MarinTrust Standard V2

By-product Fishery Assessment

Report Template (Bering Sea Aleutian Islands Northern Rock Sole in FAO Areas 61 and 67)

Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Northern Rock Sole, *Lepidopsetta polyxystra*
	Geographical area:	Northeast Pacific, FAO 61 and FAO 67
	Country of origin of the product:	USA (Flag Country)
	Stock:	Bering Sea and Aleutian Islands (BSAI)
Date	May 2022	
Report Code	THA07	
Assessor	Ivan Mateo	
Country of origin of the product - PASS	USA (Flag Country)	
Country of origin of the product - FAIL	NA	

Application details and summary of the assessment outcome			
Company Name(s): Piyo Bhokabhan Co., Ltd			
Country: Thailand			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body: Global Trust			
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Ivan Mateo	Geraldine Criquet	0.5	Initial
Assessment Period	To May 2022		

Scope Details	
Main Species	Northern Rock Sole, *Lepidopsetta polyxystra*
Stock	Bering Sea and Aleutian Islands (BSAI)
Fishery Location	Northeast Pacific, FAO 61 and FAO 67
Management Authority (Country/ State)	North Pacific Management Council (NPFMC)
Gear Type(s)	Bottom Trawl
Outcome of Assessment	
Peer Review Evaluation	Agree with assessor's determination of approval
Recommendation	APPROVE

Table 2. Assessment Determination

Assessment Determination
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 MARINTRUST raw material. BSAI Northern Rock Sole is not listed as Endangered or Critically Endangered on IUCN's Red List, nor it is listed in CITES appendices; therefore, BSAI Northern Rock Sole is eligible for approval for use as MARIN TRUST by-product raw material. This stock is managed in by North Pacific Management Council (NPFMC). NMFS conducts stock assessments; reference points are defined for the BSAI Northern Rock Sole stock The stock is classified as Category C. Fishery removals of the stock are considered in the various stock assessment processes so the stock PASSES Clause C1.1. In the most recent stock assessment, the stock is considered to have a biomass above the limit reference point, the stocks PASSES Clause C1.2. In order to be approved, the stock under assessment must pass both Clauses C1.1 and C1.2. BSAI Northern Rock Sole passes both Clauses C1.1 and C1.2, and therefore is APPROVED by the assessor for the production of fishmeal and fish oil under the current Marin Trust v.2.20 by-product Standard.
Fishery Assessment Peer Review Comments
The assessor correctly classified Bering Sea and Aleutian Islands Northern rock sole stock as Category C, the stock is subject to a specific management regime and reference points are defined. Fishery removals are considered in the stock assessment process. The most recent stock assessment determined that the stock is not overfished. Therefore, the stock is considered to have a biomass above the limit reference point. Bering Sea and Aleutian Islands Northern rock sole passes both Clauses C1.1 and C1.2 and therefore should be approved under the Marin Trust Standard v.2.
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]
Northern Rock Sole	*Lepidopsetta polyxystra*	Bering Sea Aleutian Islands	NPFMC	C	LC	No

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[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	Northern Rock Sole, *Lepidopsetta polyxystra*	
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.	Pass
	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.	Pass
	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.

Data to support the stock assessment is derived from commercial catches: relative catches in weight, relative catch per set and relative average length of catch. Total catches (retained plus discards) are shown in Table 3. Therefore, the stock PASSES Clause C1.1.

Year	Foreign	Joint-Venture	Domestic	Total
1977	5,319			5,319
1978	7,038			7,038
1979	5,874			5,874
1980	6,329	2,469		8,798
1981	3,480	5,541		9,021
1982	3,169	8,674		11,843
1983	4,479	9,140		13,619
1984	10,156	27,523		37,679
1985	6,671	12,079		18,750
1986	3,394	16,217		19,611
1987	776	11,136	28,910	40,822
1988		40,844	45,522	86,366
1989		21,010	47,902	68,912
1990		10,492	24,761	35,253
1991			56,058	56,058
1992			52,723	52,723
1993			64,261	64,261
1994			59,607	59,607
1995			55,029	55,029
1996			46,929	46,929
1997			67,815	67,815
1998			33,644	33,644
1999			41,090	41,090
2000			49,668	49,668
2001			29,477	29,477
2002			41,867	41,867
2003			36,086	36,086
2004			48,681	48,681
2005			37,362	37,362
2006			36,456	36,456
2007			37,126	37,126
2008			51,276	51,276
2009			48,716	48,716
2010			53,200	53,200
2011			60,534	60,534
2012			75,945	75,945
2013			59,751	59,751
2014			51,690	51,690
2015			45,468	45,468
2016			45,072	45,072
2017			35,106	35,106
2018			28,197	28,197
2019			25,832	25,832
2020			25,514	25,514
2021			13,860	13,860

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.

A statistical age-structured model is used as the primary assessment tool for the Bering Sea/Aleutian
Islands northern rock sole assessment, a Tier 1 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. The data sets used in this assessment include total catch biomass, fishery age compositions, trawl survey abundance estimates and trawl survey age compositions. In a partial assessment year, the full assessment model is not rerun but instead a Tier 1 projection model with an assumed future catch is used to estimate the stock level in the next two years. This incorporates the most current catch information for ABC and OFL recommendations without re-estimating model parameters and biological reference points.
The Tier 1 projection operates within the full assessment model by projecting estimates of the female spawning biomass, age 6+ total biomass, ABC and OFL ahead two years. Since the full assessment model is not rerun in this assessment, the projected values from the 2020 assessment are used to provide ABC and OFL.

The status of the stock is not overfished (Table 4). Therefore, the assessor determines that, the stock is considered to have a biomass above the limit reference point, it PASSES
Clause C1.2.

TABLE 4. STOCK STATUS OF BSAI NORTHERN ROCK SOLE

Quantity	As estimated or specified *last* year for:		As estimated or recommended *this* year for:	
	2021	2022	2022	2023
M (natural mortality rate)	0.15 (f),0.17 (m)	0.15 (f),0.17 (m)	0.15 (f),0.17 (m)	0.15 (f),0.17 (m)
Tier	1a	1a	1a	1a
Projected total (age 6+) biomass (t)	923,197	1,359,440	1,361,360	1,784,460
Projected Female spawning biomass (t)	294,627	286,381	287,600	320,399
B_0	476,820	476,820	476,820	476,820
B_{MSY}	158,972	158,972	158,972	158,972
F_{OFL}	0.157	0.157	0.157	0.157
$maxF_{ABC}$	0.152	0.152	0.152	0.152
F_{ABC}	0.152	0.152	0.152	0.152
OFL (t)	145,180	213,783	214,084	280,621
maxABC (t)	140,306	206,605	206,896	271,199
ABC (t)	140,306	206,605	206,896	271,199
Status	As determined *last* year for:		As determined *this* year for:	
	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

References

https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/BSAIrocksole.pdf

Links

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

CATEGORY D SPECIES

Category D species are those which are not subject to a species-specific management regime. In the case of mixed trawl fisheries, Category D species may make up the majority of landings. The comparative lack of scientific information on the status of the population of the species means that a risk-assessment style approach must be taken.

D1	Species Name			
	Productivity Attribute		**Value**	**Score**
	Average age at maturity (years)			
	Average maximum age (years)			
	Fecundity (eggs/spawning)			
	Average maximum size (cm)			
	Average size at maturity (cm)			
	Reproductive strategy			
	Mean trophic level			
		Average Productivity Score		
	Susceptibility Attribute		**Value**	**Score**
	Availability (area overlap)			
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)			
	Selectivity of gear type			
	Post-capture mortality			
		Average Susceptibility Score		
		PSA Risk Rating (From Table D3)		
		Compliance rating		
	Further justification for susceptibility scoring (where relevant) *For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision*			
References				
Standard clauses 1.3.2.2				

Table D2 - Productivity / Susceptibility attributes and scores.

Productivity attributes	Low productivity/ High risk — Score 3	Medium productivity/ Medium risk — Score 2	High productivity/ Low risk — Score 1
Average age at maturity (years)	>4	2 to 4	<2
Average maximum age (years)	>30	10 to 30	<10
Fecundity (eggs/spawning)	<1 000	1 000 to 10 000	>10 000
Average maximum size (cm)	>150	60 to 150	<60
Average size at maturity (cm)	>150	30 to 150	<30
Reproductive strategy	Live bearer, mouth brooder or significant parental investment	Demersal spawner "berried"	Broadcast spawner
Mean trophic level	>3.25	2.5–3.25	<2.5

Susceptibility attributes		High susceptibility/ High risk — Score 3	Medium susceptibility/ Medium risk — Score 2	Low susceptibility/ Low risk — Score 1
Availability	1) Overlap of adult species range with fishery	>50% of stock occurs in the area fished	Between 25% and 50% of the stock occurs in the area fished	<25% of stock occurs in the area fished
	2) Distribution	Only in the country/ fishery	Limited range in the region	Throughout region/ global distribution
Encounterability	1) Habitat	Habitat preference of species make it highly likely to encounter trawl gear (e.g. demersal, muddy/sandy bottom)	Habitat preference of species make it moderately likely to encounter trawl gear (e.g. rocky bottom/reefs)	Depth or distribution of species make it unlikely to encounter trawl gear (e.g. epi-pelagic or meso-pelagic)
	2) Depth range	High overlap with trawl fishing gear (20 to 60 m depth)	Medium overlap with trawl fishing gear (10 to 20 m depth)	Low overlap with trawl fishing gear (0 to 10 m, >70 m depth)
Selectivity		Species >2 times mesh size or up to 4 m length	Species 1 to 2 times mesh size or 4 to 5 m length	Species <mesh size or >5 m length
Post capture mortality		Most dead or retained Trawl tow >3 hours	Alive after net hauled Trawl tow 0.5 to 3 hours	Released alive Trawl tow <0.5 hours

Note: Availability 2 is only used when there is no information for Availability 1; the most conservative score between Encounterability 1 and 2 is used.

D3		Average Susceptibility Score		
		1 - 1.75	1.76 - 2.24	2.25 - 3
Average Productivity Score	1 - 1.75	PASS	PASS	PASS
	1.76 - 2.24	PASS	PASS	TABLE D4
	2.25 - 3	PASS	TABLE D4	TABLE D4

D4	Species Name		
	Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements		
	D4.1	The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.	
	D4.2	There is no substantial evidence that the fishery has a significant negative impact on the species.	
		Outcome:	

Evidence

D4.1: The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.

D4.2 There is no substantial evidence that the fishery has a significant negative impact on the species.

References

Links

MarinTrust Standard clause	1.3.2.2, 4.1.4
FAO CCRF	7.5.1
GSSI	D.5.01