

SALMON TECHNICAL TEAM REPORT 1:
UPDATE OF ESTIMATED IMPACTS OF MARCH 2023 ALTERNATIVES FOR
OCEAN SALMON FISHERY MANAGEMENT MEASURES

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

Key Stock/Criteria	PROJECTED			2023
	Alt I	Alt II	Alt III	Criteria Spawner Objective or Other Comparative Standard as Noted ^{b/}
CHINOOK				
SRKW Prey Abundance^{cf}				
North of Falcon	889.9	889.9	889.9	≥ 623.0 Oct 1 starting abundance of age 3+ Chinook from U.S./Canada Border to Cape Falcon
Oregon Coast	467.1	467.1	467.1	NA Oct 1 starting abundance of age 3+ Chinook from Cape Falcon to Horse Mt.
California Coast	249.0	249.0	249.0	NA Oct 1 starting abundance of age 3+ Chinook south of Horse Mt.
Southwest WCVI	662.2	662.2	662.2	NA Oct 1 starting abundance of age 3+ Chinook off Southwest Vancouver Island
Salish Sea	1,053.3	1,053.3	1,053.3	NA Oct 1 starting abundance of age 3+ Chinook in the Salish Sea
PUGET SOUND:				
Elwha Summer/Fall	6.3%	6.0%	5.8%	≤ 10.0% Southern U.S. exploitation rate (NMFS ESA consultation standard).
Dungeness Spring	6.1%	5.8%	5.6%	≤ 10.0% Southern U.S. exploitation rate (NMFS ESA consultation standard).
Mid-Hood Canal Summer/Fall	17.3%	16.1%	14.6%	TBD Preterminal Southern U.S. exploitation rate consistent with NMFS guidance.
Skokomish Summer/Fall	53.6%	52.8%	51.9%	≤ 50.0% Total exploitation rate (NMFS ESA consultation standard).
Nooksack Spring	13.8%	13.2%	12.4%	≤ 10.9% Southern U.S. exploitation rate (NMFS ESA consultation standard).
	1.22	1.16	1.10	≤ 1.00 ISBM obligation applicable, as this stock lacks a CTC agreed escapement goal. Compliance assessed postseason by the PSC.
Skagit Summer/Fall	29.1%	28.9%	28.8%	≤ 17.0% Southern U.S. exploitation rate (NMFS ESA consultation standard).
	1.17	1.16	1.16	≤ 0.95 ISBM obligation applicable, escapement goal not expected to be met. Compliance assessed postseason by the PSC.
Skagit Spring	25.1%	24.9%	24.7%	≤ 36.0% Total exploitation rate (NMFS ESA consultation standard).
	--	--	--	≤ 0.95 ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
Stillaguamish Summer/Fall	12.2%	12.0%	11.8%	≤ 9.0% Southern U.S. exploitation rate (NMFS ESA consultation standard).
	0.85	0.83	0.82	≤ 1.00 ISBM obligation applicable, as this stock lacks a CTC agreed escapement goal. Compliance assessed postseason by the PSC.
Snohomish Summer/Fall	9.9%	9.6%	9.2%	≤ 8.3% Southern U.S. exploitation rate limit (NMFS ESA consultation standard).
	1.00	0.97	0.93	≤ 1.00 ISBM obligation applicable, as this stock lacks a CTC agreed escapement goal. Compliance assessed postseason by the PSC.
Lake Washington Summer/Fall	0.629	0.637	0.646	≥ 0.500 Natural spawning escapement in the Cedar River (NMFS ESA consultation standard).
Green River Summer/Fall	3.669	3.741	3.825	≥ 2.744 Natural spawning escapement in the Green River (NMFS ESA consultation standard).
White River Spring	17.4%	17.1%	16.8%	≤ 22.0% Southern U.S. exploitation rate (NMFS ESA consultation standard).
Puyallup Summer/Fall	2.319	2.343	2.371	>1.170 Natural spawning escapement in the Puyallup River (NMFS ESA consultation standard).
Nisqually River Summer/Fall	49.1%	48.4%	47.4%	≤ 47.0% Total exploitation rate (NMFS ESA consultation standard).
Puget Sound Spring	2.3%	1.8%	1.4%	≤ 3.0% Exploitation rate in PFMC fisheries (NMFS ESA consultation standard).
Puget Sound Summer/Fall	6.1%	5.1%	3.9%	≤ 6.0% Exploitation rate in PFMC fisheries (NMFS ESA consultation standard).

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

Key Stock/Criteria	PROJECTED			2023
	Alt I	Alt II	Alt III	Criteria
CHINOOK				
<u>WASHINGTON COAST:</u>				
Hoko Fall	2.360	2.367	2.370	0.85 FMP MSY spawning escapement objective.
	3.0%	2.7%	2.4%	≤ 10.0% Calendar year exploitation rate ISBM obligation. Compliance assessed postseason by the PSC.
Quillayute Fall	>3.0	>3.0	>3.0	3.0 FMP MSY spawning escapement objective.
	--	--	--	≤ 0.85 ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
Hoh Fall	>1.2	>1.2	>1.2	1.2 FMP MSY spawning escapement objective.
	--	--	--	≤ 0.85 ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
Queets Fall	>2.5	>2.5	>2.5	2.5 FMP MSY spawning escapement objective.
	--	--	--	≤ 0.85 ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
Grays Harbor Fall	>13.3	>13.3	>13.3	13.3 FMP MSY spawning escapement objective.
	--	--	--	≤ 0.85 ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
<u>COLUMBIA RIVER:</u>				
Columbia Upriver Brights	277.2	279.5	281.3	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	53.5	54.0	54.3	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 ^{df} (threatened)	39.1%	37.7%	36.4%	≤ 38.0% Total adult equivalent fishery exploitation rate (2023 NMFS ESA guidance).
Columbia Lower River Wild ^{df} (threatened)	8.7	8.7	8.8	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	133.8	136.5	139.4	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	85.1	85.7	86.6	29.0 Aggregate escapement to mouth of Columbia River.
Snake River Fall (threatened) SRFI	51.7%	46.6%	42.2%	≤ 70.0% Of 1988-1993 base period exploitation rate for all ocean fisheries (NMFS ESA consultation standard).

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

Key Stock/Criteria	PROJECTED			2023
	Alt I	Alt II	Alt III	Criteria
CHINOOK				
<u>OREGON COAST:</u>				
Nehalem Fall	--	--	--	≤ 0.85 ISBM obligation applicable when escapement goal is not met. Compliance assessed postseason by the PSC.
Siletz Fall	--	--	--	≤ 0.85 ISBM obligation applicable when escapement goal is not met. Compliance assessed postseason by the PSC.
Siuslaw Fall	--	--	--	≤ 0.85 ISBM obligation applicable when escapement goal is not met. Compliance assessed postseason by the PSC.
South Umpqua	--	--	--	≤ 0.85 ISBM obligation applicable, as this stock lacks a CTC agreed escapement goal. Compliance assessed postseason by the PSC.
Coquille	--	--	--	≤ 0.85 ISBM obligation applicable, as this stock lacks a CTC agreed escapement goal. Compliance assessed postseason by the PSC.
<u>CALIFORNIA:</u>				
Klamath River Fall	23.614	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 1,872, 1,872, and 68 adult fish for Yurok and Hoopa Valley tribal fisheries.
Exploitation (spawner reduction) rate	10.0%	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	37.7%	37.7%	37.7%	
River recreational fishery share	96.3%	96.3%	0.0%	NA Equals 1,804, 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	165.1	≥ 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	

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2023 ocean fishery Alternatives - Council Adopted^{af} (Page 4 of 5).

Key Stock/Criteria	PROJECTED			2023 Criteria	Spawner Objective or Other Comparative Standard as Noted ^{bl}
	Alt I	Alt II	Alt III		
COHO	COHO			COHO	
Interior Fraser (Thompson River)	9.7%(5.4%)	8.9%(4.6%)	8.1%(3.8%)	≤ 10.0%	2023 Southern U.S. exploitation rate ceiling; PSC coho agreement.
Skagit	37.6%(4.8%)	37.0%(4.1%)	36.5%(3.4%)	≤ 35.0%	2023 total exploitation rate ceiling; FMP matrix ^{ef}
Stillaguamish	31.5%(3.4%)	31.0%(2.8%)	30.5%(2.3%)	≤ 50.0%	2023 total exploitation rate ceiling; FMP matrix ^{ef}
Snohomish	34.9%(3.4%)	34.4%(2.8%)	33.9%(2.3%)	≤ 40.0%	2023 total exploitation rate ceiling; FMP matrix ^{ef}
Hood Canal	44.2%(5.3%)	43.6%(4.5%)	43.1%(3.7%)	≤ 45.0%	2023 total exploitation rate ceiling; FMP matrix ^{ef}
Strait of Juan de Fuca	12.4%(4.5%)	11.6%(3.7%)	11.0%(3.1%)	≤ 40.0%	2023 total exploitation rate ceiling; FMP matrix ^{ef}
Quillayute Fall	12.5	12.6	12.6	6.3 FMP MSY adult spawner estimate.	Value depicted is ocean escapement.
	37.9%	37.4%	36.9%	≤ 53%	PST total exploitation rate constraint for 2023. ^{ef/fi}
Hoh	5.4	5.5	5.6	2.0 FMP MSY adult spawner estimate.	Value depicted is ocean escapement.
	54.2%	53.1%	52.2%	≤ 65%	FMP total exploitation rate constraint (MFMT). ^{ef/fi}
Queets Wild	10.2	10.4	10.6	5.8 FMP MSY natural area adult spawner estimate.	Value depicted is ocean escapement.
	37.8%	36.4%	35.3%	≤ 53%	PST total exploitation rate constraint for 2023. ^{ef/fi}
Grays Harbor	102.0	103.1	104.1	35.4 FMP MSP natural area adult spawner estimate.	Value depicted is ocean escapement.
	50.3%	49.7%	49.3%	≤ 65%	FMP total exploitation rate constraint (MFMT). ^{ef/fi}
Willapa Bay	49.0	50.1	50.9	17.2 FMP MSY natural area adult spawner estimate.	Value depicted is ocean escapement.
Lower Columbia River Natural (threatened)	14.9%	12.5%	11.0%	≤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 ^{af}	61%	63%	65%	≥ 50%	Minimum percentage of the run to Bonneville Dam.
Columbia River Hatchery Early	315.1	322.6	326.3	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	225.0	237.1	248.0	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%	18.2%	17.5%	≤ 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 2 of 2)

a/ Reflects 2023 fisheries and abundance estimates.

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/ The modeled preseason, pre-fishing estimates of abundance for areas other than North of Falcon (NOF) are derived using the Council adopted methodology from the Ad Hoc SRKW Workgroup and are provided for information purposes only. These non-NOF area abundances are not considered in the development of annual Council fishery management measures. Therefore, the "criteria" for these areas are designated as "N/A". The Southwest WCVI and Salish Sea areas are outside Council managed waters although impacts to FMP salmon stocks are taken into account when assessing fishing-related mortality.

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

e/ 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.

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.

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

TABLE 7. Expected coastwide exploitation rates by fishery for 2022 ocean fisheries management Alternatives for lower Columbia Natural (LCN) coho, Oregon coastal natural (OCN) coho, 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%	2.1%	2.2%	2.2%
BRITISH COLUMBIA	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	13.9%	14.1%	14.3%
PUGET SOUND/STRAIT	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%	0.4%	0.4%	0.4%
NORTH OF CAPE FALCON									
Treaty Indian Ocean Troll	2.2%	1.8%	1.4%	0.5%	0.4%	0.3%	2.4%	2.0%	1.5%
Recreational	4.9%	4.5%	4.0%	0.9%	0.8%	0.8%	4.4%	3.9%	3.4%
Non-Indian Troll	1.6%	1.4%	1.2%	0.3%	0.3%	0.3%	5.8%	5.1%	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%	9.6%	9.9%	10.1%
ESTUARY/FRESHWATER	NA	NA	NA	5.6%	7.1%	8.3%			
TOTAL^{al}	14.9%	12.5%	11.0%	20.0%	18.2%	17.5%	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 - Council Adopted (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.