



MarinTrust Standard V2

By-product Fishery Assessment *Pacific cod (*Gadus macrocephalus*) in FAO Area - 67 Gulf of Alaska*

MarinTrust Programme

Unit C, Printworks

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Pacific cod (<i>Gadus macrocephalus</i>)
	Geographical area:	FAO Subarea 67 - Gulf of Alaska
	Country of origin of the product:	Vietnam Flag country: USA
	Stock:	Pacific cod in FAO Subarea 67 - Gulf of Alaska
Date	20 August 2023	
Report Code	VNM11	
Assessor	Ana Elisa Almeida Ayres	
Country of origin of the product - PASS	Vietnam Flag country: USA	
Country of origin of the product - FAIL	NA	

Application details and summary of the assessment outcome			
Company Name(s): Thien Quynh Co. Ltd			
Country: Vietnam			
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	Léa Lebechnech	0.5	Surveillance 2
Assessment Period	Up to August 2023		

Scope Details	
Main Species	Pacific cod (<i>Gadus macrocephalus</i>)
Stock	Pacific cod in FAO Subarea 67 - Gulf of Alaska
Fishery Location	FAO Subarea 67 - Gulf of Alaska
Management Authority (Country/ State)	Alaska Department of Fish and Game (ADF&G)
Gear Type(s)	Bottom Trawl, vertical lines, and pots
Outcome of Assessment	
Peer Review Evaluation	Agree with the assessor's recommendation
Recommendation	APPROVED

Table 2. Assessment Determination

Assessment Determination
<p>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 MarinTrust raw material. Pacific cod (<i>Gadus macrocephalus</i>) is not categorised as Endangered or Critically Endangered on IUCN's Red List and does not appear in CITES appendices; therefore, Pacific cod (<i>Gadus macrocephalus</i>) is eligible for approval for use as Marin Trust by-product raw material.</p> <p>The Gulf of Alaska Pacific Cod stock is certified by Marine Stewardship Council - MSC since 2010, from 2020 onwards, it was assessed together with Bering Sea and Aleutian Islands. The stock has defined reference points. Therefore, Gulf of Alaska Pacific Cod stock was assessed under Category C.</p> <p>Fishery removals are included in the stock assessment and it PASSES Clause C1.1. The stock is considered, in its most recent stock assessment from 2022, to have biomass above the limit reference point, it PASSES Clause C1.2. The stock is not being subject to overfishing, is not currently overfished, nor is it approaching a condition of being overfished.</p> <p>Therefore, Pacific cod (<i>Gadus macrocephalus</i>) in FAO Subarea 67 - Gulf of Alaska is APPROVED for the production of fishmeal and fish oil under the current MarinTrust v2.3 by-products standard.</p>
Fishery Assessment Peer Review Comments
<p>The assessor correctly classified Pacific cod in FAO Subarea 67 - Gulf of Alaska under category C, as the stock is managed and reference points are defined to assess the stock status against.</p> <p>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.</p> <p>Therefore, Pacific cod in FAO Subarea 67 - Gulf of Alaska is APPROVED for the production of fishmeal and fish oil under the current MarinTrust V2.0 by-products standards.</p>
Notes for On-site Auditor

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
Pacific cod	<i>Gadus macrocephalus</i>	Pacific cod (<i>Gadus macrocephalus</i>) in FAO Subarea 67 - Gulf of Alaska	Alaska Department of Fish and Game (ADF&G)	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		Pacific cod (<i>Gadus macrocephalus</i>)	
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.

Pacific cod in the Gulf of Alaska are assessed on an annual stock assessment, using a statistical age-structured model as the primary assessment tool, which qualifies as a Tier 3 stock. This assessment consists of a population model, which uses survey and fishery data to generate a historical time series of population estimates, and a projection model, which uses results from the population model to predict future population estimates and recommended harvest levels. Federal and state catch data for 2021 were updated and preliminary federal and state catch data for 2022 were included. Landings by gear since 1977 are represented in Figure 1.

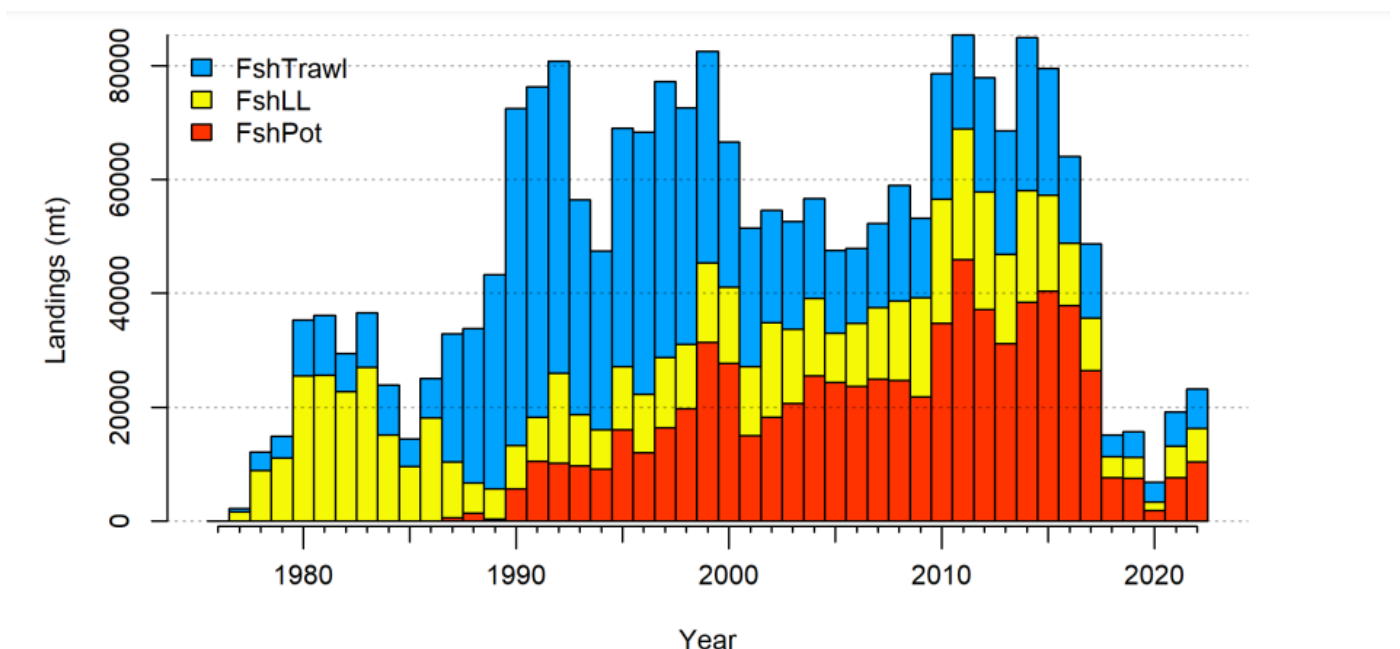


Figure 2.4. Gulf of Alaska Pacific cod catch from 1977-2022. Note that 2022 catch was through October 25.

Figure 1. Source: Hulson et al (2022).

For the 2023 fishery, the maximum allowable Acceptable Biological Catch - ABC was 24,634 t, which was a 25% decrease from the 2022 ABC of 32,811 t, given an observed population decline. The 2023 ABC is 14% smaller than the 2023 ABC projected in last year's assessment. The corresponding reference values are summarized in the following table, with the recommended ABC and Overfishing Limits - OFL values in bold (Hulson et al, 2022).

Quantity	As estimated or <i>specified last</i> year for:		As estimated or <i>specified this</i> year for:	
	2022	2023	2023	2024
<i>M</i> (natural mortality rate)	0.50	0.50	0.49*	0.49*
Tier	3b	3b	3b	3b
Projected total (age 0+) biomass (t)	178,961	199,841	163,477	193,510
Female spawning biomass (t)				
Projected	48,061	44,530	42,764	40,489
<i>B</i> _{100%}	165,508	165,508	167,414	167,414
<i>B</i> _{40%}	66,203	66,203	66,966	66,966
<i>B</i> _{35%}	57,928	57,928	58,595	58,595
<i>F</i> _{OFL}	0.62	0.57	0.51	0.48
<i>maxF</i> _{ABC}	0.50	0.46	0.41	0.39
<i>F</i> _{ABC}	0.50	0.46	0.41	0.39
OFL (t)	39,555	34,673	29,737	27,507
maxABC (t)	32,811	28,708	24,634	22,683
ABC (t)	32,811	28,708	24,634	22,683
Status	As determined <i>last</i> year for:		As determined <i>this</i> year for:	
	2020	2021	2021	2022
Overfishing	No	n/a	No	n/a
Overfished	n/a	No	n/a	No
Approaching overfished	n/a	No	n/a	No

*Base natural mortality *M* varies between 0.49 and 0.84

** Assumed 2022 catch at the ABC, 32,811t. For 2024 projections the 2023 catch was assumed to be at the projected ABC.

Figure 2. Source: Hulson et al (2022).

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.

According to MFRAG (2023): "Total biomass estimates show a long decline from their peak in 1988 to a low in 2006 and then an increase to another peak in 2014, after which there was a sharp decline through 2018 followed by a slight increase through 2022. Spawning biomass shows a similar trend of decline since the late 1980s with a peak in 1989 to a low in 2008. There was then a short increase in spawning biomass coincident with the maturation of the 2005-2008 year classes through 2014, after which the decline continued to lowest level in 2019 and 2020. The spawning biomass then slightly increased in 2021 and 2022 and is projected to slightly decrease in 2023 (Figure 2)."

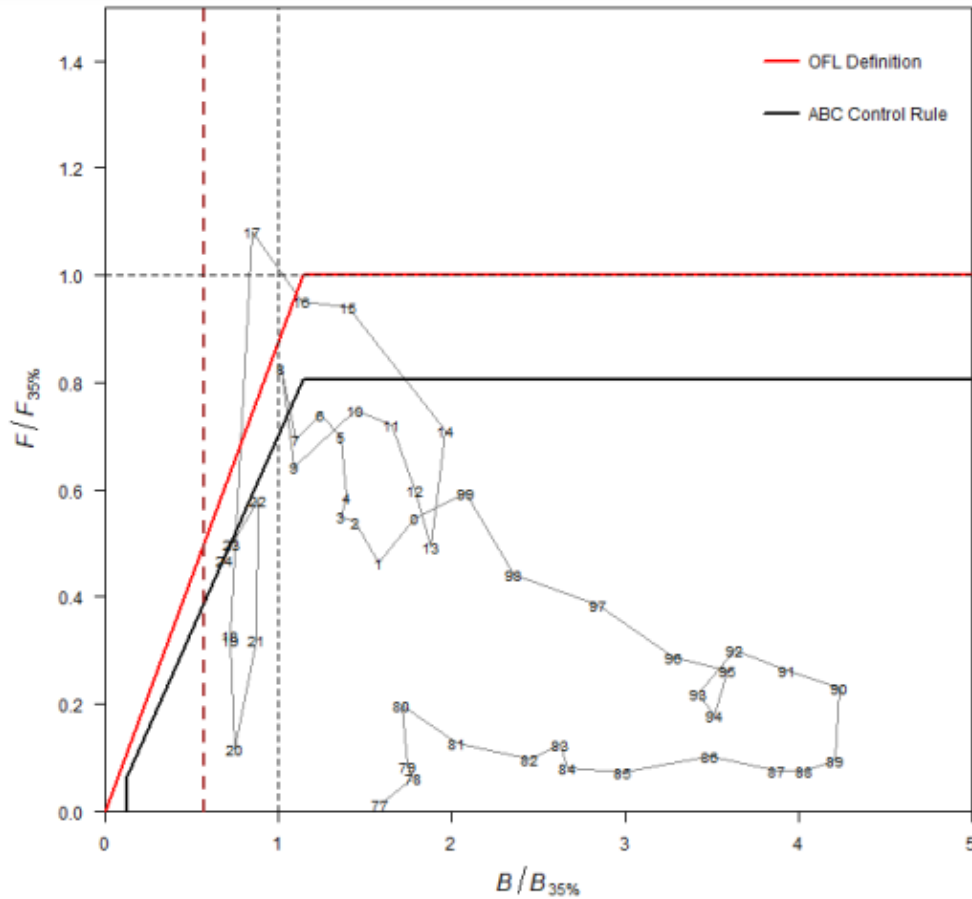


Figure 2.52. For Model 19.1a ratio of historical $F/F_{35\%}$ versus female spawning biomass relative to $B_{35\%}$ for GOA Pacific cod, 1977-2024. The F_s presented are the sum of the full F_s across fleets. Dashed red line is at $B_{20\%}$, Steller sea lion closure rule for GOA Pacific cod.

Figure 3. Source: Hulson et al. (2022).

Hulson et al (2022) pointed that the stock remains at low levels, but above the 20% of the unfished spawning biomass ($B_{20\%}$), which can be considered a proxy of recruitment impairment point. For 2023, the stock is estimated to be at $B_{25.5\%}$, less than $B_{40\%}$. $B_{40\%}$ can be considered a proxy for biomass at maximum sustainable yield - B_{MSY} proxy reference point though it is really treated as a limit within management such that if female spawning biomass is assessed as below $B_{40\%}$, maximum allowable fishing mortality rate (FOFL) is reduced. The 2022 assessment concluded that the stock is not being subject to overfishing, is not currently overfished, nor is it approaching a condition of being overfished.

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

Hulson P.F., Barbeaux, S., B. Ferriss, McDermott S., Spies. I. 2022. Chapter 2: Assessment of the Pacific cod stock in the Gulf of Alaska. https://apps-afsc.fisheries.noaa.gov/Plan_Team/2022/GOApcod.pdf

MFRAG. 2023. Bering Sea and Aleutian Islands and Gulf of Alaska Cod No: MSC-F-31493. 2nd Surveillance Report April 9, 2023. MRAG Americas, Inc. <https://fisheries.msc.org/en/fisheries/bsai-and-go-pacific-cod/@@assessments>

Links

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