MarinTrust Standard V2

By-product Fishery Assessment

Chum salmon-*Oncorhynchus keta* – FAO Area 67 - Northeast Pacific

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Chum salmon (*Oncorhynchus keta*)
	Geographical area:	FAO area 67 - Chum salmon (*Oncorhynchus keta*)
	Country of origin of the product:	Thailand Flag country: USA
	Stock:	Chum salmon (*Oncorhynchus keta*) in FAO area 67 – Northeast Pacific
Date	23 August 2023	
Report Code	THA60	
Assessor	Ana Elisa Almeida Ayres	
Country of origin of the product - PASS	Thailand Flag country: USA	
Country of origin of the product - FAIL	NA	

Application details and summary of the assessment outcome			
Company Name(s): TC Union Agrotech Co. Ltd			
Country: Thailand			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		NSF	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Ana Elisa Almeida Ayres	Matthew Jew	0.5	Initial
Assessment Period	Up to August 2023		

Scope Details	
Main Species	Chum salmon (*Oncorhynchus keta*)
Stock	Chum salmon (*Oncorhynchus keta*) in FAO area 67 - Northeast Pacific
Fishery Location	FAO area 67 - Northeast Pacific
Management Authority (Country/ State)	Alaska Department of Fish and Game (ADF&G), North Pacific Fishery Management Council (NPFMC), National Oceanic and Atmospheric Administration (NOAA) Fisheries
Gear Type(s)	Purse seine, drift gillnet, troll, set gillnet, beach seine, fish wheel, dip net
Outcome of Assessment	
Peer Review Evaluation	Agree with assessor's recommendation
Recommendation	APPROVED

Table 2. Assessment Determination

Assessment Determination
If any species is categorised as Endangered or Critically Endangered on Union for Conservation of Nature's Red List of Threatened Species - IUCN's Red List, or if it appears in the Convention on International Trade in Endangered Species of Wild Fauna and Flora - CITES appendices, it cannot be approved for use as Marin Trust raw material. Chum salmon (*Oncorhynchus keta*) is not categorised as Endangered or Critically Endangered on IUCN's Red List and does not appear in CITES appendices; therefore, chum salmon (*Oncorhynchus keta*) is eligible for approval for use as Marin Trust by-product raw material. The flag country of assessment is USA and almost all the chum salmon harvested there comes from Alaska fisheries. Chum salmon (*Oncorhynchus keta*) is certified by Marine Stewardship Council - MSC since 2000, together with other Alaska salmon species, such as sockeye salmon (*Oncorhynchus nerka*), coho salmon (*Oncorhynchus kisutch*), Chinook salmon (*Oncorhynchus tshawytscha*) and pink salmon (*Oncorhynchus gorbusha*) in FAO 18 - Arctic Sea and FAO 67 - Northeast Pacific. Alaska salmon fisheries are generally managed to achieve spawning escapement goals determined to ensure conservation and long-term sustainability. Chum salmon (*Oncorhynchus keta*) stock was assessed under Category C. Fishery removals are included in the stock assessment and it PASSES Clause C1.1. Overall, in 2021, most chum salmon stocks met escapement goals or surpassed them and there was only one stock in Central region where chum salmon were classified as "Management concern". Therefore the stock PASSES Clause C1.2. Chum salmon (*Oncorhynchus keta*) in FAO area 67 - Northeast Pacific is APPROVED for the production of fishmeal and fish oil under the current MarinTrust v2.3 by-products standard.
Fishery Assessment Peer Review Comments
The assessor correctly classified the chum salmon in FAO area 67 are under category C, as the stock is managed and reference points are defined to assess the stock status against. Fishery removals from the stock are considered in the stock assessment process, and the most recent stock assessment shows that the stock is considered to have a biomass well above the limit reference point: the fishery passes both clauses C1.1 and C1.2. Therefore, the chum salmon in FAO area 67 is **APPROVED** for the production of fishmeal and fish oil under the current MarinTrust V2.3 by-products standards.
Notes for On-site Auditor

N/A

Species Categorisation

NB: If any species is categorised as Endangered or Critically Endangered on the IUCN Red List, or if it appears in CITES Appendix 1, it **cannot** be approved for use as an MarinTrust raw material.

IUCN Red list Category

By-product material from a species listed by IUCN (the International Union for Conservation of Nature) under the Red List for the following categories shall immediately fail the assessment;

- EXTINCT (E) AND EXTINCT IN THE WILD (EW)
- CRITICALLY ENDANGERED (CR) facing an extremely high risk of extinction in the wild.
- ENDANGERED (EN) facing a very high risk of extinction in the wild.

By-product material may be used from the following categories provided that all clauses in the MarinTrust standard are passed.

- VULNERABLE (VU) facing a high risk of extinction in the wild.
- NEAR THREATENED (NT) does not qualify for above now, but is close or is likely to qualify for, a threatened category in the near future.
- LEAST CONCERN (LC) Widespread and abundant.
- DATA DEFICIENT (DD) and NOT EVALUATED (NE)

Table 3 Species Categorisation Table

Common name	Latin name	Stock	Management	Category	IUCN Red List Category[1]	CITES Appendix 1[2]
Chum salmon	*Oncorhynchus keta*	Chum salmon (*Oncorhynchus keta*) in FAO area 67 – Northeast Pacific	Alaska Department of Fish and Game (ADF&G), North Pacific Fishery Management Council (NPFMC), National Oceanic and Atmospheric Administration (NOAA) Fisheries	C	Not Evaluated	No

[1] https://www.iucnredlist.org/
[2] https://cites.org/eng/app/appendices.php

CATEGORY C SPECIES

In a by-product assessment, Category C species are those which are subject to a species-specific management regime and are usually targeted species in fisheries for human consumption.

Clause C1 should be completed for each Category C species. If there are no Category C species in the fishery under assessment, this section can be deleted. Where a species fails this Clause, it should be assessed as a Category D species instead.

Species Name		**Chum salmon (*Oncorhynchus keta*)**	
C1	**Category C Stock Status - Minimum Requirements**		
	C1.1	Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.	Yes
	C1.2	The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.	Yes
		Clause outcome:	Pass

C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.

The flag country of assessment is USA and almost all the chum salmon harvested there comes from Alaska fisheries. Alaska salmon fisheries are not managed through a Total Allowable Catch – TAC, but they are generally managed to achieve spawning escapement goals determined to ensure conservation and long term sustainability.

Landings data for chum salmon (*Oncorhynchus keta*) are available online (Figure 1). According to The Alaska Department of Fish and Game's - ADF&G the catches of Chum salmon in 2022 were under 16.0 million and the projected 2023 commercial harvests are expected to be a 24,000 than 2022 (Donnellan et al, 2023).

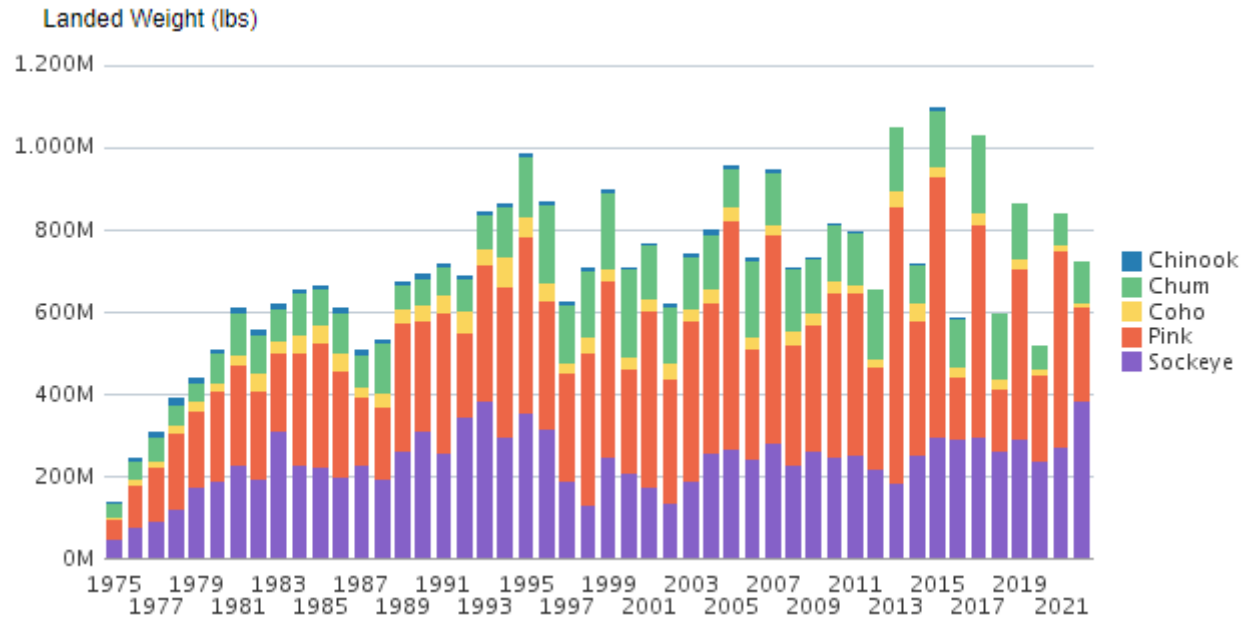

Figure 1. Historical landings data for Alaskan salmon (ADFG, 2023).

Fishery removals of the species in the fishery under assessment are included in the stock assessment process, and are considered by scientific authorities to be negligible. C1.1 is met.

C1.2 The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.

Alaska fishery managers have the primary goal of maintaining spawning population sizes, not of reaching preseason harvest projections. Alaska salmon fisheries are generally managed to achieve spawning escapement goals determined to ensure conservation and long-term sustainability. Escapement goals are defined in ranges which function as target reference points for fishery management. Goals are established for key reference species and stocks in each fishing area.

Currently, there are approximately 300 established escapement goals in Alaska. Each year, escapements for fishery stocks are reported in Area Management Reports. Since 2010, the department has produced a publicly accessible report that is a statewide compilation of salmon escapements and escapement goals. The most current report was published in August 2022 and covers escapements from 2013 to 2021 (Munro and Brenner, 2022). Escapements were compared against escapement goals in place at the time of enumeration to assess outcomes in achieving goals. Escapements for a particular stock were classed as "Under" if escapement for a given year was less than the lower bound of the escapement goal. If escapement fell within the escapement goal range or was greater than a lower bound goal, they considered the goal "Met". Where escapement exceeded the upper bound of an escapement goal range, it was classed as "Over". Overall, most chum salmon stocks met escapement goals or surpassed them. The summary of the escapements review for Chum salmon in 4 regions of Alaska is presented in Figure 2 and 3.

Table 10.–Southeast Region Chinook, chum, coho, pink, and sockeye salmon escapements compared to escapement goals for the years 2013 to 2021.

	2013	2014	2015	2016	2017	2018	2019	2020	2021
CHUM SALMON									
Number Below	3	2	0	2	1	2	2	5	4
Number Met	5	6	5	6	5	4	6	3	3
Number Above	0	0	3	0	2	1	0	0	1
% Below	38%	25%	0%	25%	13%	29%	25%	63%	50%
% Met	63%	75%	63%	75%	63%	57%	75%	38%	38%
% Above	0%	0%	38%	0%	25%	14%	0%	0%	13%

Table 11.–Central Region (Bristol Bay, Cook Inlet, Prince William Sound/Copper River) Chinook, chum, coho, pink, and sockeye salmon escapements compared to escapement goals for the years 2013 to 2021.

	2013	2014	2015	2016	2017	2018	2019	2020	2021
CHUM SALMON									
Number Below	5	7	3	5	0	7	7	10	8
Number Met	10	10	8	11	11	9	5	5	5
Number Above	4	2	7	3	8	3	7	4	6
% Below	26%	37%	17%	26%	0%	37%	37%	53%	42%
% Met	53%	53%	44%	58%	58%	47%	26%	26%	26%
% Above	21%	11%	39%	16%	42%	16%	37%	21%	32%

Figure 2. Source: Munro and Brenner (2022).

Table 12.–Arctic–Yukon–Kuskokwim Region Chinook, chum, coho, pink, and sockeye salmon escapements compared to escapement goals for the years 2013 to 2021.

	2013	2014	2015	2016	2017	2018	2019	2020	2021
SUMMER CHUM SALMON									
Number Below	1	1	1	1	0	0	0	2	3
Number Met	2	1	1	2	1	0	4	3	2
Number Above	5	7	5	4	6	6	2	0	0
% Below	13%	11%	14%	14%	0%	0%	0%	40%	60%
% Met	25%	11%	14%	29%	14%	0%	67%	60%	40%
% Above	63%	78%	71%	57%	86%	100%	33%	0%	0%
YUKON RIVER SUMMER CHUM SALMON									
Number Below	0	1	0	1	0	2	1	0	3
Number Met	2	1	2	1	2	0	1	1	0
Number Above	0	0	0	1	1	1	1	0	0
% Below	0%	50%	0%	33%	0%	67%	33%	0%	100%
% Met	100%	50%	100%	33%	67%	0%	33%	100%	0%
% Above	0%	0%	0%	33%	33%	33%	33%	0%	0%
YUKON RIVER FALL CHUM SALMON									
Number Below	0	1	2	0	0	1	1	2	5
Number Met	1	2	3	1	1	0	3	1	0
Number Above	7	5	3	5	5	5	1	0	0
% Below	0%	13%	25%	0%	0%	17%	20%	67%	100%
% Met	13%	25%	38%	17%	17%	0%	60%	33%	0%
% Above	88%	63%	38%	83%	83%	83%	20%	0%	0%

Figure 3. Source: Munro and Brenner (2022).

Table 13.–Westward Region (Alaska Peninsula/Aleutian Islands, Kodiak, and Chignik areas) Chinook, chum, coho, pink, and sockeye salmon escapements compared to escapement goals for the years 2013 to 2021.

	2013	2014	2015	2016	2017	2018	2019	2020	2021
CHUM SALMON									
Number Below	1	5	1	2	0	4	2	5	2
Number Met	7	3	4	4	4	2	4	2	2
Number Above	0	0	3	2	3	1	1	0	3
% Below	13%	63%	13%	25%	0%	57%	29%	71%	29%
% Met	88%	38%	50%	50%	57%	29%	57%	29%	29%
% Above	0%	0%	38%	25%	43%	14%	14%	0%	43%

Figure 4. Source: Munro and Brenner (2022).

Where escapements chronically (4–5 years) fail to meet expectations for harvestable yield or spawning escapements, ADF&G may recommend—and the BOF may adopt— a Stock of Concern (SOC) designation for those underperforming salmon stocks. "Yield concerns" arise from a chronic inability to maintain expected yields or harvestable surpluses above escapement needs. "Management concerns" are precipitated by a chronic failure to maintain escapements within the bounds, or above the lower bound of the established goal. A "conservation concern" may arise from 5 a failure to maintain escapements above a sustained escapement threshold. In 2021, there was only one stock in Central region where chum salmon were classified as "Management concern" (Figure 5).

(A) Region	Stock	Species	Listing Date	Level of Concern	Year Last Reviewed[a]
Southeast	Chilkat River	Chinook	Jan-2018	Management	2020
	King Salmon River	Chinook	Jan-2018	Management	2020
	Unuk River	Chinook	Jan-2018	Management	2020
	Stikine River	Chinook	Mar-2022	Management	2020
	Andrew Creek	Chinook	Mar-2022	Management	2020
	Chickamin River	Chinook	Mar-2022	Management	2020
	Taku River	Chinook	Mar-2022	Management	2020
	McDonald Lake	Sockeye	Jan-2018	Management	2020
	Klukshu River	Sockeye	Mar-2022	Management	2020
Central	McNeil River	Chum	Dec-2016	Management	2019
	Chuitna River	Chinook	Feb-2011	Management	2019
	Theodore River	Chinook	Feb-2011	Management	2019
	Alexander Creek	Chinook	Feb-2011	Management	2019
	Eastside Susitna River	Chinook	Feb-2020	Management	2019
AYK	Yukon River	Chinook	Sep-2000	Yield	2018
	Norton Sound Subdistrict 5 & 6	Chinook	Jan-2004	Yield	2018
Westward	Karluk River	Chinook	Jan-2011	Management	2019
	Ayakulik River	Chinook	Jan-2020	Management	2019
-	Chignik River (early run)	Sockeye	Mar-2022	Management	2018

Figure 5. Current salmon stocks of concern in Alaska (Munro and Brenner, 2022).

The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy). C.1.2 is met.

References

ADFG. 2023. Statewide Salmon Gross Earnings by Species. OCEANAK Gross Earnings Subject Area. Alaska Department of Fish and Game. https://www.adfg.alaska.gov/index.cfm?adfg=commercialbyfisherysalmon.salmon_grossearnings_byspecies

Donnellan, S. J., and A. R. Munro, editors. 2023. Run forecasts and harvest projections for 2023 Alaska salmon fisheries and review of the 2022 season. Alaska Department of Fish and Game, Special Publication No. 23-10, Anchorage. https://www.adfg.alaska.gov/FedAidPDFs/SP23-10.pdf

Munro, A. R., and R. E. Brenner. 2022. Summary of Pacific salmon escapement goals in Alaska with a review of escapements from 2013 to 2021. Alaska Department of Fish and Game, Fishery Manuscript No. 22-02, Anchorage. http://www.adfg.alaska.gov/FedAidPDFs/FMS22-02.pdf

Links	
MarinTrust Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01