

2021 Willapa Bay Terminal Area Management Model (TAMM)

Updated: 4/9/2021

PFMC #: Coho2124a_STTNOF_CRtransfer(1).xlsx

PFMC Model: Middle Ocean Coho Option # 2124a

Model: A

2020 fisheries with 2021 preseason abundances

D R A F T

Fishery Description

Marine Area Rec: Chinook MSF Aug 1, 2 adult daily limit, Release UM Chinook
Freshwater Rec: 2 Adult daily limit, Release UM CHK and UM Coho, CLOSE: North, Smith, Bear, Palix & Hwy 4 to hatchery in Naselle thru Oct 16, SF Willapa and Nemah rivers close Oct 1.
Commerical: No fishing prior to Sept 6, Tangle net week 37, No November fishing, Release UM CHK

Rate Data			
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		

	Chinook				Coho				Chum				Total				
	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear					
Pre-Season Runsize	30,470	1,804	16,284	12,382	3,924	2,981	193	750	49,932	8,114	0	41,818	17,550	11,672	3,005	2,873	39,077
Escapement Goal	6,173	283	2,342	3,548	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	24,297	1,521	13,942	8,834	-429	809	-135	-1,103	47,432	7,114	0	40,318	3,950	1,993	1,711	245	3,677
		0.059	0.534	0.406		0.760	0.049	0.191		0.162	0.000	0.838		0.665	0.171	0.164	

Stat Week	2021 Dates	Days Fished					MSF - Chinook					Natural Chinook Catch					Hatchery Chinook					Natural Chinook					Hatchery Coho					Natural Coho					CHUM MSF	Chum Catch					Total Chum
		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 1 - 7	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	1.00	0	0	0	0	0	0			
33	Aug 8 - 14	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	1.00	0	0	0	0	0	0				
34	Aug 15 - 21	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	1.00	0	0	0	0	0	0					
35	Aug 22 - 28	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	1.00	0	0	0	0	0	0						
36	Aug 29 - Sept 4	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	1.00	0	0	0	0	0	0							
37	Sept 5 - 11	1.0	1.0	1.0	0.0	0.0	0.31	0.31	0.31	1.00	1.00	5	93	3	0	0	418	418	127	2	289	110	101	94	0	6	1,668	731	0	937	350	257	25	68	1.00	1	1	0	0	2			
38	Sept 12 - 18	2.0	2.0	2.0	0.0	2.0	0.56	0.56	0.56	1.00	0.56	18	38	5	0	25	712	712	175	5	532	100	86	58	0	28	2,169	541	0	1628	473	246	67	160	1.00	3	1	0	0	6			
39	Sept 19 - 25	2.0	2.0	2.0	0.0	2.0	0.56	0.56	0.56	1.00	0.56	8	10	1	0	15	140	140	25	1	115	39	34	18	0	15	2,128	252	0	1876	344	211	47	86	1.00	3	1	1	0	9			
40	Sept 26 - Oct 2	2.0	2.0	2.0	0.0	2.0	0.56	0.56	0.56	1.00	0.56	7	12	1	0	6	86	86	23	0	63	30	26	19	0	7	1,815	205	0	1610	459	234	70	155	1.00	23	3	6	0	55			
41	Oct 3 - 9	2.0	2.0	2.0	0.0	2.0	0.56	0.56	0.56	1.00	0.56	4	4	0	0	1	25	25	7	0	18	11	9	7	0	2	562	92	0	471	505	319	51	135	1.00	195	14	4	0	63	277		
42	Oct 10 - 16	0.0	1.0	2.0	0.0	2.0	1.00	0.56	0.56	1.00	0.56	0	6	1	0	2	19	19	5	0	14	10	9	6	0	2	403	62	0	341	170	85	30	55	1.00	0	7	399	0	923	1,329		
43	Oct 17 - 23	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	1.00	0	0	0	0	0	0		
44	Oct 24 - 30	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	1.00	0	0	0	0	0	0		
45	Oct 31 - Nov 6	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	1.00	0	0	0	0	0	0		
46	Nov 7 - 13	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	1.00	0	0	0	0	0	0		
47	Nov 14 - 20	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	1.00	0	0	0	0	0	0		
48	Nov 21 - 27	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	1.00	0	0	0	0	0	0		
49	Nov 28 - 30	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	1.00	0	0	0	0	0	0		
Commercial Catch Totals		9	10	11	0	10						42	163	10	0	49	1,401	1,401	362	8	1,031	300	264	203	0	60	8,746	1,884	0	6,863	2,300	1,352	290	657		225	27	411	0	1,015	1,678		
Commercial Harvest Rate																	0.046	0.200	0.001	0.083		0.067	0.068	0.001	0.081	0.175	0.232	0.164	0.131	0.116	0.097	0.229							0.043				

Management Objectives				
CHINOOK	Willapa R. Natural Chinook Impact Rate	Naselle R. Natural Chinook Impct Rate		
	Expected	Cap	Expected	Cap
	10.9%	20%	11.0%	20%
COHO Expected Natural Escapment	Expected	Goal		
	14,842	13,600		
CHUM Expected Total Escapment	Expected	Goal	Willapa Bay Chum Expected Impact Rate	
	37,303	35,400	4.5%	

Hatchery Chinook				
Rec Marine Catch	853	279	2	572
Harvest Rate	0.028	0.155	0.00	0.046
Rec Freshwater Catch	4,021	147	3,071	802
Harvest Rate	0.132	0.081	0.189	0.065
Total Recreational Catch	4,874	426	3,073	1,375
Harvest Rate	0.160	0.236	0.189	0.111
Expected Escapement	24,195	1,016	13,202	9,977
Total Harvest Rates	0.206	0.437	0.189	0.194

Natural Chinook				Hatchery Coho				Natural Coho				Chum
74	69	0	6	1,008	148	860	326	173	117	36	9	
0.019	0.023	0.000	0.008	0.020	0.018	0.021	0.019	0.015	0.039	0.013	0.000	
82	54	12	16	4,088	355	3,732	83	52	1	30	87	
0.021	0.018	0.061	0.021	0.082	0.044	0.089	0.005	0.004	0.000	0.010	0.002	
156	123	12	22	5,096	503	0	4,593	409	225	118	96	
0.040	0.041	0.061	0.029	0.102	0.062	0.110	0.023	0.019	0.039	0.023	0.002	
3,504	2,655	181	668	36,089			14,842	Goal	13,600		Goal 35,400	
0.107	0.109	0.062	0.110	0.277			0.154				4.5%	

2021 WILLAPA BAY FISHERY SUMMARY

DRAFT - Model A

2020 fisheries with 2021 preseason abundances

CHINOOK										
	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear		
2021 Pre-Season Runsize	30,470	1,804	16,284	12,382	3,924	2,981	193	750		

HATCHERY					NATURAL					
	Total Hatchery	WB Origin	Willapa North	Nemah Palix	Naselle Bear	Total Natural	WB Origin	Willapa North	Nemah Palix	Naselle Bear
Commercial Catch	1,401	1,401	362	8	1,031	0	0	0	0	0
Commercial Impacts						300	264	203	0	60
Commercial Harvest Rate (HR)		0.046	0.200	0.001	0.083		0.067	0.068	0.001	0.081
Recreational Marine Catch		853	279	2	572		74	69	0	6
Marine HR		0.028	0.155	0.000	0.046		0.019	0.023	0.000	0.008
Recreational Freshwater Catch		4,021	147	3,071	802		82	54	12	16
FW HR		0.132	0.081	0.189	0.065		0.021	0.018	0.061	0.021
Expected Escapement		24,195	1,016	13,202	9,977		3,504	2,655	181	668
Total Exploitation Rate		0.206	0.437	0.189	0.194		0.107	0.109	0.062	0.110

Chinook Hatchery Escapement Goal = 6,173 Chinook Natural Escapement Goal = 4,353

COHO										
	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear		
2021 Pre-Season Runsize	49,932	8,114	0	41,818	17,550	11,672	3,005	2,873		

Post Ocean Fisheries

HATCHERY					NATURAL					
	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear		
Commercial Catch	8,746	1,884	0	6,863	2,300	1,352	290	657		
Commercial Harvest Rate (HR)		0.175	0.232	0.000	0.164		0.131	0.116	0.097	0.229
Recreational Marine Catch	1,008	148	0	860	326	173	117	36		
Marine HR		0.020	0.018	0.000	0.021		0.019	0.015	0.039	0.013
Recreational Freshwater Catch	4,088	355	0	3732	83	52	1	30		
FW HR		0.082	0.044	0.000	0.089		0.023	0.004	0.000	0.010
Expected Escapement		36,089				14,842				
Total Exploitation Rate		27.7%				15.4%				

Coho Hatchery Escapement Goal = 2,500 Coho Natural Escapement Goal = 13,600

TOTAL CHUM	
2021 Pre-Season Runsize	39,077
Commercial Catch	1,678
Commercial Harvest Rate (HR)	0.043
Recreational Marine Catch	9
Marine HR	0.000
Recreational Freshwater Catch	87
FW HR	0.002
Expected Escapement	37,303
Total Exploitation Rate	4.5%

Escapement Goal = 35,400

Total Commercial Days Scheduled						
2021 Dates	Stat Week	2T	2U	2N	2R	2M
Aug 1 - 7	32	0	0	0	0	0
Aug 8 - 14	33	0	0	0	0	0
Aug 15 - 21	34	0	0	0	0	0
Aug 22 - 28	35	0	0	0	0	0
Aug 29 - Sept 4	36	0	0	0	0	0
Sept 5 - 11	37	1	1	1	0	0
Sept 12 - 18	38	2	2	2	0	2
Sept 19 - 25	39	2	2	2	0	2
Sept 26 - Oct 2	40	2	2	2	0	2
Oct 3 - 9	41	2	2	2	0	2
Oct 10 - 16	42	0	1	2	0	2
Oct 17 - 23	43	0	0	0	0	0
Oct 24 - 30	44	0	0	0	0	0
Oct 31 - Nov 6	45	0	0	0	0	0
Nov 7 - 13	46	0	0	0	0	0
Nov 14 - 20	47	0	0	0	0	0
Nov 21 - 27	48	0	0	0	0	0
Nov 28 - 30	49	0	0	0	0	0
Total		9	10	11	0	10

Closed

12 hr openings, CHK MSF and Chum Retention allowed, Tangle Net Only

12 hr openings, CHK MSF & Chum Retention allowed. Gillnet small mesh gear.

Closed

Recreational Regulations									
Area	Section	Season	Daily Limit	Adult daily Limit	2-Pole	2-Pole Upper Extent	Natural CHK Retention	Natural Coho Retention	
Marine Area 2.1	Control Zone Open	June 20 - July 31	Same as Marine Area 2 when open for salmon						
		Aug. 1 - Jan. 31	6	2	Yes	-	0	2	
Willapa River	mouth upstream to Hwy 6 Bridge below Trap Crk	Aug. 1 - Jan. 31	6	2	Yes	2nd Bridge on Camp One Rd.	0	0	
	Hwy 6 upstream to Fork Creek	Aug. 16 - Jan. 31	6	2	Yes	-	0	0	
	Mouth of Fork Creek to Hwy 6 Br (near Lebam)	Oct. 1 - Jan. 31	6	2	No	-	0	0	
SF Willapa River	mouth to bridge on Pehl Rd	Aug. 1 - Sept 30	6	2	No	-	0	0	
Fork Creek	Fork Crk Hatchery rack upstream 500' at the fishing boundary sign	Oct. 1 - Jan. 31	6	2	No	-	0	0	
North River	mouth upstream to Fall River	Closed to salmon fishing							
Smith Creek	mouth to Hwy 101 Bridge	Closed to salmon fishing							
North Nemah River	Hwy 101 Br. to Nemah Valley Rd. Br.	Aug. 1 - Sept 30	6	2	No	-	0	0	
	Nemah Valley Rd. Br. Upstream to Hancock Property Line approx. 1.66 M	Closed to salmon fishing							
	Hancock Property Line upstream to temporary weir	Aug. 1 - Sept 15, Seniors Only*	6	2	No	-	0	0	
	temporary weir upstream to Nemah Hat. Dam	Closed to ALL fishing							
	Nemah Hatchery dam upstream to N700 Rd	Closed to salmon fishing							
Middle Nemah River	mouth to bridge on Middle Nemah A-line Rd	Sept. 1 - Sept 30	6	2	No	-	0	0	
South Nemah River	mouth to confluence with Middle Nemah R.	Sept. 1 - Sept 30	6	2	No	-	0	0	
Palix River	Hwy 101 to mouth of Middle Fork	Closed to salmon fishing							
Niawiakum River	Hwy 101 Br. To the S. Bend/Palix Rd Br	Closed to salmon fishing							
Naselle River	mouth (Hwy 101) upstream to South Fork Naselle River	Aug. 1 - Jan. 31	6	2	Yes	South Fork	0	0	
	from South Fork Naselle River upstream to Hwy 4	Aug. 1 - Jan 31	6	2	No	-	0	0	
	Hwy 4 to 300' below hatchery attraction channel	Oct 16 - Jan. 31	6	2	No	-	0	0	
	Attraction channel upstream to Crown Mainline Bridge	Oct 16 - Jan. 31	6	2	No	-	0	0	
Bear River	Mouth upstream to Lime Quarry Rd	Closed to salmon fishing							

* Seniors defined as 70 years old and over