

Willapa Bay Public Meeting – 2019 North of Falcon

April 9, 2019 6 p.m. – 8 p.m.

Raymond Elks Lodge, Raymond, WA

Meeting Agenda

1. Introductions and opening comments
2. Comprehensive Policy Review Process
3. 2019 Commission Guidance
4. Layered Gear Restrictions Issue
5. Fishery Planning – Suggestions and comments

We have two links where meeting information and documents for this year's 2019 North of Falcon process can be found:

<https://wdfw.wa.gov/fishing/management/north-falcon/public-meetings>

<https://wdfw.wa.gov/about/advisory/wbsag>

If you have any comments and/or fishery suggestions you would like to provide regarding Willapa Bay fisheries, you can go online to:

<https://wdfw.wa.gov/fishing/management/north-falcon/public-input>

Or send your comments/suggestions directly to our Willapa Bay email at:

WillapaBay@dfw.wa.gov

**2019 Fish and Wildlife Commission Guidance for the Willapa Bay
Comprehensive Policy Review
April 6, 2019**

With reference to slide 15 in the staff presentation titled "Proposed Policy Review Process":

1. Staff should incorporate into the review analysis the feedback from the Commission at this meeting and any specific questions related to the evaluation of policy performance that are submitted by Commissioners in the next two weeks.
2. A "table of contents" outline of the comprehensive review should be provided to the Commission and the WBSAG in early May.
3. The Policy Review Process should add Fish Committee progress reviews at the June, September and October Commission meetings.
4. A draft final comprehensive review report should be presented at the October 18-19, 2019 FWC meeting and the agenda item should include a call for adoption of a preliminary range of alternatives for policy changes, for staff analysis. Public testimony should be taken on both reaching finality on the comprehensive review and identifying a range of alternatives for possible changes to the policy.
5. Add a tentative agenda item for the January 2020 FWC meeting, with public testimony taken, that would include
 - a. the staff analysis of the Range of Alternatives for policy revisions;
 - b. Commission identification of a preferred alternative for public review; and
 - c. identification of the public review timeline for a strikeout/markup version of Policy C-3622 showing proposed changes.
6. Add a tentative agenda item for the February or March FWC meeting for a final Commission decision on any policy language changes; public comment to be taken at this meeting.
7. Add in Advisory Body meetings between 4-6 above.

2019 Fish and Wildlife Commission Guidance for Willapa Bay Fishery Planning
April 6, 2019

With reference to the presentation on April 6, 2019 titled "Willapa Bay Salmon Management Policy C-3622", a motion was made. There were two amendments to the motions and there was considerable clarifying dialogue between Commissioners and staff, and an amended motion passed as follows:

1. Motion was made to adopt Option C that was presented by staff, which continues the guidance from 2018:
 - a. At the time of the motion, slide 14 of the staff presentation was on the screen, showing detailed components of Option C.
 - i. There was discussion about whether there was to be exact adherence to the values on the screen, such as 18.3% impact for Willapa River Chinook and 19.3% for Naselle River, in comparison to the aggregate natural origin impact rate of 20% in 2018 guidance.
 - b. There was reference to slide 13 of the staff presentation, which also described Option C, showing the following in a column with a header of "Natural Chinook HR Cap":
 - i. Actively manage to not exceed a 20% total impacts for Chinook on Willapa River
 - ii. Actively manage to not exceed a 20% total impacts for Chinook on Naselle River
 - iii. Actively manage to not exceed a 10% total impacts for Chum
 - c. There was clarifying discussion that the aggregate natural-origin impact rate cap of 20% was intended to replace the 14% aggregate rate cap in the Policy and that the intent was to provide the staff flexibility in adoption management measures so long as the 20% impact rate cap was not exceeded.
2. 1st amendment to the original motion was to suspend the Fishery Management #6 in the Willapa Bay Policy;

Item #6 of the Fall Chinook Salmon Species-specific guidance section on page 6 reads: Fishery Management After 2018. Fisheries in the Willapa Bay Basin will be managed with the goal of:

- a. Limiting the fishery impact rate on Willapa and Naselle river natural-origin fall Chinook salmon to no more than 14%.
- b. No commercial fisheries shall occur within areas 2T and 2U prior to September 16.
- c. No commercial Chinook fisheries shall occur in areas 2M, 2N, 2P and 2R until after September 7.

There was clarifying justification discussion that the additional reductions in northern ocean interceptions from the new Pacific Salmon Treaty in 2019 together with a 20% in-bay impact rate would achieve near conservation neutrality with the 2015 Policy intent of

a 14% in-bay impact rate cap and higher historic northern interceptions, and that the removal of area and time restrictions would provide the staff the flexibility to manage the fishery in-season to achieve the 20% impact rate cap.

The amendment passed unanimously.

3. 2nd amendment to the original motion was to allow the staff the flexibility to determine the bag limits for Chinook and Coho in the recreational fishery;
 - a. There was clarifying discussion about while Option C had a firm bag limit of three adult Chinook, that a two fish bag limit might be more appropriate for a year like 2019; however the discussion concluded with providing the staff flexibility to establish a bag limit that is appropriate within the cap of 20% and the input during the North of Falcon process.
 - b. The amendment passed unanimously.
4. The amended motions passed unanimously.

2019 Willapa Bay Fishery Model Proposals

Model	Natural Chinook Expected Impact Rate			Expected Escapement			Policy Priorities		Allocation % by Sector				# Commercial Days Scheduled
	Willapa River	Naselle River	Chum Impacts	NOR Chinook		NOR Coho	Willapa Bay Total Expected Harvest		Chinook	Coho	Chinook	Coho	
				Goal=4,353	Goal=13,600	Goal = 35,400	Rec	Comm	Rec	Comm	Rec	Comm	
Commercial Proposal #1	15.4%	19.1%	9.9%	3,647	40,819	47,012	4,489	2,976	14,620	28,861	60.1%	39.9%	33.6% 66.4%
Commercial Proposal #2	15.9%	19.1%	9.9%	3,633	40,641	47,012	4,489	3,092	14,620	29,236	59.2%	40.8%	33.3% 66.7%
Commercial Proposal #3	14.4%	17.9%	9.9%	3,689	38,899	47,050	5,848	2,839	17,358	29,719	67.3%	32.7%	36.9% 63.1%
Commercial Proposal #4	14.7%	19.0%	9.9%	3,669	38,844	47,049	5,848	3,184	17,349	30,157	64.7%	35.3%	36.9% 64.1%
Proposal #5	14.7%	17.5%	9.9%	3,684	40,575	47,062	4,489	3,247	14,620	29,014	58.0%	42.0%	31.1% 61.6%
													44

2019 Fishery Description of Above Model Proposals

Model	Willapa River	Naselle River	Chum Impacts	Fishery	Total Bag Limit	Chinook Fishery - UM Release Required (MSF)	Natural Coho Bag Limit	Hatchery Coho Bag Limit	Chum
Commercial Proposal #1	20.0%	20.0%	10.00%	Marine Rec	2	MSF starting August 1	2	2	Retention
				Freshwater Rec	2	MSF	2	2	Retention
Commercial Proposal #2	20.0%	20.0%	10.00%	Commercial	Tangle Nets November	2N & 2M prior to 9/15 MSF			Retention Sept & Oct Release in Nov
Commercial Proposal #3	20.0%	20.0%	10.00%	Marine Rec	2	MSF starting August 1	2	2	Retention
				Freshwater Rec	2	MSF	2	2	Retention
Commercial Proposal #4	20.0%	20.0%	10.00%	Commercial	Tangle Nets November	2N & 2M prior to 9/15 2 days in 2N in Aug MSF			Retention Sept & Oct Release in Nov
Proposal #5	20.0%	20.0%	10.00%	Marine Rec	3	MSF starting August 1	3	3	Retention
				Freshwater Rec	3	MSF	3	3	Retention
				Commercial	Tangle Nets November	2N & 2M prior to 9/15 2U Sept & Oct 1 day in 2N in Aug MSF			Retention Sept & Oct Release in Nov
				Marine Rec	3	MSF starting August 1	3	3	Retention
				Freshwater Rec	3	MSF	3	3	Retention
				Commercial	Tangle Nets November	2N & 2M prior to 9/15 2U Sept & Oct MSF			Retention Sept & Oct Release in Nov
				Marine Rec	2	MSF starting August 1	2	2	Retention
				Freshwater Rec	2	MSF	2	2	Retention
				Commercial	Tangle Nets November	2N & 2M prior to 9/15 2U September 1 day in 2N & 2M in Aug MSF			Retention Sept & Oct Release in Nov

MSF = Mark Selective Fishery

WDFW Pamphlet Overlapping

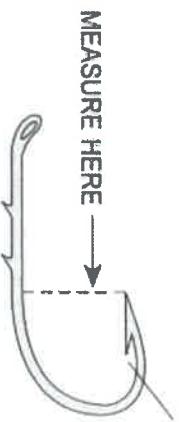
Rules

- Language is contradictory
 - Using anti-snagging rules, the language states, “terminal fishing gear is restricted to a lure or bait...”.
 - Using Selective Gear Rules, the language states, “Bait is prohibited...”.
- These two rules taken together can easily be confused when bait is allowed in the Anti-Snagging Rule and bait is not allowed in the Selective Gear Rules.

Selective Gear Rules Only unscented artificial flies or lures with one single-point, barbless hook are allowed. Up to a total of three artificial flies or lures, each containing one single-point, barbless hook may be used. Bait is prohibited; fish may be released until the daily limit is retained. Only knotless nets may be used to land fish except where specifically allowed under Special Rules for individual waters. If any fish has swallowed the hook or is hooked in the gill, eye, or tongue, it should be kept if legal to do so.

Sport Fishing Regulations Pamphlet 2018-2019:
<https://wdfw.wa.gov/sites/default/files/publications/01998/wdfw01998.pdf> Page 10-11

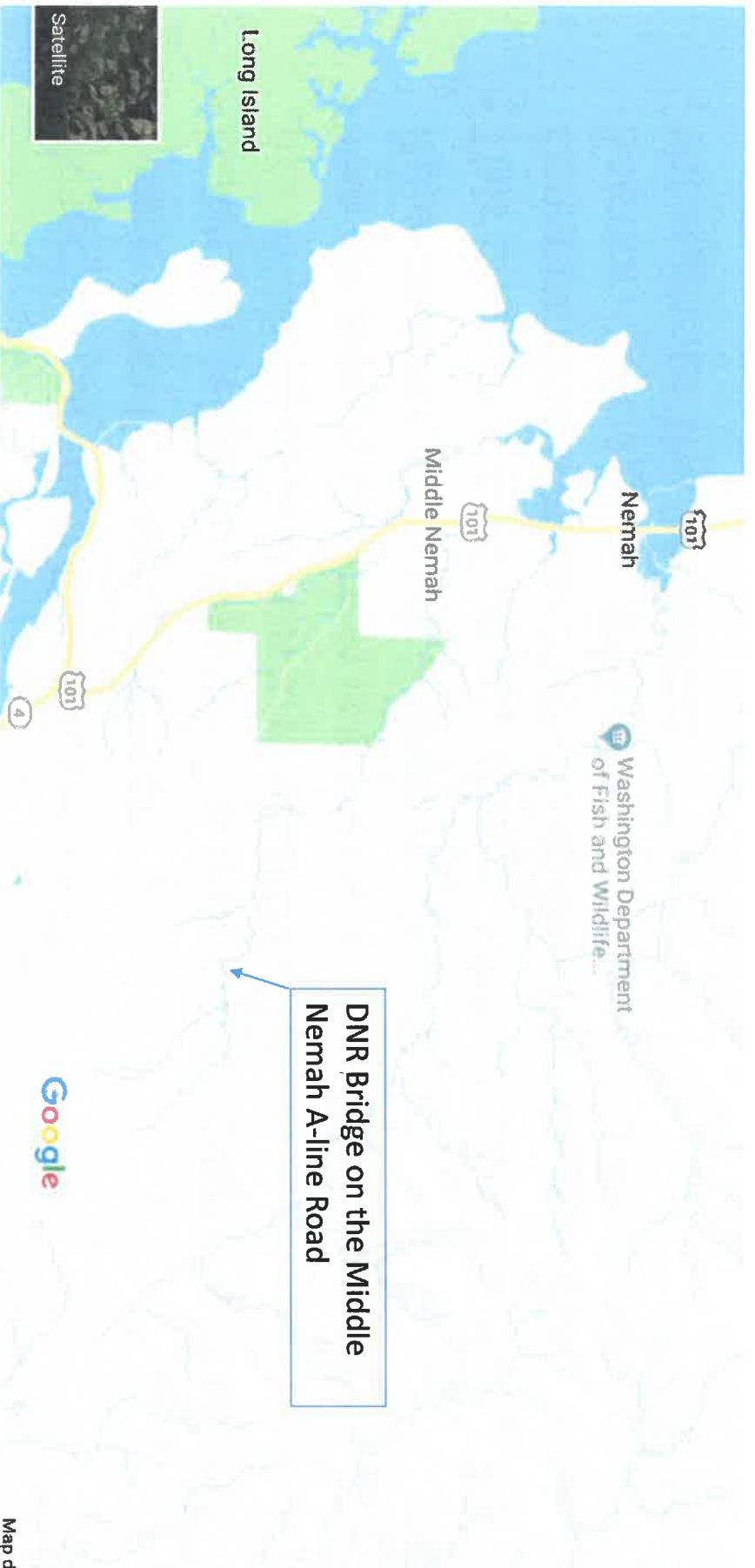
Anti-Snagging Rule Except when fishing with a buoyant lure (with no weights added to the line or lure), or trolling from a vessel or floating device, terminal fishing gear is restricted to a lure or bait with one single-point hook. Hooks must measure $\frac{3}{4}$ " or less from point to shank, and must be attached to or below the lure or bait. Weights may not be attached below or less than 12" above the lure or bait.



Pamphlet Regulation

NEMAH RIVER, MIDDLE - Pacific Co. from mouth upstream to the Dept. of Natural Resources bridge on Middle Nemah A-Line Rd. (379)	ALL SPECIES	Aug. 1-Nov. 30	Night closure. Single-point barbless hooks required.
	TROUT	Sat. before Memorial Day-Mar. 31	Statewide min. size/daily limit, except CUTTHROAT TROUT and wild RAINBOW TROUT; min. size 14".
	OTHER GAME FISH	Sat. before Memorial Day-Mar. 31	Statewide min. size/daily limit.
from Dept. of Natural Resources bridge on Middle Nemah A-Line Rd. upstream (379)	SALMON	Sept. 1-Jan. 31	Min. size 12". Daily limit 6. Up to 4 adults may be retained of which 1 may be a wild adult COHO. Release wild CHINOOK.
	ALL SPECIES	Aug. 16-Nov. 30	Selective gear rules.
	TROUT	Sat. before Memorial Day-Mar. 31	Night closure. Anti-snagging rule.
	OTHER GAME FISH	Sat. before Memorial Day-Mar. 31	Statewide min. size/daily limit, except CUTTHROAT TROUT and wild RAINBOW TROUT; min. size 14". Statewide min. size/daily limit.

Sport Fishing Regulations Pamphlet 2018-2019:
<https://wdfw.wa.gov/sites/default/files/publications/01998/wdfw01998.pdf> Page 29



Middle Nemah River, from the Dept. of Natural Resources Bridge on the
Middle Nemah A-Line Rd upstream

In this section of the Middle Nemah River:

- There is no fishing for salmon.
- However while fishing for Trout or Other GameFish, there are impacts to salmon and wild steelhead.
- The proposed solution is to remove the Anti-Snagging Rule and use only the Selective Gear Rules.
- This change would be consistent with an enhanced conservation approach that follows the Willapa Bay Salmon Management Policy and provide consistency throughout the pamphlet.

Commercial Proposal #

**20% Willapa/Naselle NO
CHK**

Marine Area Rec: Chinook MSF Aug 1, 2 fish bag, Release UM CHK

Freshwater: 2 fish bag, Release UM CHK

Commercial: Tangle Net prior to 9/15 in 2N & 2M, Release UM CHK

				Chinook								Coho								Chum				
		Total Hatchery	Willapa North	Nemah Palix	Naselle Bear		Total Natural	Willapa North	Nemah Palix	Naselle Bear	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear		Total				
Commercial Chinook Drop out		0.03	Sport hook & line drop off		0.05	Pre-Season Runsize	23,807	4,758	12,257	6,792		4,309	2,940	357	1,012	82,768	13,741	0	69,027	56,366	32,694	8,339	15,333	52,205
Commercial Coho Drop out		0.02	Marine Hooking Mortality		0.14	Escapement Goal	3,525	200	1,950	1,375		4,353	2,172	328	1,853	2,500	1,000	0	1,500	13,600	9,679	1,294	2,628	35,400
Small mesh gear mortality		0.56	Freshwater Hooking Mortality		0.10	Harvestable	20,282	4,558	10,307	5,417		-44	768	29	-841	80,268	12,741	0	67,527	42,766	23,015	7,046	12,705	16,805

0.75 25% Savings for 12 hr fishery using 24 hr rate

	Willapa R Natural Chinook Mortality Rate		Naselle Natural Chinook Mortality Rate		Chum Mortality Rate		Recreational Marine Catch				Commercial Marine Catch				Total Commercial Catch					
	Projected	Cap	Projected	Cap	Projected	Cap	Harvest Rate				Harvest Rate				Harvest Rate					
Harvest Rate	15.4%	20%	19.1%	20%	9.9%	10%	Recreational Freshwater Catch				Commercial Freshwater Catch				Total Commercial Freshwater Catch					
Coho Natural Expected Escapement	Projected	Goal					Harvest Rate				Harvest Rate				Harvest Rate					
Chum Expected Escapement	40,819	13,600					Total Recreational Catch				Commercial Recreational Catch				Total Commercial Recreational Catch					
	47,012	35,400					Harvest Rate				Harvest Rate				Harvest Rate					
							Expected Escapement				Total Harvest Rates				Total Harvest Rates					
							16,342 2,307 10,162 3,873				0.314 0.515 0.171 0.430				3,647 2,488 341 818 54,835					
							0.154 15.4% 0.046 19.1% 0.337				0.154 15.4% 0.046 19.1% 0.337				40,819					
							0.062 0.216 0.000 0.065				0.040 0.052 0.000 0.017				0.057 0.062					
							0.014 0.011 0.044 0.015				0.051 0.044				0.052 0.053 0.063 0.004 0.057					
							0.054 0.063 0.044 0.031				0.108 0.106				0.108 0.101 0.104 0.066 0.114					
							0.0276				0.0276				0.0276					

2019 Willapa Bay Salmon Fishery Planning Model

Updated 9-Apr-19

PFMC # Coho1918_NOF2_040519.xlsx

Mid Ocean Option

Commercial Proposal #2: 20% Willapa/Naselle NOF CHK

Marine Area Rec: Chinook MSF Aug 1, 2 fish bag, Release UM CHK

Freshwater: 2 fish bag, Release UM CHK

Commercial: 2 days Aug, Tangle Net prior to 9/15 in 2N & 2M, Release UM CHK

Commercial Chinook Drop out	0.03	Sport hook & line drop off	0.05
Commercial Coho Drop out	0.02	Marine Hooking Mortality	0.14
Small mesh gear mortality	0.56	Freshwater Hooking Mortality	0.10
Tangle net mortality	0.31		
0.75		25% Savings for 12 hr fishery using 24 hr rate	

	Chinook								Coho								Chum	
	Pre-Season Runsize	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear	Total
		23,807	4,758	12,257	6,792		4,309	2,940	357	1,012	82,768	13,741	0	69,027	56,366	32,694	8,339	15,333
Escapement Goal	3,525	200	1,950	1,375		4,353	2,172	328	1,853	2,500	1,000	0	1,500	13,600	9,679	1,294	2,628	35,400
Harvestable	20,282	4,558	10,307	5,417		-44	768	29	-841	80,268	12,741	0	67,527	42,766	23,015	7,046	12,705	16,805

0.75 25% Savings for 12 hr fishery using 24 hr rate

Based on 12-Hr rates		Days Fished						MSF				Chinook Catch Natural				Hatchery Chinook				Natural Chinook				Hatchery Coho				Natural Coho				CHUM MSF	Chum Catch					Total Chum				
Stat Week	2017 Dates	T	U	N	R	M	T	U	N	R	M	T	U	N	R	M	Total Hatchery	Total WB Origin	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Total Origin	Willapa North	Nemah Palix	Naselle Bear	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear	T	U	N	R	M			
32	Aug 4 - Aug 10	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
33	Aug 11 - 17	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
34	Aug 18 - 24	0.0	0.0	2.0	0.0	0.0	1.00	1.00	0.31	1.00	0.31	0	0	17	0	0	244	244	38	4	203	23	17	7	0	9	13	0	0	0	13	0	0	0	0	0	0	0	0	0		
35	Aug. 25 - Aug 31	0.0	0.0	0.0	0.0	0.0	1.00	1.00	0.31	1.00	0.31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
36	Sept. 1 - 7	0.0	0.0	2.0	0.0	0.0	1.00	1.00	0.31	1.00	0.31	0	0	16	0	0	273	273	42	4	226	22	16	7	0	9	319	1	0	0	317	17	1	6	10	1.00	0	0	1	0	0	1
37	Sept. 8 - 14	0.0	0.0	3.0	0.0	0.0	1.00	1.00	0.31	1.00	0.31	0	0	36	0	0	626	626	97	9	520	49	36	16	0	20	670	2	0	667	139	7	49	83	1.00	0	0	2	0	0	2	
38	Sept 15 - 21	6.0	5.0	6.0	0.0	5.0	0.56	0.56	0.56	1.00	0.56	49	95	16	0	44	1,252	1252	681	7	564	243	205	143	0	62	5,768	1832	0	3937	2,083	1113	440	529	1.00	7	8	3	0	6	25	
39	Sept. 22 - 28	6.0	5.0	6.0	0.0	6.0	0.56	0.56	0.56	1.00	0.56	31	18	5	0	38	393	393	161	3	229	112	92	49	0	43	4,496	682	0	3814	681	237	211	233	1.00	29	8	3	0	57	98	
40	Sept 29 - Oct 5	5.0	5.0	5.0	0.0	5.0	0.56	0.56	0.56	1.00	0.56	11	32	1	0	8	202	202	125	1	76	61	53	41	0	11	5,600	896	0	4704	2,094	1083	438	573	1.00	158	9	60	0	167	395	
41	Oct. 6 - 12	4.0	5.0	4.0	0.0	4.0	0.56	0.56	0.56	1.00	0.56	13	6	0	0	4	94	94	48	0	45	30	24	17	0	6	1,500	341	0	1159	3,120	1900	488	731	1.00	1,026	68	109	0	896	2,099	
42	Oct. 13 - 19	0.0	0.0	0.0	0.0	0.0	0.56	0.56	0.56	1.00	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
43	Oct. 20 - 26	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
44	Oct. 27 - Nov 2	0.0	0.0	0.0	0.0	0.0	0.56	0.56	0.56	0.56	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
45	Nov. 3 - 9	3.0	3.0	3.0	0.0																																					

2019 Willapa Bay Salmon Fishery Planning Model

Updated 9-Apr-19

PFMC # Coho1918 NOF2 040519.xlsx

Mid Ocean Option

Commercial Proposal #3

20% Willapa/Naselle NO CHK

Marine Area Rec: Chinook MSF Aug 1, 3 fish bag, Release UM CHK

Freshwater: 3 fish bag, Release UM CHK

Commercial: 1 day August in 2N, Tangle Nets prior to 9/15 in 2N & 2M and 2U Sept & Oct, Release UM CHK

Commercial Chinook Drop out	0.03	Sport hook & line drop off	0.
Commercial Coho Drop out	0.02	Marine Hooking Mortality	0.
Small mesh gear mortality	0.56	Freshwater Hooking Mortality	0.
Tangle net mortality	0.31		

Chinook								Coho								Chum				
	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear		Total Natural	Willapa North	Nemah Palix	Naselle Bear		Total Hatchery	Willapa North	Nemah Palix	Naselle Bear		Total Natural	Willapa North	Nemah Palix	Naselle Bear	
Pre-Season Runsize	23,807	4,758	12,257	6,792		4,309	2,940	357	1,012	82,768	13,741	0	69,027	56,366	32,694	8,339	15,333		52,20	
Escapement Goal	3,525	200	1,950	1,375		4,353	2,172	328	1,853	2,500	1,000	0	1,500	13,600	9,679	1,294	2,628		35,40	
Harvestable	20,282	4,558	10,307	5,417		-44	768	29	-841	80,268	12,741	0	67,527	42,766	23,015	7,046	12,705		16,80	

0.75 25% Savings for 12 hr fishery using 24 hr rate

2019 Willapa Bay Salmon Fishery Planning Model

Updated 9-Apr-19

PFMC # Coho1918_NOF2_040519.xlsx

Mid Ocean Option

Commercial Proposal #4: 20% Willapa/Naselle NOR CHK

Marine Area Rec: Chinook MSF Aug 1, 3 fish bag, Release UM CHK

Freshwater: 3 fish bag, Release UM CHK

Commercial: Tangle Nets prior to 9/15 in 2N & 2M and 2U Sept & Oct, Release UM CHK

		Chinook								Coho											
		Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear	Total			
Commercial Chinook Drop out	0.03	Sport hook & line drop off	0.05	Pre-Season Runsize	23,807	4,758	12,257	6,792	4,309	2,940	357	1,012	82,768	13,741	0	69,027	56,366	32,694	8,339	15,333	52,205
	0.02	Marine Hooking Mortality	0.14		3,525	200	1,950	1,375	4,353	2,172	328	1,853	2,500	1,000	0	1,500	13,600	9,679	1,294	2,628	35,400
	0.56	Freshwater Hooking Mortality	0.10		20,282	4,558	10,307	5,417	-44	768	29	-841	80,268	12,741	0	67,527	42,766	23,015	7,046	12,705	16,805
Tangle net mortality	0.31																				
0.75	25% Savings for 12 hr fishery using 24 hr rate																				

0.75 25% Savings for 12 hr fishery using 24 hr rate

Based on 12-Hr rates		Days Fished						MSF				Chinook Catch Natural				Hatchery Chinook				Natural Chinook				Hatchery Coho				Natural Coho				CHUM MSF	Chum Catch					Total Chum			
Stat Week	2017 Dates	T	U	N	R	M	T	U	N	R	M	T	U	N	R	M	Total Hatchery	Total WB Origin	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Total Origin	Willapa North	Nemah Palix	Naselle Bear	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear	T	U	N	R	M		
32	Aug 4 - Aug 10	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0						
33	Aug 11 - 17	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0						
34	Aug 18 - 24	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0						
35	Aug. 25 - Aug 31	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0							
36	Sept. 1 - 7	0.0	0.0	3.0	0.0	1.0	1.00	1.00	0.31	1.00	0.31	0	0	25	0	13	625	625	68	10	547	48	38	12	0	26	538	2	0	536	39	2	16	21	1.00	0	0	2	0	2	3
37	Sept. 8 - 14	0.0	0.0	3.0	0.0	0.0	1.00	1.00	0.31	1.00	0.31	0	0	36	0	0	626	626	97	9	520	49	36	16	0	20	670	2	0	667	139	7	49	83	1.00	0	0	2	0	0	2
38	Sept 15 - 21	6.0	5.0	6.0	0.0	5.0	0.56	0.31	0.56	1.00	0.56	49	53	16	0	44	1,252	1,252	681	7	564	197	162	103	0	59	5,768	1832	0	3937	2,083	1113	440	529	1.00	7	8	3	0	6	25
39	Sept. 22 - 28	6.0	5.0	6.0	0.0	5.0	0.56	0.31	0.56	1.00	0.56	31	10	5	0	32	372	372	160	3	209	97	78	41	0	37	4,182	681	0	3501	640	236	190	215	1.00	29	8	3	0	48	88
40	Sept 29 - Oct 5	6.0	5.0	6.0	0.0	5.0	0.56	0.31	0.56	1.00	0.56	13	18	2	0	8	214	214	132	1	81	49	41	30	0	11	6,024	959	0	5066	2,367	1211	491	664	1.00	189	9	72	0	167	438
41	Oct. 6 - 12	4.0	5.0	4.0	0.0	2.0	0.56	0.31	0.56	1.00	0.56	13	3	0	0	2	84	84	48	0	36	25	19	15	0	4	1,282	340	0	942	3,095	1899	475	721	1.00	1,026	68	109	0	448	1,651
42	Oct. 13 - 19	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0						
43	Oct. 20 - 26	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0						
44	Oct. 27 - Nov 2	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.56	0	0	0	0	0	0						
45	Nov. 3 - 9	4.0	4.0	4.0	0.0	4.0	0.56	0.56	0.56	0.56	0.56	1	1	0	0	0	8	8	5	0	3	3	2	2	0	0	674	377	0	297	1,689	1530	115	45	0.56	165	404	158	0	994	1,721
46	Nov. 10 - 16	5.0	5.0	5.0	0.0	5.0	0.56	0.56	0.56	0.56	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84	51	0	33	122	116	6	0	0.56	19	145				

2019 Willapa Bay Salmon Fishery Planning Model

Updated 9-Apr-19

PFMC # Coho1918_NOF2_040519.xlsx

Mid Ocean Option

Proposal #5: 20% Willapa/Naselle NO CHK

Marine Area Rec: Chinook MSF Aug 1, 2 fish bag, Release UM CHK
Freshwater: 2 fish bag, Release UM CHK
Commercial: 1 day Aug, Tangle Net prior to 9/15 in 2N & 2M and 2U
Sept, Release UM CHK

				Chinook								Coho								Chum		
				Total Hatchery	Willapa North	Nemah Palix	Naselle Bear		Total Natural	Willapa North	Nemah Palix	Naselle Bear	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear		Total
Commercial Chinook Drop out	0.03	Sport hook & line drop off	0.05	Pre-Season Runsize	23,807	4,758	12,257	6,792		4,309	2,940	357	1,012	82,768	13,741	0	69,027	56,366	32,694	8,339	15,333	52,205
Commercial Coho Drop out	0.02	Marine Hooking Mortality	0.14	Escapement Goal	3,525	200	1,950	1,375		4,353	2,172	328	1,853	2,500	1,000	0	1,500	13,600	9,679	1,294	2,628	35,400
Small mesh gear mortality	0.56	Freshwater Hooking Mortality	0.19	Unaccountable	29,282	4,558	12,307	5,417		44	768	39	861	82,268	13,741	0	67,527	42,766	33,015	7,046	12,705	16,805

0.75 25% Savings for 12 hr fishery using 24 hr rate

Based on 12-Hr rates		MSF										Chinook Catch Natural					Hatchery Chinook					Natural Chinook					Hatchery Coho					Natural Coho					CHUM MSF	Chum Catch					Total Chum
Stat Week	2017 Dates	T	U	N	R	M	T	U	N	R	M	T	U	N	R	M	Total Hatchery	Total WB Origin	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Total WB Origin	Willapa North	Nemah Palix	Naselle Bear	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear	T	U	N	R	M				
32	Aug 4 - Aug 10	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
33	Aug 11 - 17	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
34	Aug 18 - 24	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
35	Aug. 25 - Aug 31	0.0	0.0	1.0	0.0	1.0	1.00	1.00	0.31	1.00	0.31	0	0	8	0	13	353	353	26	6	321	26	21	5	0	17	219	1	0	218	22	1	10	11	1.00	0	0	0	0	0	0		
36	Sept. 1 - 7	0.0	0.0	1.0	0.0	1.0	1.00	0.31	0.31	1.00	0.31	0	0	8	0	13	353	353	26	6	321	26	21	5	0	17	219	1	0	218	22	1	10	11	1.00	0	0	1	0	2	2		
37	Sept. 8 - 14	0.0	2.0	2.0	0.0	0.0	1.00	0.31	0.31	1.00	0.31	0	28	24	0	0	711	711	298	6	407	63	52	37	0	15	1,866	858	0	1008	403	301	47	55	1.00	0	4	1	0	0	6		
38	Sept 15 - 21	6.0	5.0	5.0	0.0	4.0	0.56	0.31	0.56	1.00	0.56	49	53	14	0	35	1,189	1189	676	6	507	183	151	101	0	50	5,399	1830	0	3569	2,008	1111	401	495	1.00	7	8	3	0	5	23		
39	Sept. 22 - 28	6.0	5.0	5.0	0.0	4.0	0.56	0.31	0.56	1.00	0.56	31	10	4	0	26	344	344	159	3	182	88	71	40	0	31	3,780	679	0	3101	586	234	163	189	1.00	29	8	2	0	38	78		
40	Sept 29 - Oct 5	5.0	5.0	5.0	0.0	4.0	0.56	0.56	0.56	1.00	0.56	11	32	1	0	6	197	197	125	1	71	59	51	41	0	10	5,094	894	0	4200	2,039	1081	408	549	1.00	158	9	60	0	134	361		
41	Oct. 6 - 12	4.0	5.0	4.0	0.0	4.0	0.56	0.56	0.56	1.00	0.56	13	6	0	0	4	94	94	48	0	45	30	24	17	0	6	1,500	341	0	1159	3,120	1900	488	731	1.00	1,026	68	109	0	896	2,099		
42	Oct. 13 - 19	0.0	0.0	0.0	0.0	0.0	0.56	0.56	0.56	1.00	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
43	Oct. 20 - 26	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
44	Oct. 27 - Nov 2	0.0	0.0	0.0	0.0	0.0	0.56	0.56	0.56	0.56	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
45	Nov. 3 - 9	3.0	3.0	3.0	0.0	3.0	0.56	0.56	0.56	0.56	0.56	1	1	0	0	0	6	6	4	0	2	2	2	1	0	0	506	283	0	223	1,267	1148	86	33	0.56	124	303	118	0	745	1,291		
46	Nov. 10 - 16	5.0	5.0	5.0	5.0	5.0	0.56	0.56	0.56	0.56	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84	51	0	33	122	116	6	0	0.56	19	145	75	56	319	613		
47	Nov. 17 - 23	5.0	5.0	5.0	5.0	5.0	0.56	0.56	0.56	0.56	0.56	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	212	125	0	87	452	417	28	7	0.56	3	26	75	56	16	175		
48	Nov. 24 - Nov. 30	5.0	5.0	5.0	5.0	5.0	0.56	0.56	0.56	0.56	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	14	0	10	72	66	5	1	0.56	3	1	75	0	16	95		
49		0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Catch Totals		39	40	41	15	36						105	130	60	0	98	3,247	3,247	1,362	29	1,856	478	393	247	0	145	18,903	5,076	0	13,827	10,111	6,375	1,651	2,084	16	1,369	572	519	111	2,171	4,743		
Commercial Harvest Rate																	0.136	0.286	0.002	0.273		0.091	0.084	0.001	0.144	0.228	0.369		0.200	0.179	0.195	0.198	0.136						0.091				

