		
DIP total runsize		103	226	114	269	196	159	68	89	58	94	76	43	68	
		Estimated Harvest Rate d/													
Skokomish DIP		0.0%	0.0%	0.0%	0.0%	1.0%	3.1%	1.0%	1.1%	2.4%	4.1%	1.3%	1.0%	2.2%	
West Hood Canal DIP		0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
East Hood Canal DIP		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
South Hood Canal DIP		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

a/ Mean of most recent 4 years for Skokomish DIP and most recent 4 years for East and West Hood Canal DIPs.

b/ (Index escapement estimate) + (estimated harvest) = Estimated run size

c/ If escapement estimate not available for some streams in some years, it is estimated based on recent year mean.

d/ (Estimated harvest) / (Estimated run size) = Estimated harvest rate

e/ Hamma Hamma River run size includes 197, 4, 76, 0, 0, 139, and 131 steelhead adults released from supplementation program during 2001-02 through 2007-08 seasons, respectively; 163, 54 and 226 steelhead adults were released in Duckabush, SF Skokomish and Dewatto rivers, respectively, during spring 2011; 114, 17, and 26 steelhead adults were released in Duckabush, SF Skokomish and Dewatto rivers, respectively, during spring 2012; 70, 232, and 228 steelhead adults were released in Duckabush, SF Skokomish and Dewatto rivers, respectively, during spring 2013; supplementation adults are excluded from anticipated run size forecast.

f/ In addition, steelhead return to tributaries or other independent streams in each DIP, but no escapement estimates are available.

3.0 Pre-season Forecasts of Abundance

Few, if any, hatchery reared Chambers Creek stock steelhead adults are expected to return to Hood Canal rivers during the 2014-2015 season (or subsequent seasons) because, as noted above, traditional hatchery reared steelhead programs in support of harvest were terminated (last early-timed Chambers Creek stock hatchery reared steelhead smolt release in 2004) with the last significant hatchery reared steelhead returns occurring in 2006-07.

Integrated conservation (supplementation) hatchery programs were implemented beginning with brood year 2007 on the South Fork Skokomish, Duckabush, and Dewatto rivers. Steelhead smolts from the programs were released in 2009, 2010, 2011, 2012, 2013, 2014 and steelhead adults are expected to return during the 2014-2015 season. Steelhead adults were released into the Duckabush River from the program during spring 2014. However, any steelhead adults produced from the conservation hatchery programs are excluded from the 2014-2015 forecasts of run size and harvest rates for each MU and the forecasts are considered conservative.

Since the 2002-03 season, the estimated terminal harvest rates of winter steelhead, for Treaty and Non-Treaty fisheries combined, have ranged annually from 0% to 4.1% for the Skokomish Demographically Independent Population, from 0% to 1.1% for the West Hood Canal DIP, and have been 0% for the East and South Hood Canal Demographically Independent Populations (Table 4). These estimated impacts are based on winter steelhead spawning escapement estimates, the reported catch from tribal fisheries, and the estimated recreational catch of marked and unmarked steelhead from Catch Record Cards. In addition, for Hood Canal terminal marine areas, there were no reported steelhead harvests during the 2002-03 through 2013-14 seasons.

For the purposes of this plan, the historic annual returns of winter steelhead have been expressed as the sum of escapement estimates and reported harvest. For the 2014-2015 season, the return and harvest rate of winter steelhead was forecast based on the most recent 4-year mean of winter steelhead for the West and East Hood Canal Demographically Independent Populations and the most recent 4-year mean for the Skokomish Demographically Independent Population. Because steelhead adults produced from the conservation hatchery programs are excluded, where possible to do so, the 2014-2015 run size forecasts for winter steelhead are believed to be conservative.

Based on past management practice, the harvest rates during 2014-2015 are expected to be approximately the same as in recent years for each Demographically Independent Population. The run size forecasts and expected harvest rates for winter steelhead in Hood Canal Demographically Independent Populations during the 2014-2015 season are summarized in Table 4. The run size forecast is 717+ steelhead in the Skokomish MU, 238+ steelhead for the West Hood Canal MU, 113+ steelhead for the East Hood Canal MU, and 68+ steelhead for the South Hood Canal MU; the "+" accounts for steelhead runs into streams in each MU other than those shown in Table 3. Harvest rates are expected to approximate the recent year average for each of the MU's (Tables 4 and 5).

Table 5. Run size forecasts and expected harvest rates for Hood Canal winter steelhead Demographically Independent Populations (DIPs), 2014-2015 season.

	2014-2015 season	
Demographically Independent Populations (DIPs)	Run size forecast	Expected harvest rate
Skokomish DIP	717 +	Will approximate the recent year average for each DIP
West Hood Canal DIP	238 +	
East Hood Canal DIP	113 +	
South Hood Canal DIP	68 +	

4.0 Fishery Management

Tribal fishery

Tribal subsistence fishery openings are limited to the Skokomish, Hamma Hamma, Dosewallips, Duckabush, Big Quilcene, Union, Dewatto, and Tahuya rivers. In the Skokomish River, a limited subsistence fishery is expected to occur with similar effort and catch as in the past three seasons. The harvest rate in this fishery is not expected to exceed 2.6%, which is equivalent to the recent three-year average (Table 3). Minimal tribal subsistence fisheries could occur in the West Hood Canal MU or East Hood Canal MU. Commercial fishery openings in these rivers may only be enacted by emergency inseason regulations based on inseason management considerations concerning the status of the stocks. The status of the stocks in 2014-2015 does not appear to support commercial fisheries in Hood Canal rivers. A tribal commercial and subsistence fishery for steelhead occurs in Port Gamble Bay (Marine Area 9A). Harvest in the Marine Area 9A fishery has averaged one steelhead during the last four seasons and similar effort and catch can be expected in 2014-2015. Some incidental harvest of steelhead may also occur during Treaty fisheries directed at harvesting other species of salmon in marine areas of Puget Sound and the Strait of Juan de Fuca.

Recreational fishery

All recreational fisheries for steelhead are closed in Hood Canal rivers during the 2014-2015 winter steelhead season. Wild (unmarked) steelhead release regulations will remain in effect in all marine recreational fisheries. The recreational fishing season will remain closed during the spring to protect steelhead kelts, smolts and juveniles from harvest. The season is generally open from the first Saturday in June through October 31 for game fish with catch-and-release, selective gear rules and wild (unmarked) steelhead release regulations in effect during this period in all freshwater and marine areas. Some incidental harvest of steelhead may occur during Non-Treaty commercial net fisheries directed at harvesting other species of salmon in marine areas of Puget Sound and the Strait of Juan de Fuca.

Treaty and Non-Treaty fisheries framework, 2014-2015

The catch accounting period for winter steelhead for all Treaty and Non-Treaty fisheries in Hood Canal management areas is November 1 through April 30. A summary of the 2014-2015 fisheries framework for the winter steelhead accounting period is provided below:

West Hood Canal DIP (Big Quilcene, Dosewallips, Duckabush, Hamma Hamma)

Treaty	Commercial	Closed
	C&S	Jamestown S'Klallam, Port Gamble S'Klallam, and Lower Elwha Klallam Tribes: Closed by emergency regulation, 12/1/2014 through 3/15/2015.
		Skokomish Tribe: Open 12/1/2014 through 3/15/2015*. Hook and line gear only, bag limit 2.
Non-Treaty	Commercial	Closed
	Recreational	Big Quilcene & Little Quilcene R. Closed
		Dosewallips R. (from the mouth to Hwy 101 bridge); 11/1 - 12/15, Bag limit 2, Chum only, Min. Size 12", Release of wild steelhead.
		Duckabush R. (from the mouth to Mason PUD overhead line); 11/1 - 12/15, Bag limit 2, Chum only, Min. Size 12", Release of wild steelhead.
		Hamma Hamma R. Closed

East Hood Canal DIP (Dewatto, Big Beef)

Treaty	Commercial	Closed
	C&S	Open 12/1/2014 through 3/15/2015. Hook and line gear only, bag limit 2.
Non-Treaty	Commercial	Closed
	Recreational	Closed

South Hood Canal DIP (Tahuya, Union)

Treaty	Commercial	Closed
	C&S	Open 12/1/2014 through 3/15/2015. Hook and line gear only, bag limit 2.
Non-Treaty	Commercial	Closed
	Recreational	Closed

Skokomish MU

Treaty	Commercial	Chum season: Open to gillnets, 11/9 through 11/23
	C&S	Open from the mouth to Vance Creek confluence; 12/1/2014 through 3/15/2015. Hook and line, bag limit 2 Gillnets open by permit, up to 2 days/week.
Non-Treaty	Commercial	Closed
	Recreational	From the mouth to Hwy 101 bridge; 9/15 through 12/15; terminal gear (hooks, weights, lures or baits) and line must not be within 25' of Tribal gillnets. Night closure, anti-snagging rule, and single-point barbless hooks required through 11/30. Game fish: Catch and Release. Salmon: Min. Size 12", Bag limit 6, up to 4 adults; release Chinook and release and release chum through 10/15.
		From Hwy 101 to forks; Closed
		Skokomish North Fork; Closed
		Skokomish South Fork and Vance Creek; Closed

*Closure dependent on release date of 4-year old adult Steelhead from Hood Canal Steelhead Project.

In addition, an effort will be made to assess any incidental harvest of steelhead in Treaty and Non-Treaty fisheries directed at harvesting other species of salmon in marine or freshwater areas of Hood Canal. The following are regulations from the 2014-15 Co-Managers' List of Agreed Fisheries for the period from November 1, 2014 through April 30, 2015.

Hood Canal Mainstem (Marine Areas 12, 12A, 12B, 12C, 12D, 12H)

Treaty	Commercial & C&S	Open for the harvest of chum salmon as follows: Areas 12, 12A (south of an E-W line through Pt. Whitney): Open 10/12 through 11/20, 7 d/wk Area 12B: Open 10/19 through 11/20; 7 d/wk Area 12C: Open 10/19 through 11/27; 7 d/wk Area 12D: Closed Area 12H: Hook and line gear open from 10/12 through 11/29; beach seines open Tuesday and Thursday of each week, then Monday and Wednesday for the week beginning 11/09; possible inseason adjustments to 3 days/wk. Starting 11/1, hatchery escapement control measures will go into effect.
Non-Treaty	Commercial	Area 12, 12B. Fisheries scheduled wks 42 (wb 10/12) - 47 (wb 11/16): PS Chinook NR; PS fishing pattern: 1,1,1,1,2,1; GN fishing pattern: 2,2,2,2,2,2 daylight hours. Area closures: PS closed within 2 miles south of Hood Canal Bridge in Wk 44-45. Hazel/Misery point closure open to PS on Wk 44-45 and open to GN for the duration of the season. Area 12A: Closed Area 12C: Fisheries scheduled wks 45 (wb 11/2) - 48 (wb 11/23): PS Chinook NR; PS fishing pattern: 1,2,1,1; GN fishing pattern: 2,2,2,2 daylight hours. Fishing is contingent upon the results from the agreed to ISU. Area 12D: Closed Area 12H: BS (Hoodsport Hatchery Zone) fishery in wks 45 – 48 pending discussions with the Co-Managers.
	Recreational	CRC Area 12: Year-round TROUT, catch-and-release except up to 2 hatchery steelhead may be retained 10/16 – 12/31 4 fish limit; 2 Chinook (Chinook min. size 22"); release unmarked Chinook; single point barbless hooks. Closed in Tarboo Bay north of Broad Spit. 1/1 – 1/31 Closed 2/1 – 4/30 2 fish limit (Chinook 22" min. size), release unmarked Chinook; single point barbless hooks

		Hoodsport Hatchery Zone; Same as Area 12 except: 7/1 – 12/31 4 fish limit, no minimum size, only 2 Chinook greater than 24"; Release unmarked Chinook and release chum 7/1-10/15; night closure; single point barbless hooks .

Port Gamble (Marine Area 9A)

Treaty	Commercial & C&S	Area 9A: Open for harvest of chum salmon 11/2 through 11/29; 7 days/wk; gillnet only Area 9A: Open for harvest of steelhead 12/1/14 through 1/31/15.
Non-Treaty	Commercial	Area 9: Closed
	Recreational	CRC Area 9: Year-round TROUT, catch-and-release except up to 2 hatchery steelhead may be retained 11/1 – 11/30 2 fish limit, release unmarked Chinook (Chinook min. size 22"), single point barbless hooks only. 12/1 – 1/15 Closed 1/16 – 4/15 2 fish limit, release unmarked Chinook (Chinook 22" min. size), single point barbless hooks only. 4/16 – 4/30 Closed

5.0 In-season Fishery Management

The co-managers will communicate in-season at the request of any party to the Plan. In-season catch data will be made available upon request. Modifications to the pre-season forecasts and fishery schedules are not expected to occur during the 2014-2015 season, but will be adaptively managed, with the co-managers' intent to preserve harvest opportunity while not impeding recovery of steelhead populations.

6.0 Monitoring

Treaty and Non-Treaty harvest accounting

The primary emphasis will be to achieve completeness and accuracy of harvest records. Each agency will be responsible to collect, reconcile, and present its own catch information. Harvest accounting shall include all commercial, subsistence and recreational harvest of steelhead by Treaty and Non-Treaty fishers. Accounting will also include ceremonial and subsistence, test fishery catches, and the number of fish taken home by fishermen during commercial fisheries. All steelhead taken during commercial fisheries by tribal members will be reported on Treaty Indian Fish Receiving Tickets. Recreational harvest will be represented by WDFW's Catch Record Card estimates unless creel census information is available. An effort will be made to assess any incidental harvest of steelhead in Treaty and Non-Treaty commercial fisheries directed at harvesting other species of salmon in marine areas of Hood Canal.

8.0 Enforcement

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

9.0 References

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Skokomish Tribe representative — Date: 09DEC2014

Port Gamble S'Klallam Tribe representative — Date: 12/9/14

Jamestown S'Klallam Tribe representative — Date: 12/9/14

Lower Elwha Klallam Tribe representative — Date: 12/9/14

James B. Scott, Assistant Director Fish Program
Washington Department of Fish and Wildlife — Date: 11/21/14