MarinTrust Standard V2

By-product Fishery Assessment

Mussel, FAO Area 27 ICES 6.a, 7.a, 7.b, 7.g and 7.j

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Mussel *(Mytilus edulis)*
	Geographical area:	*FAO Area 27*
	Country of origin of the product:	UK & Ireland
	Stock:	*ICES 6.a, 7.a, 7.b, 7.g and 7.j*
Date	January 2023	
Report Code	GBR 32	
Assessor	Vineetha Aravind	
Country of origin of the product - PASS	U.K & Ireland	
Country of origin of the product - FAIL	N/A	

Application details and summary of the assessment outcome			
Company Name(s): Pelagia			
Country: U.K & Ireland			
Email address: geraldine.fox@pelagia.com		Applicant Code:	
Certification Body Details			
Name of Certification Body:		LRQA	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Vineetha Aravind	Sam Peacock	0.5	Re-approval
Assessment Period	Jan 2023 – Jan 2024		

Scope Details	
Main Species	Mussel (*Mytillus edulis)*
Stock	ICES 6.a, 7.a, 7.b, 7.g and 7.j
Fishery Location	FAO Area 27
Management Authority (Country/ State)	U.K & Ireland
Gear Type(s)	Ropes, bottom dredge
Outcome of Assessment	
Peer Review Evaluation	Agree
Recommendation	Approve byproduct

Table 2. Assessment Determination

Assessment Determination
Mussel does not appear as Endangered or Critically Endangered on the IUCN Red List, nor does it appear in the CITES appendices; therefore, the Mussel is eligible for approval for use as MARINTRUST raw material. SAI Global (2019) has submitted a Public Certification Repot (PCR) on Ireland's rope grown Blue Mussel. With enhanced catch-and-grow (CAG) bivalve fisheries, management is not based on reference points or the concept of managing stock size. Seed mussel beds are usually short-lived and is therefore it is considered that harvesting seed mussels are unlikely to cause any adverse impact on the mussel population. The management strategy is to manage the seed mussel fishery and not the stock and is therefore not based on conventional stock assessments with target and limit reference points Mussel spat is collected (either captured on ropes or dredged from the seabed) are on-grown in favourable areas (e.g. in subtidal areas on ropes or on the intertidal shore). Instead of immediate removal of animals from the system, survivorship is improved through the provision of substrate and better growing conditions (i.e., through a reduction in the rate of natural mortality). In the end, this process may actually contribute to increasing stock size and biomass instead of reducing it. The SAI Global assessment team (July 2019) concluded that the rope grown mussel fishery should be certified according to MSC's Principles and Criteria for Sustainable Fishing. The active dredging of seed mussel beds prior to relaying (bottom culture) is also subject to regulation. Removals by the fishery under assessment are considered by scientific authorities to be negligible; therefore, the stock PASSES Clauses C1.1 and C1.2. Mussel in ICES Areas 6.a, 7.a, 7.b, 7.g, and 7.j is APPROVED by the assessor for the production of fishmeal and fish oil under the MarinTrust v 2.0 by-products standard.
Fishery Assessment Peer Review Comments
Noting that this is neither a conventional fishery nor a finfish species, PR recognises that applying the byproduct assessment as it is usually implemented poses a challenge. However, the PR agrees that the fact that this byproduct is sourced at least partly from an MSC certified fishery, and also that scientific authorities consider fishery removals to be negligible, means that approving the byproduct is appropriate in this case.
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]
Mussel	*Mytilus edulis*	ICES 6.a, 7.a, 7.b, 7.g and 7.j	U.K & Ireland	C	LC	No

[1] https://www.iucnredlist.org/
[2] https://cites.org/eng/app/appendices.php
[3] https://www.sealifebase.ca/summary/Mytilus-edulis.html

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			
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.

In Catch and Grow system, Mussel larvae are captured on ropes or dredged from the seabed and on-grown in favourable areas. These activities are managed by DAFM in Ireland, the Inshore Fisheries Conservation Authorities (IFCAs) and Marine Management Organisation (MMO) in England, MS in Scotland.

Surveys undertaken annually (for e.g., Ireland bottom grown fishery) to identify seed mussel beds help in management and the collection of seed mussel is regulated (for e.g. vessels require a license to fish) and areas may be excluded from fisheries (for e.g. if seed mussel is too small or to avoid sensitive habitat) and areas for on-growing are licensed. Information on mussel seed harvested and finished product produced is recorded (for example to meet the requirements of legislation governing the movement of shellfish). Conventional stock assessments (which take into account fishery removals) are not undertaken for these fisheries. As noted previously, this fishing activity does not immediately remove larval animals from the system, but is considered instead to improve survivorship through the provision of substrate and better growing conditions a process which can contribute to increasing stock size and biomass instead of reducing it.

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 and it 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.

In enhanced catch-and-grow (CAG) bivalve fisheries, management is not based on reference points or the concept of managing stock size. The strategy is to manage the seed mussel fishery, and not to manage the mussel stock, and so conventional stock assessments with target and limit reference points are not appropriate in this fishery. As noted earlier, this fishing activity does not. Immediately remove larval animals from the system, but is considered instead to improve survivorship through the provision of substrate and better growing conditions a process which can contribute to increasing stock size and biomass instead of reducing it.

Removals by the fishery under assessment are considered by scientific authorities to be negligible. Therefore, the fishery PASSES clause C1.2.

References

Marine Stewardship Council Full Assessment Public Certification Report For Ireland rope grown mussel SAI Global 209pp July 2019 https://fisheries.msc.org/en/fisheries/ireland-rope-grownmussel/@@assessments

BIM 2020a. BIM National Seafood Survey Aquaculture Report 2020. https://www.researchgate.net/publication/344188564_BIM_National_Seafood_Survey_Aquaculture_Report _2020

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	High productivity (Low risk, score = 1)	Medium productivity (medium risk, score = 2)	Low productivity (high risk, score = 3)
Average age at maturity	<5 years	5-15 years	>15 years
Average maximum age	<10 years	10-25 years	>25 years
Fecundity	>20,000 eggs per year	100-20,000 eggs per year	<100 eggs per year
Average maximum size	<100 cm	100-300 cm	>300 cm
Average size at maturity	<40 cm	40-200 cm	>200 cm
Reproductive strategy	Broadcast spawner	Demersal egg layer	Live bearer
Mean Trophic Level	<2.75	2.75-3.25	>3.25

Susceptibility attributes	Low susceptibility (Low risk, score = 1)	Medium susceptibility (medium risk, score = 2)	High susceptibility (high risk, score = 3)
Areal overlap (availability) Overlap of the fishing effort with the species range	<10% overlap	10-30% overlap	>30% overlap
Encounterability The position of the stock/species within the water column relative to the fishing gear, and the position of the stock/species within the habitat relative to the position of the gear	Low overlap with fishing gear (low encounterability).	Medium overlap with fishing gear.	High overlap with fishing gear (high encounterability). Default score for target species
Selectivity of gear type Potential of the gear to retain species	a Individuals < size at maturity are rarely caught	a Individuals < size at maturity are regularly caught.	a Individuals < size at maturity are frequently caught
	b Individuals < size at maturity can escape or avoid gear.	b Individuals < half the size at maturity can escape or avoid gear.	b Individuals < half the size at maturity are retained by gear.
Post-capture mortality (PCM) The chance that, if captured, a species would be released and that it would be in a condition permitting subsequent survival	Evidence of majority released post-capture and survival.	Evidence of some released post-capture and survival.	Retained species or majority dead when released.

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