

SALMON TECHNICAL TEAM REPORT
COLLATION OF PRELIMINATRY SALMON MANAGEMENT ALTERNATIVES
FOR 2023 OCEAN FISHERIES

REVISED TABLE 5 and TABLE 7 (11:36 a.m., March 9, 2023)

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2023 ocean fishery Alternatives - STT analyzed^{af} (Page 1 of 2)

CHINOOK				CHINOOK
Columbia Upriver Brights	271.1	273.4	275.1	74.0 Minimum ocean escapement to attain 40.0 adults over McNary Dam, with normal distribution and no mainstem harvest. The management goal has been increased to 60.0 by Columbia River managers.
Mid-Columbia Brights	52.4	52.8	53.1	14.9 Minimum ocean escapement to attain 7.9 for Little White Salmon egg-take, assuming average conversion and no mainstem harvest.
Columbia Lower River Hatchery Tules	76.4	77.5	78.6	25.0 Minimum ocean escapement to attain 14.8 adults for hatchery egg-take, with average conversion and no lower river mainstem or tributary harvest.
Columbia Lower River Natural Tules ^{cl} (threatened)	39.1%	37.7%	36.4%	≤ 38.0% Total adult equivalent fishery exploitation rate (2023 NMFS ESA guidance).
Columbia Lower River Wild ^{el} (threatened)	8.6	8.6	8.7	6.9 Minimum ocean escapement to attain MSY spawner goal of 5.7 for N. Lewis River fall Chinook (NMFS ESA consultation standard).
Spring Creek Hatchery Tules	134.5	137.2	140.1	8.2 Minimum ocean escapement to attain 6.0 adults for Spring Creek Hatchery egg-take, assuming average conversion and no mainstem harvest.
Upper Columbia River Summer	84.3	85.0	85.8	29.0 Aggregate escapement to mouth of Columbia River.
Snake River Fall (threatened) SRFI	51.3%	46.2%	41.7%	≤ 70.0% Of 1988-1993 base period exploitation rate for all ocean fisheries (NMFS ESA consultation standard).
Klamath River Fall	9,506	23,614	26,133	≥ 23,614 2023 minimum natural area adult escapement (FMP control rule).
Federally recognized tribal harvest	50.0%	50.0%	50.0%	50.0% Equals 12,000, 1,872, and 68 adult fish for Yurok and Hoopa Valley tribal fisheries.
Exploitation (spawner reduction) rate	63.8%	10.0%	0.4%	≤ 10.0% FMP control rule.
Adult river mouth return	39.9	39.9	39.9	NA Total adults in thousands.
Age-4 ocean harvest rate	0.3%	0.3%	0.3%	≤ 10.0% NMFS guidance.
KMZ sport fishery share	3.8%	3.8%	3.8%	
River recreational fishery share	99.4%	96.3%	0.0%	NA Equals 11,932, 1,804, and 0 adult fish for recreational inriver fisheries.
Sacramento River Winter (endangered)	0.0%	0.0%	0.0%	≤ 20.0% Age-3 ocean impact rate in fisheries south of Pt. Arena. In addition, the following season restrictions apply: <u>Recreational</u> - Pt. Arena to Pigeon Pt. between the first Saturday in April and the second Sunday in November; Pigeon Pt. to the U.S./Mexico border between the first Saturday in April and the first Sunday in October. Minimum size limit ≥ 20 inches total length. <u>Commercial</u> - Pt. Arena to the U.S./Mexico border between May 1 and September 30, except Pt. Reyes to Pt. San Pedro between October 1 and 15 (Monday-Friday). Minimum size limit ≥ 26 inches total length (NMFS 2023 ESA Guidance).
Sacramento River Fall	165.0	165.0	165.0	> 122,000 2023 minimum hatchery and natural area adult escapement (FMP).
Sacramento Index Exploitation Rate	2.8%	2.8%	2.8%	≤ 28.1% FMP control rule.
Ocean commercial impacts	3.0	3.0	3.0	Includes fall (Sept-Dec) 2022 impacts (3.0 thousand SRFC).
Ocean recreational impacts	1.8	1.8	1.8	Includes fall (Sept-Dec) 2022 impacts (1.7 thousand SRFC).
River recreational impacts	0.0	0.0	0.0	
SRKW Prey Abundance				
North of Falcon	891.4	891.4	891.4	≥ 623.0 Oct 1 starting abundance of age 3+ Chinook from U.S./Canada Border to Cape Falcon
Oregon Coast	450.8	450.8	450.8	NA Oct 1 starting abundance of age 3+ Chinook from Cape Falcon to Horse Mt.
California Coast	248.6	248.6	248.6	NA Oct 1 starting abundance of age 3+ Chinook south of Horse Mt.
Southwest WCVI	665.6	665.6	665.6	NA Oct 1 starting abundance of age 3+ Chinook off Southwest Vancouver Island
Salish Sea	1,055.2	1,055.2	1,055.2	NA Oct 1 starting abundance of age 3+ Chinook in the Salish Sea

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2023 ocean fishery Alternatives - Council Adopted^{ai} (Page 2 of 3).

Key Stock/Criteria	PROJECTED			2023 Criteria	Spawner Objective or Other Comparative Standard as Noted ^{bi}
	Alt I	Alt II	Alt III		
COHO	COHO			COHO	
Interior Fraser (Thompson River)	10.3% (5.7%)	9.5%(4.9%)	8.6%(4.0%)	≤ 10.0% 2023 Southern U.S. exploitation rate ceiling; PSC coho agreement.	
Skagit	48.0% (5.2%)	47.4% (4.4%)	46.9% (3.6%)	≤ 35.0% 2023 total exploitation rate ceiling; FMP matrix ^{d/}	
Stillaguamish	24.2%(3.6%)	23.7%(3.0%)	23.2%(2.4%)	≤ 50.0% 2023 total exploitation rate ceiling; FMP matrix ^{d/}	
Snohomish	21.0%(3.6%)	20.5%(3.0%)	19.9%(2.4%)	≤ 40.0% 2023 total exploitation rate ceiling; FMP matrix ^{d/}	
Hood Canal	40.4%(5.6%)	39.7%(4.8%)	39.1%(4.0%)	≤ 45.0% 2023 total exploitation rate ceiling; FMP matrix ^{d/}	
Strait of Juan de Fuca	10.9%(4.7%)	10.1%(3.9%)	9.4%(3.2%)	≤ 40.0% 2023 total exploitation rate ceiling; FMP matrix ^{d/}	
Quillayute Fall	12.6	12.7	12.8	6.3 FMP MSY adult spawner estimate. Value depicted is ocean escapement.	
	37.2%	36.6%	36.2%	≤ 53% PST total exploitation rate constraint for 2023. ^{d/f/}	
Hoh	5.5	5.6	5.7	2.0 FMP MSY adult spawner estimate. Value depicted is ocean escapement.	
	53.6%	52.5%	51.6%	≤ 65% FMP total exploitation rate constraint (MFMT). ^{d/f/}	
Queets Wild	10.3	10.5	10.7	5.8 FMP MSY adult spawner estimate. Value depicted is ocean escapement.	
	36.8%	35.4%	34.2%	≤ 53% PST total exploitation rate constraint for 2023. ^{d/f/}	
Grays Harbor	102.8	104.0	104.9	35.4 FMP MSP natural area adult spawner estimate. Value depicted is ocean escapement.	
	49.9%	49.3%	48.8%	≤ 65% FMP total exploitation rate constraint (MFMT). ^{d/f/}	
Willapa Bay	49.6	50.6	51.5	17.2 FMP MSY natural area adult spawner estimate. Value depicted is ocean escapement.	
Lower Columbia River Natural (threatened)	14.9%	12.5%	10.9%	≤23.0% Total marine and mainstem Columbia R. fishery exploitation rate (2023 NMFS ESA guidance). Value depicted is marine ER before Buoy 10.	
Upper Columbia ^{ci}	61%	63%	65%	≥ 50% Minimum percentage of the run to Bonneville Dam.	
Columbia River Hatchery Early	314.7	322.3	326.0	77.2 Minimum ocean escapement to attain hatchery egg-take goal of 21.7 early adult coho, with average conversion and no mainstem or tributary fisheries.	
Columbia River Hatchery Late	224.0	236.2	247.2	9.7 Minimum ocean escapement to attain hatchery egg-take goal of 6.4 late adult coho, with average conversion and no mainstem or tributary fisheries.	
Oregon Coastal Natural Southern Oregon/Northern California Coast (threatened)	20.0%	18.1%	17.4%	≤ 20.0% Marine and freshwater fishery exploitation rate (NMFS ESA consultation standard).	
Trinity Natural	1.7%	1.3%	1.2%	≤ 16.0% total exploitation rate ceiling. Value depicted is ocean exploitation rate only.	
Klamath Natural	1.7%	1.3%	1.2%	≤ 15.0% total exploitation rate ceiling. Value depicted is ocean exploitation rate only.	
Rogue Natural	1.7%	1.3%	1.2%	≤ 15.0% total exploitation rate ceiling. Value depicted is ocean exploitation rate only.	
Other Natural	1.7%	1.3%	1.2%	≤ 15.0% total exploitation rate ceiling. Value depicted is ocean exploitation rate only.	

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2023 ocean fishery Alternatives – STT analyzed^{a/} (Page 3 of 3).

a/ Coho projections in the table are based on 2022 pre-season stock and fishery inputs for Canadian fisheries. Model results for Chinook in this table used 2022 preseason effort scalars for SEAK, NBC, and WCVI AABM fisheries, recent 2-yr average catches for BC ISBM fisheries, and 2022 preseason catches for Puget Sound fisheries. Assumptions for these fisheries will be changed prior to the April meeting as new information becomes available.

b/ Ocean escapement is the number of salmon escaping ocean fisheries and entering freshwater with the following clarifications. Ocean escapement for Puget Sound stocks is the estimated number of salmon entering Area 4B that are available to U.S. net fisheries in Puget Sound and spawner escapement after impacts from the Canadian, U.S. ocean, and Puget Sound troll and recreational fisheries have been deducted. Numbers in parentheses represent Council area ERs for Puget Sound coho stocks. For Columbia River early and late coho stocks, ocean escapement represents the number of coho after the Buoy 10 fishery. Values reported for Klamath River fall Chinook are natural area adult spawners. Values reported for Sacramento River fall Chinook are hatchery and natural area adult spawners.

c/ Includes projected impacts of inriver fisheries that have not yet been shaped.

d/ Annual management objectives may be different than FMP goals, and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders. It is anticipated that fishery management will be adjusted by state and tribal comanagers during the preseason planning process to comply with stock management objectives.

e/ Includes minor contributions from East Fork Lewis River and Sandy River.

f/ Management criteria depicted represent the lower of the FMP and PST Southern Coho Management Plan ER constraints in a given year (see Table III-5 in most recent Preseason Report I). PST ER constraints represent an approximation of the maximum ER associated with achieving the escapement goal. Per the provisions of the PST Southern Coho Management Plan, Parties may request increases to management unit specific ER caps, so long as it occurs prior to March 31 in a given year.

TABLE 7. Expected coastwide exploitation rates by fishery for 2023 ocean fisheries management Alternatives for lower Columbia Natural (LCN), Oregon coastal natural (OCN), Lower Columbia River (LCR) tule Chinook, and Southern Oregon Northern California Coastal (SONCC) coho salmon by natural-origin subcomponent - STT Analyzed (Page 1 of 2).

Fishery	Exploitation Rate (Percent)								
	LCN Coho			OCN Coho			LCR Tule Chinook		
	I	II	III	I	II	III	I	II	III
SOUTHEAST ALASKA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	3.0%	3.0%
BRITISH COLUMBIA	0.1%	0.1%	0.1%	0.3%	0.3%	0.3%	13.0%	13.1%	13.4%
PUGET SOUND/STRAIT	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%	0.3%	0.3%	0.3%
NORTH OF CAPE FALCON									
Treaty Indian Ocean Troll	2.3%	1.9%	1.5%	0.5%	0.4%	0.3%	2.5%	2.0%	1.5%
Recreational	4.9%	4.5%	4.1%	0.9%	0.8%	0.8%	4.4%	3.9%	3.4%
Non-Indian Troll	1.6%	1.5%	1.3%	0.3%	0.3%	0.3%	5.9%	5.2%	4.5%
SOUTH OF CAPE FALCON									
Recreational:							0.2%	0.2%	0.1%
Cape Falcon to Humbug Mt.	4.9%	4.3%	3.7%	10.4%	8.7%	7.0%	-	-	-
Humbug Mt. to OR/CA border (KMZ)	0.1%	0.1%	0.1%	0.4%	0.3%	0.3%	-	-	-
OR/CA border to Latitude 40°10' N. (KMZ)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	-
Fort Bragg	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	-
South of Pt. Arena	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	-
Troll:							0.2%	0.0%	0.0%
Cape Falcon to Humbug Mt.	0.8%	0.0%	0.0%	1.4%	0.0%	0.0%	-	-	-
Humbug Mt. to OR/CA border (KMZ)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	-
OR/CA border to Horse Mt. (KMZ)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	-
Fort Bragg	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	-
South of Pt. Arena	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	-
BUOY 10	2.0%	2.5%	2.9%	0.1%	0.1%	0.2%	9.7%	9.9%	10.1%
ESTUARY/FRESHWATER	NA	NA	NA	5.6%	7.1%	8.3%			
TOTAL ^{a/}	14.9%	12.5%	10.9%	20.0%	18.1%	17.4%	39.1%	37.7%	36.4%

TABLE 7. Expected coastwide exploitation rates by fishery for 2023 ocean fisheries management Alternatives for lower Columbia Natural (LCN), Oregon coastal natural (OCN), Lower Columbia River (LCR) tule Chinook, and Southern Oregon Northern California Coastal (SONCC) coho salmon by natural-origin subcomponent - STT analysed (Page 2 of 2).

Fishery	Exploitation Rate (Percent)											
	Trinity Natural			Klamath Natural			Rogue Natural			Other SONCC		
	I	II	III	I	II	III	I	II	III	I	II	III
SOUTHEAST ALASKA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BRITISH COLUMBIA	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
PUGET SOUND/STRAIT	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
NORTH OF CAPE FALCON												
Treaty Indian Ocean Troll	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Recreational	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Non-Indian Troll	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SOUTH OF CAPE FALCON												
Recreational:												
Cape Falcon to Humbug Mt.	0.7%	0.6%	0.5%	0.7%	0.6%	0.5%	0.7%	0.6%	0.5%	0.7%	0.6%	0.5%
Humbug Mt. to OR/CA border (KMZ)	0.7%	0.6%	0.6%	0.7%	0.6%	0.6%	0.7%	0.6%	0.6%	0.7%	0.6%	0.6%
OR/CA border to Latitude 40°10' N. (KMZ)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fort Bragg	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
South of Pt. Arena	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Troll:												
Cape Falcon to Humbug Mt.	0.2%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%	0.0%	0.0%
Humbug Mt. to OR/CA border (KMZ)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
OR/CA border to Horse Mt. (KMZ)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fort Bragg	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
South of Pt. Arena	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BUOY 10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
ESTUARY/FRESHWATER	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL	1.7%	1.3%	1.2%	1.7%	1.3%	1.2%	1.7%	1.3%	1.2%	1.7%	1.3%	1.2%

a/ Totals do not include Buoy 10 and estuary/freshwater for LCN or SONCC. For OCN and LCR Tule Chinook, includes projected impacts of inriver fisheries that have not yet been shaped. Bolded values identify ocean exploitation rates that, when combined with freshwater harvest rates, would exceed the total allowable exploitation rate.