



## MarinTrust Standard V2

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

**MarinTrust Programme**

Unit C, Printworks

22 Amelia Street

London

SE17 3BZ

E: [standards@marin-trust.com](mailto:standards@marin-trust.com)

T: +44 2039 780 819

**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 Northeast Pacific
	Country of origin of the product:	Flag country not supplied by client
	Stock:	Pacific cod in FAO 67, Gulf of Alaska
Date	3 August 2022	
Report Code	VNM11	
Assessor	Matthew Jew	
Country of origin of the product - PASS	Flag country not supplied by client	
Country of origin of the product - FAIL	NA	

Application details and summary of the assessment outcome			
Company Name(s): Thien Quynh Co Ltd (IFFO196)			
Country: Vietnam			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		Global Trust Certification	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Matthew Jew	Léa Lebechnech	0.5	Surveillance 1
Assessment Period	Up to August 2022		

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

## Table 2. Assessment Determination

Assessment Determination
<p>If any species is categorised as Endangered or Critically Endangered on IUCN's Red List, or if it appears in the CITES appendices, it cannot be approved for use as Marin trust raw material. Pacific Cod (<i>Gadus macrocephalus</i>) does not appear on IUCN's Red List, neither in CITES appendices; therefore, <i>Gadus macrocephalus</i> is eligible for approval for use as Marin trust by-product raw material.</p> <p>Management of the Pacific Cod fishery is highly precautionary. Catch limits (TACs) are consistently set well below the advised upper limit on harvests (ABC) (Barbeaux <i>et al.</i> 2021). Reference points are defined for the Pacific Cod stock, therefore it 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, to have biomass above the limit reference point, it PASSES Clause C1.2.</p> <p>Therefore, Pacific Cod in Subarea 67 (Gulf of Alaska) is <b>APPROVED</b> for the production of fishmeal and fish oil under the current MarinTrust v2.0 by-products.</p>
Fishery Assessment Peer Review Comments
<p>The internal peer reviewer agrees with the assessor's assessment, who correctly classified Pacific Cod in Subarea 67 (Gulf of Alaska) under category C, as reference points are defined to assess status of the stock relative to.</p> <p>Fishery removals are included in the stock assessment process so the stock PASSES Clause C1.1. The Gulf of Alaska Pacific cod stock is considered, in its most recent stock assessment, to have a biomass above the limit reference point, so it PASSES Clause C1.2.</p> <p>Therefore, the Gulf of Alaska Pacific cod is <b>APPROVED</b>.</p>
Notes for On-site Auditor
<p>Determine which flag state(s) the plant is sourcing its Pacific Cod from.</p>

## 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 a 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 <sup>1</sup>	CITES Appendix 1 <sup>2</sup>
Pacific Cod	<i>Gadus macrocephalus</i>	Pacific Cod in FAO 67, Pacific Northeast	Alaska Department of Fish and Game (ADF&G), North Pacific Fishery Management Council (NPFMC)	C	Not Evaluated	No

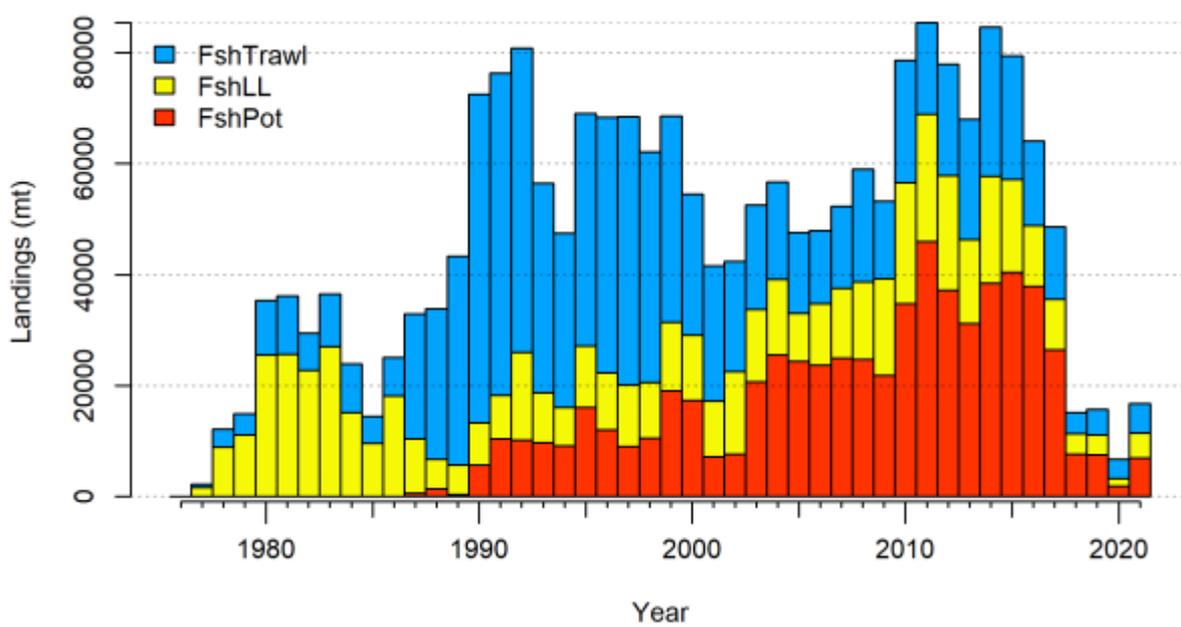
<sup>1</sup> <https://www.iucnredlist.org/>

<sup>2</sup> <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.

<b>Species Name</b>		<b>Pacific Cod (<i>Gadus macrocephalus</i>)</b>	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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
	<b>C1.2</b>	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
			<b>Clause outcome:</b> <b>PASS</b>
<b>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.</b>			
<p>In the last stock assessment, federal and state catch data for 2020 were updated and preliminary federal and state catch data for 2021 were included. Commercial federal and state fishery size composition data for 2020 were updated, and preliminary commercial federal and state fishery size composition data for 2021 were included. Alaska Fisheries Science Center (AFSC) bottom trawl survey Pacific Cod abundance index and length composition for the Gulf of Alaska (GOA) for 2021 were included. All length composition samples with less than 30 fish for a particular area, year, quarter, and gear type were excluded from the dataset. This made up 2% of the data representing &lt;1% of the overall catch. Long-term catch trends by gear type are presented in Figure 1.</p>			
			
<p>Figure 1. Gulf of Alaska Pacific Cod catch by gear type from 1977 to 2021. Note: 2021 catch is preliminary. Source: Barbeaux et al. 2021.</p>			

Therefore, fishery removals of the stock, including from the fishery under assessment, are included in the stock assessment process. **The stock passes Clause C1.1.**

**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.**

The most recent stock assessment used Model 21.2 as this model showed the least bias in the unfished spawning biomass, 2022 spawning stock biomass, and 2022 allowable biological catch (ABC). However, Barbeaux et al. 2021 present two different projections based on predicted environmental conditions. Projection A (Table 1) assumes environmental conditions after 2021 will match the 2012-2021 average. Projection B (Table 2) was provided because environmental conditions for 2012- 2021 in the GOA have been decidedly warmer than previous decades in the same time series and projections by the Intergovernmental Panel on Climate Change suggests the warming trend will continue and worsen in the coming decades.

In 2020, the spawning stock biomass was projected to have dropped below 20% of the unfished spawning biomass ( $B_{20\%}$ ) and the federal Pacific Cod fishery in the GOA was closed by regulation to directed Pacific Cod fishing.  $B_{20\%}$  is the mandated minimum spawning stock size threshold. In 2021, the stock was projected to be above  $B_{20\%}$ .

Table 1. Key results and reference points for Pacific Cod in the Gulf of Alaska Model 21.2 Projection A.  
Source: Barbeaux et al. 2021.

<b>M21.2 Projection A (Mean 1977-2021 conditions projected) Quantity</b>	<i>As estimated or specified last year for:</i>		<i>As estimated or specified this year for:</i>	
	2021	2022	2022	2023
<i>M</i> (natural mortality rate)	0.47	0.47	0.48*	0.48*
Tier	3b	3b	3b	3b
Projected total (age 0+) biomass (t)	265,661	312,783	159,837	185,745
Female spawning biomass (t)				
Projected	39,977	50,813	39,873	38,594
<i>B</i> <sub>100%</sub>	180,111	180,111	162,426	162,426
<i>B</i> <sub>40%</sub>	72,045	72,045	64,970	64,970
<i>B</i> <sub>35%</sub>	63,039	63,039	56,849	56,849
<i>F</i> <sub>OFL</sub>	0.41	0.54	0.54	0.52
<i>maxF</i> <sub>ABC</sub>	0.33	0.43	0.44	0.42
<i>F</i> <sub>ABC</sub>	0.33	0.43	0.44	0.42
OFL (t)	28,977	46,587	29,131	27,715
maxABC (t)	23,627	38,141	24,043	22,882
ABC (t)	23,627	38,141	24,043	22,882
<b>Status</b>				
	2019	2020	2020	2021
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 0.48 and 1.07

\*\* Assumed 2021 catch at the ABC, 23,627 t . For 2023 projections the 2022 catch was assumed to be at the projected ABC.

Table 2. Key results and reference points for Pacific Cod in the Gulf of Alaska Model 21.2 Projection B.  
Source: Barbeaux et al. 2021.

<b>M21.2 Projection B (Mean 2010-2021 conditions projected)</b>	As estimated or <i>specified last</i> year for:		As estimated or <i>specified this</i> year for:	
	2021	2022	2022	2023
<b>Quantity</b>				
<i>M</i> (natural mortality rate)	0.47	0.47	0.48*	0.48*
Tier	3b	3b	3b	3b
Projected total (age 0+) biomass (t)	265,661	312,783	160,755	169,832
Female spawning biomass (t)				
Projected	39,977	50,813	39,873	35,050
<i>B</i> <sub>100%</sub>	180,111	180,111	162,426	162,426
<i>B</i> <sub>40%</sub>	72,045	72,045	64,970	64,970
<i>B</i> <sub>35%</sub>	63,039	63,039	56,849	56,849
<i>F</i> <sub>OFL</sub>	0.41	0.54	0.54	0.47
<i>maxF</i> <sub>ABC</sub>	0.33	0.43	0.44	0.38
<i>F</i> <sub>ABC</sub>	0.33	0.43	0.44	0.38
OFL (t)	28,977	46,587	28,000	22,072
maxABC (t)	23,627	38,141	23,099	18,170
ABC (t)	23,627	38,141	23,099	18,170
<b>Status</b>	2019	2020	2020	2021
Overfishing	No	n/a	No	n/a
Overfished	n/a	No	n/a	Yes
Approaching overfished	n/a	No	n/a	Yes

\*Base natural mortality *M* varies between 0.48 and 1.07

\*\* Assumed 2021 catch at the ABC, 23,627t. For 2023 projections the 2022 catch was assumed to be at the projected ABC.

Therefore, the stock is considered, in its most recent stock assessment, to have biomass above the limit reference point. **The stock passes Clause C1.2.**

**References**

Barbeaux, S., B. Ferriss, B. Laurel, M. Litzow, S. McDermott, J. Nielsen, W. Palsson, K. Shotwell, I. Spies, and M. Wang. 2021. Assessment of the Pacific cod stock in the Gulf of Alaska. 254 pp. <https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/GOApcod.pdf>.

**Links**

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