Chin3218 - 4/10/2018 Chinook Model Runs

Stock	Management Criteria			Model Prediction			
	Abundance Tier	ER Ceiling	ER Type	Escapement	Total ER	SUS ER	PT-SUS ER
Spring/Early:							
Nooksack - Total		10.5%	SUS		31.6%	**10.5%**	5.8%
North/Middle Fork	< LAT			178			
South Fork	< LAT			23			
Skagit - Total	> LAT	38.0%	Total	1,967	**28.4%**	18.6%	4.7%
Upper Sauk	> LAT			1,110			
Upper Cascade	> LAT			261			
Suiattle	> LAT			596			
White	> UMT	22.0%	SUS	1,945	26.8%	**18.9%**	7.7%
Dungeness	> LAT	10.0%	SUS	810	12.3%	**3.6%**	3.5%
Summer/Fall:							
Skagit - Total	> LAT	47.0%	Total	12,219	**37.2%**	17.1%	4.5%
Upper Skagit	> LAT			9,108			
Sauk	> LAT			607			
Lower Skagit	> LAT			2,227			
Stillaguamish - Total	> 1500	24.0%	Total	1,551			
Unmarked ER		13.0%	UM SUS		**20.8%**	**12.2%**	5.5%
Marked ER		NA	M SUS		25.6%	16.5%	10.2%
Snohomish - Total		21.0%	Total	3,382	**19.1%**	**9.1%**	7.6%
Skykomish	< LAT	15.0%	SUS	2,635			
Snoqualmie				747			
Lake WA (Cedar R.)	> UMT	13.0%	PT-SUS	1,722	30.6%	19.9%	**12.0%**
Green	**> UB**	13.0%	PT-SUS	5,079 7,443	49.4%	38.8%	**12.0%**
Puyallup	> UMT	13.0%	PT-SUS	1,713 3,232	49.9%	39.3%	**12.0%**
Nisqually	> LAT	47%	Total	16,576	**47.0%**	38.3%	10.5%
Western Strait-Hoko	> UMT	10%	SUS	1,295	18.0%	**2.2%**	2.2%
Elwha	> UMT	10%	SUS	4,599	13.0%	**4.0%**	3.9%
Mid-Hood Canal	< LAT	12%	PT-SUS	365	22.1%	12.3%	**12.0%**
Skokomish	> UMT	48%	Total	2,432 21,526	**47.9%**	38.2%	12.7%

Council Fisheries	
SPRING	1.9%
FALL	4.8%

Model Run: Chin3218_Tueday AM
Run Date & Time: 04/10/18 12:20

SRFI =	48.10%	(70% Ceiling)
Lower Col Nat Tule ER =	37.7%	(38% Ceiling)

TABLE 2A: COHO FISHERY IMPACT SUMMARY HIGHLIGHTS 04/10/18

Estimated fishery impacts from regulations described by the following FRAM run: 04:06 PM

FRAM Run Number: bc-Coho1830

Run Description: April PFMC STT Final Ocean + NOF Agreed-to Fisheries

Impacts are expressed as total fishery-related mortality, incl. landed catch, non-retention mort., and other fishery-related mort.

FISHERY	SKAGIT Wild	STILLY Wild	SNOHOM Wild	HOOD CANAL Wild	JUAN DE FUCA TRIBS Wild
Projected Spawning Escapement	40,834	12,449	43,949	34,282	6,701
Spawning Low/Normal Esc. Breakpoint	25,000	10,000	50,000	14,350	11,000
Projected Exploitation Rate (all fisheries)	31.3%	34.5%	33.5%	42.5%	6.7%
Exploitation Rate Ceiling (updated annually)	35%	35%	40%	65%	(up to 10% US ER)
Exploitation in Southern U.S. Fisheries	29%	33%	32%	40%	4.9%
CANADIAN	1,354	245	857	1,309	91
ALASKA	1	0	0	16	40
S. of Falcon Troll	9	3	10	15	4
S. of Falcon Sport	49	17	60	70	28
NORTH OF CAPE FALCON OCEAN:					
Treaty Troll	708	156	544	750	71
NT Troll N. Leadbttr	85	29	100	127	10
NT Troll S. Leadbttr	32	10	36	24	5
Sport: Area 1	18	4	14	25	3
Buoy 10	3	0	1	15	0
Area 2	80	19	67	105	10
Area 3	11	4	13	18	1
Area 4 *	138	24	84	150	5
PUGET SOUND:					
Treaty Troll	22	11	40	44	2
Sport: Areas	444	94	327	680	73
Area 6	40	8	27	59	6
Area 7	191	12	43	57	0
Area 8-1,2	975	896	3,675	109	0
Area 9	497	159	553	1,209	6
Area 12	2	0	0	1,085	0
Area 10	621	69	239	2,775	7
Area 11	29	8	29	184	0
Area 13	6	0	0	16	0
Freshwater Sport	2,015	16	3,879	104	0
Pre-terminal net:					
6/7/7A NTrty	141	5	19	36	8
6/7/7A Trty	310	11	38	79	19
4B/5/6C NTrty	0	0	0	0	0
4B/5/6C Trty	80	20	68	190	65
	--	--	--	--	--
	--	--	--	--	--
Terminal net:					
Skagit Bay (8) NTrty	0	0	0	0	0
Skagit Bay (8) Trty	312	0	1	1	0
Area 8A Ntrty	8	6	22	1	0
Area 8A Trty	2,079	1,780	6,864	152	2
Hood Canal NTrty	16	4	16	4,657	10
Hood Canal Trty	22	8	28	8,204	12
South Pgt Snd NTrty	3	1	3	56	0
South Pgt Snd Trty	55	16	57	662	3
B'ham Bay(7B) Ntrty	81	3	9	3	0
B'ham Bay(7B) Trty	277	9	30	9	0
Local Extreme Terminal Net:					
Nontreaty	0	67	230	493	0
Treaty	6,931	2,834	4,178	1,867	0
Test	969	n/a	n/a	n/a	n/a

TABLE 2D: COHO FISHERY IMPACT SUMMARY HIGHLIGHTS

Estimated fishery impacts from regulations described by the following F 04/10/18
FRAM Run Number: 04:06 PM
Run Description:

Impacts are expressed as total fishery-related mortality, incl. landed catch, non-retention mort., and other fishery-related mort. Trty/NonTrty splits

FISHERY	SOUTH PUGET SOUND Total	NOOKSACK-SAMISH Total
Projected Spawning Escapement	37,980	23,492
Spawning Escapement Objective		
Projected Exploitation Rate (all fisheries)		
Exploitation in Southern U.S. Fisheries		
CANADIAN	2,803	6,069
ALASKA	7	13
S. of Falcon Troll	25	9
S. of Falcon Sport	319	190
NORTH OF CAPE FALCON OCEAN:		
Treaty Troll	1,335	918
NT Troll N. Leadbttr	416	156
NT Troll S. Leadbttr	81	22
Sport: Area 1	160	66
Buoy 10	7	6
Area 2	635	357
Area 3	96	86
Area 4 *	969	647
PUGET SOUND:		
Treaty Troll	37	5
Sport: Areas 5	5,820	2,130
Area 6	371	143
Area 7	83	395
Area 8	416	1,086
Area 9	4,962	195
Area 12	0	471
Area 10	7,925	102
Area 11	3,127	0
Area 13	431	0
Freshwater Sport	8,120	2,265
Pre-terminal net:		
6/7/7A NTrty	102	1,126
6/7/7A Trty	190	2,556
4B/5/6C NTrty	0	0
4B/5/6C Trty	158	54
	--	--
	--	--
Terminal net:		
Skagit Bay (8) NTrty	0	0
Skagit Bay (8) Trty	0	3
Area 8A Ntrty	4	0
Area 8A Trty	750	36
Hood Canal NTrty	225	28
Hood Canal Trty	395	32
South Pgt Snd NTrty	223	6
South Pgt Snd Trty	15,001	62
B'ham Bay(7B) Ntrty	33	5,021
B'ham Bay(7B) Trty	110	17,481
Local Extreme Terminal Net:		
Nontreaty	n/a	n/a
Treaty	25,913	17,565
Test		n/a

TABLE 2C: COHO FISHERY IMPACT SUMMARY HIGHLIGHTS

Estimated fishery impacts from regulations described by the following FRAM run:

FRAM Run Number: bc-Coho1830

Run Description: April PFMC STT Final Ocean + NOF Agreed-to Fisheries

Impacts are expressed as total fishery-related mortality, incl. landed catch, non-retention mort., and other fishery-related mort. Trty/NonTrty splits are NOT based o

FISHERY	QUIL FALL Wild	HOH Wild	QUIL FALL H&W Marked	H&W UnMarked	QUEETS Wild	QUEETS Hatchery	Marked
Projected Ocean Escapement	10,134	5,246	12,753	12,559	6,105	8,370	6,970
Spawning Escapement Objective	6,300	2,000			5,800		
Projected Marine Exploitation Rate	3.6%	9.6%			10.6%		
Projected Exploitation Rate (all fisheries)	23.5%	49.7%			19.6%		
Exploitation in Southern U.S. Marine Fisheries	3.1%	6.8%			7.7%		
CANADIAN	48	138	120	59	179	360	319
ALASKA	8	24	9	9	13	19	16
S. of Falcon Troll	12	9	15	14	15	23	20
S. of Falcon Sport	30	45	187	37	95	502	481
NORTH OF CAPE FALCON OCEAN:							
Treaty Troll	143	180	185	178	151	218	184
NT Troll N. Leadbttr	44	42	138	55	66	193	177
NT Troll S. Leadbttr	9	15	23	12	23	58	52
Coastal terminal area "dip-ins"	63	36	87	79	191	318	265
Sport: Area 1	15	11	91	18	33	200	193
Buoy 10	3	2	21	4	4	23	22
Area 2	31	43	195	39	75	461	444
Area 3	3	6	21	4	6	37	36
Area 4 *	8	10	49	10	13	80	78
PUGET SOUND CATCHES:							
Treaty Troll	0	0	0	0	0	0	0
Sport: Areas	14	15	129	17	12	111	108
Area 6	0	0	2	0	0	1	1
Areas 7-13	8	9	10	10	3	2	2
Nontreaty Net	0	0	0	0	8	10	8
Treaty Net	6	9	8	8	25	32	26
LOCAL TERMINAL							
Nontreaty Net	--	--	--	--	--	--	--
Treaty Net	1871	1806	------>>	------>>	463	5445	------>>
Sport	171	503	------>>	------>>	3	212	------>>

04/10/18
04:06 PM

n CWT recovery data.

	GRAYS HARBOR			WILLAPA BAY
UnMarked	Wild	Marked	UnMarked	Wild
7,505	40,477	44,735	42,268	18,994
	35,400			
	4.4%			
	20.7%			
	3.0%			
220	400	711	418	
16	186	205	195	
19	23	27	24	
117	275	1,067	289	
186	449	501	469	
83	93	274	96	
28	68	160	71	
244	148	160	155	
40	76	413	80	
5	30	156	31	
92	180	955	188	
7	10	52	10	
16	16	85	16	
0	1	1	1	
15	29	235	30	
0	0	2	0	
3	0	0	0	
9	3	3	3	
32	21	24	23	
--	835	------>>	------>>	
------>>	4635	------>>	------>>	
------>>	1316	------>>	------>>	

TABLE 2E: COHO FISHERY IMPACT SUMMARY HIGHLIGHTS

Estimated fishery impacts from regulations described by the following FRAM run:

FRAM Run Number: bc-Coho1830

Run Description: April PFMC STT Final Ocean + NOF Agreed-to Fisheries

Impacts are expressed as total fishery-related mortality, incl. landed catch, non-retention mort., and other fishery-related mort.

FISHERY	Lummi Bay Hatchery	Skookum Crk Hatchery	Skagit/ Marblemount	Snoh/ Wallace	Tulalip Hatchery	Issaquah/ Lake WA
Projected Spawning Escapement	**4,819**	**12,363**	**7,027**	**4,778**	**1,804**	**6,129**
Hatchery Escapement Goal (*2016)	3,500	3,500	400	priority MOU		2,000
Preterminal NT SUS ER				14.5%	11.3%	
Projected Exploitation Rate (all fisheries)	52.6%	76.0%	36.0%	32.1%	94.3%	53.3%
Exploitation in Southern U.S. Fisheries	43.4%	67.2%	31.5%	30.2%	92.2%	50.9%
CANADIAN	932	4522	494	135	670	324
ALASKA	1	7	0	0	0	1
S. of Falcon Troll	1	6	1	0	4	3
S. of Falcon Sport	30	146	30	21	114	38
NORTH OF CAPE FALCON OCEAN:						
Treaty Troll (Area 2/3/4/4B)	116	561	124	57	249	145
NT Troll N. Leadbttr (Area 2/3/4/4B)	23	113	34	18	98	48
NT Troll S. Leadbttr (Area 1)	3	15	9	5	25	9
Sport: Area 1	10	50	14	5	31	19
Buoy 10	1	5	2	0	1	1
Area 2	57	276	60	26	148	77
Area 3	14	66	8	5	30	11
Area 4 *	102	499	102	33	187	116
Columbia River Fisheries	0	0	0	0	0	0
PUGET SOUND:						
Treaty Troll (Area 5-6C)	1	3	4	4	18	4
Sport: Areas 5	347	1681	473	180	1063	707
Area 6	23	112	37	13	77	45
Area 7	49	240	33	4	19	9
Area 8-1,2	136	658	173	496	628	45
Area 9	30	148	302	178	1011	593
Area 12	59	288	0	0	0	0
Area 10	12	61	110	25	109	1020
Area 11	0	0	5	3	13	47
Area 13	0	0	3	0	0	3
Freshwater Sport	0	1464	300	471	0	231
Pre-terminal net:						
6/7/7A NTrty	141	689	25	3	9	11
6/7/7A Trty	317	1544	53	4	16	18
4B/5/6C NTrty	0	0	0	0	0	0
4B/5/6C Trty	7	33	14	7	27	16
Terminal net:						
Skagit Bay (8) NTrty	0	0	0	0	0	0
Skagit Bay (8) Trty	0	2	64	0	1	0
Area 8A Ntrty	0	0	1	2	20	0
Area 8A Trty	4	22	350	536	4888	75
Hood Canal NTrty	3	16	2	1	4	19
Hood Canal Trty	4	19	4	2	9	37
South Pgt Snd NTrty	1	4	0	0	1	14
South Pgt Snd Trty	8	38	10	21	86	121
B'ham Bay (7BCD) Ntrty	652	3054	14	1	4	3
B'ham Bay (7BCD) Trty	2267	10629	47	3	13	12
Local Extreme Terminal Net:						
Nontreaty					375	
Treaty		12105	1057		19970	3181
Coastal Terminal Net & Sport:	0	0	0	0	1	0

Green River (Soos+Keta)	Puyallup/ Voights	Minter Hatchery	Nisqually Hatchery	George Adams	Quilcene NFH	Dungeness Hatchery	Elwha Hatchery
13,747	**6,638**	**4,211**	**545**	**9,513**	**18,676**	**3,171**	**204**
8,000	1,800	2,410	1,280	550	1,500	500	350
71.6%	63.4%	43.2%	46.5%	54.5%	60.5%	65.3%	15.0%
69.1%	60.9%	40.7%	44.1%	50.6%	56.4%	62.2%	12.5%
1215	448	188	25	801	1894	243	5
3	1	0	0	5	14	47	1
11	3	1	0	5	12	4	0
144	52	23	2	99	232	85	2
540	203	82	10	250	600	86	2
182	74	29	65	82	196	34	1
35	12	5	1	13	32	9	0
73	26	11	1	36	85	18	0
3	1	1	0	20	45	0	0
287	105	45	6	150	351	60	2
43	16	7	1	25	58	10	0
438	160	68	9	215	502	28	1
0	0	0	0	0	0	0	0
15	5	2	0	14	34	2	0
2657	972	416	54	1367	3190	627	17
169	62	26	3	105	245	47	1
33	13	5	1	18	43	0	0
168	63	25	3	36	87	0	0
2228	818	348	45	1367	3206	26	1
0	0	0	0	337	833	0	0
3798	957	582	45	860	2033	9	0
287	499	323	40	57	140	0	0
12	16	116	25	14	29	0	0
3022	3606	0	0	0	0	1115	0
42	16	6	1	12	27	9	0
79	29	11	2	24	52	22	1
0	0	0	0	0	0	0	0
66	25	9	1	57	157	74	2
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
306	116	44	6	46	111	2	0
101	36	12	1	829	2956	11	0
170	61	23	3	2026	9501	15	0
82	40	14	2	16	39	0	0
1808	419	778	15	268	647	3	0
13	5	2	0	1	2	0	0
45	16	7	1	2	7	0	0
16650	2628		106	2216	1207	2254 1140	0
0	0	0	0	0	2	0	0

2018 – 2019 Co-Managers' List of Agreed Fisheries
(May 1, 2018 – April 30, 2019)

4-13-18

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Part I. Treaty/Non-Treaty OCEAN Fisheries (FRAM #3218 (Chinook) & #1830 (Coho))

Treaty Troll Quota	40,000 Chinook; 12,500 Coho
Non-treaty TAC	55,000 Chinook and 47,600 Coho.
NT Troll TAC	27,500 Chinook and 5,600 marked Coho.
Recreational TAC	27,500 Chinook and 42,000 marked Coho.

1.1 Treaty Troll: Areas 2, 3, 4 & 4B

5/1-6/30	Chinook directed fishery with sub quota of 16,000 Chinook. May 1 through June 30 or attainment of 16,000 Chinook sub quota, whichever comes first. All salmon except Coho. If the Chinook quota for the May-June fishery is not fully utilized, the excess fish may be transferred into the later all-salmon season on an impact-neutral basis for limiting stocks into the later all-salmon season. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season.
7/1-9/15	All salmon species, with quota of 12,500 Coho and sub quota of 24,000 Chinook plus any portion of uncaught Chinook rolled over from the May 1 through June 30 time period on an impact neutral basis. Chum release 8/1-8/31 Open from July 1 through September 15, or attainment of either the Coho quota or the Chinook sub quota, whichever comes first.

1.2 Non-Treaty Troll: U.S./Canada border to Cape Falcon

5/1- thru earliest of 6/30 or pre-season Chinook sub-quota of 16,500 (no more than 5,200 of which may be caught in the area between the U.S./Canada border and the Queets River and no more than 4,600 of which may be caught in the area between Leadbetter Pt. and Cape Falcon)	All salmon except Coho with 16,500 Chinook quota; no more than 5,200 of which may be caught in the area between the U.S./Canada border and the Queets River and no more than 4,600 of which may be caught in the area between Leadbetter Pt. and Cape Falcon; Open seven days per week. A landing and possession limit of 50 Chinook per vessel per landing week (Thurs-Wed) is in effect in the area between the U.S./Canada border and the Queets River and in the area between Leadbetter Point and Cape Falcon; a landing and possession limit of 100 Chinook per vessel per landing week (Thurs-Wed) is in effect in the area between the Queets River and Leadbetter Point. An in-season conference call will occur when it is projected that 60% of the overall Chinook quota has been landed or 60% of any sub-area quota has been landed to consider modifying the open period and landing and possession limits. Mandatory Yelloweye Rockfish Conservation Area, Columbia and Cape Flattery Control Zones closed. Trip limits, gear restrictions, and guidelines may be implemented or adjusted in-season. Vessels must land their fish within 24 hours of any closure of this fishery; under state law, vessels must report their catch on a state fish receiving ticket. Vessels in possession of salmon north of the Queets River may not cross the Queets River line without first notifying WDFW with area fished, total Chinook and halibut catch aboard, and destination. Vessels in possession of salmon south of the Queets River may not cross the Queets River line without first notifying WDFW with area fished, total Chinook and halibut catch aboard, and destination. Vessels fishing, or in possession of salmon while fishing north of Leadbetter Point must land and deliver their fish within the area and north of Leadbetter Point. Vessels fishing, or in possession of salmon while fishing south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi.

7/1 thru earliest of 9/19 or pre- season Chinook sub-quota of 11,000 (no more than 4,600 of which may be taken in the area between the U.S./Canada border and the Queets River and no more than 1,300 of which may be taken in the area between Leadbetter Point and Cape Falcon) or Coho quota of 5,600.	All salmon with 11,000 Chinook quota and no more than 5,600 marked Coho quota. No more than 4,600 Chinook may be caught in the area between the U.S./Canada border and the Queets River and no more than 1,300 Chinook may be caught in the area between Leadbetter Point and Cape Falcon. Open seven days per week. A landing possession limit of 50 Chinook per vessel per landing week (Thurs-Wed) is in effect in the area between the U.S./Canada border and the Queets River and in the area between Leadbetter Point and Cape Falcon. A landing possession limit of 10 coho per vessel per landing week (Thurs-Wed) is in effect in all areas. All retained Coho must be marked with a healed adipose fin clip. No Chum retention north of Cape Alava, Washington beginning August 1. An in-season conference call will occur when it is projected that 60% of the overall Chinook quota has been landed or 60% of any subarea quota has been landed to consider modifying the open period and adding landing and possession limits. Mandatory Yelloweye Rockfish Conservation Area, Cape Flattery and Columbia Control Zones closed. Grays Harbor Control Zone closed beginning August 13. Trip limits, gear restrictions, and guidelines may be implemented or adjusted in-season. Vessels must land their fish within 24 hours of any closure of this fishery. Under state law, vessels must report their catch on a state fish receiving ticket. Vessels in possession of salmon north of the Queets River may not cross the Queets River line without first notifying WDFW with area fished, total Chinook, Coho, and halibut catch aboard, and destination. Vessels in possession of salmon south of the Queets River may not cross the Queets River line without first notifying WDFW with area fished, total Chinook, Coho, and halibut catch aboard, and destination. Vessels fishing, or in possession of salmon while fishing north of Leadbetter Point must land and deliver their fish within the area and north of Leadbetter Point. Vessels fishing, or in possession of salmon while fishing south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi.

1.3 Non-Treaty Recreational

Area 1: Leadbetter Point to Cape Falcon (Oregon)

6/23-9/3 (21,000 Mark Selective Fishery Coho sub quota)	Open 7 days per week; 2 fish per day, only one of which may be a Chinook; retained Coho must have a healed adipose fin clip; Chinook minimum size limit 24 inches and Coho minimum size 16"; Chinook guideline: 8,000; closed in Columbia Control Zone. In-season management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon.

Buoy 10

6/22-7/14	Open 7 days/week; 6 fish per day, up to 2 may be adults; Chinook minimum size 12 inches and retained Chinook must have a healed adipose fin clip. Release all salmon other than hatchery Chinook. From June 22-July 4, up to 2 hatchery adult Chinook may only be retained. Barbless hooks only. Closed from the Megler-Astoria Bridge downstream.
8/1-8/24	Open 7 days/week; 1 fish per day,. Chinook minimum size 24", Coho minimum size 16", Release all salmon other than Chinook and hatchery Coho. Coho must have a healed adipose fin clip. Barbless hooks only.
8/25-9/30	Open 7 days/week; 2 fish per day (minimum size 12 inches), Coho must have a healed adipose fin clip. Release all salmon other than hatchery Coho. Barbless hooks only.
10/1-12/31	Open 7 days/week; 6 fish per day, up to 2 adults (minimum size 12 inches); Release all salmon other than jack Chinook and hatchery Coho, retained Coho must have a healed adipose fin clip; Barbless hooks only.
1/1-3/31	Open 7 days/week, Daily limit 6, Up to 2 adults, (minimum size 12"), Hatchery Chinook only. Barbless hooks only.
North Jetty	Open 7 days per week when Area 1 or Buoy 10 area is open. When Buoy 10 area and Area 1 are open concurrently, the daily limit and minimum size restrictions follow the most liberal regulations of those areas. Barbless hooks only.

Area 2: Queets River to Leadbetter Point

7/1-9/3 (15,540 Mark Selective Fishery Coho sub quota	Open 5 days per week (Sun-Thurs); 2 fish per day, only one of which may be a Chinook; retained Coho must have a healed adipose fin clip; Chinook minimum size limit 24 inches and Coho minimum size 16 inches; Chinook guideline: 13,100. In-season management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon.

Area 2-1 (east of a line from Leadbetter Point to Cape Shoalwater): Willapa Bay

7/1-7/31	Open concurrent with Area 2, when Area 2 is open for salmon. Area 2 rules apply.
8/1-1/31	6 fish limit, 3 adults, only 1 adult Coho, 12" min size limit. Release wild Chinook. 2 pole endorsement.

Area 2-2 (east of line between tips of exposed jetties): Grays Harbor

West of Buoy 13 line 7/1-8/21	Open concurrent with Area 2, when Area 2 is open for salmon. Area 2 rules apply.
East of Buoy 13 line, when open	All salmon required to be released may not be totally removed from the water, except anglers fishing from boats 30' or longer as listed on either their State or Coast Guard regulation are exempt. Single-point barbless hooks required.
East of Buoy 13 line 7/1-7/31	Closed.
East of Buoy 13 line 8/1-9/15	2 fish limit, 2 adults, 12" min size limit. Release wild Coho. Open to salmon angling only in the area described as Humptulips – North Bay (the area conforms to the commercial SMCRA 2C).
East of Buoy 13 line 10/1-11/30	1 fish limit, 12" min size limit. Release Chinook. Open to salmon angling only in the area described as East Grays Harbor (the area conforms to the commercial SMCRA 2D).

Westport Boat Basin and Ocean Shores Boat Basin

8/16-1/31	6 fish limit, 4 adults; 12" min size limit. Release Chinook.

Area 3: Cape Alava to Queets River

6/23-9/3 (1,090 Mark Selective Fishery Coho sub quota)	Open 7 days per week; 2 fish per day; retained Coho must have a healed adipose fin clip; Chinook minimum size limit 24 inches and Coho minimum size 16 inches; Chinook guideline: 1,500. In-season management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon.

Area 4: U.S./Canada border to Cape Alava and east to Sekiu River

6/23-9/3 (4,370 Mark Selective Fishery Coho sub quota)	Open 7 days per week; 2 fish per day; only one of which may be a Chinook; retained Coho must have a healed adipose fin clip. No Chum retention beginning August 1. Chinook minimum size limit 24 inches and Coho minimum size 16 inches; Chinook guideline: 4,900; no Chinook retention east of Bonilla-Tatoosh line beginning August 1. Closed waters: east of a true north-south line running through Sail Rock in July; **Closed to salmon angling** inside the area bounded by a line from Kydaka Point to Shipwreck Point. In-season management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon.

Area 4A: Makah Bay Treaty Evaluation Marine Set Net Fishery

Chinook	Trty	Open 8/15 through 9/15 inside an area bounded by a line running from Strawberry Rock Point (48º 19' 07"N, 124º 40' 00"W) to the group of rocks (48º 19' 46"N, 124º 40' 35"W) which are located off Hobuck Beach and a line to the mouth of Hobuck Creek (48º 19' 54"N, 124º 39' 37"W), to be implemented per agreement between the Makah Tribe and WDFW.

Part II. PUGET SOUND including STRAIT of JUAN de FUCA and SAN JUAN ISLANDS fisheries (All fisheries modeled in FRAM #3218 (Chinook) & #1830 (Coho))

2.1 Strait of Juan de Fuca Pre-terminal Areas

Areas 5, 6, 6C Treaty Troll (Ntrty net closed)

NOTE: Area 4B: 5/1-10/31 see Ocean Troll. For 11/1-12/31 & 1/1-4/15 see below.

5/1-6/15	Closed
6/16-9/30	Open for salmon, Chum and Coho release; Freshwater Bay closed, south of Angeles Pt./Observatory Pt. line; Pt. Angeles Harbor closed west of line from tip of Ediz Hook to ITT Rayonier Dock; Hoko Bay closed inside the area bounded by a line from Kydaka Point to Shipwreck Point; Area 6 closed east of a line true north from Green Point; 1,000-foot closure around stream mouths. The catch estimates for this fishery modeled in FRAM are statistically-derived predictions, and are the best available pre- season estimates of catch in this fishery. In order to have the actual catch reflect run strength, however, these estimates will not be treated as a ceiling when the managers make in-season fishery management decisions.
10/1-10/31	Closed.

11/1-4/15	In Areas 4B, 5, 6, 6C the treaty troll fishery will be open from November 1, 2018 through April 15, 2019, or when the catch reaches the harvest ceiling of 8,500 Chinook, whichever comes first. 1,000-foot closures around stream mouths. Hoko Bay closed inside the area bounded by a line from Kydaka Point to Shipwreck Point for the month of November. The catch estimates for this fishery modeled in FRAM are statistically-derived predictions, and are the best available pre- season estimates of catch in this fishery. In order to have the actual catch reflect run strength, however, these estimates will not be treated as a ceiling when the managers make in-season fishery management decisions. The winter troll catch ceiling is 8,500 Chinook.
4/16-4/30	Closed

Areas 4B, 5, & 6C Treaty Net (Ntrty net closed)

Note: The catch estimates for this fishery modeled in FRAM are statistically-derived predictions, and are the best available pre-season estimates of catch in this fishery. In order to have the actual catch reflect run strength, however, these estimates will not be treated as a ceiling when the managers make in-season fishery management decisions.

Chinook	Open for setnet gear only, 6/17 through 8/18; 7 days a week; Hoko Bay closed, inside the area bounded by a line from Kydaka Point to Shipwreck Point; Freshwater Bay closed, south of Angeles Pt./Observatory Pt. line; 1,000-ft. closure around stream mouths.
Sockeye	Start to be determined by Fraser River Panel. The Co-managers have identified the following management actions to control by- catch of Chinook. Estimated by-catches are best estimates and are not quotas or ceilings. The priority for this fishery is to harvest the full Treaty share of Sockeye salmon, while managing the fishery so as to not greatly exceed the projected incidental harvest of Chinook salmon. All Chinook by-catch in this fishery will be promptly reported by each Tribe to the NWIFC TOCAS database and reported to the U.S. section of the Fraser Panel at least weekly, including take home and ceremonial and subsistence (C&S). If in-season the Chinook by-catch in this fishery exceeds 1,300, the Tribes will consider management actions to limit the Chinook by-catch, such as time or area restrictions, while continuing the priority objective of harvesting Sockeye salmon. If in-season the fishery is projected to result in a total Chinook by-catch exceeding 3,300 Chinook, the Tribes will, effective with that scheduled fishery opening, prohibit any commercial sales of Chinook salmon, and any Chinook salmon landed must be delivered to the fishers' respective Tribe.

Coho	Open for gillnets starting at 6 days per week with in-season adjustments based on cumulative catch. Fishery will target Coho from the end of Fraser Panel control, through 10/13; 1,000 ft. closure around stream mouths. Hoko Bay closed, inside the area bounded by a line from Kydaka Point to Shipwreck Point.
Chum	Open for gillnets, starting at 6 days per week (day may be added if effort is low), 10/14 through 11/10; 1,000-foot closure around stream mouths. Hoko Bay closed, inside the area bounded by a line from Kydaka Point to Shipwreck Point.

Area 5 Recreational

Kydaka Point Closure: Waters south of a line from Kydaka Point westerly approximately 4 miles to Shipwreck Point closed to salmon angling 7/1-8/15.

5/1-6/30	Closed
7/1-9/30	2 fish limit, plus 2 additional Sockeye salmon (Chinook 22" min size); release Chum, wild Coho and wild Chinook. Release all Chinook 8/16-9/30.
10/1-2/15	Closed
2/16-4/30	2 fish limit (Chinook 22” min size), release wild Coho and wild Chinook.

Area 6 Recreational

4/16-7/2	Closed
7/3-9/30	2 fish limit, plus 2 Sockeye salmon, release wild Chinook, wild Coho, and Chum; except W. of true N/S line through “2” buoy near tip of Ediz Hook retention of marked Chinook allowed (Chinook 22" min size);. South of Angeles Pt. /Observatory Pt. line – closed to angling. Pt. Angeles Hbr. W. of line from tip of Ediz Hook to ITT Rayonier Dock – closed to salmon angling. Release all Chinook 8/16-9/30.
10/1-1/31	Closed
2/1-4/15	2 fish limit (Chinook 22” min size). Release wild Coho and wild Chinook.

2.2 Strait of Juan de Fuca Terminal Areas

Area 6D Dungeness Bay Net

Note: The following applies to all 6D Dungeness Bay Coho fisheries (Tribal & WDFW): Co-managers will meet on, or prior to October 14, 2018 to review current in-season conditions. Absent in-season conditions that support the likely achievement of conservation goals, Dungeness Bay fisheries may close early.

Chinook	All	Closed
Coho	Trty	Open 9/21 through 10/31; Additional days beyond 10/31 may be considered; 9/21 through 10/10, seven days per week, fishing 7 am to 7 pm only, nets must be attended by fisher, Chinook and Chum release; 10/11 through 10/31 (or 11/5 should conditions allow), seven days per week, 24 hours per day; 1,500 ft closure around mouth of Dungeness River.
	Ntrty	Open Wk 38 (wb 9/16) through Wk 44 (wb 10/28) for skiff gillnet gear; 7AM – 7PM; Wk 38 F-Sa; Wk 39 T-F, Wks 40-44 M-F; Chinook and Chum NR, release by cutting ensnaring meshes; 1,500 ft. (1/4 nautical mile) closure around each river mouth. Fishery may close early pending in-season information. Openings possible in Wk 45 (wb 11/4) based on in-season information.
Chum	All	Closed

Dungeness River (Treaty and Recreational)

Note: The following applies to all Dungeness Bay and River Coho fisheries (Tribal & WDFW): Co-managers will meet on, or prior to October 14, 2018 to review current in-season conditions. Absent in-season conditions that support the likely achievement of conservation goals, Dungeness River fisheries may remain closed.

Dungeness River Treaty (Ntrty net closed)

Chinook	Trty	Closed
Coho	Trty	Commercial fishing up to 3 days/wk, to be determined in-season, for Coho only, is scheduled to open on 10/16 and will be restricted to areas below the Dungeness hatchery intake using species selective (hand-held) gear. Subsistence fishing using selective gear is scheduled to open on 10/16. Refer to the co-management agreement above for possible emergency openings.
Chum	Trty	Closed

Elwha River Treaty (Ntrty net closed)

Chinook	Trty	Closed except Ceremonial Harvest of 4 fish in July.
Coho	Trty	Closed
Chum	Trty	Closed

Dungeness Bay Recreational

5/1-9/30	Closed to salmon.
10/1-10/31	2 fish limit, hatchery Coho only.
11/1-4/30	Closed to salmon.

Dungeness River Recreational

mouth to the forks at Dungeness Forks Campground	10/16-11/30	4 fish limit, hatchery Coho only; 12” min size.

Elwha River Recreational

Closed to salmon and gamefish

Hoko River Recreational

mouth to cement bridge (mile 7.0) on Hoko/Ozette Hwy.	Closed to salmon

All other STRAIT OF JUAN DE FUCA REGION freshwater recreational closed to salmon angling.

2.3 San Juan Islands/Point Roberts Area

Areas 6, 7, & 7A Net

Chinook	All	Closed
Sockeye	Trty	Schedule to be determined. The Co-managers have identified the following management actions to track and control by-catch of Chinook. Estimated by-catches are best estimates and are not quotas. The priority for this fishery is to harvest the full treaty share of Sockeye salmon, while managing the fishery so as to not greatly exceed the projected incidental harvest of Chinook salmon. All Chinook by-catch in this fishery will be promptly reported by each Tribe to the NWIFC TOCAS database and reported to the U.S. Section of the Fraser Panel at least weekly, including take home and ceremonial and subsistence (C&S). Prior to achieving a by-catch of 4,200 Chinook there will be no restrictions on the retention or sale of Chinook salmon. If, during the season, the Fraser Panel schedules a fishery that is projected to result in a total Chinook by-catch exceeding 4,200 fish, the Tribes will, effective with that scheduled fishery, prohibit any commercial sales of Chinook salmon, and any Chinook salmon landed must be delivered to the fisher's respective Tribe. Reef net wild coho, wild Chinook, and chum NR. Reef net may retain marked Chinook through 9/30. Further policy discussion may occur among the affected parties prior to the season.
	Ntrty	Schedule to be determined. The Co-managers have identified the following management actions to track and control by-catch. Modeled by-catches are best estimates and are not quotas. All vessel operators must complete best fishing practices certification prior to fishing. PS: brailing required. Chinook, Coho, and Chum NR. Reef net wild Coho, Chum, and unmarked Chinook NR. Reef net: fishers may retain hatchery Chinook, with a cap of 300 for all gears through 9/30. Estimates of by-catch will be shared at least weekly in the U.S. Section of the Fraser River Panel. Purse seine and gillnet fisheries will be managed to ensure that the non-treaty impact does not exceed 3,188 total Chinook (120% of pre-season estimate).

Coho	Trty	Reef net: 7 days/wk beginning at end of Fraser Panel management through 11/8; Chinook NR after 9/30; wild Coho NR through 9/30, then Coho retention. Chum NR through 9/30.
	Ntrty	Reef net: 7 days/wk beginning at end of Fraser Mgmt through Chum mgmt wk 41 (wb 10/7); Chinook NR after 9/30; unmarked-Coho release through 9/30, then Coho retention. Chum retention prohibited until after 9/30. All vessel operators must complete best fishing practices certification prior to fishing.
Chum	Trty	The Treaty fishery will open October 10 (dependent on run status updates from CDFO) and remain open. See attached 2018 7/7A Chum Fishing Plan. Reef nets open from end of Fraser Panel management through end of Chum management (11/8), 7 days/wk. Reef net release requirements listed in Coho fishery description, above.
	Ntrty	Dependent on update of run status from CDFO. PS and GN open wk 41 (wb 10/7) through wk 45 (wb 11/4). Open 10/11, 10/12, 10/14, 10/15 and will re-open through the end of the season on 10/18 or 10/19 based on conditions outlined in the attached agreement. Co-managers will meet via conference call on Tuesday 10/16 to discuss catch to date. PS: brailing required, Chinook and Coho NR. GN: during wk 41, Chinook and Coho NR, live box required and limited soak times in effect. Reef nets open from end of Fraser Panel management through wk 45 (wb 11/4), 7 days/wk, must release all Chinook and unmarked Coho. All vessel operators must complete best fishing practices certification prior to fishing.
Subsistence	Trty	12/1 – 4/30 subsistence troll fishery (Chinook 22" min size). Bellingham Bay closed 4/1 – 4/30.

Area 7 Recreational

5/1-6/30	Closed
7/1-7/31	2 fish limit, (Chinook 22" min size) plus 2 additional Sockeye salmon; release wild Chinook; Bellingham and Samish Bay closed to salmon.

8/1-9/3	2 fish limit, 1 Chinook (Chinook 22" min size) plus 2 additional Sockeye salmon; release Chum; Waters of Area 7 in Rosario Strait and the eastern portion of the Strait of Juan de Fuca southerly of a line running true south from the westernmost point on Fidalgo Head to Burrows Island, then westerly and southerly along the shore of Burrows Island to the Burrows Island Lighthouse, then westerly to Bird Rocks, then westerly from Bird Rocks to the southernmost point on Decatur Island, then southerly across Lopez Pass to Lopez Island and following the shore of Lopez Island southerly and westerly to Iceberg Point, then from Iceberg Point to Cattle Point, then south southwest to the Salmon Bank Buoy, and then true south from the Salmon Bank Buoy to the Area 7 boundary, closed to salmon. Samish Bay closed to salmon angling. Lummi Bay closure area: east of a line from Gooseberry Point to Sandy Point 9/8 – 9/30.
9/4-9/30	2 fish limit, (Chinook 22" min size); Release Chinook. Samish Bay closed to salmon angling 10/1-10/15. Lummi Bay closure area: east of a line from Gooseberry Point to Sandy Point 10/1 – 10/15.
10/1-12/31	Closed
1/1-4/15	2 fish limit, (Chinook 22" min size), release Coho and wild Chinook; Bellingham Bay and Samish Bay closed to salmon 4/1-4/30.

2.4 Nooksack/Samish Terminal Region

Bellingham Bay (Areas 7B, 7C, 7D; 7A On-Reservation) Net

Chinook	Trty	Areas 7B, & 7D: August 1 through September 7, open weekly 4 PM Sunday to 4 PM Friday. Fishing pattern: 3,5,5,5,5,5. Area 7C: August 1 through September 14, open weekly 4 PM Sunday to 4 PM Friday. Fishing pattern: 3,5,5,5,5,5,5. Samish Bay is closed southeasterly of a line from Oyster Creek to the fisheries marker on Samish Island, except that hand pull gillnets may fish from 4 PM Sunday to 4 PM Wednesday south to a line from Oyster Creek to Fish Point on Samish Island, August 1 through September 12 Sunday 4 PM to Wednesday 4 PM, weekly. Fishing pattern: 1,3,3,3,3,3,3. 6 ½" mesh in 7C and off-reservation areas of 7B, except when open for sockeye in Area 7 and 7A.
	Ntrty	Areas 7B & 7C: Wks 33 (wb 8/12) - 36 (wb 9/2); PS Coho NR through wk 35. GN fishing pattern: 3, 4, 4, 5; PS fishing pattern: 1,1,1,1.

Coho	Trty	Area 7A on-reservation fishery: September 9 through October 3. Open weekly 4 PM Sunday to 4 PM Wednesday. Fishing pattern: 3,3,3,3.
		Areas 7B and 7D: September 9 through October 20, open Sunday 4 PM to Saturday 4 PM. Fishing pattern: 6,6,6,6,6,6.
		7C: On September 28, a Co-manager conference call will be held to determine the status of Samish Chinook escapement. If the escapement goal appears to be attainable, and through development of a Co-manager agreed in-season update methodology it is determined that there is a harvestable surplus of Samish Coho, then a Coho fishery will open September 30 to October 17, Sunday 4 PM to Wednesday 4 PM, weekly. Fishing pattern: 3,3,3.
	Ntrty	Area 7B: Wks 37 (wb 9/9) - 43 (wb 10/21); GN fishing pattern: 5,5,7,7,7,7,7 (24 hrs for all days); PS fishing pattern: 3,3,7,7,7,7,7.
Chum	Trty	Areas 7B & 7D: Oct. 21 – Dec.12; open weekly 4 PM Sunday to 4 PM Wednesday; Fishing pattern: 3,3,3,3,3,3,3,3.
	Ntrty	Area 7B: Wks 44 (wb 10/28) - 48 (wb 11/25); PS/GN; 7,5,5,5,5. Whatcom Creek Zone (east of line from Post Point to flashing red light at west entrance of Squalicum Harbor) open 7 days per week.

Nooksack River Treaty Net (Ntrty net closed)

Note: On a weekly basis, Nooksack Tribe commercial fisheries on the Nooksack River will open at 12:01 AM Sun, except that portion of the river between Marine Drive Bridge and the first turn ("Big Bend") in the river upstream of the Slater Road Bridge (approximately ¼ mile upriver from the Slater Road Bridge), which will open at 4:00 PM Sunday. On a weekly basis the Nooksack Tribe's commercial Chinook fisheries will close 4:00 PM Friday; Coho fisheries will close 4:00 PM Saturday and Chum fisheries will close 4:00 PM Wednesday.

Chinook	4/5-6/15	April to mid-June: limited ceremonial and subsistence fishery will be managed for a total mortality of 14 NOR Chinook. A traditional fishery will occur 500 feet upriver from the Highway 9 bridge in the lower North Fork and 500 feet downriver from the Nugents Corner Boat Launch in the mainstem (the boat launch is located just down river from Nugent's Corner Bridge) (RM 30.6 and 36.8). A total of 100 Chinook are projected in this fishery with an anticipated 3 NORs among the 100. This fishery is by permit only. Another fishery will occur in the lower Nooksack River between the Slater Road bridge and the river mouth (between RM 0.0 and 3.5). The lower river fishery will be selective and is projected to encounter 35 NOR Chinook with an expected survival rate of 70% and an estimated mortality of 11 NOR Chinook.
	8/1 - 9/8	Open weekly 4 PM Sunday to 4 PM Saturday, August 1 through 4 PM September 8. Fishing pattern: 4,6,6,6,6,6. The river is divided into five zones during this period. These zones open in subsequent weeks, proceeding upriver, to protect migrating spring Chinook. Zone 1 is from Marine Drive Bridge to Slater Bridge. Zone 2 is from Slater Bridge to Hannegan Bridge In Lynden. Zone 3 is from Hannegan Bridge to Nugents Corner Bridge. Zone 4 is from Nugents Corner Bridge to the confluence of the north and south forks. The area in Zone 4, 1.3 miles downstream of the confluence (down to Nooksack Tribe blue colored automotive shop) will remain closed to protect holding Spring Chinook.

Coho	9/9 – 10/20	Open weekly 4 PM Sunday through 4 PM Saturday. Fishing pattern: 6,6,6,6,6,6. The area in Zone 4, 1.3 miles downstream of the north and south Fork confluence (down to Nooksack Tribe blue colored automotive shop) will remain closed through 4 PM September 23 to protect holding Spring Chinook.

Chum	11/1-2 or 11/8-9	Subsistence harvest only. The Lummi Nation and Nooksack Tribe will determine in-season which two days to hold this subsistence fishery.
	10/21 – 12/12	Commercial. Open weekly 4 PM Sunday to 4 PM Wednesday. Fishing pattern: 3,3,3,3,3,3,3,3.

Bellingham Bay Terminal Area Recreational

5/1-8/15	Closed to Salmon
8/16-9/30	4 fish limit, 2 Chinook (Chinook 22" min size); Samish Bay closed.
10/1-12/31	Closed to Salmon.
1/1-3/31	Same as Area 7
4/1-4/30	Closed to Salmon

Nooksack River Recreational; mainstem and North Fork

from Lummi Indian Reservation boundary to yellow marker at the FFA high school barn in Deming	9/1 – 12/31	2 fish limit, plus 2 additional hatchery Coho; 12” min size. Release wild Coho. Release wild Chinook through 9/30.
from yellow marker at the FFA high school barn to confluence of North and South forks	10/1 – 12/31	2 fish limit, plus 2 additional hatchery Coho; 12” min size.

Nooksack River Recreational, South Fork

from mouth to Skookum Creek	10/1 – 12/31	2 fish limit, plus 4 additional hatchery Coho; 12” min size. Release Chum and wild Coho. Release wild chinook 10/1 – 10/15.

Nooksack River Recreational, North Fork

Hwy 9 bridge to Maple Creek	10/1 – 11/30	2 fish limit, plus 2 additional hatchery Coho; 12” min size.

Samish River Recreational

from mouth to I-5 Bridge	8/1-10/31	2 fish limit, 12” min size. Release wild Coho.

Dakota Creek Recreational

mouth to Giles Road Bridge	10/1 – 12/31	2 fish limit, 12” min size. Release wild Chinook and wild Coho.

Whatcom Creek Recreational

mouth to yellow markers below foot bridge below Dupont St. in Bellingham	8/1 – 12/31	6 fish limit, 2 adults; 12” min size. Release wild Coho.

All other NOOKSACK/SAMISH TERMINAL REGION freshwater recreational: Closed to salmon angling.

2.5 Skagit Terminal Region

Terminal area fisheries will be managed so as not to exceed total projected incidental fishery mortalities of Skagit wild summer/fall Chinook. Treaty schedules may be changed in-season as necessary to meet management objectives and harvestable shares and to address river and weather conditions. Swinomish, Sauk-Suiattle, and Upper Skagit Tribes’ fisheries will be managed so as not to exceed their individual shares based on the preseason forecast and any in-season update that becomes available. The modeled inter-tribal catch distributions are forecasts only and do not set a precedent for future years.

The Skagit co-managers will utilize the same update models for Sockeye, Coho, and Chum ISU consideration (with data from 2017 added) that have been used in recent years. Other models may be considered with co-manager agreement should they become available before the fishery (see appendix for further details).

NOTE: See appendix for details for the conduct, monitoring, reporting, assessment, and inseason co-manager actions upon which the following fisheries are agreed to. Additionally, inseason update methodology for Sockeye, Coho, and Chum are addressed. Communication: Co-managers will share available information from the Area 4, 5, and 6 recreational fisheries (species, mark, size, catch, encounter) the second week of August. This information will be evaluated against pre-season

expectation and provide co-managers with additional information which may be useful in management considerations.

Skagit Bay (Area 8) Net

Note: Fishing schedules for Skagit Bay, Skagit River, and Baker River are pre-season projections. Schedules may be changed in-season as necessary to meet management objectives and harvestable shares.

Chinook	Area 8 - Trty	Swinomish Tribe may elect to take some or all of their C&S reserved Chinook in Area 8.
Spring Chinook	Area 8 – Trty	Swinomish Tribe fishing pattern: wk 19 (wb 5/6) thru wk 21 (wb 5/20): 3,3,3; Upper Skagit Tribe fishing pattern: No scheduled fishery.
Sockeye	Area 8 – Trty	Swinomish Tribe fishing pattern: wk 26 (wb 6/24) thru wk 29 (wb 7/15); 3,5,5,5; Swinomish fishery will be managed so as not to exceed their individual Sockeye share based on the preseason forecast and any in-season update that becomes available. Additional fishing dependent on ISU. Upper Skagit Tribe fishing pattern: No scheduled fishery.
	Ntrty	Closed
Coho	Trty	If ISU changes abundance status, treaty shares may be modified following co- manager discussions.
	Area 8 – Trty	Swinomish Tribe fishing pattern: wk 37 (wb 9/9) thru wk 42 (wb 10/14); 1,1,2,2,1,1. Swinomish tribe may elect to take some or all of their C&S reserved coho in Area 8. Upper Skagit Tribe fishing pattern: No scheduled fishery.
	Ntrty	Closed
Chum	Area 8 – Trty	Swinomish Tribe fishing pattern: No preseason harvestable. Upper Skagit Tribe fishing pattern: No preseason harvestable.
	Ntrty	Closed. May open pending co-manager agreement on ISU that indicates harvestable runsize.
Chum Test	Area 8	1 boat at Jetty 1 day/wk 44 (wb 10/28) & 45 (wb 11/4) and 1 boat in Bay 1 day/wk 44 (wb 10/28) & 45 (wb 11/4).
	Ntrty	Closed. May open pending co-manager agreement on ISU that indicates harvestable runsize.

Skagit River Treaty Net (Ntrty net closed)

Note: Fishers from the Sauk-Suiattle Tribe are invited to participate in the 2018 Swinomish salmon fishery in Skagit River Area 78C from the Mount Vernon bridge to the Spud House, subject to and in accordance with all provisions of fishing ordinances and regulations of the Swinomish Indian Tribal Community that apply to such fishery.

The Upper Skagit Tribe reserves the opportunity to take C&S reserved Chinook across the entire duration of this LOAF agreement, May 1, 2018 through April 30, 2019.

Chinook	Ceremonial and Subsistence – 775 fish (75 spring and 700 summer/fall) total: Swinomish (25 spring, 400 summer/fall), Sauk-Suiattle (25 spring, 100 summer/fall), and Upper Skagit (25 spring, 200 summer/fall) Tribes.	
Spring Chinook	Area 78C	Swinomish and Sauk-Suiattle Tribes fishing pattern: wk 19 (wb 5/6) thru wk 21 (wb 5/20):3,3,3; Upper Skagit Tribe fishing pattern: wk 19 (wb 5/6) thru wk 21 (wb 5/20):0.833, 0.833, 0.833.
	Area 78D	Upper Skagit Tribe fishing pattern: wk 19 (wb 5/6) thru wk 21 (wb 5/20);0.833, 0.833, 0.833.
Sockeye	Ceremonial and Subsistence 200 fish Upper Skagit Tribe. Swinomish, Sauk-Suiattle, and Upper Skagit Tribes may elect to collect some of their allocation from the Baker River upstream fish trap.	
	Area 78C	Swinomish, Sauk-Suiattle, and Upper Skagit Tribes' fisheries will be managed so as not to exceed their individual Sockeye shares based on the preseason forecast and any in-season update that becomes available. Swinomish and Sauk-Suiattle Tribes fishing pattern: wk 26 (wb 6/24) thru wk 29 (wb 7/15):3,5,5,5; Additional fishing dependent on ISU. Upper Skagit Tribe fishing pattern: wk 26 (wb 6/24) thru wk 29 (wb 7/15): 0.833,0.542,0.542,0.542; Additional fishing dependent on ISU.
Sockeye	Area 78D Area 78O	Swinomish and Upper Skagit Tribes' fisheries will be managed so as to not exceed their individual Sockeye shares based on the preseason forecast and any in-season update that becomes available. Swinomish Tribe fishing pattern (Area 78D-4 and Baker River): Wk 29 (wb 7/15): 1; Additional fishing dependent on ISU; Upper Skagit Tribe fishing pattern: Areas 78D-2, 78D-3, 78D-4, and 78O (Baker River): wk 26 (wb 6/24) thru wk 29 (wb 7/15): 0.833,0.542,0.542,0.542; Additional fishing dependent on ISU.

Coho	If ISU changes abundance status, treaty shares may be modified following co-manager discussions. Ceremonial and Subsistence 300 fish total Swinomish, Sauk-Suiattle, and Upper Skagit Tribes (100 each).	
	Area 78C:	Swinomish and Sauk-Suiattle Tribes fishing pattern: wk 37 (wb 9/9) thru wk 42 (wb 10/14): 1,1,2,2,1,1. Upper Skagit Tribe fishing pattern: wk 39 (wb 9/23) thru wk 41 (wb 10/7): 1.0,1.0, 0.833.
	Area 78D	Upper Skagit Tribe fishing pattern: wk 39 (wb 9/23) thru wk 41 (wb 10/7): 1.0,1.0,0.833.
Chum	Area 78C	Swinomish and Sauk-Suiattle Tribes fishing pattern: No preseason harvestable. Upper Skagit Tribe fishing pattern: No preseason harvestable.
	Area 78D	Upper Skagit Tribe fishing pattern: No preseason harvestable.
River Test	Chinook	Area 78C - Blakes wk 19 (wb 5/6) thru wk 35 (wb 8/26);1 boat, 6 hours/wk.
	Sockeye	Area 78C – Blakes wk 24 (wb 6/10) thru wk 29 (wb 7/15); 1 boat, 12 hours/wk; Area 78D-3 - Upper Skagit - wk 23 (wb 6/3) thru wk 30 (wb 7/22);1 boat, 4 hrs/wk.
	Coho	Area 78C - Blakes Drift, wk 38 (wb 9/16) thru wk 42 (wb 10/14), 12 hours/wk; Area 78C – Spudhouse Drift, Upper Skagit, wk 34 (wb 8/19) thru wk 42 (wb 10/14);1 boat, 12 hours/wk; Area 78D-3 Wk 35 (wb 8/26) thru wk 44 (wb 10/28);1 boat, 4 hours/wk.
	Chum	Area 78C - Blakes Drift wk 44 (wb 10/28) and wk 45 (wb 11/4);1 boat, 12 hours/wk.

Swinomish Channel Treaty Net (Ntrty net closed)

Coho	No separate openings. Area opens during Area 8 openings.

Area 8-1 Recreational

5/1-7/31	Closed
8/1 – 9/30	2 fish limit, release Chinook.
10/1-11/30	Closed
12/1-4/30	2 fish limit, (Chinook 22” min size) release wild Chinook and Coho.

Baker River/Lake Recreational

mouth to Dam	Closed to salmon.	
Baker Lake	7/7-9/7	3 fish limit, Sockeye only, 18” min. size.

Cascade River Recreational

mouth to Rockport-Cascade Road Bridge	6/1 – 7/15	4 fish limit, only 2 may be adults, hatchery Chinook only, 12” min. size.
	9/16 – 11/30	4 fish limit, Coho only, 12” min. size.

Skagit River Recreational

Specific gear conflict closure dates have not been identified but recreational fishing for all species will close two days per week from the mouth to highway 530 bridge in Rockport during weeks 26-29 for Sockeye and weeks 39-41 for Coho.

Mouth to Hwy 536 at Mt. Vernon (Memorial HWY Bridge)	9/1 – 12/31	2 fish limit, only 2 may be adults, release Chinook and Chum. 12” min size
from Memorial Hwy Bridge to Gilligan Creek	6/16-7/15	3 fish limit, Sockeye only (12” min size).
	9/1 – 12/31	2 fish limit, (12” min size). Release Chinook and Chum.
Mouth of Gilligan creek to Dalles Bridge at Concrete	9/1 – 12/31	2 fish limit, (12” min size). Release Chinook and Chum.
Dalles Bridge at Concrete to Hwy 530 Bridge at Rockport	9/1 – 12/31	2 fish limit, (12” min size). Release Chinook and Chum.
Hwy 530 Bridge at Rockport to Cascade River Rd	6/1 – 7/15	4 fish limit, (12” min size). Release wild Chinook.
	9/1 – 12/31	2 fish limit, (12” min size). Release Chinook and Chum.

All other SKAGIT TERMINAL REGION freshwater recreational closed to salmon angling.

2.6 Stillaguamish/Snohomish Terminal Region

Area 8A Net

Chinook	Trty	Closed (Ceremonial set-aside of up to 100 Chinook, July-September period).
	Ntrty	Closed
Coho	Trty	Tulalip Tribes: (9/09 – 10/13) 5 days per week, (10/14 – 10/20) Up to 5 days per week depending on ISU. Manage for Comprehensive Coho Management Plan breakpoints and rates.
	Test	Closed
	Ntrty	Wk 38 (wb 9/16) – 39 (wb 9/23): PS limited participation (2 boats per day): Chinook and Chum NR; fishing pattern: 1,1. GN wk 39 limited participation 2 boats only. GN fishing pattern: 1-2, GN fish night hours. Closed south of a line from the Clinton ferry dock to the Mukilteo ferry dock.
Chum	Trty	Closed
	Test	Closed
	Ntrty	Closed

Area 8D Net

Chinook	Trty	BS, RH, GN gear outside Tulalip Bay may be open during the following periods: (4/29 – 5/26) 5 days per week (5/27 – 8/11) 3 ½ days per week: 12:01 PM Mon – 11:59 PM Thu (8/12 -9/08) 5 days per week Setnets inside Tulalip Bay may be open during the following period: (5/01 – 9/08) 5 days per week
	Ntrty	Closed (see recreational SAF)
Coho	Trty	(9/09 – 10/27) BS, RH, GN gear outside Tulalip Bay may be open 4 days per week to target Tulalip hatchery Coho. Setnet may be open 5 days per week.
	Ntrty	Wk 39 (wb 9/23) - 45 (wb 11/4); PS Chinook NR; PS fishing pattern: 1,1,1,1,1,1,2; GN fish each night Sunday through Thursday night (5,5,5,5,5,5,5); also open daylight hours Tuesdays and Wednesdays (2,2,2,2,2,2,2). Closed east of the line from Mission Point to Hermosa Point.

Chum	Trty	(10/28 – 12/01) Open to target Tulalip hatchery Chum. Managed to allow for hatchery egg take needs based on Tulalip hatchery escapement updates and projections. All Area 8D fisheries will close concurrently as agreed to by Tulalip and WDFW to ensure egg take requirements are met.
	Ntrty	Wk 46 (wb 11/11) - 48 (wb 11/25); PS fishing pattern: 1,1,1; GN fishing pattern: 3,3,3 daylight hours. Closed east of the line from Mission Point to Hermosa Point. Managed to allow for hatchery egg take needs based on Tulalip hatchery escapement updates and projections. All Area 8D fisheries will close concurrently as agreed to by co-managers to ensure egg take requirements are met.

Stillaguamish River Treaty Net (Ntrty net closed)

Chinook	C&S fishery only; Open 5/1 – 7/31; Up to 7 days per week; maximum catch of 100 Chinook; Open from mouth of Hatt Slough (RM 0) to Danielson Hole (RM 14).
Coho	Commercial fishery; Open 9/1 – 10/31; Up to 5 days per week; Maximum catch of 1600 Coho; Open from mouth of Hatt Slough (RM 0) to Danielson Hole (RM 14).
Chum	C&S fishery only; Open 11/1 – 12/5; Up to 3 days per week; max catch of 300 Chum; Open from mouth of Hatt Slough (RM 0) to Danielson Hole (RM 14).

Snohomish River Treaty Net (Ntrty net closed)

Chinook, Coho, Chum	Closed
Coho Test	Closed

Area 8-2 Recreational

5/1-7/31	Closed
8/1-9/23	2 fish limit, release Chinook. May reopen after 9/23 pending results of Tulalip /Stillaguamish ISU.
9/24-11/30	Closed
12/1-4/30	2 fish limit (Chinook 22" min size). Release Coho and wild Chinook.

Tulalip Special Area Recreational Fishery

Same as Area 8-2 Recreational, except during the period 6/1-9/23:	6/1-9/3	Open 12:01 AM Friday – 11:59 AM Monday each week. Closed June 9. Open within Tulalip Special Area boundaries only. Closed to all angling east of the line from Mission Point to Hermosa Point. 2 fish limit salmon, 2 pole endorsement (Chinook 22" min. size).
	9/8-9/30	Open Saturday and Sunday each week. Open within Tulalip Special Area boundaries only. Closed to all angling east of the line from Mission Point to Hermosa Point. 2 fish limit salmon, 2 pole endorsement (Chinook 22" min. size).

Snohomish River Recreational

mouth to confluence of the Skykomish and Snoqualmie rivers	9/16 – 11/15	2 fish limit, release Chinook and Chum, 12" min. size.

Snoqualmie River Recreational

mouth to Snoqualmie Falls	9/16 – 11/15	2 fish limit, adults only, Release Chinook and Chum, 12" min. size.

Skykomish River Recreational

from mouth to Wallace River	6/1–7/31	4 fish limit, only 2 may be adults, hatchery Chinook only,12" min. size.
mouth to confluence of North and South forks	9/16-11/15	2 fish limit, 12" min. size. Release Chinook and Chum.

Wallace River Recreational

mouth to 200' upstream of water intake of salmon hatchery	9/16 – 11/15	2 fish limit, 12" min. size. Release Chinook and Chum.

Stillaguamish River Recreational

mouth to forks	Closed to salmon.

See appendix for gamefish season regulations.

All other STILLAGUAMISH/SNOHOMISH TERMINAL REGION freshwater recreational closed to salmon angling.

2.7 Admiralty Inlet Area

Area 9 Net

Chinook	Trty	Ceremonial and Subsistence – Up to 500 Chinook as agreed upon by those Tribes with U&A in Area 9, (PS and Hook & Line, release all Chum 6/1 – 9/30).
	Ntrty	Closed
Chum	Research	Wk 43 (wb 10/21) – 45 (wb 11/4) research fishery to develop stock composition/timing information. Research catch quota of up to 8,400 Chum. Reference 2018 Area 9 Chum Salmon Research Fishery Plan to be developed by NWIFC and tribal staff prior to beginning this research.
	Trty	The Area 9 fall chum fishery north of the HC bridge will open wk 43 (wb 10/21) through wk 45 (wb 11/4); fishing pattern: GN 3,4,3; and PS 4,3,3. Open area restricted to that portion of North Hood Canal bounded to the south by the Hood Canal Bridge and bounded to the north by a line from White Rock due east to landfall. Tribes with adjudicated U&A in the open section of Area 9 may choose to participate. Coho and Chinook model inputs have been modeled during NOF that anticipate the participation levels of 2017. If the fishery reaches a catch threshold of 30,000 chum salmon before 11/4, there will be a conference call among the participating Tribes to discuss any needed fishery management actions. Participating tribes agree to sample tissue for DNA analysis of their tribe's chum catch and wild coho bycatch to the extent practicable.
	Ntrty	Closed

Area 9 Recreational

5/1 – 7/15	Closed
7/16 – 8/15	2 fish limit, (Chinook 22" min size) release wild Coho, Chum and wild Chinook. Closed south and west of a line from Foulweather Bluff to Olele Point.
8/16 – 9/30	2 fish limit; release wild Coho, Chum and Chinook.
10/1 – 12/31	Closed.
1/1 – 4/15	2 fish limit, (Chinook 22" min size), release wild Coho and wild Chinook.
4/16 – 4/30	Closed

Edmonds Pier Recreational

Year-Round	2 fish limit, 1 Chinook (Chinook 22" min size), release Chum 8/1-8/31.

3.0 South Sound Region

3.1 Area 10 Sub region

Area 10 Net

Chinook	Closed	
Sockeye	Trty	Fishery dependent upon ISU (Ballard lock counts)
	Ntrty	Closed
Coho	Test	Gillnet: Wk 37 (wb 9/9) - wk 39 (wb 9/23); 3 boats, 3 sites; fishing pattern: 2,2,2.
	Trty	On-Reservation only; wk 38 (wb 9/16) – wk 43 (wb 10/21); gillnet/beach seine; 7 days/wk. Wk 36 (wb 9/2) – wk 40 (wb 9/30). Fishing schedule for Area 10 shall be set consistent with the MST agreement (1983).
	Ntrty	Closed
Chum	South Sound Chum co-managers agree to resolve key issues related to conservation, allocation, and management prior to the 2018 chum fishing season. Co-manager technical staff will meet bi-monthly or more frequently as needed starting in May 2018 to identify and define key issues and data needed to address these issues. Technical staff shall then exchange and come to agreement on relevant data and analysis appropriate for a technical resolution on the identified issues. Technical staff will conduct analysis and develop technical memoranda for presenting outcomes of this work with recommendations on solutions for policy staff. If technical resolution cannot be achieved by July 31, 2018, co-manager policy staff will meet the first week of August to come to policy resolution on the identified issues prior to the 2018 fishing season.	
	Test	Purse Seine: Wk 41 (wb 10/7) - wk 46 (wb 11/11); 1 site, fishing pattern: 1,1,1,1,1,1.

Chum	Trty	Treaty allocation based on intertribal sharing agreement; wk 41 (wb 10/7) – wk 45 (wb 11/4) fishing pattern – ISU dependent; Fishing schedule for Area 10 shall be set consistent with the MST agreement (1983). Suquamish – On-Reservation only (set net gear only): wk 42 (wb 10/14) – wk 50 (wb 12/9) up to 7 days per week dependent upon Chum return to the Grovers Creek Hatchery.
	Ntrty	Wk 42 (wb 10/14) - 45 (wb 11/4); PS Chinook and Coho NR; PS fishing pattern: 1,1,1,2; GN fishing pattern: 1,2,2,2. The area east of a line from Four Mile Rock south to Alki Point is closed.

Area 10A Treaty Net (Ntrty net closed): That portion of Elliott Bay east of the line from Pier 91 to the light at Duwamish Head.

Chinook	Trty Test	Gillnet: Wk 29 (wb 7/15th) – Wk 31 (wb 7/29th); 5 fishing sites (one boat per site). One night per week; 8 PM to 8 AM.
	Trty	Gillnet: Wk 32 (wb 8/5th) One night per week; 8 PM to 8 AM. Based on ISU: Wk 33 (wb 8/12th) One night per week; 8PM to 8 AM. Based on ISU.
	Trty	Ceremonial and subsistence fisheries
Coho	Trty	Gillnet: Fishery will open Wk 36 (wb 9/2nd) – Wk 42 (wb 10/14th) up to 5 days per week (Sun – Fri). (Fishery will close if the Duwamish/Green River ISU does not show harvestable coho. If the ISU shows harvestable coho the fishing pattern will be as stated above).
	Trty	Ceremonial and subsistence fisheries
Chum	Trty	Gillnet: Wk 43 (wb 10/21st) - Wk 48 (wb 11/25th); fishing pattern: up to 5 days per week (Sun – Fri).
	Trty	Ceremonial and subsistence fisheries

Duwamish/Green River (Area 80B) Treaty Net (Ntrty net closed)

Chinook	Trty	Gillnet: Wk 32 (wb 8/5th) One night per week; 8 PM to 8 AM. Based on ISU: Wk 33 (wb 8/12th) One night per week; 8PM to 8 AM. Based on ISU
	Trty	Ceremonial and subsistence fisheries

Coho	Trty Test	Wk 37 (wb 9/9) Coho ISU test fishery on the river (from the mouth of the East and West waterways up to 16th Ave. Bridge). The 6 sites are as follows: East Waterway, West Waterway, Old Riverside Marina, Kellogg Island, 1st Ave Bridge and 16th Ave Bridge.
Coho	Trty	Gillnet: Fishery will open Wk 38 (wb Sept 16th) up to the 16th Ave bridge. Starting on Wk 39 (wb Sept 23rd) the fishery will open up to the Boeing St Bridge. Starting Wk 40 (wb Sept 30th) the fishery will open up to the HWY 99 bridge. Up to 5 days per week (Sun – Fri). (Fishery will be closed if the treaty test ISU does not show harvestable coho. If the ISU shows harvestable coho the fishing pattern will be as stated above).
	Trty	Ceremonial and subsistence fisheries
Chum	Trty	Gillnet: Wk 44 (wb 10/28th) – Wk 48 (wb 11/25th); fishing pattern: 5 days per week (Sun – Fri).
	Trty	Ceremonial and subsistence fisheries

Area 10E Treaty Net (Ntrty net closed; see below for recreational SAF)

Chinook	Trty	Wk 30 (wb 7/22) - wk 38 (wb 9/16); fishing pattern: 7 days/wk. Possible extension for Sinclair Inlet.
Coho	Trty	On-Reservation only; wk 38 (wb 9/16) - wk 43 (wb 10/21); gillnet/beach seine; 7 days/wk.
Chum	Trty	Wk 43 (wb 10/21) - wk 50 (wb 12/9); schedule dependent upon ISU.

Lake Washington System (includes Lake, Lake Union, Ship Canal, & Lake Sammamish)

Areas 10F, 10G, 10C, 10D Treaty Net (Ntrty net closed)

Sockeye	Wk 23 (wb 6/3rd) – Wk 33 (wb 8/12th) Based on ISU (lock counts).
	Wk 23 (wb 6/3rd) – Wk 33 (wb 8/12th) Bio-sample program
	Wk 25 (wb 6/17th) PSC test fishery
	Ceremonial and subsistence fisheries
Chinook	Closed.
	Ceremonial and subsistence fisheries

Coho	Coho fisheries in the four following areas are dependent upon the ISU (if lock counts project run size < 10,000 coho entering the lake), then the coho fishery will remain closed in all four areas including Lake Sammamish):	
	Ceremonial and subsistence fisheries	
	Lower ship canal (below Ballard Locks)	If the ISU is > than 10,000 the fishery could open as early as Wk 38 (wb 9/16th) – Wk 45 (wb 11/4th) with the fishing pattern up to 7 days per week (Sun – Sat).
	Upper ship canal (above Ballard Locks):	If the ISU is > than 10,000 the fishery could open as early as Wk 38 (wb 9/16th) – Wk 44 (wb 10/28th) with the fishing pattern up to 5 days per week (Sun – Fri).
	North end Lake Washington (North of Hwy. 520 bridge):	If the ISU is > than 10,000 the fishery could open Wk 39 (wb 9/23rd) – Wk 46 (wb 11/11th) with the fishing pattern up to 5 days per week (Sun – Fri).

Lake Sammamish Treaty Net

Chinook	Based on ISU – hatchery surplus.
	Ceremonial and subsistence fisheries
Coho	If the ISU is > than 10,000 the fishery could open Wk 41 (wb 10/7th) – Wk 47 (wb 11/18th) with the fishing pattern up to 5 days per week (Sun – Fri).
	Ceremonial and subsistence fisheries

Area 10 Recreational

5/1-5/31	Closed
6/1-7/15	2 fish limit, release Chinook and Chum.
7/16-8/31	2 fish limit, (Chinook 22” min size), release wild Chinook and Chum.
9/1-11/15	2 fish limit, (Chinook 22” min size), release wild Chinook and release Chum through 9/15.
11/16-12/31	Closed
1/1-3/31	2 fish limit, (Chinook 22” min size), release wild Chinook and release Chum through 9/15.
4/1-4/30	Closed.

Shilshole Bay (East of Meadow Point/West Point line) closed to salmon 7/1-8/31.

Outer Elliott Bay (E of West Pt. /Alki Pt line to Pier 91/Duwamish Head line) closed to salmon 7/1-8/31.

Inner Elliott Bay (E of Pier 91/Duwamish Head line) closed to salmon 7/1-8/31

Area 10 Piers Recreational

Seacrest Pier, Pier 86, Waterman Pier, Bremerton Boardwalk, Illahee State Park Pier	Year-Round	2 fish limit, 1 Chinook (22" min size), release Chum 8/1-9/15.

Elliott Bay Recreational SAF

5/1- 6/30	Same as Area 10.
7/1- 8/31	Closed
9/1- 4/30	Same as Area 10.

Sinclair Inlet Recreational SAF

5/1-6/30	Same regulations as Area 10.
7/1-9/30	Open S of Manette Bridge, S of line drawn true W from Battle Point, and W of line drawn true S from Point White; 3 fish limit, (Chinook 22" min size), release wild Chinook and wild Coho, release Chum 8/1-9/15, 2 pole endorsement.
10/1-4/30	Same regulations as Area 10.

Green River Recreational

WDFW and MIT commit to developing and executing a monitoring plan to assess Chinook encounter rates and non-retention mortality rates in both directed Chinook fisheries and non-Chinook directed fisheries within the system prior to the beginning of the 2018 river fishery. The implementation of either portion of the plan is contingent on available funding. The portion of the plan to estimate encounter rates is likely to cost significantly less than the portion to estimate mortality rates and will be prioritized due to the higher likelihood there will be sufficient funds available to cover its implementation.

From an east-west line extending through the southernmost tip of Harbor Island to Tukwila International Boulevard/Old Hwy. 99	9/1 – 12/31	Daily limit 6. No more than 3 adults may be Coho and Chum, 12” min size, release Chinook.

Tukwila International Boulevard/Old Hwy. 99 to the South 212nd Street Bridge	9/1 – 12/31	Daily limit 6. No more than 3 adults may be Coho and Chum, only 1 Chinook, 12” min size.
South 212th Street Bridge to Auburn-Black Diamond Road Bridge	10/1 – 12/31	Daily limit 6. No more than 3 adults may be Coho and Chum, 12” min size, release Chinook. Closed within 150’ of the mouth of Big Soos Creek.
from Auburn-Black Diamond Rd Bridge to Tacoma Headworks Dam	11/1 – 12/31	Daily limit 6. No more than 3 adults may be Coho and Chum, 12” min size, release Chinook, Closed waters - within 150’ of the Palmer Ponds outlet rack and within 150’ of the mouth of Keta (Crisp) Creek.

Chinook fishery is dependent upon ISU and co-manager agreement.

The 2018/2019 WDFW sport pamphlet will reflect the following season end dates for trout and other game fish fall/winter season.

Mouth to Tacoma Headworks Dam: Dec. 31

Soos Creek Recreational
Closed to salmon.

Lake Washington Recreational

August-October	Closed to salmon. Re-opening dependent upon ISU (lock counts) and co-manager agreement. Potential fishery starting date to be determined: Coho: 12” min. size. 4 fish limit, Coho only.

Lake Sammamish Recreational

10/1 – 11/30	Fishery dependent upon ISU (lock counts) and co-manager agreement. 4 fish limit, Coho only.12” min size.
12/1 – 5/31	Landlocked salmon rules apply. Hatchery Coho may be retained as part of the trout daily limit. 12-inch minimum size.

All other SOUTH SOUND AREA 10 REGION freshwater: Closed to salmon angling

3.2 Area 11 Sub region

Area 11 Net

Chinook	All	Closed
Coho	Trty:	Commercial fishery opens Wk 37 (wb 9/9) – Wk 42 (wb 10/14) Gillnets 7 nights a week. Beach Seines daylight hours only, 7 days/week.
	Ntrty:	Closed
Chum	Sound Chum co-managers agree to resolve key issues related to conservation, allocation, and management prior to the 2018 chum fishing season. Co-manager technical staff will meet bi-monthly or more frequently as needed starting in May 2018 to identify and define key issues and data needed to address these issues. Technical staff shall then exchange and come to agreement on relevant data and analysis appropriate for a technical resolution on the identified issues. Technical staff will conduct analysis and develop technical memoranda for presenting outcomes of this work with recommendations on solutions for policy staff. If technical resolution cannot be achieved by July 31, 2018, co-manager policy staff will meet the first week of August to come to policy resolution on the identified issues prior to the 2018 fishing season.	
	Trty:	Commercial fishery open Wk 43 (wb 10/21) - Wk 45 (wb 11/4); gillnets 7 nights/wk, could close at any time. Beach seine daylight hours only, 7 days/wk.
	Ntrty	Wk 42 (wb 10/14) - 45 (wb 11/4); PS Chinook and Coho NR; PS fishing pattern: 1,1,1,2; GN fishing pattern: 1,2,2,2.

Area 11A Net Treaty Net (Ntrty net closed)

Chinook	Closed
Coho	Commercial fishery open Wk 36 (wb 9/2) – Wk 42 (wb 10/14)
Chum	Commercial fishery open Wk 43 (wb 10/21) – Wk 53 (wb 12/30) 3 nights/wk.

Puyallup River (Area 81B) Treaty Net (Ntrty net closed)

Chinook	Spring Chinook	Ceremonial and Subsistence
	Summer - Fall	Commercial fishery Wk 33 (wb 8/12) and Wk 34 (wb 8/19) fishing pattern: 6 hours. TBD
Coho	Commercial fishery Wk 36 (wb 9/2) - Wk 42 (wb 10/14) fishing pattern: 1,2,2,2,2,2,2.	
Chum	Test fishery Wk 43 (wb 10/21) - Wk 44 (wb 10/28) 1 day/wk, drift net only.	
Winter Chum	Commercial fishery Wk 45 (wb 11/4) – Wk 53 (wb 12/30) 1 to 3 days a week.	

White River Treaty Net

Ceremonial and subsistence fisheries.

Area 11 Recreational

5/1-5/31	Closed	
6/1-9/30	2 fish limit (Chinook 22” min. size), release wild Chinook; Commencement Bay (E. of Cliff House Restaurant/Sperry Ocean Dock line) closed to salmon through 7/31.	
10/1-4/30	2 fish limit (Chinook 22” min size), release wild Chinook, Commencement Bay (E. of Cliff House Restaurant/Sperry Ocean Dock line) closed to salmon 4/1-4/30.	
Dash Point Dock, Point Defiance Boathouse Dock, Les Davis Pier, Des Moines Pier and Redondo Pier	Year-Round	2 fish limit, 1 Chinook (Chinook 22" min size).

Puyallup River Recreational

from 11th St. Bridge to Carbon River	8/15 – 12/31	Closed Sundays 8/15-8/31. Closed Sunday – Tuesday 9/1-10/31. 6 fish limit, 2 adults, 12” min size, release wild Coho and wild Chinook.

Carbon River Recreational

From mouth to Voight Creek	9/1 – 11/31	6 fish limit, 2 adults, 12” min size, release wild Coho, Chum and wild Chinook.

All other SOUTH SOUND AREA 11 REGION freshwater recreational Closed to salmon angling.

3.3 Area 13 Sub region

Fox Island/Ketron Island (Area 13)

Chinook	Treaty	8/1-9/15, 7 days/wk
	Ntrty	Closed
Coho	Treaty	9/15 – 10/20, 7 days/wk
	Ntrty	Closed
Chum	Treaty	Closed unless opened by Medicine Creek Treaty Tribes' agreement
	Ntrty	Closed

Area 13 Treaty Net (Ntrty net closed)

Chinook	Closed
Coho	Closed
Chum	Closed

Carr Inlet (Area 13A) Treaty Net [1](Ntrty net closed) [1] Based on Medicine Creek Treaty Tribal proposal annual regulations. Individual Tribal regulations may deviate from this schedule.

Chinook	8/1 – 9/22, 7 days/wk, opens in sections.
Coho	9/16 – 10/27, 7 days/wk, opens in sections.
Chum	10/28 – 12/8, 7 days/wk, opens in sections.

Chambers Bay (Area 13C) Treaty Net[1] (Ntrty net closed)

Chinook	7/29 – 10/13; Beach seines Sunday noon to Tuesday noon. Set nets Wednesday noon to Friday noon.
Coho	10/14 – 11/3; Beach seines Sunday noon to Monday noon. Set nets Monday noon to Tuesday noon.
Chum	11/4 – 12/1; Beach seines Sunday noon to Tuesday noon. Set nets Wednesday noon to Friday noon.

Area 13D Treaty Net (Ntrty net closed)

Chinook	7/15 - 9/9 or earlier date dependent on in-season management needs; 7 days/wk
Coho	9/10 - 10/31 or earlier date dependent on in-season management needs.
Dana Pass (13D-1)	7 days/wk

Pickering Pass (13D-2)	7 days/wk
Peale Pass (13D-3)	7 days/wk
Southern Case (13D-4)	7 days/wk
Chum	Open approximately 10/8; 2-4 days per week; managed weekly by updates (~10/8).
Area 13E Net	Closed to all fishing
Budd Inlet (Area 13F) Treaty Net (Ntrty net closed)	
Chinook	7/15-9/9 or earlier date dependent on in-season management needs; 7 days/wk 9/10-9/23 open dependent on in-season monitoring to meet hatchery escapement needs.
Coho	Closed
Chum	Open approximately 11/5, 2-4 days per week, managed by weekly in-season updates
Eld Inlet (Area 13G) Treaty Net (Ntrty net closed)	
Chinook	7/15-9/9; opening dependent upon in-season data, outer portion only.
Coho	Closed
Chum	Open approximately 11/5, 2-4 days per week, managed by weekly escapement updates
Totten Inlet (Area 13H) Treaty Net (Ntrty net closed)	
Chinook	8/1-9/9; schedule dependent on in-season data
Coho	Closed
Chum	Open approximately 10/8, 2-4 days per week; managed by weekly escapement updates
Little Skookum Inlet (Area 13I) Treaty Net (Ntrty net closed)	
Chinook	8/1-9/9; schedule dependent upon in-season data
Coho	Closed
Chum	Open approximately 11/5, 2-4 days per week; managed by weekly escapement updates

Hammersley Inlet (Area 13J) Treaty Net (Ntrty net closed)

Chinook	8/1-9/9 or earlier date dependent on in-season management needs
Coho	Closed
Chum	Open approximately, 10/8 - 12/31, 2-4 days/wk; managed by weekly escapement updates

Northern Case Inlet (Area 13K) Treaty Net (Ntrty net closed)

Chinook	7/15-9/9
Coho	9/10-10/31 or earlier date dependent on in-season management needs
Chum	Open approximately 10/8 -12/31; 2-4 days/wk; managed by weekly escapement updates

Nisqually River (Area 83D) Treaty Net (Ntrty net closed)

Chinook	Gill Net 2 days/wk during the following weeks: wk 32 (wb 8/5) through wk 36 (wb 10/2). Selective gear staff driven trap. 1-7 days/wk, wk 29 (wb 7/15) through wk 40 (wb 9/30) or until 150 unmarked and untagged adult Chinook are encountered (analysis shows 2% ER on UMUT ~324 encounters). Release all fish that are not determined as hatchery Chinook (ad clipped and no clip with CWT). Change In Ratio data collection staff driven TN 1-3 days/wk, wk 36 (wb 9/2) through wk 47 (wb 11/19) or when 110 Chinook or 110 Coho are encountered. Release all fish.
Coho	Gill Net 2 days/wk during the following weeks: wk 41 (wb 10/7) through wk47 (wb 11/18). Change In Ratio data collection staff driven TN 1-3 days/wk, wk 36 (wb 9/2) through wk 47 (wb 11/19) or when 110 Chinook or 110 Coho are encountered. Release all fish.
Chum	Gill Net 2 days/wk during the following weeks: wk 48 (wb 11/25) through wk 53/1 (wb 12/30). Yelm Escapement ISU must reach 310 live count on or before January 2nd to proceed fishing 2-3 days/wk, wk 2 (wb 1/6) through wk 4 (wb 1/20). Prior to wk 53 and absent Yelm Live Count of 310 the Boat ISU will be used to inform management decisions. Fishing boundary: Mouth of Nisqually River up to approximate RM 6 at Old Tom Brown's Log Jam.

McAllister Creek (Area 83F) Treaty Net (Ntrty net closed)

Chinook	Gill Net 3-5 days/wk during the following weeks: wk 31 (wb 7/29) through wk 40 (wb 9/30). Freshwater courses.
Coho	Closed.
Chum	Closed.

Area 13 Recreational

5/1-4/30	2 fish limit (Chinook 22” min. size), release wild Coho and wild Chinook. 2 pole endorsement. Minter Creek mouth closed 4/16 - 9/30; Lower Budd Inlet closure zone 7/16-10/31.

Fox Island Pier Recreational

Year-Round	2 fish limit, 1 Chinook (Chinook 22" min size), release Coho. Closed 9/1-10/30.

Chambers Creek Estuary Recreational

downstream of markers 400’ below Boise-Cascade Dam to Burlington Northern Railroad Bridge	7/1 – 11/15	6 fish limit, 2 adults; 12” min size, release wild Chinook, wild Coho, and Chum.

Deschutes River Recreational

Capitol Lake (from outlet to 400’ below lowest Tumwater Falls (Deschutes River) fish ladder).	7/1 – 10/15	Closed
from Old Hwy 99 Bridge on Capitol Blvd in Tumwater upstream	7/1 – 10/15	6 fish limit, 2 adults, 12” min size, release wild Coho.

Kennedy Creek Recreational

mouth to northbound Hwy. 101 Bridge	10/1 – 11/30	6 fish limit, 2 adults, 12” min size, release wild Coho.

McLane Creek Recreational

from a line 50' north of and parallel to the Mud Bay Rd. Bridge to a line 100' upstream of and parallel to the south bridge on Hwy.101	Same as Area 13	Same as Area 13.

Minter Creek Recreational

mouth to 50' downstream of hatchery rack	10/16 – 12/15	6 fish limit, 2 adults, release Chinook and wild Coho,12" min size.

Nisqually River Recreational

mouth to the military tank crossing bridge, one mile upstream of the mouth of Muck Creek	7/1 – 9/30	6 fish limit, 2 adults, 12" min. size; release Coho, Chum, and wild Chinook.
	11/16-1/31	Closed to salmon angling. May open pending Yelm Escapement ISU. If ISU reaches 310 live count on or before January 2nd, open to Chum: 6 fish limit, 2 adults, release Coho and wild Chinook, 12" min size. Prior to wk 53 and absent Yelm Live Count of 310 the Boat ISU will be used to inform management decisions. Chum opening co-manager agreement.
McAllister Cr. - mouth to Olympia-Steilacoom Rd Bridge	7/1 – 11/30	6 fish limit, 2 adults, 12" min size. Release Coho and Chum.

All other SOUTH SOUND AREA 13 REGION freshwater recreational closed to salmon angling.

4.0 Hood Canal Region **(All fisheries modeled in FRAM #3218 (Chinook) & #1830 (Coho))**

Hood Canal Mainstem (Areas 12, 12B, 12C, 12D)

Treaty: 1,000 feet closure around streams that are closed to net fishing. Beach seines and hook and line gear release Chum through 9/30 (through 10/10 if within 500' of western shore of Areas 12B and 12C).

Nontreaty: See WAC 220-47-307 for Nontreaty exclusion zones.

Chinook	Trty	Areas 12, 12B and 12D: Closed
		Area 12C: Gillnets and Beach Seines wb 7/22 - wb 7/29 3 d/wk; Gillnets wb 8/4-8/24 4d/wk; Beach Seines wb 8/4-8/31 4d/wk . Beach Seines Release chum 8/1-8/31. Restricted to 7" min. mesh starting 8/1.
		Area 12H: Open wb 7/09 through 9/13; hook and line gear continuous; beach seines daylight hours Tues and Thur each week; possible in- season modifications; Chum release.
	Ntrty	Area 12H (12C): Hoodsport Hatchery Zone Only, Wks 31 (wb 7/29) – 36 (wb 9/2); 10,000 Chinook quota.BS fishing pattern: 2,2,2,2,2,2; release all Chum per the SCSCI.; Release all Chum per the SCSCI.
Coho	Trty	Area 12: Open 9/25 through 10/13 for gillnets. Beach seines for Coho only (release all Chinook and Chum through 9/30) may start no earlier than 9/16. Both gear types open 7 days/wk.
		Area 12B: Open 10/1 through 10/20 for gillnets; 500-foot closure along western shore through 10/10; beach seines for Coho only (release all Chinook and Chum through 9/30) may start no earlier than 9/16. Both gear types open 7 days/wk.
		Area 12C: a) Gillnets: 10/1-10/6 6 d/wk; 10/7-10/20 7 d/wk. b) Beach Seines: 10/1-10/20 7 d/wk. DAYLIGHT HOURS ONLY. c) 500 foot beach closure from Ayock Pt. to approx. 2,000 feet south of Lilliwaup (at the large house, north of Octopus Hole) through 10/10 for both gear types.

Coho	Trty	Area 12D (west of Madrona Pt. - local name): Open for gillnets no earlier than 10/1. Weekly schedules identical to Area 12C.
	Ntrty	Closed
Chum	See comanager agreed-to Hood Canal MOU in appendix.	
	Trty	Area 12: Open 10/14 through 11/20; 7 d/wk
		Area 12B: Open 10/21 through 11/20; 7 d/wk; except north of an East-West line from Zelatched Point to Seal Rock open through 11/27.
		Area 12C: Open 10/21 through 11/27; 7 d/wk.
		Area 12D: Closed.
		Area 12H: Hook and line gear open from 10/14 through 11/24; beach seines open Tuesday and Thursday of each week; possible in-season adjustments to 3 days/wk. Starting 11/7, hatchery escapement control measures will go into effect.
	Ntrty	Areas 12 and 12B: Wks 42 (wb 10/14) - 47 (wb 11/18): PS Chinook NR; PS fishing pattern: 1,1,1,2,1,1; GN fishing pattern: 1,2,2,2,2,1 daylight hours. Hazel Point Closure.
		Area 12C: Fisheries scheduled Wks 45 (wb 11/4) - 48 (wb 11/25): PS Chinook NR; PS fishing pattern: 2,1,1,1; GN fishing pattern: 2,2,2,1 daylight hours. Fishing is contingent upon the results of the agreed-to ISU.
		Hoodsport Hatchery Zone (12H): Beach seine fishery wks 45-48; fishing pattern: 2,2,2,2. Fishing is contingent upon the results from the agreed-to ISU.
		Area 12D Closed

Port Gamble (Area 9A)

No gillnet may be operated within the boundaries as described: From the head/mouth of Port Gamble Bay along both the eastern and western shores, along the southeastern edge of Pt. Julia and then north of a straight line drawn to west to the southern edge of the old mill site designated by markers (map in appendix).

Chinook	All	Closed
Coho	Trty	Open wb 8/12 through wb 10/27; 7 days/wk; gillnet only. Ceremonial Harvest of 20 Chinook in August.

Coho	Ntrty	Open Wks 34 (wb 8/19) - 44 (wb 10/28) skiff GN limited to 100 fathoms length and 60 meshes in depth; 7 days/wk; Chinook NR; Chum NR through 9/30; release NR fish by cutting ensnaring meshes. The beach area of the Port Gamble Indian Reservation, between Pt. Julia and the boundary marker at the south end of the reservation - closed to all fishing.
Chum	Trty	Open 10/28 through 11/24; 7 days/wk; gillnet only.
	Ntrty	Closed

Quilcene / Dabob (Area 12A)

Coho	Trty	Open 8/21 through 10/13; Chum and Chinook release from hook and line and beach seine gear through 9/30; beach seines 5 days/wk, daylight hours. Hook and line fisheries for Coho only, open continuously. Gillnets closed until Summer Chum escapement exceeds 1,500, then (1) GN day/wk; when escapement reaches 2,500 (2) GN day/wk; when escapement reaches 3,500 GN will be determined. Beach seine advance notification required prior to fishing.
	Ntrty	Beach seine open wks 34 (wb 8/19) – 40 (wb 9/30); Limited participation; Chinook and Chum NR; fishing pattern 4,5,5,5,5,5; GN closed unless Treaty GN opening. Fishery will be managed consistent with SCSCI.
Chum	Trty	Open to set and drift gillnets wb 10/14 through 11/20, South of an E-W line through Pt. Whitney.
	Ntrty	Closed

Big Quilcene River (Area 82F) Treaty (Ntrty net closed)

Coho	Openings to be determined in-season, for Coho only, from 9/1 through 10/15. Closed below Rogers St. From Rogers St. to U.S. Hwy 101, hook and line gear only, release all other salmon. The hatchery area, from U.S. Hwy 101 to the Quilcene Hatchery rack, may be opened for short periods to take surplus Coho. Hand held gear only (dipnets, hand lines, etc.).
Chum	Closed

Skokomish River (Area 82G) Treaty (Ntrty net closed) Purdy Creek (Area 82J) Treaty Net (Ntrty net closed)

Note: The Skokomish Tribe will continue to sample all agreed to fisheries in order to provide weekly in-season updates (i.e. CWT, species, mark status, and mark rates). The WDFW will provide weekly in-season updates for Chinook returns to the George Adams Hatchery rack. Note: Hook and line gear and beach seines release Chum through 10/15 above Hwy 106 Bridge.

Skokomish River – Mouth to HWY 106 Bridge (Area 82G) Treaty

Coho	Open 10/07 – 11/03, 7 days/wk.
Chum	Open wb 11/04 through 11/24, 7 days/wk.

Skokomish River – HWY 106 Bridge to HWY 101 Bridge (Area 82G) Treaty

Chinook	Open wb 8/06 - wb 8/26, 3 days/wk.
Coho	Open wb 10/07 – wb 11/03, 7 days/wk.
Chum	Open 11/04 through 11/24; 7 days/wk.

Purdy Creek (Area 82J)

Note: Treaty Net 250 feet from the confluence/mouth of Purdy Creek to the HWY 101 Bridge (fishing nets may not be attached to any abutment or railings on the HWY 101 Bridge).

Chinook	Gill Nets only: Open Saturdays only beginning July 07 – August 18. In-season adjustments will occur to ensure weekly broodstock targets are achieved.
Chum	Gill Nets, Dip Nets and Hook & Line: Open 11/14 as necessary to reach tribal share.

Misc. Hood Canal Rivers (Dosewallips, Duckabush, Hamma Hamma, Tahuya, Dewatto, Union)

All species	Closed to commercial harvest.

Area 12 Recreational (Including Quilcene/Dabob Bay)

Note: Release all Chum from 8/1 to 10/15, per the SCSCI. 7/1-10/ 15: All waters within channels created by exposed tidelands including - the free flowing waters of the Skokomish River downstream (north) of the City of Tacoma PUD overhead transfer powerlines are CLOSED to fishing for finfish. Mouth closures apply to Dosewallips, Duckabush, Dewatto, and Hamma Hamma Rivers.

5/1-6/30	Closed
7/1-8/30	Closed North of Ayock.

7/1-9/30	South of Ayock Pt. – 4 fish limit, (Chinook 20" min size); release Chum and wild Chinook. 2 pole endorsement.
9/1-9/30	North of Ayock Pt. – 4 fish limit, release Chinook and Chum. Closed Tarboo Bay north of Broad Spit 9/16-9/30.

10/1-12/31	4 fish limit, 2 Chinook (Chinook 22" min size). Release wild Chinook, release Chum through 10/15. Closed in Tarboo Bay N of Broad Spit. 2 pole endorsement 10/1-10/31 South of Ayock.
1/1-4/30	2 fish limit, (Chinook 22" min size), release wild Chinook.

Hoodsport Hatchery Zone Recreational, Same as Area 12 (above) except:

7/1-12/31	4 fish limit, no minimum size; Release wild Chinook and release Chum 7/1-10/15. 2 pole endorsement 7/1-10/31.

Dewatto River Recreational

mouth to Dewatto-Holly Rd. Bridge	Closed to salmon.

Dosewallips River Recreational

mouth to ONP boundary	11/1 – 12/15	2 fish limit, 12” min size, Chum only.

Duckabush River Recreational

mouth to ONP Boundary	11/1 – 12/15	2 fish limit, 12” min size, Chum only.

Quilcene River Recreational

Rodgers St. to Hwy 101 Bridge	8/16 – 10/31	6 fish limit, 4 adults, 12” min size, Coho only.

Skokomish River Recreational

Closed to salmon

Tahuya River Recreational

Closed to salmon

All other HOOD CANAL REGION freshwater recreational closed to salmon angling

2018 – 2019 List Of Agreed Fisheries Appendix

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1.1 Chum Tribes Agreement in Principle

There will be no chum fishery proposed this year in Area 9 outside that area that is already being fished (i.e. north of Hood Canal Bridge). However, there is a two-pronged approach for addressing the technical information and policy agreements needed to move forward with developing a fishing plan for Area 9 and potentially a broader allocation agreement for Puget Sound.

Technical Work

NWIFC staff in cooperation with the PSC Chum Tech Committee will review and summarize existing genetic baseline data including the development of SNPs technology to attempt to delineate individual stocks in mixed stock fisheries or areas. This is the technology envisioned to provide the information necessary to move toward weak stock management in all areas.

NWIFC will also work with tribal staff to develop a sampling plan for locations within Area 9 that will inform stock distribution with particular focus on potential fishing areas. The sampling plan will include cost estimates both with and without the fishery paying for itself. While test fishing in Area 10/11 was discussed in earlier intertribal discussions, technical staff have concluded that analysis and possible refinement of the fishery samples that WDFW is collecting in their Area 10/11 fishery provide the best information for the genetic makeup of the stocks impacted in those areas. Any test fishery will be contingent on Commissioner approval through NWIFC.

Policy Work

The chum tribes agree to meet between May 2018 and January 2019 to discuss policy issues that may impact allocation agreements as well as any data needs that may inform resolving differences in opinion among tribes. The final product of these discussions is a timeframe and implementation plan for an allocation agreement. If a tribe or tribes are not satisfied with progress by January 2019, they may seek to resolve allocation disputes by other means including adjudication in federal court.

1.2 2018 7/7A Chum Fishing Plan

04/8/2018

Chum salmon fisheries in Areas 7 and 7A are regulated to comply with a base harvest ceiling of 130,000 Chum salmon, unless a critically low level of abundance is identified for those stocks migrating through Johnstone Strait ("Inside Southern Chum salmon") (PST 2008). Chapter 6 of Annex IV specifies that U.S. commercial fisheries for Chum salmon in Areas 7 and 7A will not occur prior to October 10. Paragraph 10 (a-b) specifies run sizes below 1.0 million as critical (estimated by Canada). For run sizes below the critical threshold, the U.S. catch of Chum salmon in Areas 7 and 7A will be limited to those taken incidentally to other species and in other minor fisheries, and shall not exceed 20,000.

Table 1. U.S. 7/7A chum catches, 2009-2017

Year	NT catch	Treaty catch	Total U.S. catch	Total U.S. Share	Uncaught share	Overage	Paid Back
2009	16,406	7,667	24,073	20,000[a/]	n/a	0	
2010	6,062	17,342	23,404	20,000[a/]	n/a	0	
2011	24,084	36,401	60,485	130,000	69,515	0	
2012	32,157	40,709	72,866	130,000	57,134	0	
2013	30,239	49,411	79,650	130,000	50,350	0	
2014	60,135	86,436	146,571	130,000	0	16,571	
2015	59,754	65,303	125,057	130,000	4,943	0	4,943
2016	66,531	51,705	118,236	130,000	11,764	0	11,764
2017	56,830	66,366	123,196	130,000	6,804	0	

[a/] In fishing years 2009 and 2010, the Inside Southern Chum run size was below the critical threshold of 1.0 million; thus, per Chapter 6 of the PST the harvest ceiling was 20,000 additional chum following the notice from Canada that the run size was below the critical threshold.

In 2013, the co-managers enacted a fishing plan intended to result in the full harvest of the 130,000 chum salmon allowed to be caught in Area 7/7A under the current Chapter 6 of the Pacific Salmon Treaty. Adoption of these annual pre-season chum fishing plans for Area 7/7A has resulted in the full harvest of the U.S. share in recent years (Table 1).

To continue to promote fishing opportunity that allows both the treaty and non-treaty fleets to catch their full shares, the co-managers will use the management approach below for the 2018 season.

- Treaty and non-treaty reef net fisheries will remain open continuously from the end of Fraser management to the end of the chum season or until their respective shares are harvested, whichever comes first. Reef nets will release all chum, unmarked coho and unmarked Chinook through September 30. Release all Chinook beginning October 1.
- Treaty purse seine (PS) and gillnet (GN) fisheries will open on Wednesday October 10 and remain open continuously until the end of the season or until the treaty share is harvested, whichever comes first.
- Non-treaty PS and GN fisheries will open on Thursday October 11, Friday October 12, Sunday October 14, and Monday October 15.
- Non-treaty purse seine and gillnet fisheries will be evaluated relative to the thresholds below based on non-treaty chum catch reported on the in-season co-manager conference call scheduled for Tuesday, October 16, 2018. Non-treaty fisheries will re-open on the prescribed dates and remain open continuously until the end of the season or until the non-treaty share is harvested, whichever comes first.

Table 2. 2018 Treaty and Non-Treaty chum fishing schedule for Area 7 & 7A

	10-Oct WED	11-Oct THU	12-Oct FRI	13-Oct SAT	14-Oct SUN	15-Oct MON	16-Oct TUE	17-Oct WED
Treaty and Non-Treaty Reef Net								
Treaty Gillnet and Purse Seine								
Non-Treaty Gillnet and Purse Seine								
Co-manager Conference Call								

- If total non-treaty catch is:
  - <29,000; non-treaty fishery will reopen Thursday, October 18.
  - >29,000; non-treaty fishery will reopen Friday, October 19.
- The co-managers will exchange data on by-catch throughout the season and take appropriate management actions should levels of by-catch greatly exceed expectations.
- The co-managers will meet by conference call and adjust schedules if needed in response to in-season notification by Canada's Department of Fisheries and Oceans that chum salmon returns are below the critical thresholds identified in Chapter 6, paragraph 10 of the Pacific Salmon Treaty.

1.3 Pacific Salmon Commission Chum Technical Committee 2018 Juan de Fuca Strait Chum Salmon Sampling Program

The Pacific Salmon Commission Southern Panel has again identified the establishment of a chum sampling program for the Strait of Juan de Fuca as a top research priority for proposals through the Southern Endowment Fund for 2018. The Chum Technical Committee submitted a proposal to continue the Strait of Juan de Fuca GSI sampling program which was begun in 2016, and this proposal was once again selected for funding. The sampling program will follow the same methodology as in 2016 and 2017. Therefore, the analysis of potential impacts to ESA-listed Puget Sound steelhead and Puget Sound Chinook, described below, remains unchanged from previous years.

Sampling Program Objectives:

For stock reconstruction for Southern BC and Washington Chum salmon, one significant data gap is the diversion of chum populations through the Southern Route via Juan de Fuca Strait. This project will work towards addressing that data gap by sampling this migration route in both US and Canadian waters to determine:

- Spatial & temporal stock composition of chum salmon migrating through the Southern Diversion route,
- Provide sampling platform for stock identification, migration rate studies etc.
- Develop time series of Catch per Unit effort data to pair with the Johnstone Strait Test Fishery to determine the diversion rates of various chum populations.

This multi-year program is broken into 2 phases. Phase 1 (2016 and 2017) assessed the feasibility of a structured sampling program in Juan de Fuca Strait (Canadian Area 20 and US Area 5). This research involves chartering a Purse Seine vessel to fish 4 days/week starting the 1st week of October for 5 weeks (2 vessel-days on each side of the international boundary). Catch per Unit Effort information is collected as well as biological samples for stock identification purposes. All fish are released except for the 400 samples/week (a total of 2,000 chum) that are collected during the program. Phase 2 (2018-2019), will include a tagging component to evaluate the migration rates of chum salmon via migration route, which is a key parameter in the reconstruction model.

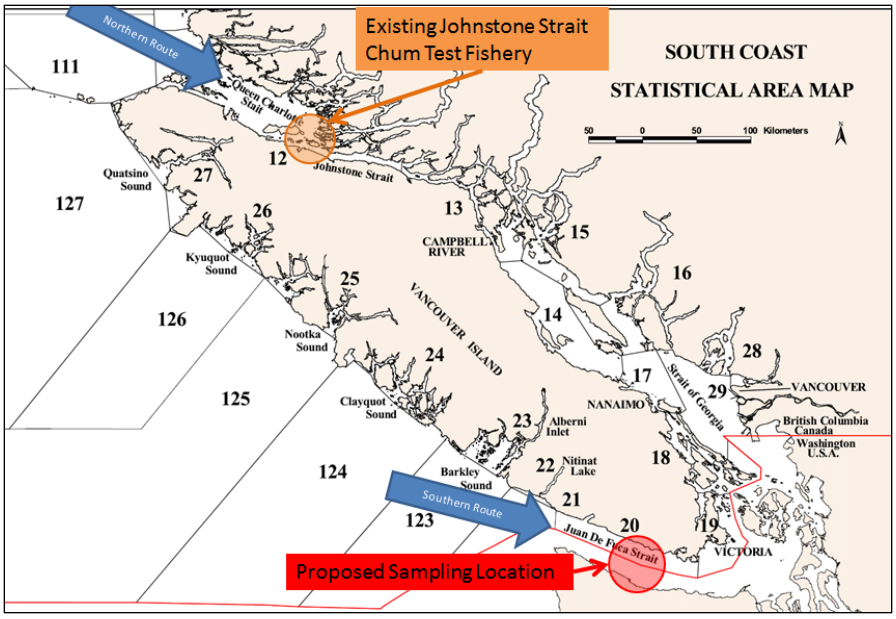


Figure 1. Map of Vancouver Island with migration pathways and proposed sampling location.

Sampling Program Methodology:

Gear: In order to reduce selectivity, a Purse Seine vessel will be chartered to conduct the sampling following a typical Test Fishery pattern (Fig 2). The vessel will fish using a standard WCVI Seine net (300 fathom 6 ½ Strips) that will be constructed for this program.

Timing: The sampling program will cover the main fall chum migration time period through the month of October. The vessel will fish a total of 4 days per week (2 days in Canadian waters and 2 days in U.S. waters) over a 5 week period starting the first week of October.

Location: The 2 days per week of fishing in U.S. waters will occur entire within Catch Area 5. The charter vessel will complete a minimum of 6 sets/day fishing along a North-South line perpendicular to the coast of Vancouver Island across to Washington State. Set locations will be established along that line based on past sockeye samplings conducted by the Pacific Salmon Commission. There will be flexibility in the set location especially during this pilot phase of the program to determine optimum set locations (i.e. the fish maybe predominantly shore-oriented so most of the effective fishing effort would be near-shore).

Monitoring: An observer trained by DFO will be onboard at all times during fishing operations. The observers' duties will include collection and recording of all catch data, such as date, time, set location, number of sets, and catch by set and species. Data collected will be recorded on paper set logs and entered into an electronic logbook for real-time data transmission using a satellite system. This satellite system will also provide the Vessel Monitoring System (VMS) for real time monitoring of vessel positioning to a predetermined frequency. Enumeration procedures:

- Once the bunt is dried up alongside or at the stern of the vessel fish will be sampled by dip-netting a portion of the catch out of the net.
- The remaining fish will be counted by species as they swim out of the bunt over the breast line.
- Lowering and raising the breast line controls the speed with which the fish swim out of the net.

- The observer will count all chum salmon while crew members will count any salmon and steelhead by-catch.
- All fish will be released except those being sampled.
- All catch data including biological samples will be entered and stored and accessible over the web through the Fishery Operating System (FOS).

Sampling: A total of 400 chum will be sampled for biological information in each week (200/ week on the Canadian side and 200/week on the U.S. side). Sampling will be done across sets attempting to sample proportionate to the CPUE. Information collected will be:

- Scale samples for age determination
- Length samples (Post Orbital Fork)
- Sex composition
- Tissue samples for DNA extraction DNA tissue samples will be collected as adipose tissue and mounted on Whatman paper. Alternatively, samples can be collected and preserved in 95% ethanol.

If required, other species may also be sampled following similar protocols.

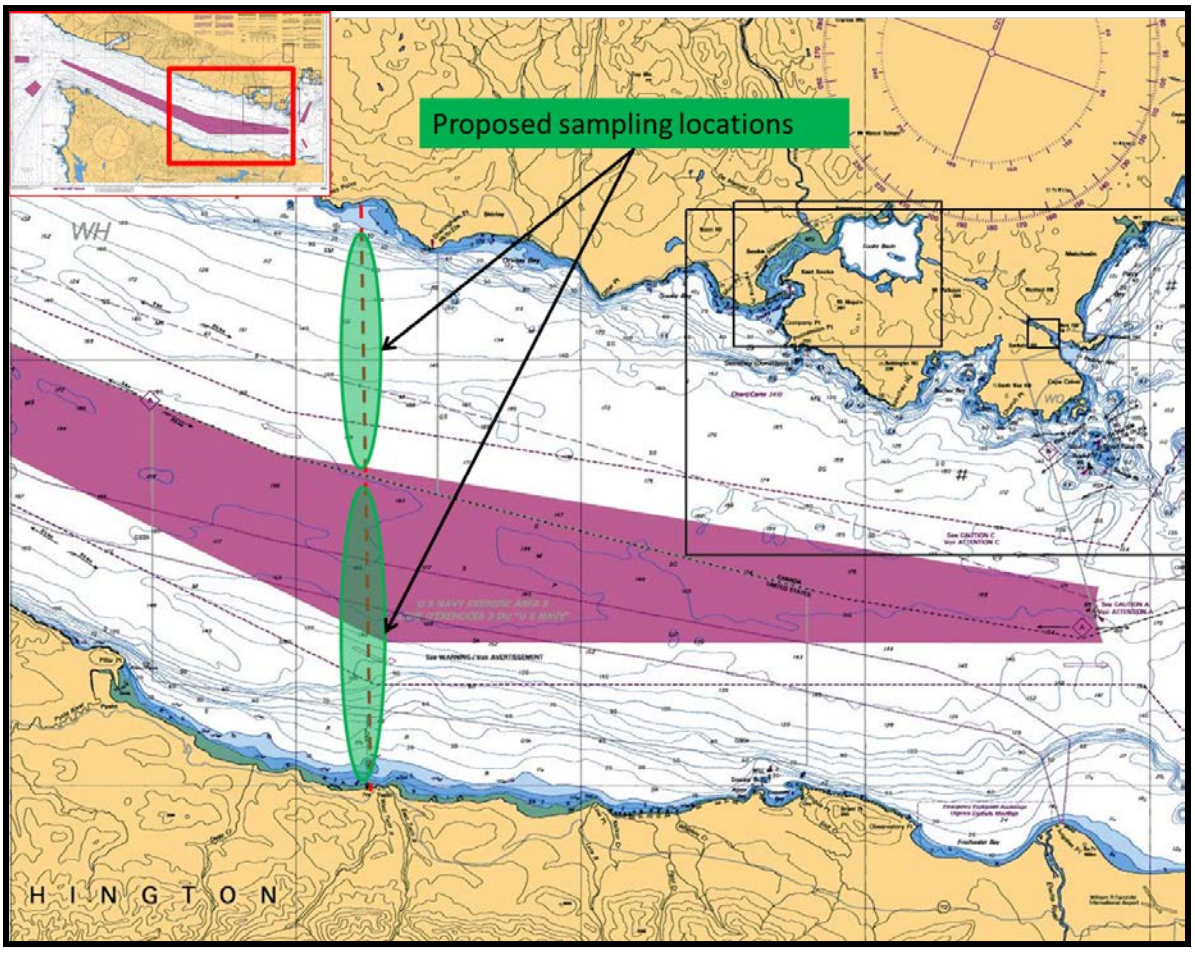


Figure 2. Proposed initial sampling locations for program initiation following similar pattern to past sampling programs for sockeye by the Pacific Salmon Commission. Fishing in US waters will be limited to Catch Area 5.

Mitigation Measures to Minimize the Potential for Take:

Sampled chum will be dip-netted out the seine. The remainder of the fish in the seine (including any potential listed fish) will not be brought aboard the vessel, but rather released directly from the seine while still in the water, by submerging the cork line.

Take Estimation and Reporting:

Table 1 shows the number of observed encounters with potentially ESA-listed salmonids during years 2016 and 2017 of this research, which were below the anticipated take analysis presented here. The same fishing protocols will be used during the 2018 operations. Therefore, the following take estimates (developed in 2016) represent very conservative impact expectations for the 2018 research.

Table 1. Observed encounters of potentially ESA-listed salmonids in the Juan de Fuca Strait Chum Salmon Sampling Program during 2016 and 2017.

	Observed Ecounters (all released)		
	Adult Chinook	Immature Chinook	Steelhead
2016	0	21	1
2017	3	27	0

Puget Sound Steelhead: Based on fish tickets from 5 recent years (2011-2015), October and November steelhead catches in all commercial fisheries within Areas 4B and 5 ranged from zero (in 2013, 2014 & 2015), to one (in the 2012 troll fishery), to three (in 2011 gillnet fisheries). Therefore, we would conservatively expect our research activities to encounter less than 10 adult steelhead in total, with all being released alive with minimal actual handling. Since all steelhead will be released without being brought aboard the vessel, a 20% release mortality will be assumed. This mortality rate is higher than the 10% rate assumed for recreational hook & line fisheries, but lower than the release mortality rates assumed for adult Chinook (33%) or Coho (26%) assumed for purse seine fisheries where the fish are brought aboard the vessel prior to being released. A 20% assumed release mortality rate suggests that this sampling program could potentially result in 2 dead steelhead of unknown production origin and listing status during 2018 operations. Steelhead that are potentially encountered in Area 5 may not be part of the listed Puget Sound ESU.

Puget Sound Chinook: Typically, only immature "blackmouth" Chinook should be present in Area 5 during October and November. Based on WDFW estimates of Chinook encounters in October mark-selective fisheries in Area 5, we anticipate encountering less than 200 immature Chinook in the course of this research during 2018. Should any immature Chinook become entrained in the seine, smaller ones would likely escape through the mesh. Any entrained Chinook will be released over the cork line along with the

excess chum. As with steelhead, no Chinook are expected to be brought aboard the vessel. Therefore, a lower release mortality rate than the rate that is usually assumed for immature Chinook that are hauled aboard purse seiners (45%) is appropriate. Assuming a release mortality rate of 30% suggests that this research might result in a total of 60 incidental mortalities of immature Chinook in Area 5 during October and early November. Based on FRAM modeling of those impacts, total adult equivalent (AEQ) mortalities expected in this research sampling program during 2018, by stock, are shown in Table 2.

Table 2. Total Adult Equivalent (AEQ) mortalities of all Chinook stocks estimated to occur incidentally in the Juan de Fuca Strait Chum Salmon Sampling Program during 2018.

Stock	AEQ mortalities
UnMarked Nooksack/Samish Fall	1
Marked Nooksack/Samish Fall	19
Marked Mid PS Fall Fing	1
UnMarked South Puget Sound Fall Fing	2
Marked South Puget Sound Fall Fing	26
UnMarked Fraser River Late	3
UnMarked Lower Columbia Naturals	1

The potential net increases in total 2018 exploitation rates of Puget Sound Chinook stocks managed under the Co-manager Comprehensive Management Plan for Puget Sound Chinook are shown in Table 3.

Table 3. FRAM-derived estimates of increases in total 2018 Exploitation Rates (over those occurring in fisheries) of Puget Sound Chinook stocks anticipated to result from incidental release mortalities in the Juan de Fuca Strait Chum Salmon Sampling Program, rounded to the nearest one-hundredth of one percent.

Stock	Increase in Total ER
Spring/Early:	
Nooksack (n) - Total	0.00%
Skagit (n) - Total	0.01%
White	0.00%
Dungeness	0.00%
Summer/Fall:	
Skagit - Total	0.01%
Stillaguamish (n) - Total	0.00%
Snohomish (n) - Total	0.00%
Lake Wa. (Cedar R.)	0.01%
Green	0.01%
Puyallup	0.01%
Nisqually	0.04%
Western Strait-Hoko	0.00%
Elwha	0.00%
Mid-Hood Canal tribs. (n)	0.00%
Skokomish	0.08%

These low exploitation rates, when combined with the other research fishing activities consulted under the 2018 Chinook Harvest Management Plan (to our knowledge), still fall well below the level reserved for this type of research activity, as described in the 2010 Co-manager Comprehensive Management Plan for Puget Sound Chinook:

> *Mortality associated with certain monitoring and research activities (e.g. test fisheries and update fisheries), that primarily inform in-season harvest management decisions, will be accounted with other fishery related mortality under the ER ceilings defined for each MU.* ***Mortality associated with other research and monitoring, which have broader applicability to stock assessment, will not be accounted under the ER ceilings, Mortality in this latter category will not exceed a level equivalent to 1% of the estimated annual abundance (i.e. 1% ER), for any MU.***

1.4 2018 Area 9 (NHC sub-area) Treaty Commercial Chum Fishing Plan

Pre-Season Planning:

The 2018-19 Co-Managers' List of Agreed Fisheries (LOAF) states in Part 2, Section 2.7 (Admiralty Inlet Area) that "The Area 9 fall chum fishery north of the HC bridge will open wk 43 (wb 10/21) through wk 45 (wb 11/4); fishing pattern: GN 3,4,3; and PS 4,3,3. Open area restricted to that portion of North Hood Canal bounded to the south by the Hood Canal Bridge and bounded to the north by a line from White Rock due east to landfall. Tribes with adjudicated U&A in the open section of Area 9 may choose to participate. Coho and Chinook model inputs have been modeled during NOF that anticipate the participation levels of 2017. If the fishery reaches a catch threshold of 30,000 chum salmon before 11/4, there will be a conference call among the participating Tribes to discuss any needed fishery management actions. Participating tribes agree to sample tissue for DNA analysis of their tribe's chum catch and wild coho bycatch to the extent practicable."

During the North of Falcon salmon planning process, expected Coho and Chinook impacts for all five tribes with treaty fishing rights in the proposed fishing zone were modeled in pre-season FRAM model runs.

Objective:

The purpose of this management plan is to provide a management framework for this Area 9 treaty commercial chum fishery to improve coordination, compliance, safety, and management of the fishery.

Eligible Tribes:

Jamestown S'Klallam Tribe, Lower Elwha Klallam Tribe, Port Gamble S'Klallam Tribe, Skokomish Tribe, and Suquamish Tribe.

Fishery Area:

That portion of Area 9 north of the Hood Canal Bridge and south of a line true east from White Rock to landfall on the Kitsap Peninsula.

Fishery Period: Management weeks 43 through 45

Proposed Weekly Fishery Schedule:

Week 43 (GN 3, PS 4)
Week 44: (GN 4, PS 3)
Week 45: (GN 3, PS 3)

Gillnets Open –

Week 43: 8:00 am Sunday through 8:00 am Wednesday,
Week 44: 8:00 am Sunday through 8:00 am Thursday,
Week 45: 8:00 am Sunday through 8:00 am Wednesday.

Purse Seines Open – Daylight Hours Only.

Week 43: 8:00 am Wednesday through 8:00 pm Saturday,
Week 44: 8:00 am Thursday through 8:00 pm Saturday,
Week 45: 8:00 am Thursday through 8:00 pm Saturday.

Expected Total Season **Boat-Days**:

Total Season Gillnet Effort* = 127
Total Season Purse Seine Effort* = 11
* As modeled in the 2018 preseason FRAM model runs.

By-catch inputs for Coho and Chinook FRAM modeling:
Potential Coho fishery mortalities were estimated assuming one Coho encounter per boat-day. Gillnet retention of 127 was expanded for drop-off mortality (2%), purse seine retention of 11 Coho was added, and a 10% buffer was applied. Pre-season modeled input totaled 154 Coho. Chinook have not been encountered in this fishery, thus model input remains at 1 as a placeholder.

Other Restrictions:
Purse seine release of Chinook;
Purse seine opening shall be scheduled to occur on the same days and times for all participating Tribes;
Gillnet openings shall be scheduled to occur on the same days and times for all participating Tribes;
All catch shall be recorded on treaty commercial fish tickets.

Central/South Sound Tribal Agreements:
Estimated interceptions of South/Central Sound origin Chum shall be considered a pre-terminal interception and will be deduct from the South/Central Sound computed Treaty share of harvestable chum entering Area 10 using weekly stock composition (Table 1).

In-Season Coordination, Catch Monitoring, and Conference Calls:
A conference call will be held at (1:00 pm) on (Monday) of each fishing week to report and review the effort and catches to date, as well as anticipated effort and catches, to help ensure a successful fishery for all parties. If the fishery reaches a catch threshold of 30,000 chum salmon before 11/4, there will be a conference call among the participating Tribes to discuss any needed fishery management actions. Each participating tribe shall monitor the catch and bycatch of its fishers and be prepared to report these numbers on that week's in-season conference call.

Broodstock collection at the Little Boston Hatchery (Port Gamble Bay) shall be monitored to ensure that Fall chum broodstock collection goals will be met. If the hatchery is not meeting its broodstock collection needs, then harvest management actions will be taken to ensure a sufficient passage of chum salmon to the hatchery.

Catch Sampling:
The participating tribes plan to continue collecting Chum tissue samples for weekly stock composition data. A sampling design to distribute the collection of 200 weekly samples over the geographic area being fished will be coordinated among the participating tribes.

Enforcement:
Each participating tribe shall maintain an enforcement presence to ensure that its fishers comply with this management plan and their individual tribal fishery regulations.

Table 1. Portion of weekly harvest to attribute to Puget Sound regions of origin for the purpose of fulfilling obligations under the Inter-Tribal Allocation Agreement for South/Central Sound stocks; the total weekly harvest will be determined by in-season landings. These values were derived from the GSI data analyzed to date resulting in average regional contribution rate by week. Under the Inter-Tribal Allocation Agreement for South/Central Sound stocks, Area 9 is a pre-terminal fishery and treaty interceptions of South/Central sound origin fish will be deducted from the treaty share of harvestable Chum entering Area 10.

Region of Origin	**Weekly Portion of Total Catch**		
Data source (GSI 2011, 2012 ,2013, 2014, 2015)	**WK 43**	**WK 44**	**WK 45**
Total catch estimate	TBD	TBD	TBD
Hood Canal (average %/wk	0.825	0.839	0.927
South Sound (average %/wk)	0.166	0.132	0.062
North Sound (average %/wk)	0.000	0.017	0.004
PS Lates (average %/wk)	0.001	0.001	0.004
Other (non-local) (average %/wk**)**	0.007	0.012	0.004

1.5 South Sound chum salmon in-season update model

The Northwest Indian Fisheries Commission has conducted a chum test fishery during statistical week 41-49 from 1981-2017 (Table 1). This test fishery occurs near the area 9:10 line at Apple Cove Point using a purse seine boat that participates in the non-treaty commercial fishery.

Table 1. Available sample sizes from the 1981-2017 Apple Cove Point test fishery by week on the diagonal and sample sizes for groups of weeks on the off-diagonal. For example, 11 in week 41-46 means 11 years of data exist where these six weeks were all sampled.

Week	41	42	43	44	45	46	47	48	49
41	18	17	17	17	17	11	0	0	0
42[1]		33	32	32	31	22	10	8	0
43			36	36	35	27	11	9	1
44				37	36	26	11	9	1
45[2]					36	26	11	9	1
46						27	12	9	1
47							12	9	1
48[3]								9	1
49									1

[1] Two sampling events during week 42 in 1983 were combined.

[2] The first of two sampling events during week 45 in 1985 and 1990 were moved to week 44.

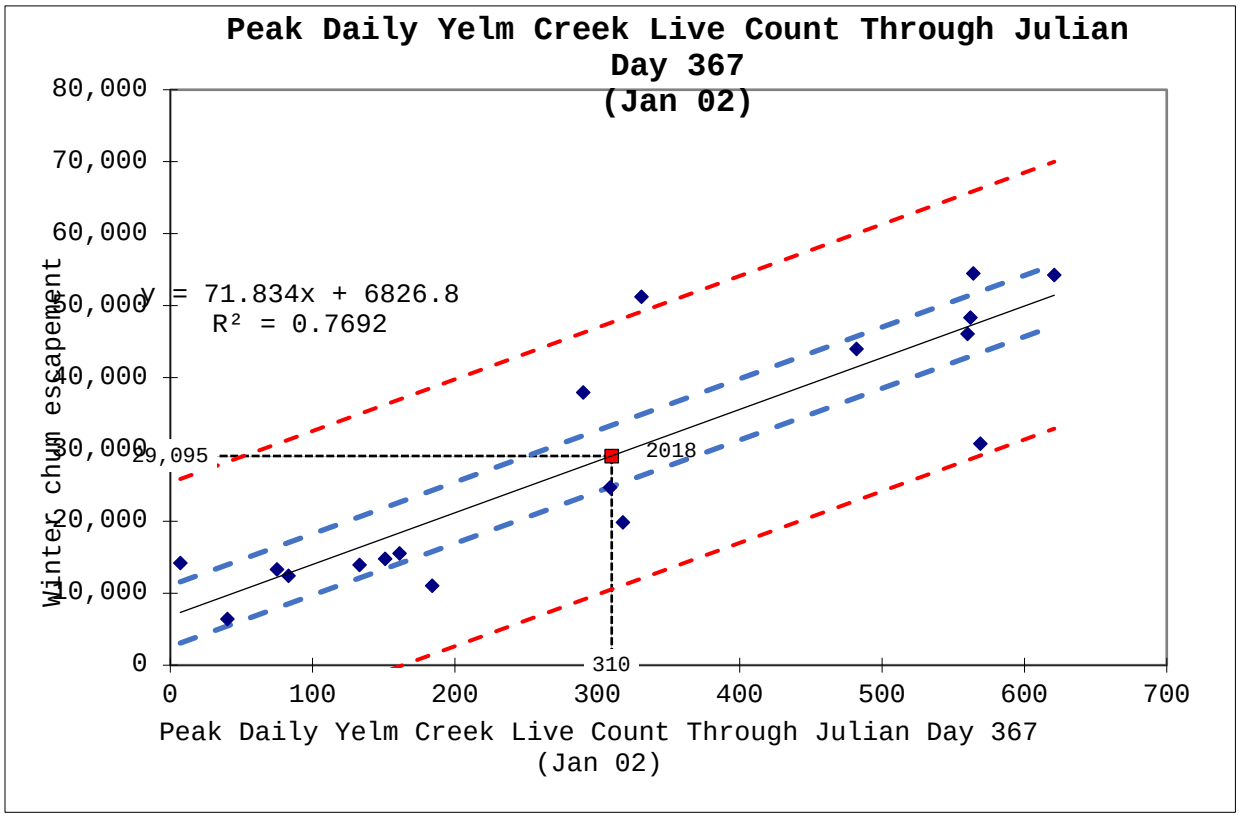
[3] The first of two sampling events during week 48 in 1988 was moved to week 47.

This in-season update methodology models South Sound terminal run sizes as a function of test fishery catches. Initial modeling examined multiple metrics to predict escapement. These metrics included geometric mean of all hauls in the weekly test fishery. Sequential multiple regression models were fit weekly beginning with the week 41 and 42 test fishery catches. These models were fit in R using a general linear model with a Poisson distribution. The model with the lowest Akaike's Information Criteria value was used to project the in-season run size.

These models improve as each week of data is added. This modeling structure can accommodate non-treaty gill net and purse seine catch per unit to further refine run size projections. Non-treaty net catches are most consistently available from weeks 43-46.

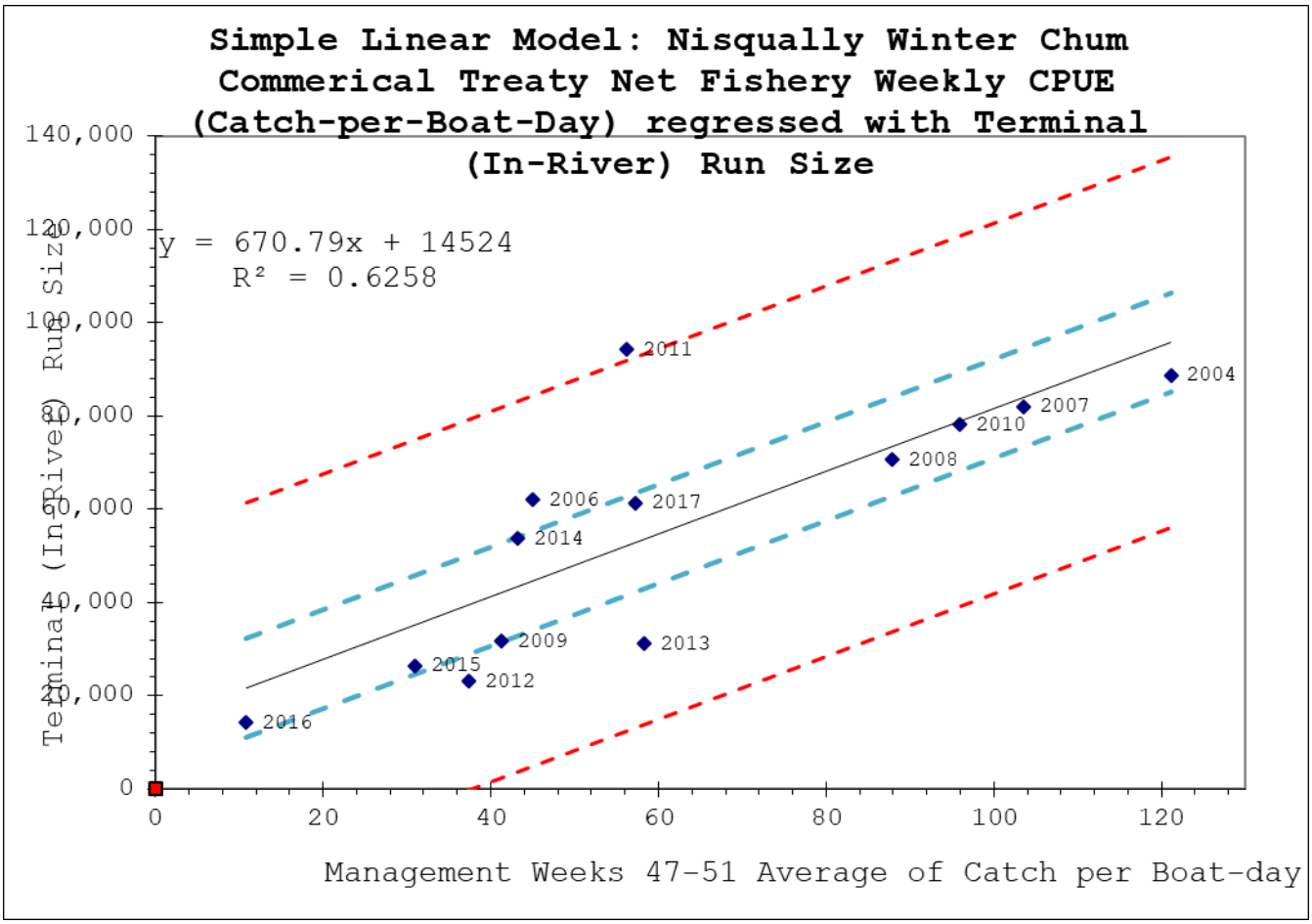
1.6 Nisqually Winter Chum Escapement vs. Yelm Creek Live Count Regression Model

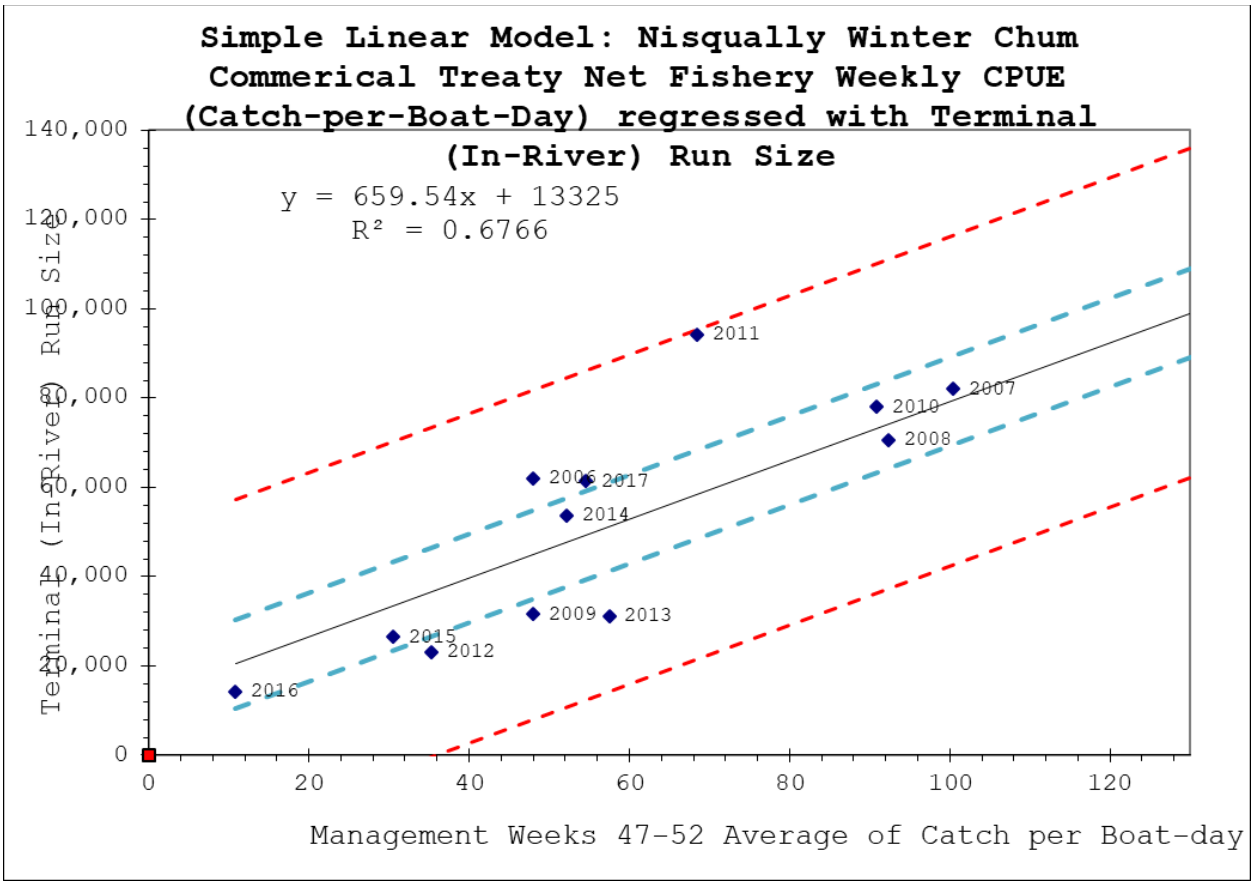
The Nisqually Indian Tribe and NWIFC staff have built an in-season update model that predicts escapement using historical and current live counts in Yelm Creek, a small tributary at River Mile 13.5 in the Nisqually River. Live counts have been consistently surveyed weekly for over 40 years in Yelm Creek and recent years since 1990 have been regressed with total escapement for an escapement prediction tool. We plan to use this tool to predict an escapement with the management intent to escape 2,000 fish over the escapement goal of 27,000.



Simple Linear Model: Nisqually Winter Chum Commercial Treaty Net Fishery Weekly CPUE (Catch-per-Boat-Day) regressed with Terminal (In-River) Run Size

The Nisqually Boat ISU is a CPUE model using catch per boat day fished during the recent 13 years (void 2005) regressed with the total runsize for a runsize prediction tool. We plan to use this tool to inform in season management prior to week 53 absent 310 live fish counted in Yelm Creek. Week 51 and week 52 graphed below.


Simple Linear Model: Nisqually Winter Chum Commerical Treaty Net Fishery Weekly CPUE (Catch-per-Boat-Day) regressed with Terminal (In-River) Run Size
y = 670.79x + 14524
R² = 0.6258
Terminal (In-River) Run Size
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
0
20
40
60
80
100
120
Management Weeks 47-51 Average of Catch per Boat-day
2011
2004
2007
2010
2008
2006
2017
2014
2009
2013
2015
2012
2016


Simple Linear Model: Nisqually Winter Chum Commerical Treaty Net Fishery Weekly CPUE (Catch-per-Boat-Day) regressed with Terminal (In-River) Run Size
y = 659.54x + 13325
R² = 0.6766
Terminal (In-River) Run Size
Management Weeks 47-52 Average of Catch per Boat-day
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
0
20
40
60
80
100
120
2011
2007
2010
2008
2006
2017
2014
2009
2013
2015
2012
2016

1.7 Green River Management Objectives

For 2018, WDFW, the Muckleshoot Tribe, and Suquamish Tribe will manage the unmarked returns to the Green River for 1,200 natural origin adults on the spawning grounds. This management action will occur through a combination of fisheries actions modeled in FRAM/TAMM[i] and transportation of unmarked adult Chinook (excluding double index tagged fish) from hatchery facilities within the Green River basin to the spawning grounds.

Terminal fisheries directed at the Green River stock are managed based upon an in-season update (ISU) with a test fishery during statistical weeks 29-31 in Elliott Bay that updates the terminal run-size (marked and unmarked adult returns). Terminal fisheries are contingent on confirmation of the pre-season forecast. Initial results from this ISU will be available during statistical week 31 (the 1st week of August). The co-managers will meet with NOAA Fisheries by phone to discuss the initial results soon after the test fishery. NOAA Fisheries will be informed of any subsequent management actions taken by the state and tribal co-managers that deviate from the pre-season fishery structure in the 2018 List of Agreed to Fisheries.

The 2018 FRAM/TAMM model run (Chin3218) projects that 1,424 natural origin recruits (NORs) will escape fisheries and return to the Green River. Of these NORs, 1,042 will spawn naturally in the Green River with the remaining 382 trapped at Soos Creek Hatchery weir between week 31-44 (August – late October) with a peak between week 36-42 (early September – mid October). If needed, up to 100% of these NORs will be transferred to the upper spawning grounds to achieve the spawning escapement goal of 1,200 NORs. Any remaining NORs will be integrated into the Soos Creek brood stock. The risk of this action occurring should be minimum, as over the past two years the NOR forecast has been 58% larger post-season than the pre-season forecast.

_____

[1] This is based on Chin3218

1.8 Monitoring pre-spawn mortality of Chinook salmon in the Green-Duwamish River: 2018

The Green-Duwamish River (hereafter Green) basin is one of the most highly urbanized basins in western Washington. Water temperatures in the Green River consistently exceed 21 °C during the fall Chinook freshwater entry period and have exhibited high levels of pre-spawn mortality. Severely degraded habitat and high levels of pre-spawn mortality are among the hypothesized reasons for declines in productivity of this population.

The Muckleshoot Indian Tribe has collected four years of telemetry and thermal data on Chinook in the Green River. The objectives of this research are to document the migratory characteristics of Chinook in the Green River with respect to freshwater entry timing and thermal exposure as well as evaluate pre-spawn mortality both on and off the spawning grounds as related to migratory characteristics.

The Muckleshoot Indian Tribe would like to cover the 2018 tagging for this research under the 1% ER research allowance allowed under the 2010 Puget Sound Harvest Management Plan. This plan states that mortality associated with other research and monitoring, which have broader applicability to stock assessment, will not be accounted under the ER ceilings, mortality in this latter category will not exceed a level equivalent to 1% of the estimated annual abundance (i.e. 1% ER), for any management unit.

Chinook are captured in the Duwamish River turning basin (river mile 5.3) with a beach seine in approximate proportion to freshwater entry timing. To estimate mortality for the 2018 research needs, average and maximum encounters and mortalities were calculated based on 2014-2017 observations.

The average encounter rate is 2.2% with a maximum encounter rate of 3.3% in 2014. The projected terminal run size is 23,230 adult Chinook which means that 501-770 adult Chinook will be encountered during 2018. It is important to note that terminal run sizes were much smaller during 2014 and 2015, which resulted in more required effort to tag at least 250 adult Chinook, than when terminal run sizes are larger and a lower effort is required.

The average mortality rate of encountered Chinook is 1.9% with a maximum mortality rate of 2.9% in 2016. Under average conditions, we expect to encounter 501 adult Chinook which will result in 10 total adult mortalities. However, under the worst case scenario, we could handle as many as 770 adult Chinook and experience a 2.9% mortality rate, resulting in 23 total adult mortalities.

In 2018, natural origin adult Chinook are expected to make up 9.4% of the terminal abundance, resulting in 1-3 adult natural origin adult Chinook mortalities. Under the worst case scenario (3 NOR mortalities), total natural origin mortalities make up only 0.14% terminal harvest rate. The corresponding ER would be lower after accounting for mortalities in pre-terminal fisheries. This research fits well under the 1% ER allowance for this type of stock assessment work which has broader application to the management and conservation of the Green River stock.

1.9 Nisqually Selective Gear Testing 2018

The Nisqually Tribe's natural resource staff will be fishing a traditional picket trap built and assisted by Tribal Youth. The intent is to understand the effectiveness of fishing a traditional picket trap for harvesting hatchery Chinook. All encountered Chinook will be marked sampled and hatchery fish will be removed. The unmarked untagged (UMUT) Chinook will be released upstream. The location of the weir will be in the mainstem Nisqually just above Clear Creek hatchery tributary. The fishery is modeled at 5% mortality on released UMUT adult Chinook. It will be fished by Nisqually Natural Resources staff from late July through October or until 150 UMUT adult Chinook (~0.008 ER, 2% UMUT ER represents 327 UMUT encounters) are encountered. When not fishing, the trap portion of the weir will be removed allowing for all fish to migrate freely. The trap will be checked every 2 hours or less to reduce crowding and not delay migration. All other species of fish, except adipose fin clipped steelhead will be released.

1.10 2018 Coho ISU Blake's and Spudhouse Test Fishery Models - *Pete Kairis, Swinomish Tribe, 4/9/2018*

A wide variety of ISU models based on the Blake's and Spudhouse test fisheries were assessed using the 1986-2017 test fishery data. For each of the test fisheries, I examined models based on catch/hour and catch/set for weeks 38 through 43 individually, as well as models based on cumulative totals over several ranges of management weeks. For the cumulative models, I only included years for which a test fishery was conducted each week in the range. For example, if a test fishery occurred in week 39 but not week 40 of a certain year, then that year would be excluded when building a week 39-40 cumulative model. In an attempt to improve the model consistency, I also eliminated individual tests that had fewer than 6 hours of net-in-the-water, as these were abnormally short fisheries usually caused by gear failure or other problems.

Two Blake's coho tests were conducted during week 40 of both 2002 and 2005. For both years, the first of these tests was a test that was cancelled early because of an equipment failure, and the second test was the same test rescheduled. I removed the first (aborted) set from the data set. In 1986, two coho tests were conducted each week from week 38 through 43. Looking at the set log, these appear to be two complete tests with the same gear and location, so I combined them when calculating catch/hour for those weeks.

The Blake's test catch/hour for weeks 39 and 40 in 2010 appeared to be outliers relative to the rest of the data set, so these weeks were removed from the analysis (Figures 1 and 2). The week 39 Blake's test fishery in 2009 was also removed as an apparent outlier in terms of catch/hour. However, since the week 40 Blake's test fishery in 2009 was cut short due to equipment problems and lasted less than 6 hours, the 2009 test fisheries wouldn't have been included in the cumulative models anyway. Similarly, if the week 40 point for 2010 was removed (the more pronounced outlier) but not week 39 of the same year, that year would not be included in the cumulative models. The decision to classify these points as outliers is subjective and open for discussion.

For each model analyzed, I calculated basic performance statistics based on the residuals. I also ran a leave-one-out cross-validation. For each year of each model, I re-fit the same catch/hour or catch/set vs. TRS model without that year's data point, and used it to predict the TRS that year. Performance criteria (MSE, MAPE, MPE) were then calculated across all years using the cross-validation predicted values. This process results in a better assessment of model performance than simply analyzing the regression residuals. Years that were dropped from the dataset (for example, if they had fewer than 6 hours net-in-the-water were removed as outliers) were not included in the performance analysis for that particular model. The final set of models analyzed, including the regression and performance statistics for each, is provided in Table 1. Because catch/hour models performed consistently better than catch/set models for the Blake's test fishery, and the catch/set models performed consistently better than the catch/hour models for the Spudhouse test fishery, the Blake's catch/set and Spudhouse catch/hour models were not included in the table.

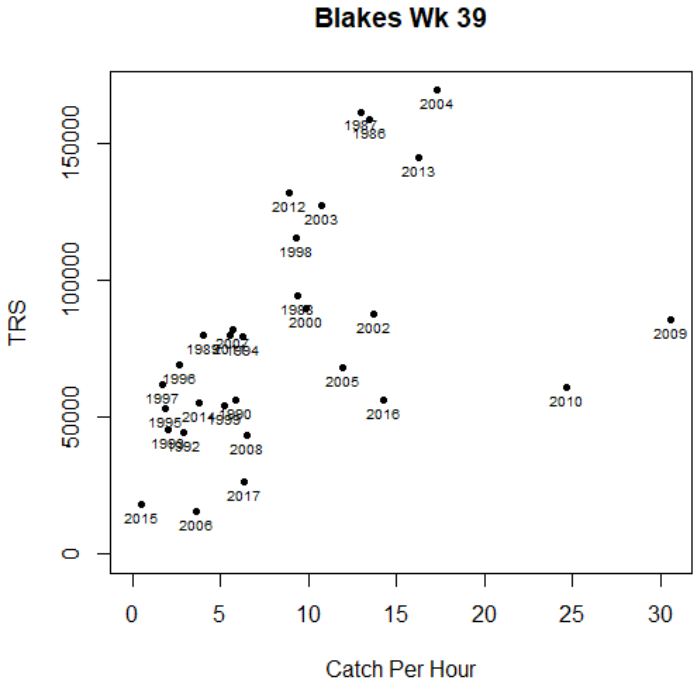


Figure 1. Blake's week 39 test fishery catch/hour. The 2009 and 2010 data points were removed from the analysis as outliers.

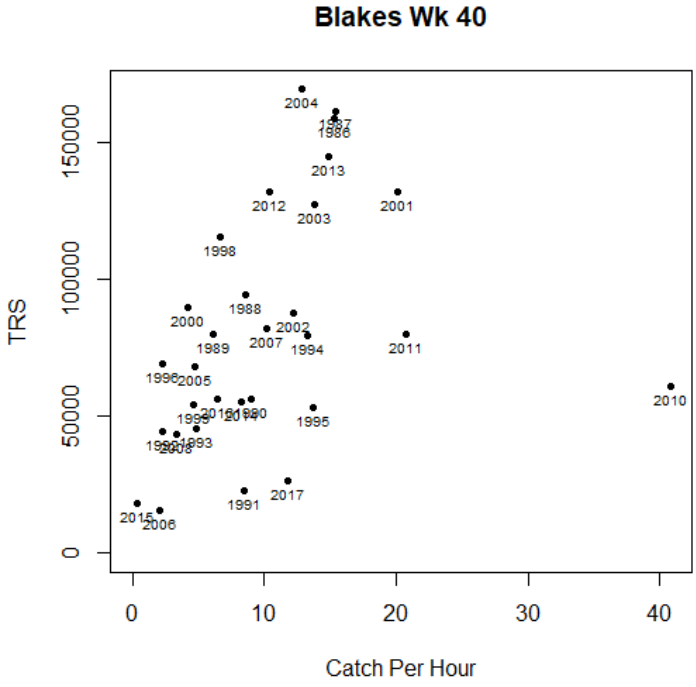


Figure 2. Blake's week 40 test fishery catch/hour. The 2010 data point was removed from the analysis as an outlier.

Table 1. The final set of models analyzed included those based on catch per hour (C/H) and catch per set (C/S). The range of years used to build the models was 1986-2017, with three outliers removed as described in the text. Weeks with a total time of net-in-the-water less than 6 hours were excluded. Blake's catch/set and Spudhouse catch/hour models were excluded from this table.

ISU Week	Description	r^2	P	Df	N	Slope	Intercept	RMSE	MPE	MAPE	Cross Validation RMSE	Cross Validation MPE	Cross Validation MAPE
Week 38	Blakes Wk 38 C/H	0.41	0.0004	24	26	6,496.88	44,699.68	30,317	-20.21%	42.48%	33,534	-22.48%	46.68%
	Spudhouse Wk 38 C/S	0.09	0.1685	20	22	5,166.50	52,894.73	32,911	-34.90%	58.08%	35,660	-38.42%	63.16%
Week 39	Blakes Wks 38-39 C/H	0.58	0.0000	21	23	7,967.77	29,600.88	24,981	-11.56%	28.69%	27,216	-12.88%	31.58%
	Spudhouse Wks 38-39 C/H	0.26	0.0365	15	17	7,790.66	33,453.19	24,621	-27.10%	49.40%	27,881	-30.89%	55.54%
	Blakes Wk 39 C/H	0.56	0.0000	26	28	6,757.57	29,637.06	27,888	-20.11%	41.60%	30,255	-21.54%	44.73%
	Spudhouse Wk 39 C/S	0.36	0.0040	19	21	7,460.50	35,278.95	24,182	-24.01%	45.18%	27,334	-26.60%	50.06%
Week 40	Blakes Wks 38-40 C/H	0.68	0.0000	21	23	8,870.38	16,849.05	21,680	-7.02%	24.64%	23,248	-7.33%	26.58%
	Spudhouse Wks 38-40 C/S	0.30	0.0342	13	15	8,424.81	27,978.20	25,021	-26.98%	50.61%	29,527	-31.51%	58.43%
	Blakes Wks 39-40 C/H	0.63	0.0000	25	27	8,180.21	13,714.36	25,981	-15.10%	35.60%	27,916	-15.78%	38.15%
	Spudhouse Wks 39-40 C/S	0.41	0.0045	16	18	7,911.86	29,678.20	24,938	-24.32%	47.49%	29,972	-28.36%	54.39%
	Blakes Wk 40 C/H	0.38	0.0004	27	29	5,055.55	34,805.00	34,459	-28.95%	52.02%	37,221	-31.36%	55.93%
	Spudhouse Wk 40 C/S	0.11	0.1094	22	24	3,523.62	55,407.28	32,072	-32.53%	55.86%	35,154	-35.59%	60.89%
Week 41	Blakes Wks 38-41 C/H	0.76	0.0000	18	20	9,260.54	8,591.94	18,893	-3.33%	20.21%	20,515	-2.98%	22.23%
	Spudhouse Wks 38-41 C/S	0.53	0.0049	11	13	13,230.66	11,109.17	22,034	-19.99%	42.53%	25,735	-22.91%	50.00%
	Blakes Wks 39-41 C/H	0.65	0.0000	21	23	8,006.24	11,517.76	23,634	-12.65%	31.75%	25,911	-13.29%	34.69%
	Spudhouse Wks 39-41 C/S	0.54	0.0017	13	15	11,067.14	16,095.88	20,763	-17.78%	38.84%	23,718	-20.82%	45.06%
	Blakes Wk 41 C/H	0.32	0.0026	24	26	3,723.28	45,795.03	33,549	-29.63%	51.69%	38,096	-33.21%	56.85%
	Spudhouse Wk 41 C/S	0.05	0.3299	18	20	2,102.69	61,811.42	33,390	-38.42%	60.57%	36,580	-42.83%	66.68%
Week 42	Blakes Wks 38-42 C/H	0.86	0.0000	15	17	10,270.83	5,917.15	15,207	-1.44%	17.37%	17,017	-0.84%	19.81%
	Spudhouse Wks 38-42 C/S	0.62	0.0025	10	12	11,877.96	13,493.40	15,846	-17.15%	38.20%	18,816	-19.73%	45.48%
	Blakes Wks 39-42 C/H	0.83	0.0000	17	19	10,239.32	-335.73	17,790	-6.23%	28.87%	19,597	-5.85%	32.50%
	Spudhouse Wks 39-42 C/S	0.64	0.0010	11	13	10,308.75	17,140.74	15,668	-16.13%	35.32%	18,066	-18.95%	41.48%
	Blakes Wks 40-42 C/H	0.75	0.0000	19	21	9,381.92	2,842.34	22,157	-11.52%	34.51%	24,001	-11.80%	37.94%
	Spudhouse Wks 40-42 C/S	0.29	0.0306	14	16	8,718.53	33,260.46	29,231	-29.13%	49.14%	32,227	-34.57%	56.33%
	Blakes Wk 42 C/H	0.44	0.0002	24	26	5,636.44	42,205.88	34,074	-29.84%	50.55%	40,403	-33.57%	55.61%
	Spudhouse Wk 42 C/S	0.65	0.0000	17	19	8,634.90	36,607.63	20,841	-21.67%	39.83%	23,318	-24.17%	44.02%
Week 43	Blakes Wks 38-43 C/H	0.85	0.0000	13	15	10,797.41	5,138.51	16,660	-1.40%	15.51%	18,591	-0.68%	18.16%
	Spudhouse Wks 38-43 C/S	0.82	0.0003	8	10	14,305.67	4,227.01	11,723	-11.95%	28.25%	14,853	-13.95%	35.04%
	Blakes Wks 39-43 C/H	0.79	0.0000	15	17	10,260.41	3,864.69	21,064	-8.61%	28.89%	24,346	-9.35%	33.24%
	Spudhouse Wks 39-43 C/S	0.80	0.0002	9	11	12,730.98	8,732.84	12,668	-12.25%	30.52%	15,735	-14.79%	37.21%
	Blakes Wks 40-43 C/H	0.70	0.0000	16	18	9,606.16	6,671.62	25,167	-14.47%	37.09%	28,802	-15.82%	41.81%
	Spudhouse Wks 40-43 C/S	0.40	0.0146	12	14	10,542.23	26,998.52	28,549	-27.94%	47.37%	32,404	-34.36%	55.73%
	Blakes Wk 43 C/H	0.10	0.1269	22	24	2,032.06	68,418.73	43,063	-47.15%	71.71%	69,255	-59.03%	85.03%
	Spudhouse Wk 43 C/S	0.26	0.0308	16	18	5,329.96	51,069.45	28,537	-34.11%	55.99%	32,868	-38.04%	62.00%

In general, the best model performing models when assessing a combination of r^2, P-value, and the cross-validation RMSE, MPE, and MPE were the Blake's test fishery models using cumulative totals from week 38 through the ISU week. Some Spudhouse models also performed moderately well, but they exhibited worse MPE and MAPE than the corresponding Blake's models and were based on fewer data points. As mentioned above, the catch/hour models performed better than the catch/set models for the Blakes fishery, but the catch/set models performed better than the catch/hour models for the Spudhouse fishery. The reason for this difference is unknown.

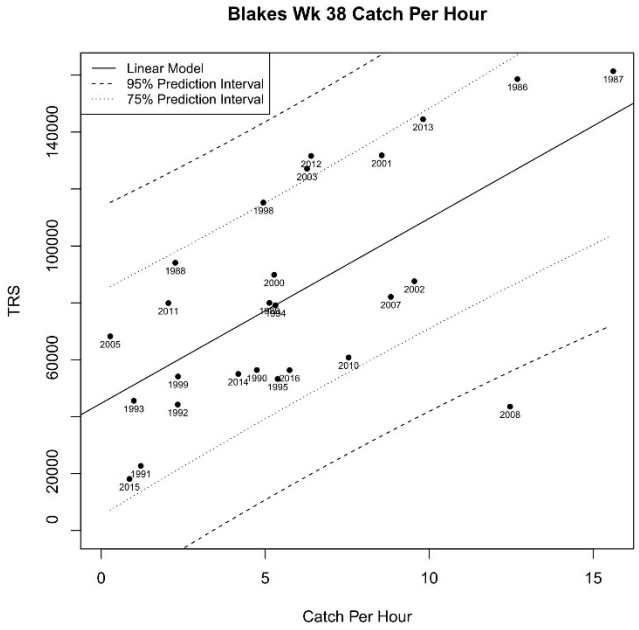
It should be noted that all of the models tend to over-predict run size (negative MPE) over the 1986-2017 time period, although the MPE of the cumulative Blake's catch/hour models for weeks 41 and later is quite low. Another point to consider is that removing points as outliers certainly changed the regressions and made the performance statistics look better than would have been the case if they were still in the data set. Because those outliers had very high catch/hour relative to the rest of the data set, an in-season update based on catch/hour in weeks 39/40 of greater than about 25 should be treated with caution as a potential abnormality.

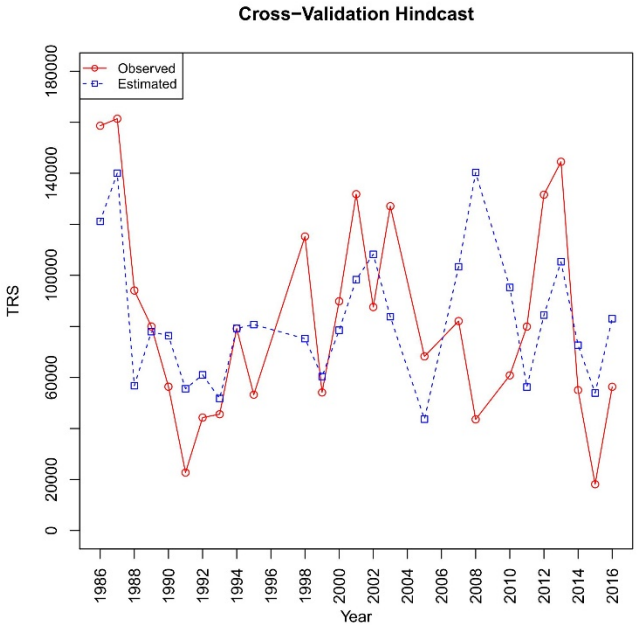
The strongest ISU models use cumulative test data through weeks 40 or later. After the week 40 test fishery, the Blake's Week 38-40 cumulative catch/hour model ($P<0.0001$, $r^2=0.68$, cross-validation RMSE=23,248) could be used as a preliminary indicator of run size.

Following the week 41 test fishery, the Blake's Week 38-41 cumulative catch/hour model ($P<0.0001$, $r^2=0.76$, cross-validation RMSE=20,515) will be used as the ISU. The Blakes's Weeks 38-42 cumulative model ($P<0.0001$, $r^2=0.86$, cross-validation RMSE=17,017) will be used following the week 42 test fishery, and the Blake’s Weeks 38-43 cumulative model ($P<0.0001$, r2=0.85, cross-validation RMSE=18,591) will be used following the week 43 test fishery. The weeks 39-42 and 38-43 Spudhouse models could be considered as backups should the Blake’s tests not occur, or they could be used to create an average Blake's/Spudhouse ISU weighted by RMSE. However, the Spudhouse models are considerably more erratic in performance and have higher intercepts, and for those reasons should not be relied upon alone.

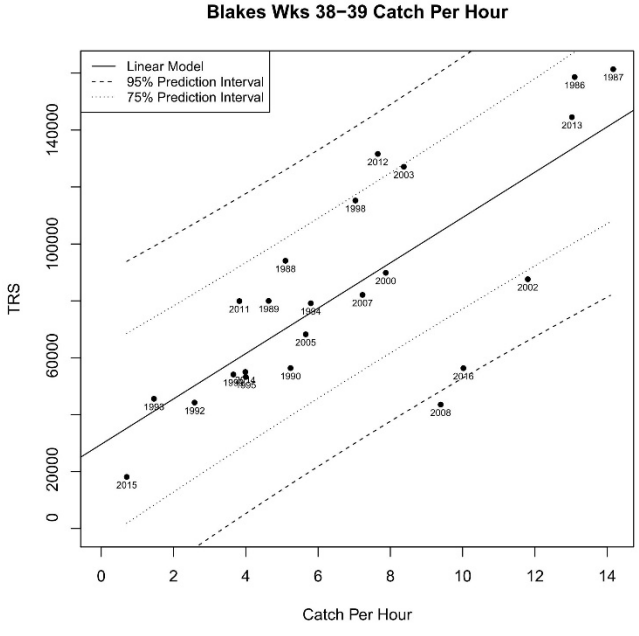
BLAKE'S MODELS

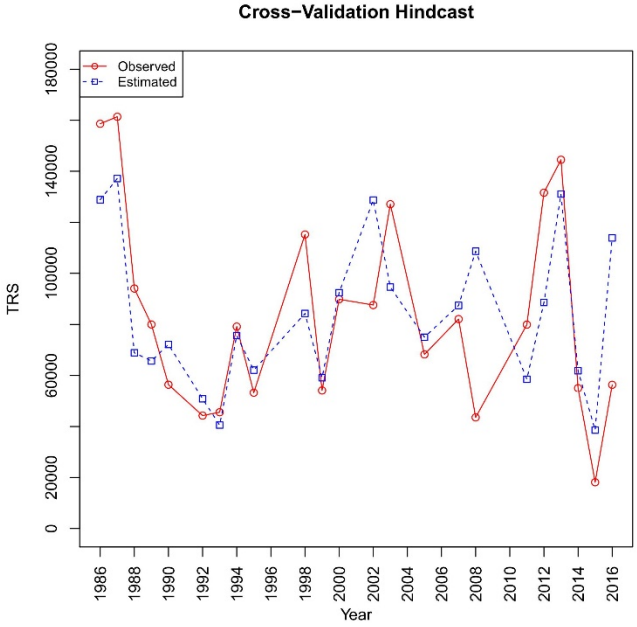
Week 38: Blake's Week 38 C/H



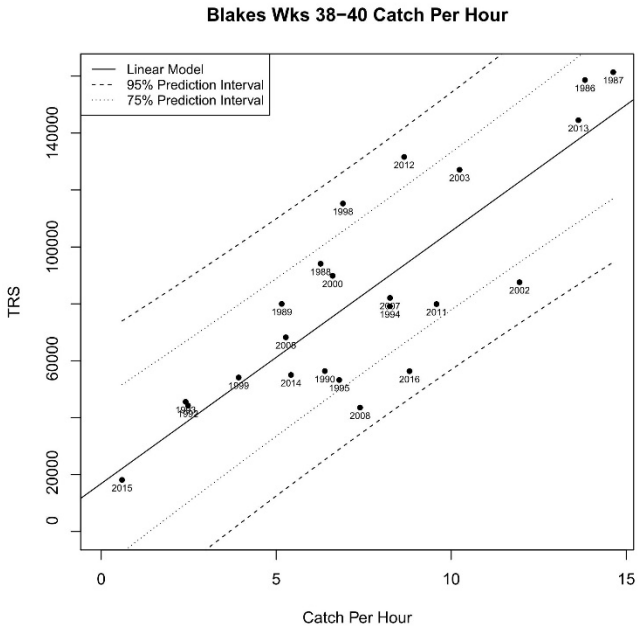


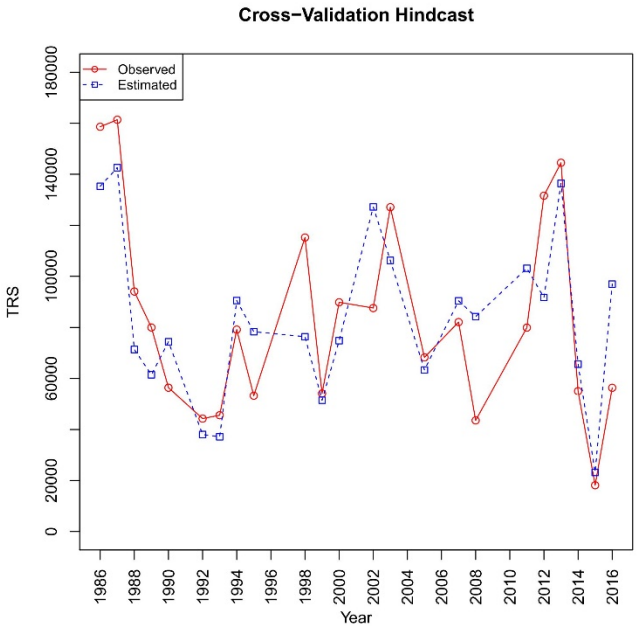
Week 39: Blake's Weeks 38-39 C/H



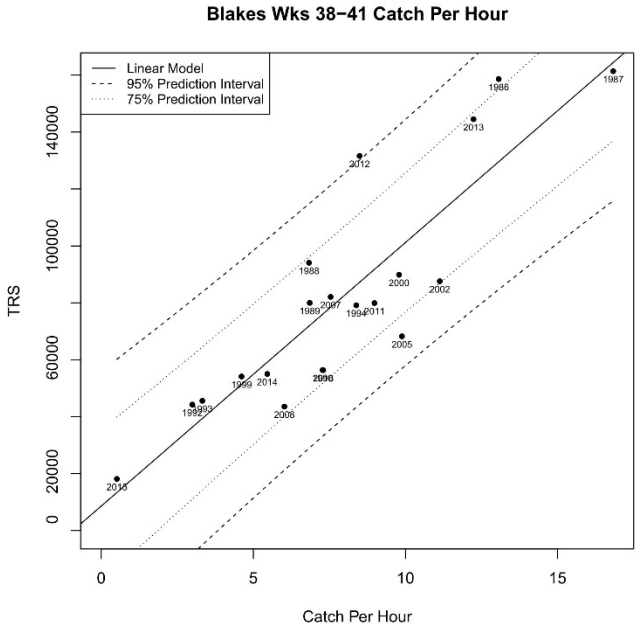


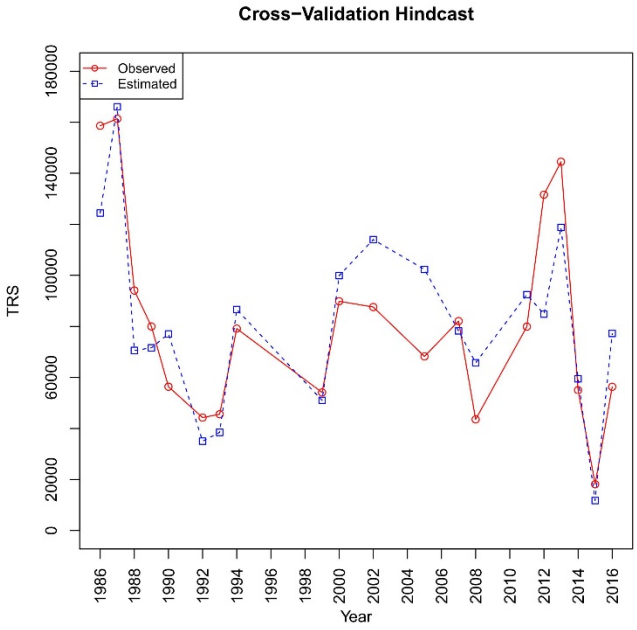
Week 40: Blake's Week 38-40 Cumulative C/H



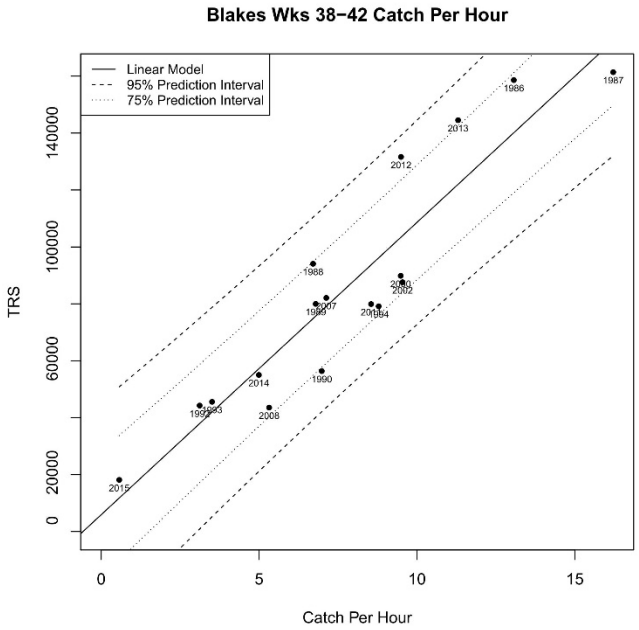


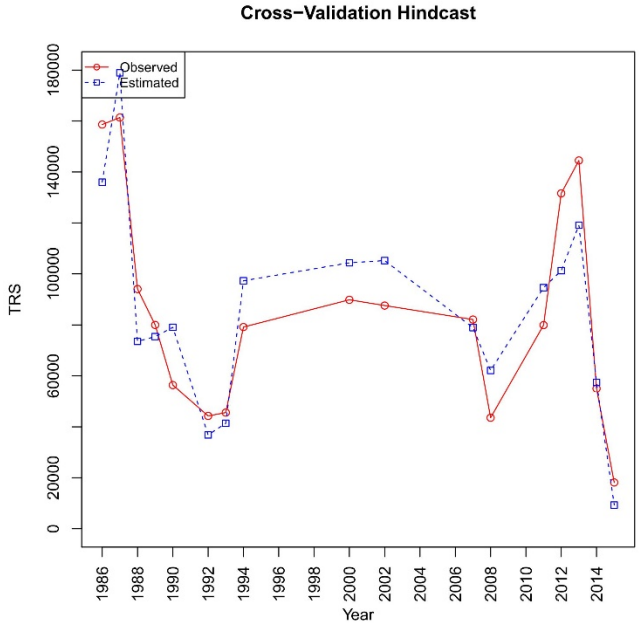
Week 41: ISU, Blake's Week 38-41 Cumulative C/H



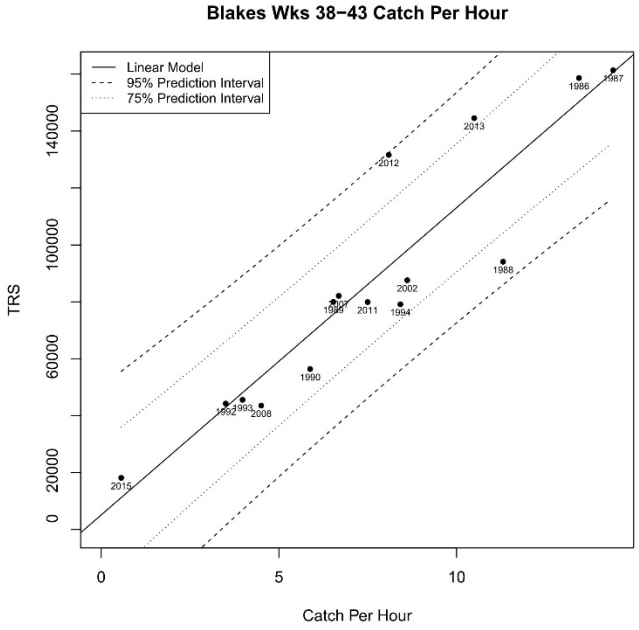


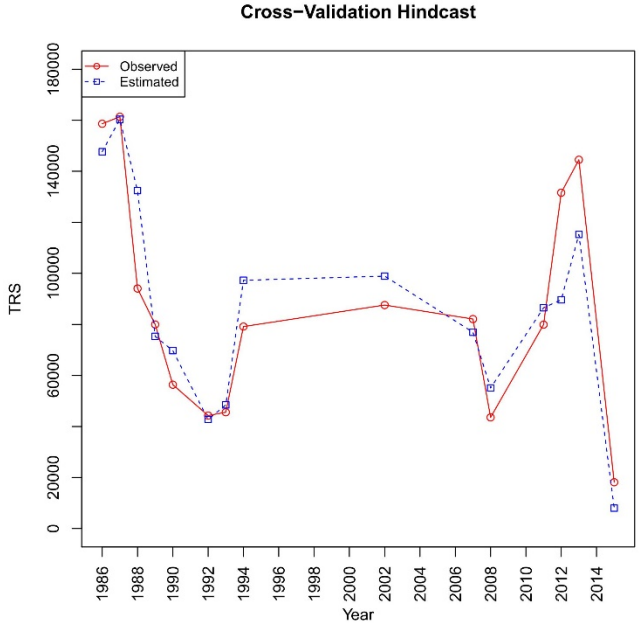
Week 42: ISU, Blake's Week 38-42 Cumulative C/H





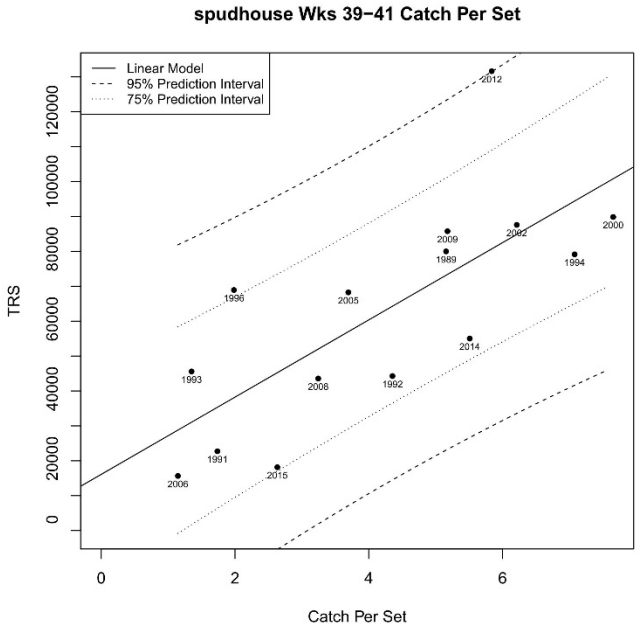
Week 43: ISU, Blake's Week 38-43 Cumulative C/H



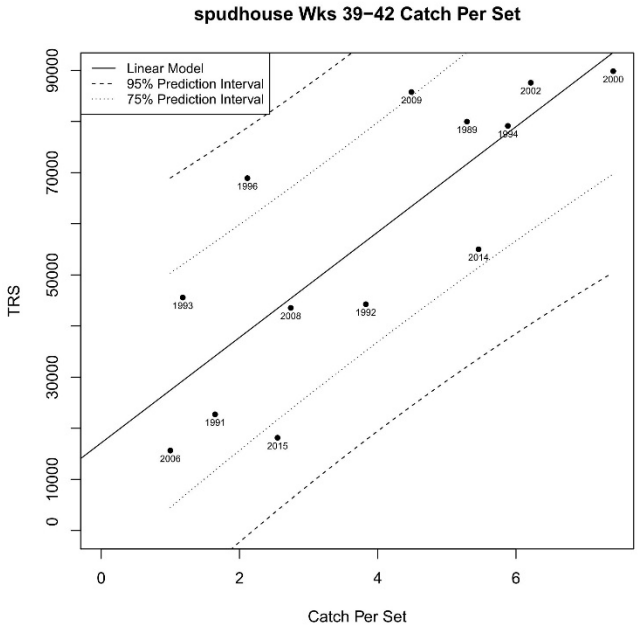


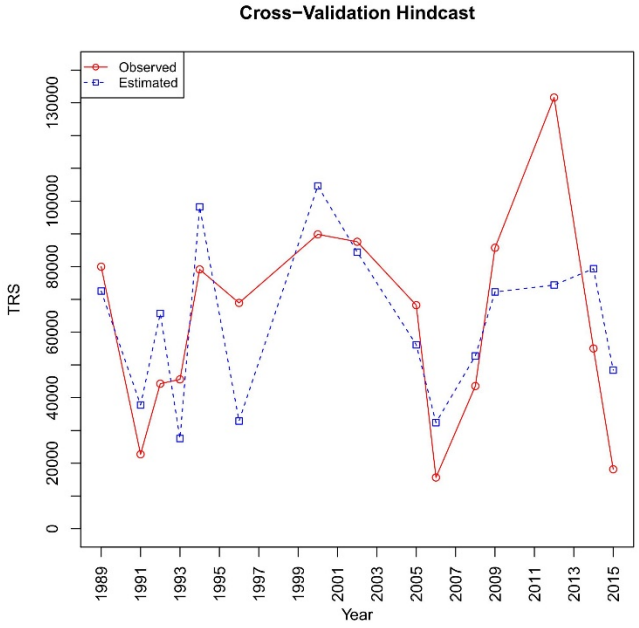
SPUDHOUSE MODELS

Week 41: Spudhouse Weeks 39-41 Cumulative C/S



Week 42: Spudhouse Weeks 39-42 Cumulative C/S

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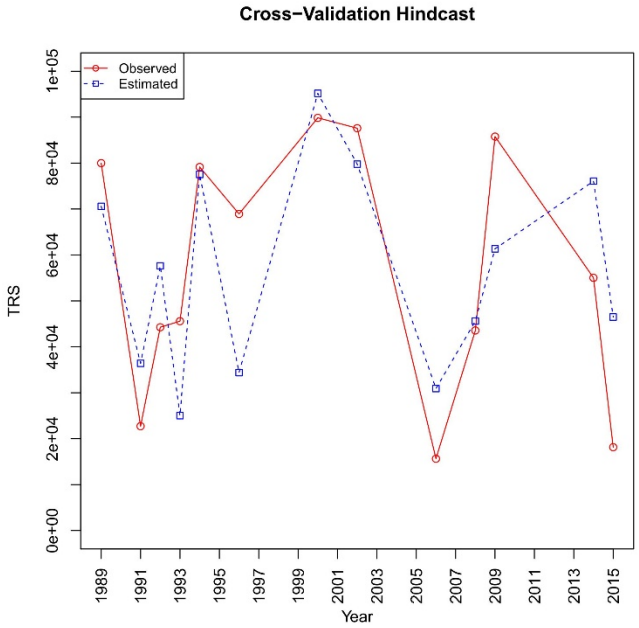
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1.11 Green/Duwamish coho salmon in-season update model

The Muckleshoot Indian Tribe conducted a coho test fishery during statistical week 36 from 2003-2010 and 2016. This test fishery was revived in 2016 due to the unprecedentedly low run sizes projections for many stocks in Puget Sound, including the Green River stock. This test fishery uses gill net catches from six sites in the lower Duwamish River between the mouth in the East and West Waterway and the 16th Avenue Bridge. One net (300 feet of 5 inch mesh webbing) is fished at each site from 7 PM to 7 AM. Coho from each net are enumerated and combined with the terminal run size to project returns for the current year.

This in-season update methodology models escapement as a function of test fishery catches. Initial modeling examined multiple metrics to predict escapement. These metrics included the maximum catch among the six sites and the geometric mean of the n (n = 2, 3, 4, and 6) largest catches (Table 1). These models were fit in R using a general linear model with a Poisson distribution. The model with the lowest Akaike's Information Criteria value was used to project the in-season run size.

Table 1. Available data for the Green River in-season update model. TRS is the terminal run size and projected is the projection from the model.

Year	Max	2	3	4	All	TRS	Projected
2003	71	70.5	69.3	62.9	29.4	80,414	64,220
2004	709	543.7	327.7	248.9	154.2	168,411	169,680
2005	44	37.5	28.2	24.1	17.0	75,060	60,017
2006	69	59.9	45.4	37.4	24.1	85,494	62,838
2007	98	77.3	69.4	59.3	37.4	52,101	65,126
2008	88	46.9	32.8	27.4	19.5	65,951	61,184
2009	52	39.5	32.0	28.8	22.5	43,021	60,260
2010	34	33.5	33.3	29.3	23.5	32,396	59,522
2016	182	96.3	53.0	37.3	25.5	52,146	65,893

Over the nine years of available data, the average projection was 11.3% greater than the observed terminal run size (Table 1).

1.12 2018 Warm Water Test Fishery

This proposal put forth is designed to prosecute a test fishery that will collect a second year of information on the feasibility and potential impacts of a directed fishery (C&S and commercial) on warm-water fishes in the Lake Washington basin. The results of this test fishery will inform management moving forward with a full scale commercial fishery as well as a number of secondary considerations. To date, the tribe has collected data from January 2017 – June 2017 and March 2018 – April 2018 to inform potential impacts to listed salmonids.

One major consideration is to determine the impact on ESA listed salmonids. This test fishery is scheduled to encompass times we can minimize impacts to ESA listed salmonids. Chinook adults typically start migrating into the lake in mid-June with spawning concluding the first week of November. The timing of the test fishery proposed, May-June 15, 2018, will eliminate impacts on migrating adult Chinook. The June portion of this test fishery will only occur in Lake Sammamish to eliminate impacts to adult migratory Chinook that beginning to enter the Lake Washington Ship Canal during this period. Using large mesh gillnets will eliminate impacts on age-0 Chinook and any potential steelhead smolts migrating out to sea. The probability of encountering an adult wild steelhead is very low to zero. If one is encountered, it would likely be a wild stray fish from a neighboring watershed such as the Green River. Steelhead surveys in the Sammamish River tributaries, including Lake Sammamish, were discontinued at the end of 2003 after five years of surveys in which no steelhead or steelhead redds were observed. Therefore, no risk of encounters exists in Lake Sammamish. There are very few remaining steelhead spawning in the Cedar River. From 2009 through 2015, redd-based escapement estimates for the Cedar River have averaged just over two (2) steelhead per year and no steelhead redds were observed during 2017. Further, several of these redds may be the result of large cutthroat trout that are known to overlap with steelhead.

Regardless, the potential exists to encounter steelhead which necessitates structuring this test fishery to minimize these impacts. In the first year of this test fishery (January – April 2017), the entire Lake Washington Ship Canal and the southwestern shoreline of Lake Washington extending from the Ship Canal to slightly past the mouth of the Cedar River were excluded from the proposed test fishery. This closure was implemented because this area was believed to be the most likely area where migrating adult steelhead would be encountered. Through March 31, 2017 (12 weeks of effort), no steelhead have been encountered in any areas of the Lake Washington basin we have fished. In the second year of this test fishery, we propose to direct limited effort in a portion of this previously closed zone in Lake Washington on the western shoreline between the 520 bridge and the mouth of the Cedar River.

The test fishing area will be divided into 8 zones. Lake Washington will have six zones (eastside of Mercer Island below I-90, eastside between the two bridges (I-90 and 520), on the west side north of the 520 bridge, on the east side north of the 520 bridge, west side between I-90 and 520, and west side south of the 520 bridge). Lake Sammamish will be divided into two zones (zone 7-8). Each zone will be fished separately with only one zone being fished at any given time with a maximum of eight 300 foot

gillnets deployed. Three to four boats will be present at all times – up to two tribal boats, up to two additional research boats and one enforcement boat. The gillnet mesh will range from 3 ½ to 6 inch stretch mesh. To further minimize interactions with steelhead, the gear will be monitored very closely and any steelhead caught will be immediately released (ancillary to this project we have successfully tagged and released multiple walleye). The cold water in the lake during this period will help reduce mortality of any released fish. Fishing will occur from one to four nights per week. Nets will be initially set on Monday morning and be retrieved no later than Friday morning.

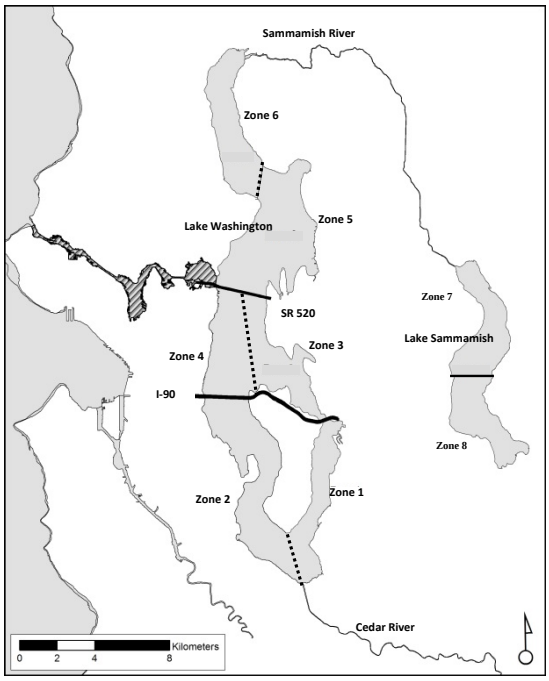

Figure 1. Proposed warmwater test fishery zones (1-8) and exclusion areas (cross-hatched) that will not be fished to minimize steelhead encounters.

A second consideration is that catch rates of targeted species (i.e. smallmouth bass, walleye) may be high enough to result in an economically viable fishery. The test fishery proposed will address this issue. Data collected will inform managers of areas and times that a tribal net fishery could be economically viable as well as areas to avoid/target minimizing bycatch and optimizing harvest.

Prosecuting this test fishery will allow us to address a number of other issues that will benefit salmonid management in the Lake Washington basin. A new predator, walleye, which likely has negative impacts to salmonids, has been introduced and a lack of information is available on adult diets and distribution in Lakes Washington and Sammamish is available. A second highly invasive predator, northern pike, was captured during the first year of our test fishery. We will instrument up to 15 walleye (or northern pike) with multi-year acoustic transmitters during this time to assess their overlap with migrating juvenile salmonids in addition to locating areas these invasive predators may be targeted in subsequent fisheries.

Instrumented walleye (or pike) will be monitored with a network of fixed station acoustic receivers through the Lake Washington and Sammamish basin. This network is used to monitor the migratory behavior of smolting Coho salmon as well as returning adult Sockeye and Chinook salmon. We will use the overlap of juvenile Coho and walleye as a model of the potential interactions with ESA listed Chinook.

Take estimation and reporting

We believe there is a very small to zero potential impact for this test fishery to interact with adult steelhead in Lake Washington and no potential for interaction with adult migratory Chinook. Even with that we have designed this test fishery to minimize these interactions. Should there be an encounter, steelhead or Chinook will be handled carefully by trained professional staff and as much biological data will be taken as possible. Lengths, fin clips for genetic analyses, marks, and locations. Further, should staff believe survival upon release is questionable; the steelhead will be retained and reported as ceremonial and subsistence treaty catch.

Understanding the potential for interaction with the public, we propose monthly reporting on this test fishery to NOAA. These reports will contain gear used, area fished, and effort. Further, any natural adult steelhead or Chinook encountered will be immediately reported. This test fishery will be immediately shut down if and when a third natural origin adult steelhead is encountered or fifth natural origin adult Chinook.

1.13 Relative Abundance and Diet of Piscivorous Fishes In the Lake Washington Shipping Canal During Late Spring and Early Summer

Danny Garrett and Aaron Bosworth
4/9/2018

Objective 1: Describe the relative abundance and size structure of piscivorous fishes inhabiting the Lake Washington Shipping Canal (LWSC) during the salmon smolt out-migration period.

Objective 2: Determine the relative proportion of juvenile salmonids in the stomach contents of piscivorous fishes that inhabit different habitat types within the LWSC.

The Lake Washington Shipping Canal (1040 acres) includes Salmon Bay, Fremont Cut, Lake Union (including Portage Bay), and the Montlake Cut (Figure 1).

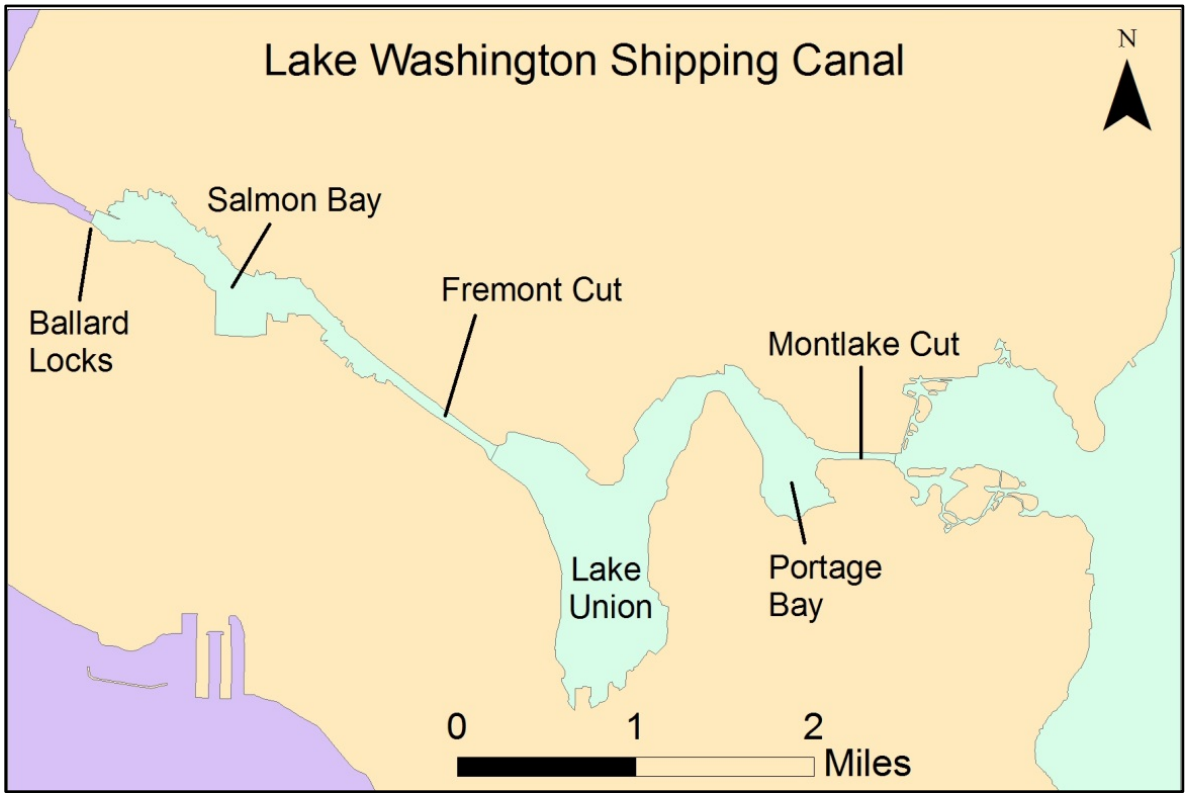

Figure 1. The Lake Washington Ship Canal (1040 acres) includes Salmon Bay (directly upstream of the locks), the Fremont Cut, Lake Union (includes Portage Bay), and the Montlake Cut.

Study Area.—Population estimates of Smallmouth Bass and Largemouth Bass in the LWSC indicate the majority of bass reside in north Lake Union, Portage Bay and the Fremont Cut during April - June (Tabor et al. 2004, 2007). Therefore, we designated this region as the study area (492 acres); approximately half the area of the LWSC (Figure 2). To randomize sampling effort, the shoreline is divided into 400-meter sampling sections.

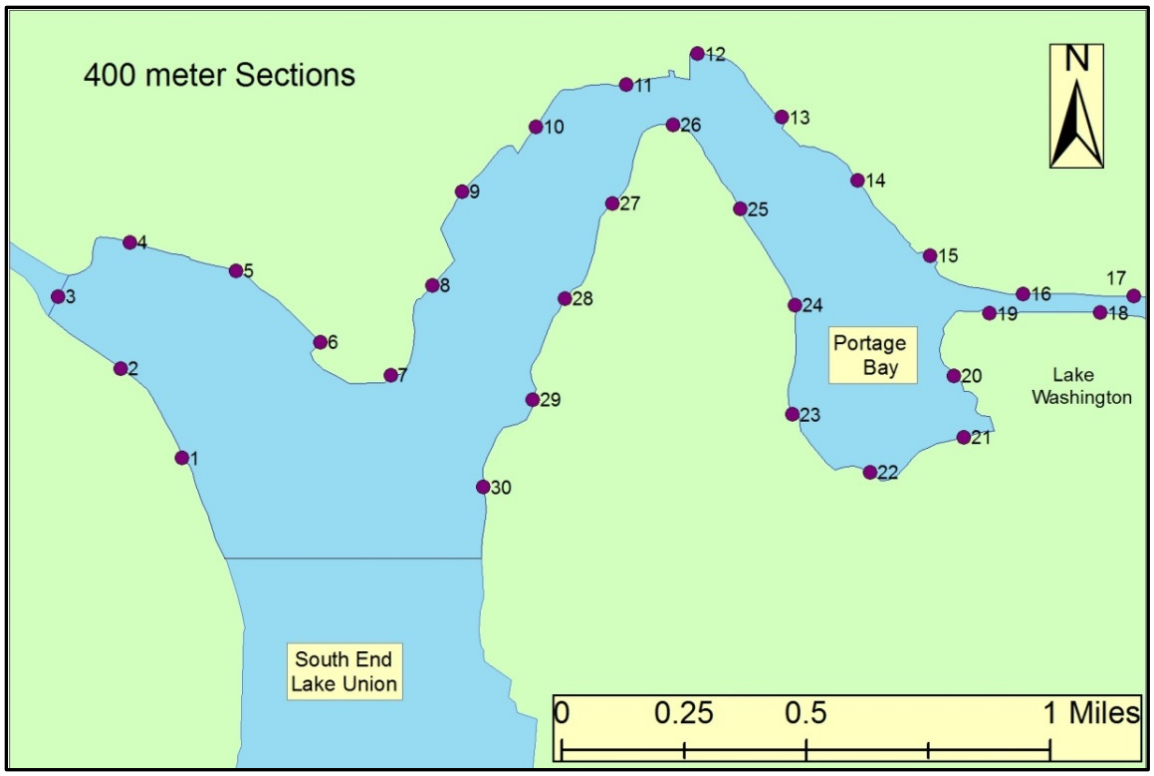

Figure 2. Designated study area within the Lake Washington Shipping Canal (492 acres) including 400-meter sampling sections.

Figure 3. Aerial view of the study area in the Lake Washington Shipping Canal.

Methods

Timing Considerations.—Gill netting will occur during four sampling days (4 net-nights X 6-8 nets=24-28 net-nights total effort) between mid-May and mid-July, 2018. Netting effort will occur during a portion of the outmigration time for Chinook smolts.

Gill netting.—Twenty-four to twenty-eight variable-mesh monofilament gill nets (25 feet-2 inch; 25 feet-2.5 inch; 50 feet-3 inch; 50 feet-4 inch) will be set during a portion of the salmon smolt out-migration period (mid-May through mid-July) at selected stations within the study area (Figure 2). Nets will be deployed at night with 12-16 hour set times. We selected a range of mesh sizes that effectively sampled a broad range of species and sizes in 2017 including Rock Bass (Figure 3) and Yellow Perch (Figure 4).

Processing Samples.—Target species including Yellow Perch, Rock Bass, Black Crappie, Smallmouth Bass, Largemouth Bass, and Northern Pikeminnow will be measured to the nearest millimeter and weighed to the nearest gram. All non-target species will be counted, and any captured alive will be released after being weighed. Stomachs of predatory fishes >150 mm TL will be pumped using gastric lavage; stomach contents will be stored in a -80F freezer until they can be processed by NMFS (Roger Tabor).

Catch per unit effort.—Catch per unit effort of gill netting (fish/net night) will be calculated for each target species, and compared among weeks to describe changes in gear effectiveness throughout the study period.

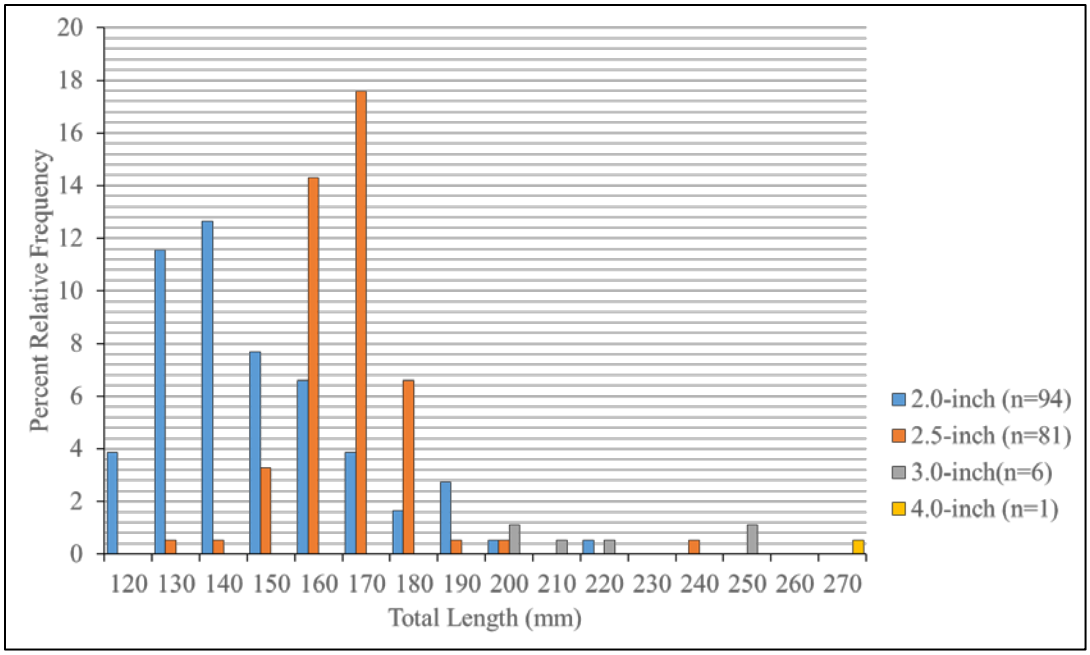

Figure 3. Total lengths of Rock Bass sampled in gill nets (10-mm size groups), by mesh size, in the LWSC, May, 2017.

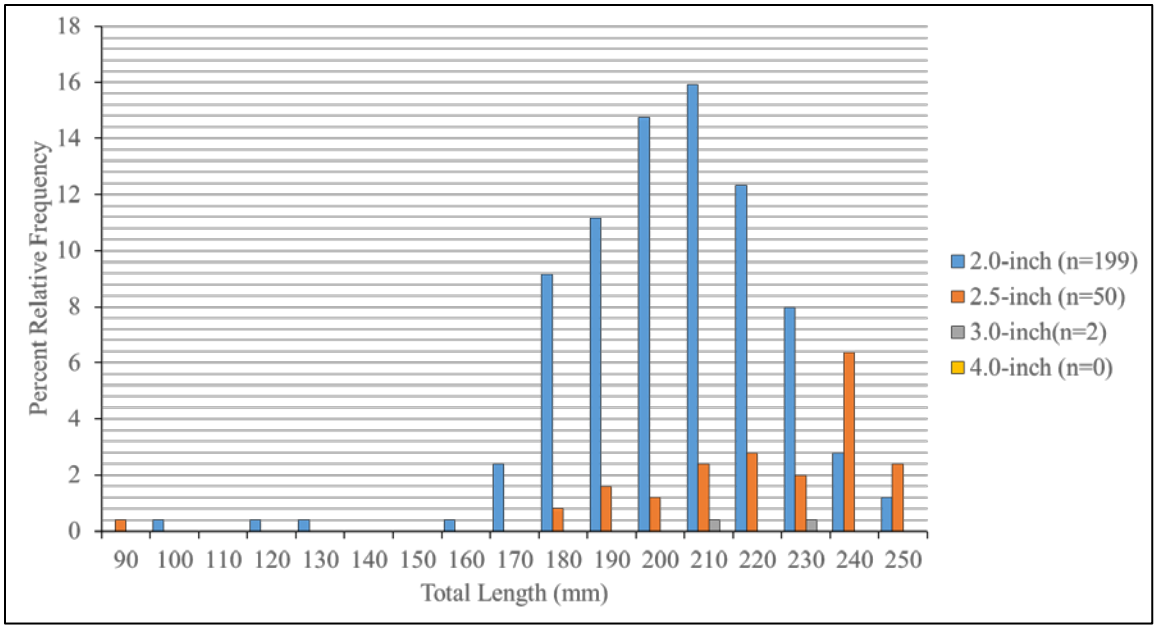

Figure 4. Total lengths of Yellow Perch sampled in gill nets (10-mm size groups), by mesh size, in the LWSC, May, 2017.

ESA Considerations

The Puget Sound Chinook Harvest Management Plan (PSCHMP; NMFS 2010) as extended allows for limited take of listed species during research activities within each Management Unit (MU): "Mortality associated with certain monitoring and research activities (e.g. test fisheries and update fisheries), that primarily inform in-season harvest management decisions, will be accounted with other fishery related mortality under the ER ceilings defined for each MU. Mortality associated with other research and monitoring, which have broader applicability to stock assessment, will not be accounted under the ER ceilings. Mortality in this latter category will not exceed a level equivalent to 1% of the estimated annual abundance (i.e. 1% ER), for any MU." As such, there is limited take for Puget Sound Chinook available to this proposed project under the PSCHMP, in combination with other projects within the MU. Steelhead take for research purposes has historically been covered separately, but was written into the NMFS 2016-17 biological opinion for the Puget Sound salmon fisheries, which effectively extend the 2010 PSCHMP.

This piscivore monitoring study will have limited potential to take listed anadromous species (PS Chinook and PS steelhead), and estimated take values are provided below:

1. Steelhead adults: The probability of encountering an adult steelhead is low. Spawning ground surveys indicate that few (if any) steelhead spawn in the Lake Washington watershed, and steelhead adults are not expected to be migrating through the LWSC during the proposed sampling period. If an adult steelhead is encountered, it would likely be a stray fish from a neighboring watershed such as the Green or Snohomish rivers. The take is estimated as one adult steelhead.

2. Steelhead juveniles: The probability of encountering a juvenile steelhead is low. Spawning ground surveys indicate that few (if any) steelhead spawn in the Lake Washington watershed, and the number of steelhead smolts migrating through the LWSC is expected to be low. Any steelhead smolt migrants that may be present will not be affected by the sampling gear as the proposed gillnet mesh size is too large to entangle juveniles (2 to 4 inch stretch mesh). The take is estimated as zero juvenile steelhead.

3. Chinook adults: Chinook adults typically begin migrating through the LWSC in mid-June with the peak migration period occurring in mid to late August (Figure 5). Relatively small numbers of adult Chinook would be migrating through the LWSC while the proposed sampling would occur, however some adult Chinook may encounter the sampling gear as they migrate through the action area. Chinook adults migrating through the LWSC are likely to use deep-water offshore habitats where sampling gear is less likely to be deployed. Most sampling effort will occur in near-shore or off-channel, weedy habitats where adult Chinook are less likely to migrate. Due to the early timing of the proposed sampling and the off-channel areas where sampling will occur, the number of adult Chinook encountering sampling gear will likely be small. A combined gear take of 20 Chinook adults (NOR and/or HOR) is estimated.

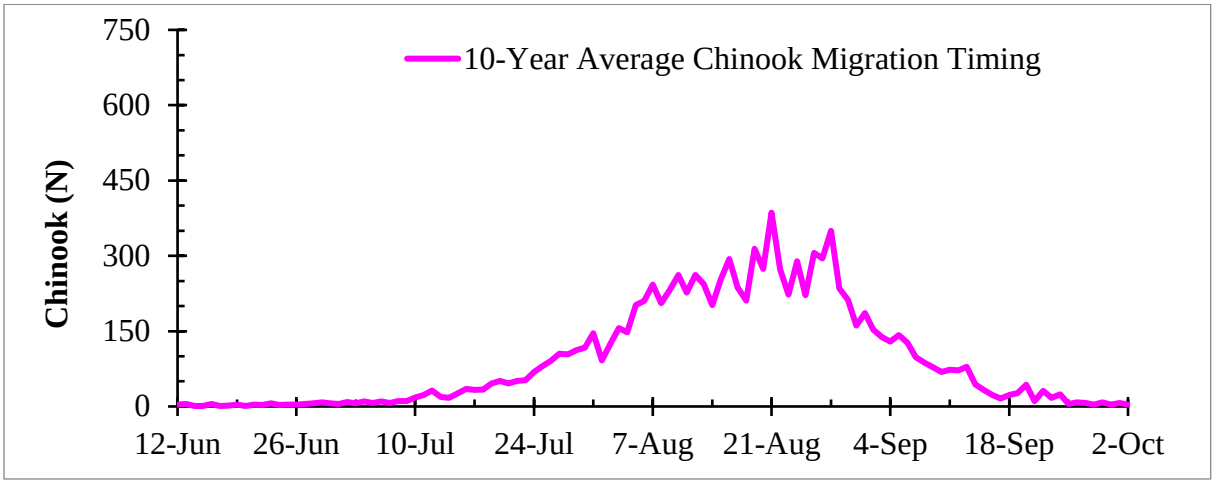

Figure 5. Recent ten-year average Chinook migration timing through the Ballard Locks.

4. Chinook juveniles: Juvenile Chinook will actively be migrating through the LWSC during the proposed sampling period (mid-May through mid-July). Small numbers of juvenile Chinook smolts may encounter the sampling gear, however the mesh size (2 to 4 inch stretch mesh) is too large to entangle a Chinook juvenile and poses very little threat. The take is estimated as zero juvenile Chinook.

As outlined above, the PSCHMP as extended provides coverage allotment for take of both Puget Sound Chinook and steelhead. Expected steelhead take is presented in bullets 1 and 2 above. Chinook take (HOR and NOR combined) may not exceed a level equivalent to 1% of the estimated annual abundance (i.e. 1% ER). Average total abundance for Lake Washington Chinook is 9273 adults during a recent (2010-2017) 8-year time period (Table 1). The estimated take of 20 adult Chinook represents an exploitation rate of 0.25% (20/7952=0.0025), which is well below the 1% ER limit.

Year	Total Abundance	Natural Abundance	Source
2017	6550	1225	Final New BP pre-season
2016	6873	1550	Unofficial New BP pre-season
2015	4903	688	Unofficial New BP pre-season
2014	4598	672	New BP Aug 2017 post-season
2013	9663	2628	New BP Aug 2017 post-season
2012	15721	2173	New BP Aug 2017 post-season
2011	7189	1039	New BP Aug 2017 post-season
2010	8122	876	New BP Aug 2017 post-season
Average	7952	1356	

Table 1. Total (HOR and NOR) abundance and natural abundance of Lake Washington Chinook.

In summary, project impacts are significantly below the 1% allotment for Chinook annual abundance provided for in the PSCHMP. The estimated take of HOR and NOR combined is 20 adults, and 0 smolts, which is 0.25% of annual abundance.

References

Tabor, R. A., M. T. Celedonia, F. Mejia, R. M. Piaskowski, D. L. Low, and B. Footen, and L. Park. 2004. Predation of juvenile chinook salmon by predatory fishes in three areas of the LakeWashington basin. US Fish and Wildlife Service, Western Washington Fish and Wildlife Office, Lacey

Tabor, R. A., B. A. Footen, K. L. Fresh, M. T. Celedonia, F. Mejia, D. L. Low, and L. Park. 2007. Smallmouth bass and largemouth bass predation on juvenile Chinook salmon and other salmonids in the Lake Washington basin. North American Journal of Fisheries Management 27:1174-1188.

Wolvert, S. and H. McLellan. 2016. Chief Joseph Kokanee Enhancement Project 2014 Annual Report. BPA Project # 1995-011-00.

1.14 Agreed to sport gamefish seasons on Stillaguamish

April 10th, 2018

- Agreed to model Chinook impacts from Stillaguamish sport fisheries as 3 instead of 6 for 2018 due to reduced areas and seasons.

Sport gamefish rules for Stillaguamish for 2018

- Statewide gamefish rules; open unless closed, Saturday before Memorial Day through Oct 31, 2 fish limit, 8 inch minimum size.

Tributary	Time period open for trout and/or steelhead opportunity	Rules summary for trout including steelhead trout
Stillaguamish River Allocation Unit		
Stillaguamish R: mainstem and all sloughs downstream of Marine Drive	Year-round	Min size 14". Daily limit 2. Night closure and anti-snagging rule Aug 1-Nov 30.
Stillaguamish R: from Marine Drive upstream to forks.	August 1- Nov 30	Catch-and-release except up to 2 hatchery steelhead may be retained. Night closure and selective gear rules.
	Dec 1-Jan 31	Min size 14". Daily limit 2.
Pilchuck Creek: from mouth to Pilchuck Falls	Sat. before Memorial Day - Jan 31	Min size 14". Daily limit 2. Selective gear rules Sat. before Memorial Day -Nov 30.
Stillaguamish R, North Fork: from mouth to mouth of French Creek	Open Sat. before Memorial Day to June 30th Closed July 1 – Oct 15, Open Oct 16 - Nov 30	Catch-and-release except up to 2 hatchery steelhead may be retained. Fly Fishing Only. Night closure and anti-snagging rule October 16-Nov 30. Fishing from floating device prohibited upstream of Hwy. 530 Bridge. Motors prohibited downstream of Hwy. 530 Bridge
	Dec 1-Jan 31	Min size 14". Daily limit 2. Fishing from floating device prohibited upstream of Hwy. 530 Bridge. Motors prohibited downstream of Hwy. 530 Bridge
Stillaguamish R, North Fork: from mouth of French Creek to Swede Heaven Bridge **=Whitehorse Hatchery Terminal Area**	Open Sat. before Memorial Day to June 30th Closed July 1 – Oct 15 Open Oct 16 - Nov 30	Catch-and-release except up to 2 hatchery steelhead may be retained. Fly Fishing Only. Night closure and anti-snagging rule Oct 16-Nov 30. Fishing from floating device prohibited upstream of Hwy. 530 Bridge.
	Dec 1-Feb 15	Min size 14". Daily limit 2. Fishing from floating device prohibited upstream of Hwy. 530 Bridge.

Tributary	Time period open for trout and/or steelhead opportunity	Rules summary for trout including steelhead trout
Boulder R: from mouth to Boulder Falls	Open Sat. before Memorial Day to July 31	Catch-and-release except up to 2 hatchery steelhead may be retained. Selective gear rules.
Boulder R: from Boulder Falls upstream	Sat Before Memorial Day-Oct 31	Min size 8". Daily limit 2.
Stillaguamish R, North Fork: from Swede Heaven Bridge to North Fork Falls	Open Sat. before Memorial Day to July 31 Closed Aug 1 – Oct 15, Open Oct 16 - Nov 30	Catch-and-release except up to 2 hatchery steelhead may be retained. Selective gear rules.
Squire Creek	Saturday before Memorial Day to July 31.	Catch-and-release except up to 2 hatchery steelhead may be retained. Selective gear rules.
Stillaguamish R, North Fork: upstream of falls	Sat. before Memorial Day-Oct 31	Min size 8". Daily limit 2.
Stillaguamish R, South Fork: from mouth to 400' below Granite Falls fishway outlet	Saturday before Memorial Day - Jan 31	Min size 14". Daily limit 2. Night closure and anti-snagging rule Aug 1-Nov 30.
Canyon Creek	Saturday before Memorial Day - Jan 31	Catch-and-release except up to 2 hatchery steelhead may be retained. Selective gear rules.
Stillaguamish R, South Fork: from Mt. Loop Highway Bridge above Granite Falls upstream,	Saturday before Memorial Day - Nov 30	Catch-and-release except up to 2 hatchery steelhead may be retained. Selective gear rules. Fishing from a floating device with a motor is prohibited.

1.15 2018 Co-Management Agreement for Hood Canal Chum Salmon Fisheries.

The Hood Canal Treaty Tribes (Skokomish Tribe, Port Gamble S'Klallam Tribe, Jamestown S'Klallam Tribe and Lower Elwha Klallam Tribe) and the Washington Department of Fish and Wildlife (WDFW) have reached agreement for the 2018 season, which includes meetings prior to the season, model evaluation, data reconciliation, and policy agreement on an MOU for the coming season.

Pre-season work plan:

Co-managers in Hood Canal currently manage fisheries using technical analysis jointly developed and documented in the 2012 Memorandum of Understanding (dated July 10, 2012). This MOU describes the currently agreed to ISU models used by co-managers for in-season management. The intent of this pre-season work for technical staff is to build on this previous work, as well as assessing alternative ISU models using new information. The goal is for technical staff to come to agreement on the best performing, technically sound, model or suite of models – like the current "early-season" and extended-season" models – to update the Hood Canal fall chum runsize in-season to be used for managing fisheries. Tribal and WDFW technical staff will meet on August 8, 2018 to exchange and review agreed upon final datasets to be used in the development and review of HC fall chum ISU methods. Additional policy meetings may be scheduled based on a need for further policy direction or clarification, or to address unforeseen obstacles that may arise in this process.

This agreement includes tasks for technical staff related to updating shared data sets and conducting performance assessments of the current and possibly new in-season runsize update models prior to September 14, 2018. Upon completion of technical work, co-manager technical staff shall provide recommendations to policy makers on the technical merits (including the strengths, weaknesses, and specific use) of the highest performing models. Parties to this agreement will complete a final agreed to memorandum of understanding on in-season management in the Hood Canal region prior to September 28, 2018.

2018 Fishing season:

Chum salmon fishing schedules for parties to this agreement are described in the List of Agreed Fisheries (April 2018). All parties to this agreement have responsibility for ensuring their fisheries management actions are appropriate to ensure harvest of available shares.

In-season Management and Meeting Schedule:

In advance of scheduled weekly conference call, parties will exchange harvest data.

Weekly conference call for Hood Canal chum management shall occur on at 1:00PM on October 19 and 26, November 1, 9, and 16 unless otherwise agreed.

Policy leadership will meet in-person on November 2, 2018 to review the in-season runsize update and to discuss implementation of the 2018 memorandum of understanding

Authorized Signatures:

The following parties agree to the above for the management of the 2018 Hood Canal chum salmon season, and the undersigned persons have authority to enter into this agreement:

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

1.16 2018 Area 9A Setnet Closure Area

1.17 Puget Sound Chinook Mark-Selective Sport Fisheries Sampling and Monitoring Plan Attachment A

Based on agreements between the State of Washington and the Northwest Treaty Tribes, the Washington Department of Fish and Wildlife (WDFW) has been conducting recreational mark-selective Chinook fisheries (MSFs) in the marine catch areas of Puget Sound since 2003. This attachment outlines the general intent, data needs, sampling and monitoring plans, estimation methodologies, and reporting schedules associated with these fisheries.

Fishery Intent

Agreed-to Chinook salmon MSFs (see attached Fishery Management Plans for specific fisheries and dates) will be conducted in Marine Areas 5-13 during the summer and winter seasons to provide recreational fishing opportunity directed at hatchery Chinook salmon, while limiting impacts on wild stocks of conservation concern, particularly Endangered Species Act (ESA)-listed Puget Sound Chinook salmon. Sampling and monitoring programs will be implemented along with these fisheries in order to provide the information necessary to evaluate and plan potential future Chinook salmon MSFs. Prior to next fishing season, WDFW and the tribes will jointly review and analyze results of the sampling and monitoring programs for these fisheries to evaluate the effectiveness at achieving the intended objectives.

Data Needs for Evaluating the Fishery

Monitoring, sampling and reporting programs will be implemented by WDFW for the purpose of providing the data necessary to estimate the impact of these MSFs on unmarked Chinook salmon and to support the evaluation of future MSFs.

These monitoring and sampling programs are designed to provide data to estimate the following parameters:

- Mark rate in the fishery – marked and unmarked encounters will be estimated using test fishing, salmon trip reports (STR) or dockside sampling programs.
- Number of marked Chinook salmon retained – estimated using dockside sampling programs
- Number of unmarked Chinook salmon retained – estimated using dockside sampling programs
- Number of marked Chinook salmon released – estimated using dockside sampling and test fishing or STR programs
- Number of unmarked Chinook salmon released – estimated using dockside sampling and test fishing or VTR programs
- Number of Chinook salmon encounters of sublegal size - estimated using dockside sampling and test fishing or STR programs
- Stock composition of mortalities – estimated using coded-wire tag (CWT) data collected during dockside sampling
- Mortalities of marked and unmarked double-index tagged (DIT) and other CWT stocks

The co-managers agree to implement these fisheries with the understanding that the capability to estimate stock-specific unmarked fish mortalities is preserved. Methods for estimating unmarked mortalities of DIT-CWT stocks within these MSFs have been determined jointly by the co-managers, considering recommendations of the Selective Fisheries Evaluation Committee of the Pacific Salmon Commission. WDFW will be responsible for reporting the necessary fishery information and data to the Pacific States Marine Fishery Commission that allows these estimates to be generated.

Estimates of total fishery related mortalities, including the total exploitation rate or the Southern US exploitation rate, that represents the management objective for Puget Sound Chinook salmon management units under the co-managers' Harvest Management Plan, will be made by combining the mortality estimate for each Marine Area's mark-selective fishery with mortality estimates in other selective and non-selective fisheries. To ensure that all information necessary to make these estimates is collected, plans for sampling and monitoring of all fisheries will be included as a component of the co-managers' annual pre-season agreement.

Sampling Components

Dockside Sampling

WDFW samplers collect biological data and information regarding effort and catch by conducting angler interviews at assigned access sites. During interviews, samplers acquire data on the number of anglers fishing in each boat, the Marine Catch Area(s) fished, trip duration, trip intent (targeted species) and fish encounter composition (kept and/or released by species). When an interviewed party possesses Chinook or coho salmon, samplers inspect the fish for CWTs using wand detectors and collect snouts from CWT-positive individuals for later lab processing. Samplers also take length measurements and collect scale samples from landed Chinook salmon. Lastly, samplers attempt to obtain information on fishing method in order to inform test-fishing methodologies.

Effort Surveys

On-the-Water Surveys

On-the-water Interviews (Boat Surveys) are conducted to provide information on the propotion of effort in a fishery originating from certain access sites. During these surveys, samplers attempt to intercept all anglers on the water in a given fishery and determine where they intend to tie up or exit the fishery upon completing their trip. This provides us with a list of sites (ramps/launches) used to access the fishery as well as information on the relative amount of use (numberof anglers) each site receives. Based on this information we designate a "sample-frame" of 5-6 of the highest use access sites for each fishery, from which we select sample sites for dockside creel sampling. Information from the boat surveys also allows us to estimate the total effort that originates from non-sampled sites and include it in our estimates.

Aerial Surveys

Aerial effort surveys are conducted in fisheries where Boat Surveys are infeasible due to large survey areas and unsafe boating conditions. During these surveys flights are conducted to count the total number of boats on the water in a fishery. The sample-frame (sites where we station samplers) consists of the three to four access sites expected to be of highest use in the fishery. Paired with interviews conducted at these sites, the aerial surveys provide information on the proportion of total fishery effort that originates from non-sampled sites, enabling expansion of observed dockside counts to fishery-wide totals.

Size/Mark-status Composition Estimates

Test Fishing

Test fishing is used to obtain accurate estimates of the size and mark-status composition of the Chinook salmon population being targeted by a fishery. When included in the sampling design for a given fishery, it is conducted for the duration of the fishery. Test fishers spend approximately five days per week on the water attempting to mimic the behavior of the recreational fishing fleet. Fishing method information from dockside interviews is used to inform the methods used by test fishers and efforts are focused at locations that mirror choices made by the at-large private fleet. For each salmon brought to the boat, test fishers record the encounter number, time sampled, species and mark-status. For all Chinook salmon, test fishers record the fork length and total length and collect DNA and scale samples.

Voluntary Trip Reports

SalmonTrip Reports (STRs) are completed and returned by a subset of private and charter fleet anglers to obtain additional information on Chinook salmon encounter rates by size class and mark-status. Anglers are asked to record the date, number of anglers, target species, Marine Catch Area, and for each Chinook or Coho salmon hooked, whether the fish was kept or released, legal or sublegal sized, and marked (adipose clipped) or unmarked.

Sampling and Monitoring Plans

For complete details regarding the following sampling plans and associated assumptions, see the WDFW Methods Report (WDFW 2012).

Full Murthy

The Full Murthy sampling design is the most intensive of the four sampling plans. It utilizes intensive dockside sampling, on-the-water effort surveys and test fishing data to provide precise estimates of Chinook salmon catch and effort, along with total encounters and associated mortalities. STRs are also collected to be used as supplements to test fishing data, if necessary.

Dockside sampling is conducted on five days during each week. Sampling strata are divided into weekday (Monday through Thursday) and weekend (Friday, Saturday and Sunday) strata. During each week, n=2 out of N=4 days are randomly selected for sampling from the Monday through Thursday stratum. In addition, every Friday, Saturday, and Sunday is sampled. Samplers are stationed at two ramps on each of the selected sampling days. Samplers achieve 100% sampling coverage at the assigned ramps from approximately dawn until dark in order to intercept all boats. All anglers and fish exiting the fishery through the sampled sites will be counted. Any boats that are missed at the sampled sites will be counted and recorded on the sampling forms.

Sites from the sample frame for a given fishery are selected for sampling via a weighted-random site selection process (probability proportional to size). Initially, site selection is based on site size measures calculated from on-the-water survey data obtained during the previous year's fishery. Once the initial surveys are completed during the current year, updated size measures of sites in our sample frame are calculated based on the current year's data.

Reduced Murthy

The Reduced Murthy sampling design is a scaled-back version of the Full Murthy sampling design. It utilizes intensive dockside sampling, on-the-water effort surveys and test fishery or STRdata, depending on the fishery.

The main difference between the Reduced Murthy and Full Murthy is a reduced dockside sampling frequency. Dockside sampling is conducted on n=6 out of N=14 days during each two week period. Sampling strata are divided into weekday (Monday through Thursday) and weekend (Friday, Saturday and Sunday) strata. During each two-week period, n=2 out of N=8 days are randomly selected for weekday sampling. In addition, n=2 out of N=3 days are randomly selected for sampling during each weekend. Samplers are stationed at two ramps on each of the selected sampling days. Samplers achieve 100% sampling coverage at the assigned ramps from approximately dawn until dark in order to intercept all boats. All anglers and fish exiting the fishery through the sampled sites will be counted. Any boats that are missed at the sampled sites will be counted and recorded on the sampling forms.

Sites from the sample frame for a given fishery are selected for sampling via a weighted-random site selection process (probability proportional to size). Initially, site selection is based on site size measures calculated from on-the-water survey data obtained during the previous year's fishery. Once the initial surveys are completed during the current year, updated size measures of sites in our sample frame are calculated based on the current and previous year's data.

Unlike the Full Murthy sampling design, where test fishing is a mandatory component, some fisheries sampled with the Reduced Murthy sampling design will utilize a test fishery while others will use STR data to estimate the size and mark-status composition of the targeted Chinook salmon population. For details regarding a specific fishery, see the attached management plan for that fishery.

Aerial Access

The Aerial Access sampling design is a modified version of the Reduced Murthy sampling design that uses aerial effort surveys in place of on-the-water effort surveys. Dockside sampling frequencies are the same as those for the Reduced Murthy, however, instead of sampling at two sites (selected from the sampling-frame) on each sample day; samplers are stationed at all sites designated in the sample-frame (three to four sites of moderate to high effort). For each flight, the sample fraction is estimated by pairing the aerial total boat counts with the sample-frame total for boats active during the flight period (determined from dockside interviews). This allows for an expansion of estimates to account for out-of-frame effort.

As with the Reduced Murthy, fisheries monitored using the Aerial Access design may or may not include a test fishery. Those with no test fishery will use STRs to provide an estimate of the size and mark-status composition of the targeted Chinook salmon population.

Baseline

The Baseline sampling design is a less intensive monitoring program that includes dockside sampling and interviews and the collection of STR data. Baseline sampling is opportunistic in nature, with overall sampling effort allocated across space and time in a manner that maximizes the number of angler interviews obtained per sample effort. While dockside sampling procedures remain the same as in other sampling designs, the frequency of sample days may be slightly reduced. The main difference between Baseline and other, more intensive, sampling designs is the absence of effort surveys. Due to this, Baseline sampling data cannot be used to produce in-season or immediate post-season estimates absolute catch and effort. These estimates become available at a later date through the WDFW Catch Record Card system, allowing further fishery evaluation including total Chinook salmon encounters and associated mortalities by size and mark-status.

Estimation Methods

For fisheries monitored using the Full Murthy, Reduced Murthy and Aerial Access sampling designs, WDFW will produce periodic in-season and post-season estimates of catch and effort. To estimate total

Chinook salmon encounters and associated mortalities by size and mark-status category, WDFW will use the agreed-to 'bias-corrected M2' methodology (Conrad & McHugh 2008, WDFW 2012).

Fishery-total catch and effort estimates for fisheries monitored using the Baseline sampling design will be available approximately 1 to 1½ years after the close of the fishery, via the WDFW Catch Record Card system. Once these estimates are available, the appropriate methods for estimation of total encounters and mortalities will be determined using the decision support schematic provided in the 'CRC for Encounters' report (WDFW & NWIFC 2013). For fisheries with adequate sample sizes of STR encounters, this involves the 'bias-corrected M2' approach, as mentioned above. In situations where STR sample sizes are insufficient, total encounters and mortalities will be estimated using an 'M1' approach, where the size and mark-status composition of the Chinook salmon population is estimated using dockside sampling data (see WDFW & NWIFC 2013 for details).

Reporting

For some fisheries, WDFW will provide the co-managers with in-season updates of fishery performance (see attached Fishery Management Plans for details).

Following each summer and winter season, WDFW will compile a comprehensive post-season report for all Chinook MSFs conducted in Marine Areas 5-13. These reports will include a summary of the information collected as part of each fishery's sampling and monitoring program. In addition, for fisheries sampled using the Full Murthy, Reduced Murthy and Aerial Access sampling designs, the reports will also include:

- Weekly estimates of effort and number of Chinook salmon caught and released, by mark-status
- Estimates of total Chinook salmon encounters and associated mortalities by size and mark-status
- Comparisons of total encounters with pre-season FRAM modeled projections
- Comparisons of mortalities with pre-season FRAM modeled projections
- Estimated fishery-total mortalities of marked and unmarked DIT Chinook salmon, by stock and age

References

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1.18 2018 Summer Mark-Selective Sport Fishery Marine Area 5

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 5 during the 2018 summer season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The summer Chinook salmon MSF in Marine Area 5 will occur from **July 1, 2018 through August 15, 2018**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

The preseason prediction of total legal-sized Chinook salmon encounters in Area 5 is **5,758** (FRAM Chin3218). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above). WDFW will ensure that the fishery does not exceed **6,910** predicted legal-sized Chinook salmon encounters.

Sampling Design and Estimation Methodologies

WDFW will employ the 'Reduced Murthy' sampling design to monitor the Area 5 summer MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). WDFW will employ the appropriate number of staff during the Area 5 summer MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season catch and effort estimates beginning the week of **July 22, 2018.**

WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 5 summer MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wired tagged stocks as described in Attachment A.

1.19 2018 Summer Mark-Selective Sport Fishery Marine Area 6

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 6 during the 2018 summer season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The summer Chinook salmon MSF in Marine Area 6 will occur from **July 3, 2018 through August 15, 2018**, only in the portion of the area west of a true north/south line through buoy #2 near the tip of Ediz Hook. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 6 summer MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 6 summer MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 6 summer MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 6 MSF, in addition to estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wired tagged stocks as described in Attachment A will be provided at a later date, as Catch Record Card estimates become available (see Attachment A).

1.20 2018 Summer Mark-Selective Sport Fishery Marine Area 7

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 7 during the 2018 summer season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The summer Chinook salmon MSF in Marine Area 7 will occur from **July 1, 2018 to July 31, 2018**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon.

Fishery Controls

The preseason prediction of total legal sized Chinook salmon encounters in Area 7 is **3,777** (FRAM Chin3218). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above).

Sampling Design and Estimation Methodologies

WDFW will employ the 'Aerial Access' sampling design to monitor the Area 7 summer MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area 7 summer MSF in an effort to meet or exceed the sampling rate goal of 20%. Additionally, during the 2018 Area 7 summer MSF, WDFW plans to conduct an "On-the-water" boat survey simultaneously with an aerial survey in order to compare the two effort assessment methods and evaluate any potential bias in the aerial sampling design during this summer season one-month summer fishery.

Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season catch and effort estimates beginning the week of **July 22, 2018**.

WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 7 summer MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged and other coded-wire tagged stocks as described in Attachment A.

1.21 2018 Summer Mark-Selective Sport Fishery Marine Area 9

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement Chinook salmon mark-selective fisheries (MSFs) in Marine Area 9 during the 2018 summer season. These fisheries will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of these fisheries on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate these mark-selective fisheries.

Fishery Regulations

The summer Chinook salmon MSF in Marine Area 9 will occur between **July 16 and August 15, 2018.** Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

The preseason modeled expected catch is **5,587** Chinook salmon in Area 9 (FRAM Chin3218). WDFW will manage this fishery not to exceed the above catch quota.

Sampling Design and Estimation Methodologies

WDFW will employ the 'Full Murthy' sampling design to monitor the Area 9 summer MSFs and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area 9 summer MSFs in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will provide the co-managers with preliminary weekly estimates of effort and encounters starting no later than **Friday July 27, 2018** and continue through **August 15, 2018.** WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 9 summer MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other CWT stocks as described in Attachment A.

1.22 2018 Summer Mark-Selective Sport Fishery Marine Area 10

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement Chinook salmon mark-selective fisheries (MSFs) in Marine Area10 during the 2018 summer season. These fisheries will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of these fisheries on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate these mark-selective fisheries.

Fishery Regulations

The summer Chinook salmon MSF in Marine 10 will occur between **July 16 and August 30, 2018**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Thresholds

The preseason modeled expected catch is **4,743** Chinook salmon in Area 10 (FRAM Chin3218). WDFW will manage these fisheries not to exceed the above catch quota.

Sampling Design and Estimation Methodologies

WDFW will employ the 'Full Murthy' sampling design to monitor the Areas 10 summer MSFs and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area 10 summer MSFs in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will provide the co-managers with weekly in-season catch and effort estimates no later than **Friday July 27, 2018 and continue through August 15, 2018**. WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 10 summer MSFs, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A.

1.23 2018 Summer Mark-Selective Sport Fishery Marine Area 11

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 11 during the 2018 summer season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The summer Chinook salmon MSF in Marine Area 11 will occur from **June 1, 2018 through September 30, 2018.** Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

The preseason modeled expected catch is **5,344** Chinook salmon in Area 11 (FRAM Chin3218). WDFW will manage these fisheries not to exceed the above catch quota.

Sampling Design and Estimation Methodologies

WDFW will employ the 'Reduced Murthy' sampling design to monitor the Area 11 summer MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). WDFW will employ the appropriate number of staff during the Area 11 summer MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season catch and effort estimates beginning the **week ending June 27, 2018**.

WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 11 summer MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of double index-tagged (DIT) and other CWT stocks as described in Attachment A.

1.24 2018 Summer Selective Sport Fishery Marine Area 12

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 12 during the 2018 summer season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The summer Chinook salmon MSF in Marine Area 12 will occur from **July 1, 2018 through September 30, 2018**, only in the portion of the area located south of Ayock Point. Anglers will be allowed a daily limit of up to four salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 12 summer MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 12 summer MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 12 summer MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 12 MSF, in addition to estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other CWT stocks as described in Attachment A will be provided at a later date, as Catch Record Card estimates become available (see Attachment A).

1.25 2018 Summer Mark-Selective Sport Fishery Marine Area 13

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 13 during the 2018 summer season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The summer Chinook salmon MSF in Marine Area 13 will occur from **May 1, 2018 through September 30, 2018**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 13 summer MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 13 summer MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 13 summer MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 13 MSF, in addition to estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wired tagged stocks as described in Attachment A will be provided at a later date, as Catch Record Card estimates become available (see Attachment A).

1.26 2018-19 Winter Mark-Selective Sport Fishery Marine Area 5

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 5 during the 2018-2019 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The winter Chinook salmon MSF in Marine Area 5 will occur from **February 16 through April 30, 2019**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 5 winter MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 5 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 5 winter MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 5 MSF, in addition to estimates of marked and unmarked mortalities of double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A will be provided at a later date, as estimates from Catch Record Card become available (see Attachment A).

1.27 2018-19 Winter Mark-Selective Sport Fishery Marine Area 6

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 6 during the 2018-2019 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery-origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The winter Chinook salmon MSF in Marine Area 6 will occur from **February 1 through April 15, 2019**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

The preseason prediction of total Chinook salmon encounters in Area 6 is **5,473** (FRAM Chin3218). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above). However, if in-season estimates indicate that total Chinook salmon encounters are projected to be at 80% of the preseason modeled encounters, WDFW will initiate co-manager discussion regarding potential fishery actions. WDFW will ensure that the fishery does not exceed **6,413** predicted total Chinook salmon encounters.

Sampling Design and Estimation Methodologies

WDFW will employ the 'Aerial Access' sampling design to monitor the Area 6 winter MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area 6 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 6 winter MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 6 MSF, in addition to estimates of marked and unmarked mortalities of Double index-tagged and other coded-wire tagged stocks as described in Attachment A will be provided at a later date as estimates from Catch Record Card become available (see Attachment A).

1.28 2018-19 Winter Mark-Selective Sport Fishery Marine Area 7

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 7 during the 2018-2019 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The winter Chinook salmon MSF in Marine Area 7 will occur from **January 1, 2019 through April 15, 2019.** Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

The preseason prediction of total Chinook salmon encounters in Area 7 is **10,734** (FRAM 2018) and total unmarked encounters (legal-unmarked plus sublegal-unmarked) is **3,634** (FRAM Chin3218). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above), However, if in-season estimates indicate that total Chinook salmon encounters are projected to be at 80% of the preseason modeled encounters, WDFW will initiate co-manager discussion regarding potential fishery actions. WDFW will ensure the fishery does not exceed 3,176 total unmarked encounters and/or exceed 11,867 total encounters.

Sampling Design and Estimation Methodologies

WDFW will employ the 'Aerial Access' sampling design to monitor the Area 7 winter MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area 7 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season catch and effort estimates beginning the week ending **January 11, 2019.**

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 7 winter MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other CWT stocks as described in Attachment A.

1.29 2018-19 Winter Mark-Selective Sport Fishery Marine Areas 8-1 and 8-2

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement Chinook salmon mark-selective fisheries (MSFs) in Marine Areas 8-1 and 8-2 during the 2018-2019 winter season. This fisheries will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of these fisheries on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate these mark-selective fisheries.

Fishery Regulations

The winter Chinook salmon MSFs in Marine Areas 8-1 and 8-2 will occur from **December 1, 2018 through April 30, 2019**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

The preseason prediction of total Chinook salmon encounters in Area 8-1 and 8-2 is **5,473** (FRAM Chin3218). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above). However, if in-season estimates indicate that total Chinook salmon encounters are projected to be at 80% of the preseason modeled encounters, WDFW will initiate co-manager discussion regarding potential fishery actions. WDFW will ensure that the fishery does not exceed **6,568** predicted total Chinook salmon encounters.

Sampling Design and Estimation Methodologies

WDFW will employ the 'Reduced Murthy' sampling design to monitor the Area 8-1 and 8-2 winter MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). WDFW will employ the appropriate number of staff during the Area 8-1 and 8-2 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season catch and effort estimates beginning the week ending **December 21, 2018**.

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2019. This report will include a summary of the information collected as part of our sampling and monitoring programs during the Area 8-1 and 8-2 winter MSFs, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other CWT stocks as described in Attachment A.

1.30 2018-19 Winter Mark-Selective Sport Fishery Marine Area 9

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 9 during the 2018-2019 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The winter Chinook salmon MSF in Marine Area 9 will occur from **January 1 through April 15, 2019**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

The preseason prediction of total encounters in Area 9 is **8,337** (FRAM Chin3218). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above). However, if in-season estimates indicate that total Chinook salmon encounters are projected to be at 80% of the preseason modeled encounters, WDFW will initiate co-manager discussion regarding potential fishery actions. WDFW will ensure that the fishery does not exceed **10,004** predicted total Chinook salmon encounters.

Sampling Design and Estimation Methodologies

WDFW will employ the 'Aerial Access' sampling design to monitor the Area 9 winter MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area 9 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season catch and effort estimates beginning the week ending **January 18, 2018**.

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 9 winter MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A.

1.31 2018-19 Winter Mark-Selective Sport Fishery Marine Area 10

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 10 during the 2018-2019 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The winter Chinook salmon MSF in Marine Area 10 will occur from **January 1, 2018 through March 31, 2019.** Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

The preseason prediction of total Chinook salmon encounters in Area 10 is **2,997** (FRAM Chin3218). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above). However, if in-season estimates indicate that total Chinook salmon encounters are projected to be at 80% of the preseason modeled encounters, WDFW will initiate co-manager discussion regarding potential fishery actions. WDFW will ensure that the fishery does not exceed **3,596** predicted total Chinook salmon encounters.

Sampling Design and Estimation Methodologies

WDFW will employ the 'Reduced Murthy' sampling design to monitor the Area 10 winter MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area 10 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season catch and effort estimates beginning the week ending **January 18, 2018.**

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 10 winter MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A.

1.32 2018-19 Winter Mark-Selective Sport Fishery Marine Area 11

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 11 during the 2018-2019 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The winter Chinook MSF in Marine Area 11 will occur from **October 1, 2018 through April 30, 2019**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 11 winter MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 11 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 11 winter MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 11 MSF, in addition to estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A will be provided at a later date, as Catch Record Card estimates become available (see Attachment A).

1.33 2018-2019 Winter Mark-Selective Sport Fishery Marine Area 12

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 12 during the 2018-2019 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The winter Chinook salmon MSF in Marine Area 12 will occur from **October 1, 2018 through April 30, 2019**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 12 winter MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 12 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 12 winter MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 12 MSF, in addition to estimates of marked and unmarked mortalities of double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A will be provided at a later date, as Catch Record Card estimates become available (see Attachment A).

1.34 2018-19 Winter Mark-Selective Sport Fishery Marine Area 13

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 13 during the 2018-2019 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

Fishery Regulations

The winter Chinook salmon MSF in Marine Area 13 will occur from **October 1, 2018 through April 30, 2019**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2018-19 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 13 winter MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 13 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

Reporting Schedule

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2019. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 13 winter MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 13 MSF, in addition to estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A will be provided at a later date, as Catch Record Card estimates become available (see Attachment A).

1.35 Draft Charter Boat Sampling Program for Puget Sound Marine Recreational Salmon Fisheries

Based on agreements between the State of Washington and the Northwest Treaty Tribes, the Washington Department of Fish and Wildlife (WDFW) has been conducting recreational mark-selective Chinook salmon fisheries (MSFs) in the marine catch areas of Puget Sound since 2003. Attachment A provides the general intent, data needs, sampling and monitoring plans, estimation methodologies, and reporting schedules associated with these fisheries.

As an addition to Attachment A, this document describes the proposed sampling plan specific to charter vessels participating in recreational mark-selective Chinook salmon fisheries and/or Chinook salmon non-retention (NR) fisheries in the marine areas of Puget Sound.

Data Needs for Evaluating the Fishery

A sampling program for charter vessels will be implemented, in addition to the sampling program for private boats, for the purpose of providing the data necessary to estimate impacts of MSFs and/or NR fisheries on unmarked Chinook salmon and to support the evaluation of future such fisheries. In addition to conducting dockside sampling to collect biological information on landed catch, WDFW will coordinate collection of salmon encounter information and angler effort counts with membership of the Charter Association of Puget Sound and other charter operators in Puget Sound. Participants in this program will provide the data described below to enable an overall assessment of Chinook salmon MSFs and NR fisheries in Puget Sound. Additionally, in a coordinated effort with charter boat operators, WDFW samplers will ride along aboard charter boats to enumerate salmon encounters and collect biological data on encountered Chinook, as detailed further below.

The charter boat sampling program is designed to provide data that, in combination with the data collected during private boat sampling, will enable estimation of the following parameters:

- Number of Chinook salmon encounters (retained and released), by size class (legal/sublegal) and mark status (marked/unmarked): estimated using salmon trip report (STR) logbooks, WDFW-staffed charter ride-along trips, and dockside sampling programs.
- Mark rate in the fishery: estimated using salmon trip report (STR) logbooks, WDFW-staffed charter ride-along trips, and dockside sampling programs.
- Stock composition of mortalities: estimated using coded-wire tag (CWT) data collected during dockside sampling.
- Mortalities of marked and unmarked double-index tagged (DIT) and other CWT stocks.

Sampling Components

Dockside Sampling

WDFW samplers collect biological data and information regarding effort and catch by conducting angler interviews at assigned access sites. Samplers will record on their sampling form whether the boat sampled is a charter vessel or private boat. During interviews, samplers acquire data on the number of anglers fishing in each boat, the Marine Catch Area(s) fished, trip duration, trip intent (targeted species) and fish encounter composition (kept and/or released by species). When an interviewed party possesses Chinook or coho salmon, samplers inspect the fish for CWTs using wand detectors and collect snouts from CWT-positive individuals for later lab processing. Samplers also take length measurements and collect scale samples from landed Chinook.

On-water Effort Surveys

On-the-water interviews (Boat Surveys) are conducted to provide information on the propotion of effort in a fishery originating from certain access sites. During these surveys, samplers record the vessel type (charter or private boat). Samplers attempt to intercept all anglers on the water in a given fishery and determine where they intend to tie up or exit the fishery upon completing their trip. This provides WDFW with a list of sites (ramps/launches) used to access the fishery as well as information on the relative amount of use (number of anglers) each site receives. Based on this information we designate a "sample-frame" of 5-6 of the highest use access sites for each fishery, from which we select sample sites for dockside creel sampling. Information from the boat surveys also allows us to estimate the total effort that originates from non-sampled sites and include it in our estimates.

Salmon Trip Reports

Salmon trip reports (STRs) will be completed and returned by charter operators on at least a weekly basis to obtain additional information on Chinook encounter rates by size class and mark-status. The information recorded will include the date, number of anglers, target species, Marine Catch Area, and for each Chinook or coho hooked, whether the fish was kept or released, legal or sublegal sized, and marked (adipose clipped) or unmarked. Electronic submission of these data will be possible via WDFW's new STR smartphone application in the future, and paper forms will still be available for charter operators to use as well. Charter operators can also take a photo of the STR and e-mail it to STR@dfw.wa.gov. The sooner the data can be provided to WDFW the sooner the data can be utilized for in-season management, when applicable.

Charter Boat Ride-alongs:

In coordination with charter boat operators, WDFW observers will ride along aboard charter boats, collecting the following data for each observed encounter on the boat: date, Marine Catch Area fished, species hooked, result of hookup (fish kept, released, or dropped off), mark status, and size class (legal vs. sublegal). Also WDFW ride-along samplers will collect biological data, including length and scale samples, on each observed Chinook salmon that is encountered.

Reporting

At the conclusion of the 2018 season, WDFW will compile all data collected from charter boats and volunteer reports from other participating anglers. A summary of data collected and estimates of total angler effort for each fishery will be documented and available for review by December 1, 2018.

As described in Attachment A, following each summer and winter season, WDFW will compile a comprehensive post-season report for all Chinook salmon MSFs conducted in Marine Areas 5-13. These reports will include a summary of the information collected as part of each fishery's sampling and monitoring program, for both charter boats and private boats. In addition, for fisheries sampled using the Full Murthy, Reduced Murthy and Aerial Access sampling designs, the reports will also include:

- Weekly estimates of effort and number of Chinook salmon caught and released, by mark-status
- Estimates of total Chinook salmon encounters and associated mortalities by size and mark-status

- Comparisons of total encounters with pre-season FRAM modeled projections
- Comparisons of mortalities with pre-season FRAM modeled projections
- Estimated fishery-total mortalities of marked and unmarked DIT Chinook salmon, by stock and age.

[i]Based on Chinook 3218