Marine Stewardship Council
fisheries assessment

Baie de Saint-Brieuc scallop dredge fishery

Final Draft Report

Conformity Assessment Body (CAB)	Global Trust Certification Ltd.
Assessment team	Lead Assessor, Dr. Géraldine Criquet Assessor, Dr. Jo Gascoigne Assessor, Dr. Sophie Des Clers
Fishery client	Comité Départemental des Pêches Maritimes et des Élevages Marins des Côtes d'Amor (CDPMEM22)
Assessment Type	Initial Assessment
Date	9 November 2022

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2 Glossary

ACDR	Announcement Comment Draft Report
CDPMEM	Comité Départemental des Pêches Maritimes et des Élevages Marins
CFP	European Commission Common Fisheries Policy
CNPMEM	Comité National des Pêches Maritimes et des Élevages Marins
COSB	Coquille Saint Brieuc (Ifremer survey)
CPRDR	Client and Peer Review Draft Report
CRPMEM	Comité Régional des Pêches Maritimes et des Élevages Marins
CPUE	Catch Per Unit Effort
DCSMM	Directive Cadre Stratégie Milieu Marin
DDTM-DML	Direction Départementale des Territoires de la Mer-Délégation à la Mer et au Littoral
DHFF	Directive Habitat Faune Flore
DIRM	Direction Interrégionale de la Mer
DGAMPA	Direction Générale des Affaires Maritimes, de la Pêche et de l'Aquaculture
ETP	Endangered, Threatened and Protected species
F	Fishing mortality
FCP	MSC Fisheries Certification Process
FFP	France Filière Pêche
ISBF	Introduced Species Based Fisheries
MPA	Marine protected area
MSC	Marine Stewardship Council
MSY	Maximum Sustainable Yield
OFB	Office Français de la Biodiversité
PCDR	Public Comment Draft Report
PI	Performance Indicator
PO	Producer Organisation
PCDR	Public Comment Draft Report
SAC	Special Area of Conservation
SPA	Special Protection Area
SSB	Spawning stock biomass
UoA	Unit of Assessment
UoC	Unit of Certification
VME	Vulnerable Marine Ecosystem
VR	Variation Request

3 Executive summary

This report sets out the details of the MSC full assessment for the Baie de Saint Brieuc scallop dredge fishery against the MSC Principles and Criteria for Sustainable Fishing.

Global Trust Certification's assessment team used the information provided by the client through the Client Document Checklist and by email, the pre-assessment report, the information collected during the on-site visit, the information provided post site visit (in accordance with MSC FCP v2.2 §7.17.1.1.a) and the peer reviewers' comments to draft this Final Draft Report (FDR).

3.1 Assessment process and summary of assessment activities

Versions of MSC requirements, templates and processes relevant to this assessment are outlined in Table 1 below.

Table 1. MSC Scheme Documents and Report Templates used during this assessment.

MSC Scheme Document	Version	Issue Date	Implementation
MSC Fisheries Certification Process (FCP) and Guidance	2.2	25 March 2020	Process/Guidance to Process
MSC Fisheries Standard and Guidance	2.01	31 August 2018	Standard/Guidance to Standard
MSC Disputes Process	1.0	25 March 2020	Process (Disputes)
MSC General Certification Requirements (GCR)	2.4.1	07 May 2019	Process
MSC Reporting Template	1.2	25 March 2020	Reporting Template

Global Trust would like to thank all management and scientific agencies, industry bodies and stakeholders for their collaboration and for providing the information and data necessary to carry out this assessment.

3.2 Date and Location of Site Visit

The site visit was held on 11-13 April 2022 in Saint-Quay-Portrieux, Pordic and Hillion, Département des Côtes-d'Amor, Région Bretagne, France.

The site visit itinerary is detailed in section 10.1.2.1.

3.3 Main strengths and weaknesses of the Client's operations

Table 2. Main strengths and weaknesses of the Client's operation.

Principle	Strengths	Weaknesses
Principle 1	There is a robust and precautionary harvest strategy in place. There is an annual survey by Ifremer at the start of each season which provides a direct estimate of adult and exploitable biomass as well as recruitment and stock size and age structure.	Well-defined HCR are not in place.
Principle 2	Catches of non-target species are very low. The fishery does not interact with ETP species. Risk analysis of the impact of fishing on habitats in the Natura 200 sites are required.	Non-target species catch data collection methods have a lower level of verifiability and high bias. The information available so far does not allow to determine that the UoA is highly unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm.

		A partial strategy is yet to be implemented to ensure the UoA does not pose a risk of serious or irreversible harm to maërl. The vulnerability of maërl to scallop dredging is not known at a level of detail relevant to the scale and the intensity of the UoA.
Principle 3	The fishery takes place within a well-established legislative and regulatory framework, with effective decision-making procedures, consultation mechanisms and monitoring, surveillance and control (MSC).	No particular weaknesses have been identified.

3.4 Conditions

Conditions have been drafted for each individual Performance Indicator (PI) that failed to score at least 80 as described in Table 3 below.

Des conditions ont été écrites pour chaque Indice de Performance (PI) dont le score est en dessous de 80 (Tableau 3).

Table 3. Summary of conditions.

Condition number	Condition	PI	Related to previously raised condition?
1	The client shall provide documented evidence that **well-defined** HRCs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY. Le client devra fournir une preuve documentée que des règles de contrôle des captures (HCR) **bien définies** sont en place pour garantir la diminution du taux d'exploitation à mesure que le PRI approche ; on s'attend à ce qu'elles maintiennent la fluctuation du stock autour d'un niveau cible cohérent avec (ou supérieur) au RMD.	1.2.2	No
2	The client shall provide documented evidence that the UoA is highly unlikely to reduce structure and function of maërl to a point where there would be serious or irreversible harm. Le client devra fournir une preuve documentée qu'il est fortement improbable que l'UoA réduise la structure et la fonction du maërl au point de provoquer des dommages sérieux ou irréversibles.	2.4.1	
3	The client shall provide documented evidence that: a) There is a partial strategy in place that is expected to achieve the Habitat Outcome 80 level or above, for the maërl. b) There is some objective basis for confidence that the measures/partial strategy will work, based on information directly about the UoA and/or habitats involved. c) There is some quantitative evidence that the measures/partial strategy is being implemented successfully. d) There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant. Le client devra fournir une preuve documentée que :	2.4.2	

Table 3. Summary of conditions.

Condition number	Condition	PI	Related to previously raised condition?
	a) une stratégie partielle est en place et devrait permettre d'atteindre le niveau de performance 80 ou plus en termes d'état de l'habitat, pour le maërl b) il existe une base de confiance objective que les mesures/la stratégie partielle fonctionneront, sur la base d'informations directement relatives à l'UoA et/ou aux habitats impliqués. c) Des preuves quantitatives indiquent que les mesures/la stratégie partielle sont mises en œuvre avec succès. Des preuves quantitatives indiquent que l'UoA respecte ses exigences de gestion et les mesures de protection accordées aux EMV par d'autres UoA MSC/pêcherie s non-MSC, le cas échéant.		
4	The client shall provide documented evidence that: a) The nature, distribution and vulnerability of maërl in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA. b) Information is adequate to allow for identification of the main impacts of the UoA on maërl, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear. c) Adequate information continues to be collected to detect any increase in risk to maërl. Le client devra fournir une preuve documentée que : a) La nature, la répartition et la vulnérabilité du maërl de la zone de l'UoA sont connus à un niveau de détail approprié à l'échelle et à l'intensité de l'UoA. b) Les informations sont adéquates pour permettre l'identification des principaux impacts de l'UoA sur le maërl, et il existe des informations fiables sur l'étendue spatiale des interactions et sur les temps et lieux d'utilisation des équipements de pêche. Des informations adéquates sont recueillies de façon continue afin de détecter toute augmentation du risque pour les habitats principaux.	2.4.3	

3.5 Recommendations

In addition to Conditions, assessment team may make Recommendations. While Recommendations are not binding, and as such do not require obligatory actions on the part of the fishery, fishery clients are encouraged to act upon them within the spirit of MSC certification.

En plus des Conditions, l'équipe d'évaluation peut émettre des Recommandations. Bien que les Recommandations n'engagent pas le client, c'est-à-dire ne requière pas d'actions obligatoires sur la partie concernée de la pêcherie, le client est toutefois encouragé à prendre des mesures en réponse à cette Recommandation dans l'esprit de la Certification MSC.

Table 4. Recommendations		
Recommendation number	**Recommendation**	**Performance Indicator (PI)**
1	By making an assumption about natural mortality, Ifremer is able to use the model to estimate total removals from the stock. This alone meets the requirement of this SI, in that removals from all sources combined are estimated, and used as a basis for the model and hence management advice. This analysis is now somewhat out of date, but stakeholder (and specifically Ifremer themselves) agree that it provides a worst case scenario, and is able to determine that any possible unquantified removals (fishery-related or other) are not having an impact on the stock or management. It is recommended, however, that this analysis be updated. L'équipe d'évaluation recommande que l'analyse conduite par l'Ifremer estimant l'ensemble des retraits du stock soit mise à jour.	1.2.3 Information and monitoring
2	The CDPMEM 22 implemented a non-target species catch monitoring project where fishers record on a voluntary basis all the non-target species catch in a specific project logbook. This project started in 2021 and the assessment was provided with the data collected in 2021 and 2022. The assessment team recommends the non-target species catch monitoring project to continue during the lifetime of the certificate, pending positive certification decision. L'équipe d'évaluation recommande que le projet de suivi des captures d'espèces accessoires continue tout au long de la validité du certificat, sous condition de décision positive de certification.	2.1.3 Primary species information 2.2.3 Secondary species information

3.6 Determination and supporting justification

During the review and analysis of available information and data, the assessment team did not identify any issues that could prevent the fishery from conforming with the MSC Fisheries Standard.

Therefore, **certification should be awarded to the Baie de Saint-Brieuc scallop dredge fishery.**

4 Report details

4.1 Authorship and peer review details

4.1.1 Authorship (Assessment Team) details

This assessment was conducted by an assessment team comprising members with experience and expertise in relevant areas of fishery science and fishery management consisting of:

- Dr. Géraldine Criquet (Lead Assessor with additional responsibility for Principle 2, Traceability, and RBF).
- Dr. Jo Gascoigne (Assessor with responsibility for Principle 1 and RBF).
- Dr. Sophie des Clers (Assessor with responsibility for Principle 3).

A brief bio for each team member is presented below.

Lead Assessor, Dr. Géraldine Criquet

Géraldine is an MSC approved Fisheries Team Leader - experienced fishery scientist in both Finfish and Shellfish fisheries, and ecosystems considerations, working for Global Trust Certification as a full-time employee since 9 years. Géraldine holds a PhD in Marine Ecology (École Pratique des Hautes Études, France) which focused on coral reef fisheries management, Marine Protected Areas, fish biology and ecology and fishing impacts on ecosystem. She worked 2 years for the Institut de Recherche pour le Développement (IRD) at Reunion Island for studying fish species growth and connectivity between fish populations in the Indian Ocean using otolith analysis. She served as Consultant for FAO on a Mediterranean Fisheries Program (COPEMED) and developed and implemented a catch monitoring program in the Marine Natural Reserve of Cerbère-Banyuls (France). She was also involved in field research related to anchovy and sardine stock assessment in the Gulf of Biscay. Géraldine is an experienced full time MSC Lead Assessor with Global Trust Certification, successfully leading MSC certifications and assessment teams and acting as Principle 2 expert for multiple MSC Pre, Full and Surveillance audits in Europe, North America and Asia.

Assessor, Dr. Jo Gascoigne

Jo has over 15 years' experience as a consultant, working mainly on MSC pre- and full assessments, as well as FIP scoping, planning and implementation. For shellfish species, she is qualified for the all three MSC Principles. She did a PhD on population dynamics, reproductive biology, sustainability of fisheries and extinction risk in marine populations, focusing on the queen conch *Strombus gigas* at the Virginia Institute of Marine Science (U.S.A). Before becoming an independent consultant, Jo was a research lecturer in marine biology at Bangor University (Wales) where she carried out research projects on carrying capacity of the Menai Strait for mussel culture, ecology of seed mussel beds, recovery of sea fans, scallops and other benthic invertebrates in closed areas, Lyme Bay. As a consultant, she carried out numerous fisheries related projects including a review of UK scallop fisheries.

Assessor, Dr. Sophie des Clers

Sophie holds a PhD. in Biometrics (Quantitative Ecology) from the University of Lyon I (France). She is an independent consultant with expertise in fisheries management systems, and has more than 30-year experience in the implementation and monitoring of projects related to fisheries development, policy, governance and management for private sector fishery business and Governments.

She was involved in numerous MSC fisheries assessments in Europe as Principle 3 assessor including for the Granville Bay whelk fishery, the Normandy & Jersey lobster fishery, the South Brittany sardine purse seine fishery and the From Nord North Sea and Eastern Channel trammel net sole.

4.1.2 Peer Review details

The peer review of this fishery was conducted through the MSC's Peer Review College. On 1 June 2022, the College published an announcement on the MSC webpage for this fishery detailing the shortlisted peer reviewers with two peer reviewers to be selected from the following list:

- Charlotte Tindall
- Julian Addison
- Nick Caputi
- Terry Holt

Stakeholders were subsequently afforded a 10-day period to provide input to the College regarding any potential conflicts of interest of the candidate peer reviewers following which the College confirmed that the fishery would be peer reviewed by the following (Note peer reviews are anonymised in this report):

- Charlotte Tindall
- Terry Holt

With respect to these Peer Reviewers, a summary of their experience and qualifications is included in the Peer Reviewer shortlist announcement available on the MSC webpage for this fishery.

4.2 Version details

The versions of the MSC fisheries program documents used for this assessment are outlined in Table 5 below.

Table 5. MSC Scheme Documents and Report Templates used during this assessment.

Document	Version Number
MSC Fisheries Certification Process (FCP) and Guidance	2.2
MSC Fisheries Standard and Guidance	2.01
MSC General Certification Requirements (GCR)	2.4.1
MSC Reporting Template	1.2

5 Confirmation that the fishery is in scope

In accordance with MSC FCP v2.2 §7.4, Global Trust Certification verified that the fishery is within scope of the MSC Fisheries Standard (Table 6).

Table 6. Confirmation of scope	
§7.4.2.1	The target species under Principle 1 is not an amphibian, a reptile, a bird or a marine mammal.
§7.4.2.2	The fishery does not use destructive fishing practices such as poisons or explosives. EU Regulation (2019/1241) prohibits to catch or harvest marine species using the following methods: • toxic, stupefying or corrosive substances • explosives
§7.4.2.3	The fishery is not conducted under a controversial unilateral exemption to an international agreement.
§7.4.2.4	The client group does not include an entity that has been successfully prosecuted for a forced labour or child labour violation in the last 2 years.
§7.4.2.5 & §7.4.2.6	The client group submitted the Certificate Holder Forced and Child Labour Policies, Practices and Measures Template detailing the policies, practices and measures in place to ensure the absence of forced and child labour.
§7.4.2.10	The client group does not include an entity that has been convicted for a shark finning violation in the last 2 years.
§7.4.2.11	There is a mechanism for resolving disputes.
§7.4.2.12	The Baie de Saint-Brieuc scallop fishery is not an enhanced fishery.
§7.4.2.13	The Baie de Sain- Brieuc scallop fishery is not an introduced species-based fishery.

6 Confirmation of the assessment tree used to assess the fishery

The assessment team used the Default Assessment Tree as set out in the MSC Fisheries Standard (Annex SA) to assess the applicant fishery.

7 Unit of Assessment and Certification and results overview

7.1 Unit of Assessment

Global Trust Certification used all the information available and the pre-assessment report to define the proposed Unit of Assessment (UoA) (Table 7).

Table 7. Unit of Assessment (UoA).		
UoA		Description
Species	Latin name:	*Pecten maximus*
	Common names:	King scallop, Great scallop, Coquille Saint-Jacques
Stock		Baie de Saint-Brieuc scallop
Geographical area		FAO Area 27 Northeast Atlantic, ICES Division 7.e (western English Channel), France EEZ, Baie de Saint-Brieuc
Fishing gear type(s) and, if relevant, vessel type(s)		Scallop dredge
Client group		Le Comité Départemental des Pêches Maritimes et des Élevages Marins des Côtes d'Amor (CDPMEM 22) All scallop harvesters entitled to fish scallop with scallop dredge in the Baie de St-Brieuc.
Other eligible fishers		There are no other eligible fishers.

7.2 Unit of Certification

Table 8. Unit(s) of Certification (UoC(s)).

UoC		Description
Species	Latin name:	*Pecten maximus*
	Common names:	King scallop, Great scallop, Coquille Saint-Jacques
Stock		Baie de Saint-Brieuc scallop
Geographical area		Scallop dredge
Fishing gear type(s) and, if relevant, vessel type(s)		FAO Area 27 Northeast Atlantic, ICES Division 7.e, France EEZ, Baie de Saint-Brieuc
Client group		Le Comité Départemental des Pêches Maritimes et des Élevages Marins des Côtes d'Amor (CDPMEM 22) All scallop harvesters entitled to fish scallop with scallop dredge in the Baie de St-Brieuc.

7.3 Assessment results overview

7.3.1 Determination, formal conclusion and agreement

The certification determination reached by the assessment team is that certification should be awarded to the Baie de Saint-Brieuc scallop dredge fishery.

Following the assessment team's determination recommendation, Global Trust Certification's official decision makers met on the 8th November 2022 and determined that:

- **The Baie de Saint-Brieuc scallop dredge fishery should be certified.**

7.3.2 Principle level scores

Table 9. Principle level scores.

Principle	Score
Principle 1 – Target species	84
Principle 2 – Ecosystem impacts	83.7
Principle 3 – Management system	91.7

7.3.3 Summary of conditions

Included in Table 10 below a summary of the conditions raised during the course of this assessment. Further details on these conditions are provided in section 10.4.

Table 10. Summary of conditions.

Condition number	Condition	PI	Deadline	Exceptional circum-stances?	Carried over from previous certificate?	Related to previous condition?
1	The client shall provide documented evidence that **well-defined** HRCs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY. Le client devra fournir une preuve documentée que des règles de contrôle des captures (HCR) **bien définies** sont en place pour garantir la diminution du taux d'exploitation à mesure que le PRI approche ; on s'attend à ce qu'elles maintiennent la fluctuation du stock autour d'un niveau cible cohérent avec (ou supérieur) au RMD.	1.2.2	Year 4 (2026)	No	NA	NA
2	The client shall provide documented evidence that the UoA is highly unlikely to reduce structure and function of maërl to a point where there would be serious or irreversible harm. Le client devra fournir une preuve documentée qu'il est fortement improbable que l'UoA réduise la structure et la fonction du maërl au point de provoquer des dommages sérieux ou irréversibles.	2.4.1	Year 4 (2026)	No	NA	NA

	The client shall provide documented evidence that: e) There is a partial strategy in place that is expected to achieve the Habitat Outcome 80 level or above, for the maërl. f) There is some objective basis for confidence that the measures/partial strategy will work, based on information directly about the UoA and/or habitats involved. g) There is some quantitative evidence that the measures/partial strategy is being implemented successfully. h) There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.		Year 4 (2026)	No	NA	NA
3	Le client devra fournir une preuve documentée que : d) une stratégie partielle est en place et devrait permettre d'atteindre le niveau de performance 80 ou plus en termes d'état de l'habitat, pour le maërl e) il existe une base de confiance objective que les mesures/la stratégie partielle fonctionneront, sur la base d'informations directement relatives à l'UoA et/ou aux habitats impliqués. f) Des preuves quantitatives indiquent que les mesures/la stratégie partielle sont mises en œuvre avec succès. g) Des preuves quantitatives indiquent que l'UoA respecte ses exigences de gestion et les mesures de protection accordées aux EMV par d'autres UoA MSC/pêcherie s non-MSC, le cas échéant.	2.4.2				
4	The client shall provide documented evidence that: d) The nature, distribution and vulnerability of maërl in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA. e) Information is adequate to allow for identification of the main impacts of the UoA on maërl, and there is reliable information on the spatial extent of interaction and on the	2.4.3	Year 4 (2026)	No	NA	NA

	timing and location of use of the fishing gear. f) Adequate information continues to be collected to detect any increase in risk to maërl. Le client devra fournir une preuve documentée que : c) La nature, la répartition et la vulnérabilité du maërl de la zone de l'UoA sont connus à un niveau de détail approprié à l'échelle et à l'intensité de l'UoA. d) Les informations sont adéquates pour permettre l'identification des principaux impacts de l'UoA sur le maërl, et il existe des informations fiables sur l'étendue spatiale des interactions et sur les temps et lieux d'utilisation des équipements de pêche. e) Des informations adéquates sont recueillies de façon continue afin de détecter toute augmentation du risque pour les habitats principaux.					

7.3.4 Recommendations

A recommendation is non-binding and therefore does not require the client to provide a client action plan. However, the client is encouraged to act upon within the spirit of the MSC certification for improvement and continuing efforts to ensure the long-term sustainability of the fishery.

Table 11. Recommendations

Recommendation number	Recommendation	Performance Indicator (PI)
1	By making an assumption about natural mortality, Ifremer is able to use the model to estimate total removals from the stock. This alone meets the requirement of this SI, in that removals from all sources combined are estimated, and used as a basis for the model and hence management advice. This analysis is now somewhat out of date, but stakeholder (and specifically Ifremer themselves) agree that it provides a worst case scenario, and is able to determine that any possible unquantified removals (fishery-related or other) are not having an impact on the stock or management. It is recommended, however, that this analysis be updated. L'équipe d'évaluation recommande que l'analyse conduite par l'Ifremer estimant l'ensemble des retraits du stock soit mise à jour.	1.2.3 Information and monitoring
2	The CDPMEM 22 implemented a non-target species catch monitoring project where fishers record on a voluntary basis all the non-target species catch in a specific project logbook. This project started in 2021 and the assessment was provided with the data collected in 2021 and 2022.	2.1.3 Primary species information 2.2.3 Secondary species information

	The assessment team recommends the non-target species catch monitoring project to continue during the lifetime of the certificate, pending positive certification decision. L'équipe d'évaluation recommande que le projet de suivi des captures d'espèces accessoires continue tout au long de la validité du certificat, sous condition de décision positive de certification.	

8 Traceability and eligibility

8.1 Eligibility date

The eligibility date is the date from which product from a certified fishery is eligible to be sold as MSC certified or bear the MSC ecolabel.

The nominated eligibility date is the date of publication of the first Public Comment Draft Report (PCDR), i.e. 30 September 2022.
The publication date of the first PCDR coincides with the start of the scallop fishing season in the Baie de Saint-Brieuc. This eligibility date was selected to allow scallop caught from the start of the 2022-2023 fishing season to be sold or stored as under assessment from the publication of the PCDR until the completion of the full assessment process, and ultimately to be sold as MSC certified from the certification date, pending positive certification decision.

In accordance with MSC FCP v.2.2 §7.8.2 if the eligibility date is set before the certification date shall inform the fishery that any fish harvested after the eligibility date and sold or stored as under-assessment fish shall be handled in conformity with the following requirements:

a. All under-assessment products shall be clearly identified and segregated from certified and non-certified products.
b. The client shall maintain full traceability records for all under-assessment product, demonstrating traceability back to the UoC and including the date of harvest.
c. Under-assessment products shall not be sold as certified or labelled with the MSC ecolabel, logo, or trademarks until fishery certification and product eligibility are confirmed.

Global Trust Certification considered any potential traceability impacts (Sections 8.2 and 8.3), and concludes that the traceability and segregation systems in the fishery are appropriately implemented.

8.2 Traceability within the fishery

Table 12. Traceability within the fishery.

Factor	Description
Will the fishery use gears that are not part of the Unit of Certification (UoC)? If Yes, please describe: - If this may occur on the same trip, on the same vessels, or during the same season; - How any risks are mitigated.	Yes Some vessels are also authorised to dive for scallops. The regulation states that it is forbidden to have diving material onboard during dredging trips; and similarly, it is forbidden to have dredge(s) onboard during diving trips. Most importantly, vessels authorised for dive fishing are not authorised for dredging. The regulations states that diving is authorised only in Sectors 1, 2 and 4 during the following periods: • Same opening season and times as for scallop dredging in Sector 1; and • Same opening season as for scallop dredging in Sector 4.
Will vessels in the UoC also fish outside the UoC geographic area? If Yes, please describe: - If this may occur on the same trip; - How any risks are mitigated.	Yes Fishers are authorised to have a licence for the Baie de Saint-Brieuc and for another “secteur”/”gisement” outside Baie de Saint-Brieuc. However, it is forbidden to fish in the Baie de Saint-Brieuc and in another “secteur”/”gisement” outside Baie de Saint-Brieuc on the same day (ELIB. 2013-117 « Coquilles-SaintJacques-SB-2013/2014-B3 »& IB. 2013-116 « Coquilles-SaintJacques-SB-2013/2014-B2 »)

Table 12. Traceability within the fishery.	
	Fishing vessels are required to land and weight their catch in authorised landing harbours/"criées" for scallop caught in the Saint-Brieuc "gisement". Scallop caught in other "gisement(s)" outside the Baie de Saint-Brieuc are not authorised to be landed in the same landing harbours/"criées" and must be landed in the authorised landings harbours for the "gisement(s)".
Do the fishery client members ever handle certified and non-certified products during any of the activities covered by the fishery certificate? This refers to both at-sea activities and on-land activities. - Transport - Storage - Processing - Landing - Auction If Yes, please describe how any risks are mitigated.	Fishers with both dredge and diving licenses could handle both certified and non-certified products. However, they will not be able to fish and sell those products at the same day at the auction point. Fishers are authorised to have a licence for the Baie de Saint-Brieuc and in another "secteur"/"gisement" outside Baie de Saint-Brieuc. However, it is forbidden to fish in the Baie de Saint-Brieuc and in another "secteur"/"gisement" outside Baie de Saint-Brieuc on the same day
Does transhipment occur within the fishery? If Yes, please describe: - If transhipment takes place at-sea, in port, or both; - If the transhipment vessel may handle product from outside the UoC; - How any risks are mitigated.	Transhipment is not allowed. EU Regulation 2019/1241 prohibits transhipment of marine organisms during any fishing voyage for dredge fisheries.
Are there any other risks of mixing or substitution between certified and non-certified fish? If Yes, please describe how any risks are mitigated.	NA The section 9.3.1.2.3 of the report explained that the slipper limpet which is an invasive species subject to an eradication policy, cannot be retained and landed. By regulation, the scallop must be landed "décrépidulées"/slipper lippet removed. So this species does not enter into the supply chain. In addition, there is no market for slipper limpet. The non-target species, primary and secondary species, are mainly discarded and fishers are allowed to retained a portion of it for personal consumption only ("godaille") so no other species than scallop caught by the fishery enters into the supply chain .

8.3 Eligibility to enter further chains of custody

Fishing vessels are required to record their catch in fishing form/"fiche de pêche"or logbook/"journal de pêche européen". The "fiche de pêche" is to be completed by under 10 m fishing vessels whereas "journal de pêche" is to be completed by 10 m or above fishing vessels. Both documents must be returned to the DDTM/DML monthly and daily for "fiche de pêche" and "journal de pêche", respectively (DDTM/DML – Obligations Déclaratives). A copy is also provided to the CDPMEM 22 and to the POs.

The following information must be reported on the catch recording documents:
• fishing vessel name
• name of the captain
• date, time and port of departure (logbook/"journal de pêche européen")
• date, time and port of return (logbook/"journal de pêche européen")
• date and landing harbour (logbook/"journal de pêche européen")
• date of the fishing trip (fishing form/"fiche de pêche")
• fishing zone

• fishing gear
• estimated weight of catch

In addition, it is required to pack scallop onboard fishing vessels in packing bags. Each bag must be tagged with a sanitary tag (Figure 1) that includes the following information:
• fishing vessel name
• name of the captain
• species (common and scientific names)

• fishing zone
• fishing gear
• scallop “gisement”
• date

Figure 1. Sanitary tag attached to each packing bag used to pack scallop onboard fishing vessels. Source: photo taken by Géraldine Criquet onboard a fishing vessel during the site visit.

Fishing vessels are required to land and weight their catch in authorised landing harbours/”criées” which are the following for scallop caught in the Saint-Brieuc “gisement”:

• Saint-Malo
• Erquy
• Dahouet*
• Le Legue*
• Saint-Quay-Portrieux
• Daint-Cast
• Paimpol*

• Pors Even
• Loguivy
* Catch landings in these harbours may occur in the event of “force majeure” only, subject to the availability of material resources and personnel of the department managing the “criées”/”halles à marées” in the Côtes d’Armor and subject to a notice of 3 hours prior to landing.

Scallop caught in other “gisement(s)” outside the Baie de Saint-Brieuc are not authorised to be landed in the above listed landing harbours/”criées” and must be landed in the authorised landings harbours for the “gisement(s)”.

Landings sites are equipped with calibrated weighting scales operated by official weighers.
Fishing vessels’ packing bags are grouped in batches at the “criées”/”halles à marées” and each batch is tagged with a weighing receipt that includes the following information: fishing vessel name, fishing zone, fishing gear, weight, number of bags). Both the sanitary tag and “criées”/”halles à marées” weighing receipt stay in place along the supply chain until bags are opened.
Scallop are sold either at “criées”/”halles à marées” auctions or directly to buyers after landings and weighting in “criées”/”halles à marées.

Parties eligible to potential certification will include scallop caught by all registered fishing vessels with a valid licence to fish for scallop with dredge in the Baie de Saint-Brieuc “gisement”.

The point of change of ownership of products is at the first sale after landing. The point from which Chain of Custody is required is the point of landing, meaning “criées”/”halles à marées” as scallop caught by diving in the Baie de Saint-Brieuc are landed and weighed in the same “criées”/”halles à marées listed above.

Based on the available evidence, the assessment team has determined that the product originating from the UoC will be eligible to enter further certified chains of custody and be sold as MSC certified or carry the MSC ecolabel.

9 Scoring

9.1 Summary of Performance Indicator level scores

Table 13. Fishery Assessment Scoring

Principle	Component	Performance Indicator (PI)		Likely Score (ACDR)	Score from the CPRDR
One	Outcome	1.1.1	Stock status	≥80	82
	Management	1.2.1	Harvest strategy	60-79	85
		1.2.2	Harvest control rules & tools	60-79	75
		1.2.3	Information & monitoring	≥80	100
		1.2.4	Assessment of stock status	≥80	Default score of 80
Two	Primary species	2.1.1	Outcome	60-79	100
		2.1.2	Management strategy	60-79	85
		2.1.3	Information/Monitoring	60-79	85
	Secondary species	2.2.1	Outcome	60-79	80
		2.2.2	Management strategy	60-79	85
		2.2.3	Information/Monitoring	60-79	85
	ETP species	2.3.1	Outcome	≥80	100
		2.3.2	Management strategy	≥80	85
		2.3.3	Information	≥80	80
	Habitats	2.4.1	Outcome	<60	75
		2.4.2	Management strategy	<60	75
		2.4.3	Information	60-79	75
	Ecosystem	2.5.1	Outcome	≥80	80
		2.5.2	Management	60-79	80
		2.5.3	Information	60-79	85
Three	Governance and policy	3.1.1	Legal &/or customary framework	≥80	100
		3.1.2	Consultation, roles & responsibilities	≥80	95
		3.1.3	Long term objectives	≥80	100
		3.2.1	Fishery specific objectives	≥80	80

	Fishery specific management system	3.2.2	Decision making processes	60-79	85
		3.2.3	Compliance & enforcement	60-79	95
		3.2.4	Monitoring & management performance evaluation	≥80	80

9.2 Principle 1

9.2.1 Principle 1 background

9.2.1.1 Scallop biology

Full references on the biology of scallops are given in Appendix 11.7 (PSA). This section provides a brief summary of relevant information.

The target species of this fishery is *Pecten maximus* (king scallop), which is distributed in the NE Atlantic from Norway to Portugal. King scallops are suspension-feeding bivalves, unusual in that they can 'swim' using their valves, often as an escape response. They are simultaneous hermaphrodites and broadcast spawners, and in the Baie de St. Brieuc show highly synchronised spawning behaviour, with several spawning events over the period May-September (depending on water temperature) (CDPMEM-Côtes d'Armor 2020); reproductive behaviour can vary somewhat between populations (Lubet et al. 1995 – see below). In the Baie de St. Brieuc, individuals reach spawning size at ~75mm corresponding to an age of ~2 years (Fifas and Caroff 2020).

Ifremer has been studying this scallop population for several decades (since 1991) and now has a long time series of information on biomass, distribution, size- and age-frequency, recruitment etc. with which they can begin to infer longer-term patterns and trends. These data suggest that recruitment is cyclic, with a frequency of approximately 15 years (Figure 2).

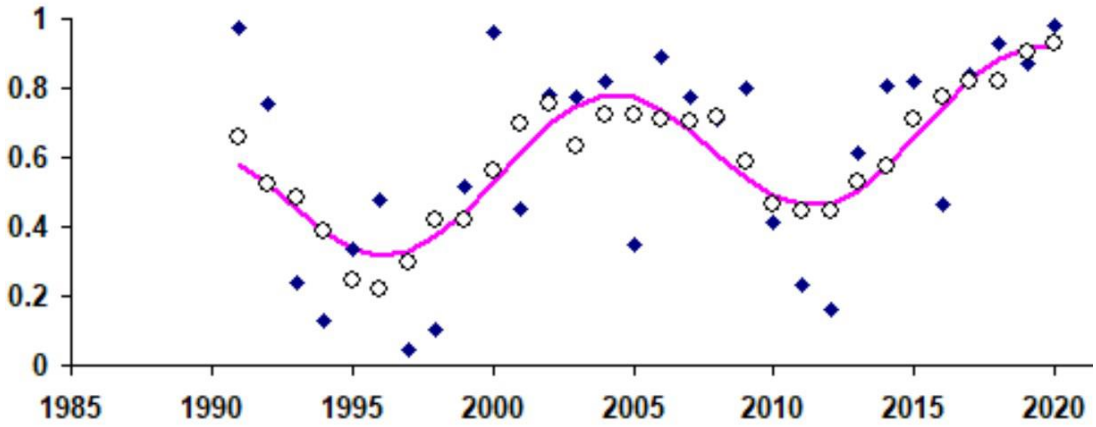

Figure 2. Blue squares: Probability of recruitment for a given biomass, for year classes from 1990-2019 – values close to 1 being exceptionally high year classes and values close to zero being exceptionally low year classes. White dots / pink line: with 5-year smoothing / model fitting. Figure 9 in Fifas and Caroff 2020.

Ifremer are also able to demonstrate longer-term trends in age and growth in the Baie de St Brieuc population (Figure 3). They show a sharp increase in growth during the first year in the last few years, but conversely a gradually declining trend in subsequent growth, with scallops aged 4 and above noticeably smaller than at the start of the time series. Ifremer hypothesise this to be an effect of fishing mortality, either directly (individuals which grow faster reach the minimum legal size younger and hence have a higher fishing mortality) or indirectly mediated by the presence of high densities of *Crepidula fornicata* (an invasive suspension-feeding gastropod) in some areas – the fishery preferentially targets areas without crepidula, leaving a high proportion of scallops which suffer strong competition from crepidula (Fifas and Caroff 2020).

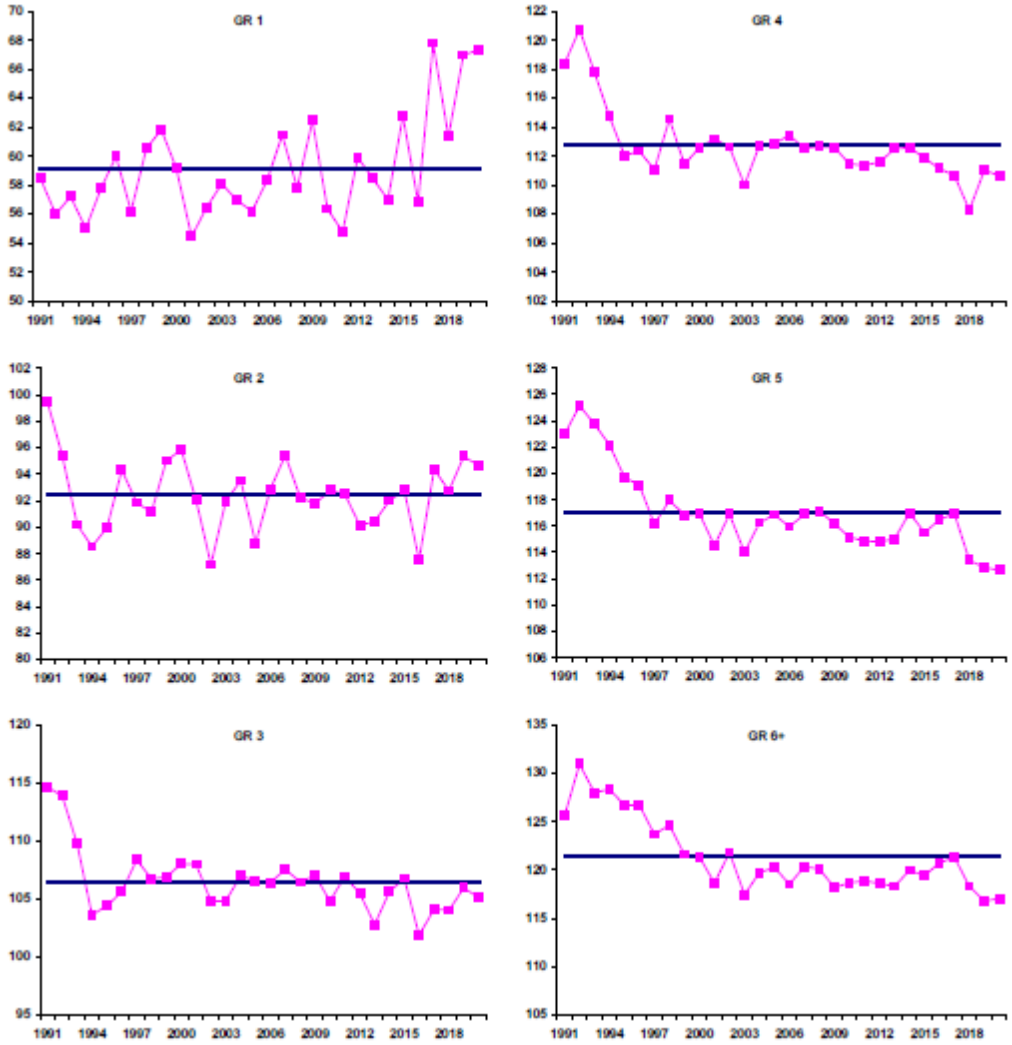

Figure 3. Trends in mean size (shell height, mm), 1991-2020 for each year class (top left GR 1 = age 1, etc.). Horizontal line = mean of time series. Figure 8 in Fifas and Caroff 2020.

9.2.1.2 Stock structure

Lubet et al. (1995) compare the reproductive cycle of scallops from the three main fisheries in France – the Baie de Seine, the Baie de St. Brieuc and the Rade de Brest. They found that the population in the Baie de St. Brieuc differed from the other two in having fewer and more synchronous spawning events over a shorter period in summer, with no gonad recovery during winter. (They suggest that this may explain why recruitment has tended to be more variable in this population than the other two.) This pattern could be genetic or a response to different environmental conditions, but transplant experiments suggest that animals transplanted into the Baie de St. Brieuc retain the previous pattern, indicating at least a genetic component to the behaviour.

Nicolle et al. (2016) developed a 3D particle transport model to look at scallop larvae connectivity between populations in the Celtic Sea and Channel, including the Baie de St. Brieuc. This modelling suggests that the Baie de St. Brieuc has almost 100% self-recruitment – i.e. the recruitment to the population derives almost entirely from larvae from spawning in the Baie de St. Brieuc. It also has a relatively high larval retention rate relative to other populations (>30%) but still contributes larvae to adjacent populations (mainly smaller populations on the north Finistère coast) (Figure 4).

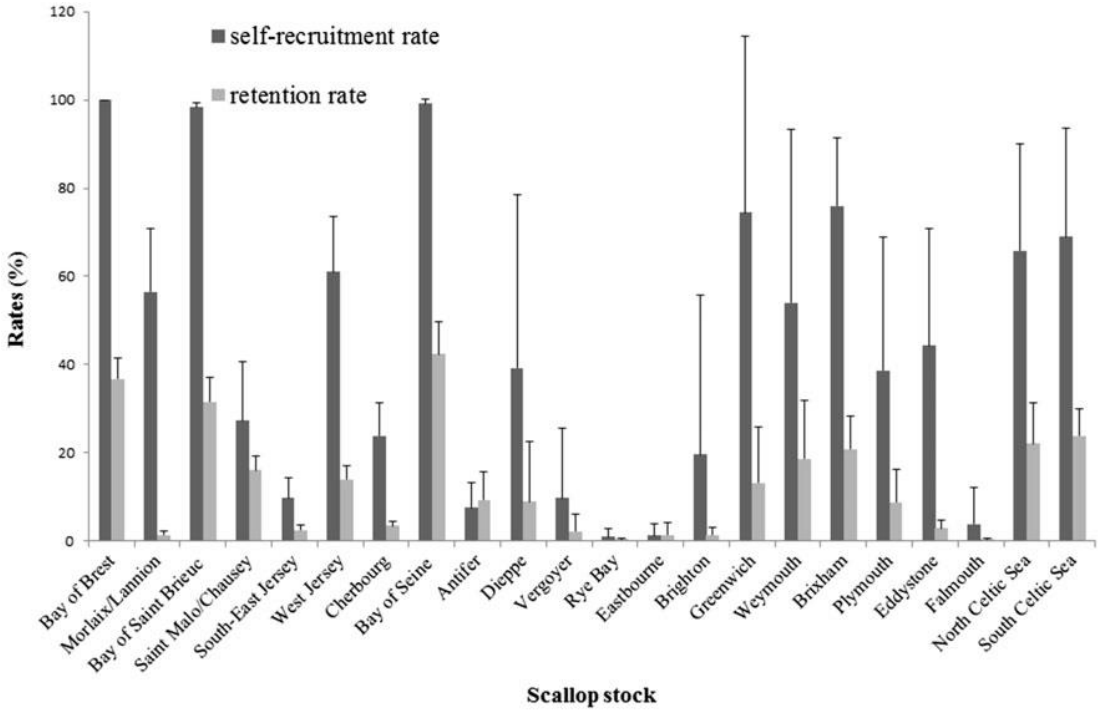

Figure 4. Average self-recruitment and retention rates (error bars: standard deviation) for each stock of *Pecten maximus* in the Channel, based on a simulation of 20 spawning events over 10 years (Nicolle et al. 2016).

On this basis as well as for practical reasons, it is appropriate to manage scallops in the Baie de St. Brieuc as a single stock.

9.2.1.3 Stock assessment

Stock biomass is directly estimated annually based on a survey by Ifremer (called COSB) which has been conducted each September since 1991 (and was able to proceed as normal in 2020 despite covid). Because extensive work has previously been done to evaluate the efficiency of the dredge (using divers) this survey allows a direct estimate of total biomass by age-class.

The COSB survey operates as follows:

- Ifremer's research vessel Thalia
- 115 fixed sampling stations, stratified by area (Figure 5).
- Sampling using a research dredge with opening 2m, 8.5cm teeth and 50mm mesh size.
- Dredge tow of 200m at each site.
- All scallops counted, aged and measured.

To give some definitions, 'pre-recruits' are age-1, 'recruits' are age-2, 'adult biomass' is scallops >2 years / 75mm and 'exploitable biomass' is biomass >102mm (size of retention in legal commercial dredge) (Fifas and Caroff 2020).

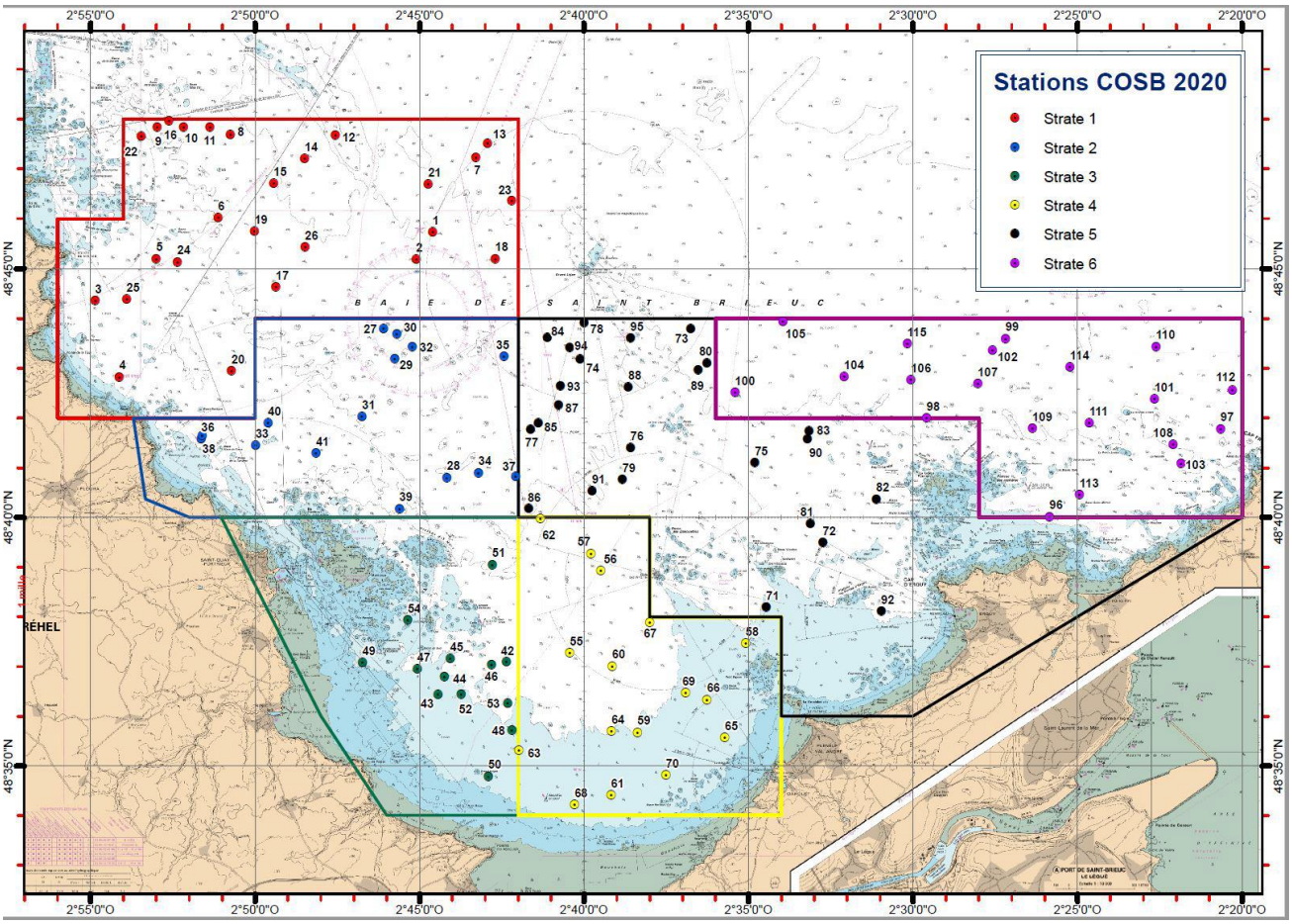

Figure 5. COSB sampling sites in the Baie de St. Brieuc (Fifas and Caroff 2020)

In addition to the Ifremer survey-based stock assessment, the CDPM-Côtes d'Armor conducts an annual survey of spat settlement (age-0) using spat collectors, with the survey protocol agreed with Ifremer (CDPMEM-Côtes d'Armor 2020). This involves putting out lines of larval collectors during spawning season (May-October) at 4 sites (Figure 6), as follows:

- Each line consists of a bottom line of ~60m, attached to which are two vertical lines with 4 collectors on each.
- The collectors consist of a polyethylene mesh bag with mesh 2x2mm, containing a substrate for larval attachment of total area 3.5m^2.
- 6 lines are put out successively at each site, at ~17 day intervals. Each line remains in place for ~50 days (on average).

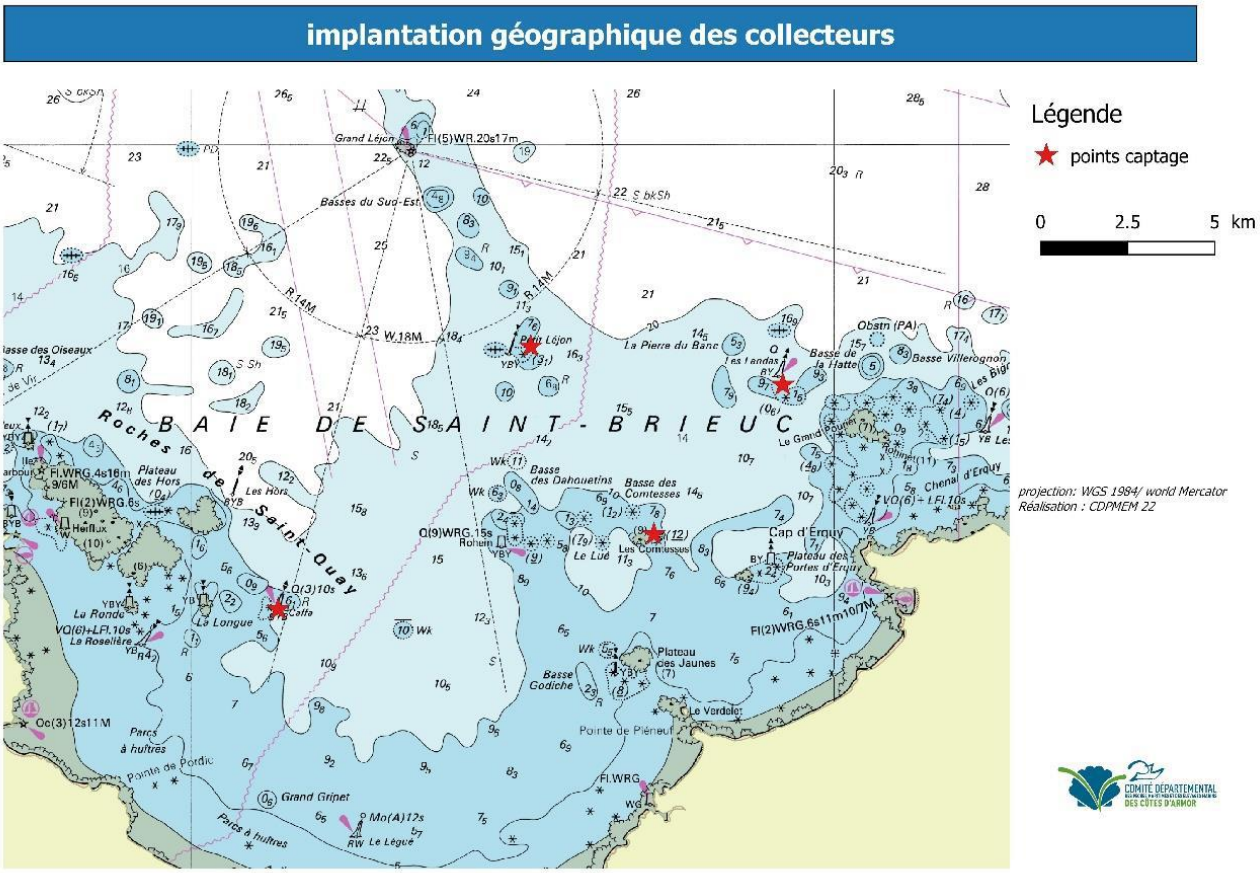

Figure 6. Larval collector sites (CDPMEM-Côtes d'Armor 2020).

9.2.1.4 Stock status – 2020 and 2021

The results of the COSB survey in 2020 show a spectacular increase in adult biomass compared to 2019 of 54% (34 680 t biomass estimated by COSB 2019, and 53 440 t by COSB 2020). Estimated adult and exploitable biomass in 2020 were the highest in the time series (since 1991) (Fifas and Caroff 2020).

At the CPRDR stage, the COSB 2021 report was available (Fifas and Caroff 2021) and this shows a further increase in adult and exploitable biomass from 2020 (adult biomass: 59 250 t; exploitable biomass: 43 920 t) (Figure 7).

The spat survey results for 2020 are coherent with these results; the survey found an exceptionally high rate of spat settlement on the collectors. This suggests the possibility of a further large age-class, which will appear in the 'recruits' (as per Ifremer's definition) in COSB 2022. However, the spat survey results for 2021 suggest a lower level of recruitment in 2021, which might suggest that we could be reaching the high point in the biomass cycle.

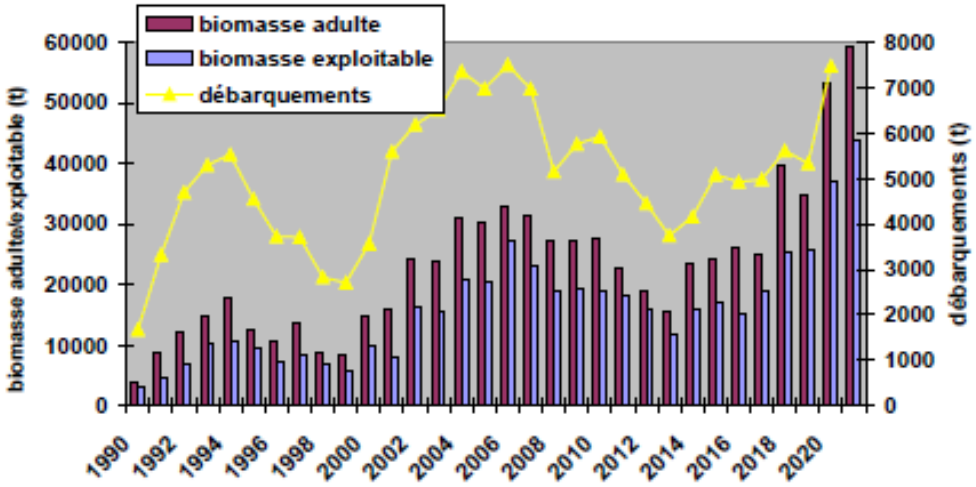

Figure 7. Time series of adult biomass (purple bars) and exploitable biomass (blue bars) as estimated by the COSB surveys, plus official landings to 2020 (yellow line, different y-axis scale). Figure 2 in Fifas and Caroff 2021.

9.2.1.5 Stock status – long term trends

Putting these results in the context of the longer time series, it is clear that while they are exceptional, the stock has reached the peak of the regular cycle observed by Ifremer – so on the face of it, this would not be expected to be a permanent situation.

The year classes of 2017 and 2019 were the largest so far observed, while recruitment was above average in six of the seven years 2013-19 (and most likely in 2020 as well, according to the spat survey). Prior to this period of exceptional recruitment, the stock biomass declined steadily from 2006-13. Ifremer hypothesise that this exceptional recruitment / biomass is most likely the consequence of several factors:

- Natural cycles in the stock;
- Low fishing pressure in 2020 due to covid;
- Improved management of the fishery and in particular increased selectivity of the dredges (see below).

Ifremer, in their analysis, emphasise the importance of managing the fishery such that exploitation of an exceptional year class can be spread out over several years, to 'smooth out' in the fishery the high variability in recruitment and biomass.

9.2.1.6 Recruitment

The 2019 year class was evaluated by COSB 2020 at 417 million individuals (age-1 ; 'pre-recruits'). By COSB 2021, this age class was reduced to 160 million individuals (age-2; 'recruits'), showing the high natural mortality of small scallops but still a massive recruitment and the highest in the time series. Meanwhile the 2020 year class was estimated at 430 million individuals at age-1; again the highest in the time series (Figure 8).

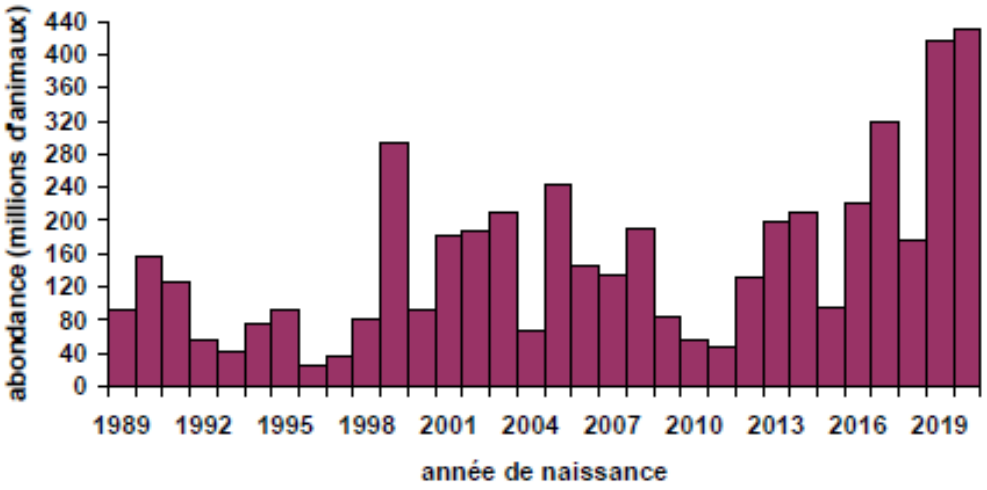

Figure 8. Time series of estimated abundance of pre-recruits (age-1) (million individuals), from COSB surveys (Figure 7 in Fifas and Caroff 2021).

In terms of how recruitment relates to subsequent year class size, there clearly is a relationship, as can be seen from a comparison of the patterns in recruits vs. exploitable biomass, adjusted for year of birth (Figure 9). However, it is not strong in the sense of statistically predictable with high probability. While the abundance of pre-recruits predicts the abundance of recruits a year later quite well (R^2>80%), it only explains ~25% of the variability in exploitable biomass, meaning that despite the excellent data by year class, managing the stock is not as simple as setting a quota directly based on observations of recruitment the previous year.

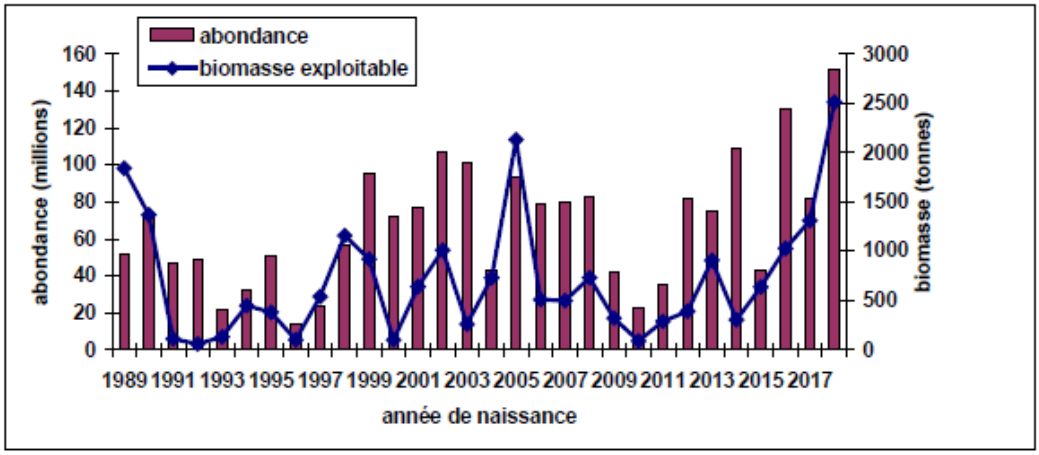

Figure 9. Time series in abundance of recruits (purple bars, million individuals) and exploitable biomass (blue line, tonnes). Figure 5 in Fifas and Caroff 2021.

9.2.1.7 Estimating removals and mortality

Ifremer uses a model to analyse survey and fishery data and to provide management advice. The model was developed under two research projects: a bio-economic partnership between Ifremer, DPMA and the industry (finishing in 2011) and a research project called ANR COMANCHE (2011-14). The model is not published but during the site visit we were talked through it by Dr Spyros Fifas of Ifremer.

In essence, the model uses the annual direct estimates of biomass- and growth-at-age from COSB, plus data on landings at age (provided by the Comité Departemental who operating a size sampling programme at the auction), to estimate total mortality and fishing mortality for each age class. Data from an unfished stock (from a research project on a deep-water stock at the Isle d'Ouessant in the 1990s) provides baseline estimates of

natural mortality and longevity for an unfished stock. This allows an estimate of total mortality by age, as well as an estimate of fishing mortality from the UoA (and the commercial dive fishery). The information on natural mortality allows Ifremer to partition the estimates of total mortality into different sources: natural mortality, fishing mortality from the UoA and removals from other sources. These other sources could be recreational landings (no requirement to report), unreported landings from any commercial fishery, discard mortality, unobserved mortality (damage from the gear on seabed) or some combination of the above.

This exercise to estimate removals from different sources was carried out for a comparison of two 5-year periods: 1991/2-1995/6 and 2002/3-2006/7. Please note that this is old data – the most recent time period is ~15 years ago. This exercise has not been carried out since then, although Ifremer note that it could be recalculated for 2014/15-18/19 (avoiding 2020 which was an atypical year due to covid). The results for the 1990s and 2000s are given in Table 14.

Table 14. Estimates of removals from the stock from all resources, using the methodology described above (data from a presentation provided by Dr Spyros Fifas, Ifremer)

Decade	Total individuals (age 2+)[1]	Declared landings	Estimated F from model	Total removals at estimated F	Non-declared removals (estimate)
1990s	106.3 million	28.5 million	0.54	41.6 million	13.1 million
2000s	228.7 million	41.8 million	0.28	52.4 million	10.6 million

What were these other removals? Dr Fifas suggests two main sources: undeclared landings and unobserved mortality. The removals could be partitioned into two components: winter and summer. For the most recent period (2002-7), these are estimated as follows (% of total estimated removals): declared landings by the UoA (and dive fishery): 79.8%, winter other landings: 3.7%, summer other landings: 12.1%, discard mortality: 0.3%, breakage: 4%.

Recreational landings are not illegal as long as bag limits are complied with, but have no requirement to be declared. Dr Fifas considered that these were likely to be low. Other stakeholders, however, disagreed, with some considering that they could be significant and noting widespread (anecdotal) non-compliance with bag limits. Some component of the other removals likely comes from this source. The UoA can only contribute to winter 'other landings', since it does not operate in summer.

It is important to be clear here that this analysis is now very out of date. The assessment team would like to emphasise that it is not appropriate to infer anything about compliance of the UoA (or other fisheries) from these data, because the management and enforcement context (as well as the stock status and biomass) have changed greatly in the last 15 years (all have improved). This information is presented here under Principle 1 in order to allow us to consider the likely ceiling on total removals and unwanted catch for the purpose of scoring Principle 1.

In terms of how these might have changed between then and now, we unfortunately do not have more recent estimates. Dr Fifas considered that the % of other landings is likely to have diminished, because fishing mortality is now lower than the 2000s (much lower than the 1990s) and biomass is higher. Legal landings have increased significantly over the last decade as a consequence of the high biomass, limiting the space in the market to absorb IUU. The improved dredge selectivity would most likely have reduced discard mortality (already estimated as low). Dr Fifas also considered that the introduction of 'rattrapage' (extra days to compensate for time lost to poor conditions) has helped to reduce unobserved mortality, because it reduces the need for vessels to fish in bad weather, which reportedly makes dredge-related damage to the seabed

[1] Currently the age-2 scallops scarcely contribute to exploitable biomass, but in those days the regulatory ring-size on the dredge was lower so the fishery was less selective than it is now.

worse. The estimates presented in Table 14 can therefore be considered a ceiling on removals other than declared landings from the UoA.

9.2.1.8 Short-term predictions

The COSB 2020 report (Fifas and Caroff 2020) predicts that at the start of the 2021/22 season, the 2019 year class will consist of 164 million individuals and 18 820 t of biomass under the assumption of average growth rates, with 10 660 t of this biomass of exploitable size for the 2021/22 season. For the 2022/23 season (COSB 2021, Fifas and Caroff 2021) the 2020 year class is predicted to consist of 166 million individuals, making up 18 380 t of biomass of which 9200 t would be of exploitable size (presumably the slightly different relationship of individuals vs biomass is a function of slightly lower growth rate estimates for age 1 – see Figure 3 above).

The model is used to evaluate three short-term (3 year) management scenarios. The three scenarios are:

1) status quo fishing effort (for 2020, the status quo (2019/20) effort was increased by 600 hours to allow for a reduction in effort due to covid);
2) status quo landings (increased by 1206 t for 2019/20, which is calculated from the additional effort);
3) A scenario developed from the model (C++ add-on), which minimises variability in landings between seasons from 2020/21 to 2023/24, while ensuring that reproductive biomass remains at a sustainable level.

For these projections, recruitment can be estimated by setting year class size for 2021-23 either to probability = 0.5 (see Figure 2 above), or based on the observed 15-year cycle (see also Figure 2), since it has been established that there is no informative stock-recruit relationship. In reality, this makes a negligible difference to any management advice over three years, since the age-2 year class only contributes marginally to exploitable biomass.

The status quo fishing effort projections showed in a large increase in landings in 2021/22 (+36%), with more or less stability in the two subsequent seasons. Reproductive biomass would decrease each season (2021/22: -8%, 2022/23: -6%, 2023/24: -20% under constant recruitment; -8%, -4%, -17% under cyclic recruitment).

The status quo landings projections would require a significant reduction in fishing effort (-30%). Reproductive biomass would remain more or less stable in the first two years, but reduce by 16% / 13% (constant / cyclic recruitment) by the 2023/24 season.

Under the third scenario, the optimum level of landings for 2021/22 would be 6700 t. The results of this scenario are very similar to the second, given that the aim is consistent landings, and no adjustments are required to manage reproductive biomass, since it is at such a high level (and under the hypothesis of cyclic recruitment, due to decline anyway, regardless of the fishery) (Fifas and Caroff 2021).

9.2.1.9 Harvest strategy

The area of the fishery is divided into ‘gisements’ and ‘secteurs’ which are important management tools. The two gisements are: i) Baie de St. Brieuc and ii) Perros-Guirec. The Baie de St. Brieuc gisement is divided into four sectors (1-4). Sector 4 contains a ‘cantonnement’ (closed area) (Figure 10).

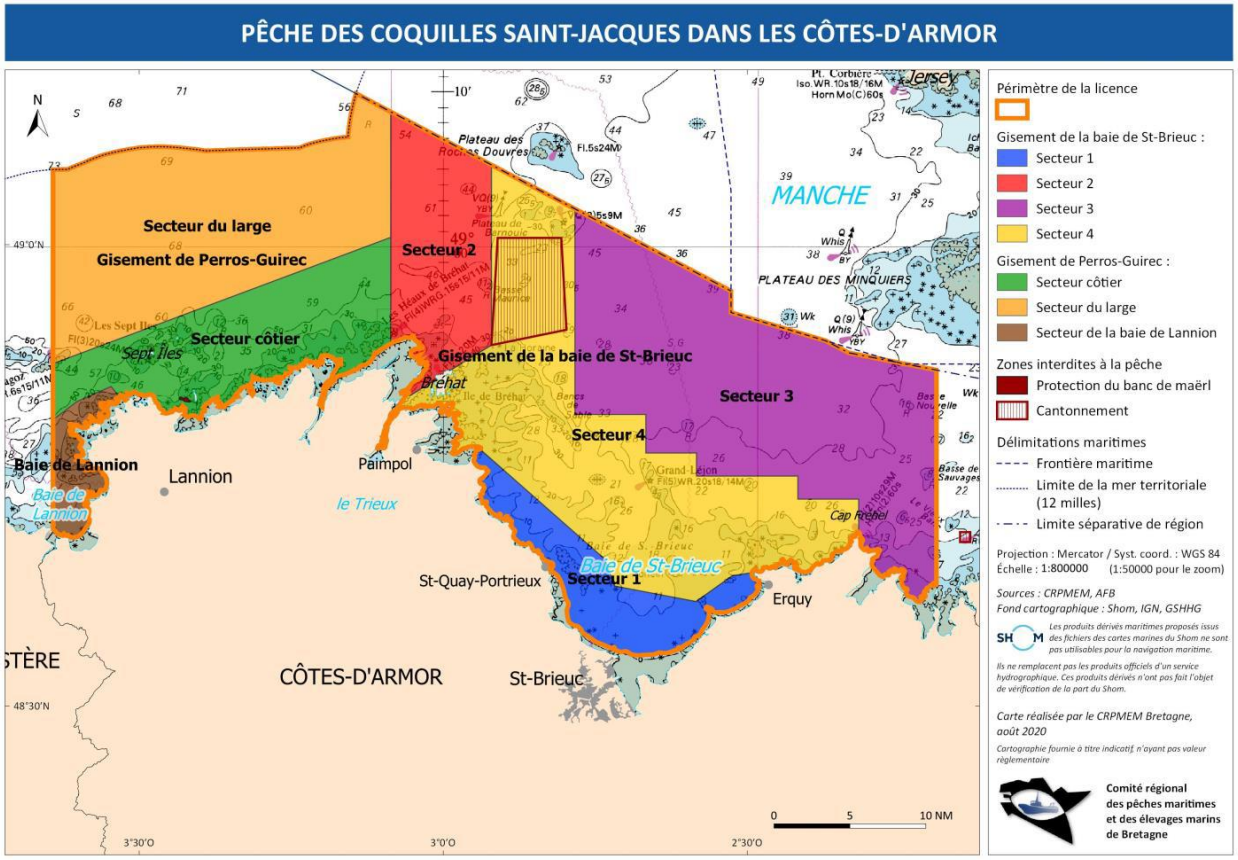

Figure 10. Map of management areas for the Baie de St. Brieuc scallop fishery: Gisement Baie de St. Brieuc (also 'gisement principal') is divided into four Sectors (1-4; blue, red, purple and yellow on the map); Gisement Perros-Guirec is divided into three Sectors (côtier (coastal), le large (offshore) and Baie de Lannion; green, orange and brown on the map). The cantonnement (closed area) is outlined in red in Sector 4. Annex 3 of Décision 109-2021 of the Comité Régional de Pêche Maritime de Bretagne.

Although Ifremer put forward a proposed total catch each year, based on model projections using scenario 3 (see above – 6700 t for the 2021/22 season), it is important to note that despite being referred to as a 'quota' in Ifremer reports, for convenience, this is not a quota in the sense of a regulatory catch limit; it is the output of running the model under a given management scenario, which is provided to inform managers. The fishery is not managed by setting an overall catch limit. Instead, it is managed by a series of measures which limit effort in various ways. Licences are limited (230 scallop dredge licences for the 2020-2021 fishing season).

Déliberation 2020-004 of CRPM-Bretagne, (formalised in arrêté R53-2020-04-24-002 of Région Bretagne), and more recently Déliberation 2021-023 of CRPM-Bretagne, set out general management measures as follows:

- Season first Monday in October to 14 May at the latest, with specified fishing days and times (for further details see below).
- Sectors 2+3 and Sector 4 are not opened simultaneously.
- Only vessels with no other scallop licences (for other gisements) may exploit Sector 1, and they must sign up to a list in advance of the season. Scallops must be landed 'décrepidulées' (*Crepidula* removed).
- Two different gisements cannot be fished on the same day.

- Maximum landings per vessel per day for each sector: Sector 1 – 750 kg; Sectors 2+3 – 1150 kg; Sector 4 – 1250 kg. [According to the CDPM, an overshoot of up to 50kg on the trip quota is tolerated but the profit goes to the CDPM for activities related to the fishery; above 50kg is considered an infraction.]
- Minimum landing size of 102mm shell length (smaller must be discarded at sea).
- Forbidden to shuck scallops at sea or to land meats only.
- Minimum inner diameter of dredge rings 97mm (increased from 92mm in 2017).
- Dredge characteristics fixed as given below. At the end of the fishing period (see below), dredges must be clearly visible over the side of the vessel. Dredges must be removed from the vessel if going to sea outside authorised fishing days. No spare dredge is permitted on board. Dredges must be marked.
- Landing to auction only, with specified landing ports for each area.
- The dive fishery may only operate in Sectors 1, 2 and 4, with a quota per vessel per day of 450 kg (or 750 kg in Sectors 1 and 2 under some circumstances). Maximum of two divers in the water per trip. It may operate in Sector 1 on the same timetable as the dredge fishery, and likewise for Sector 4 except that they are allowed more time per trip (1 hour 15 minutes extra).

Scallop dredge (Figure 11) characteristics:

- In Sectors 1 and 4, twin dredges (also called 'english dredges' or dredges 'à roulettes') are banned. Only a single dredge (à volets, breton, franche) is authorised, under the following conditions:
    - Maximum fishing width 4 m (which can be one dredge of 4m / 40 teeth or two dredges of 2m / 20 teeth each)
    - 90mm spacing between teeth
    - Interior diameter of rings: 97 mm
- In Sectors 2 and 3, the twin dredges may be used under the following conditions:
    - Two outriggers
    - Maximum fishing width (regardless of dredge number): 9.6 m
    - Maximum width of a single dredge: 1 m
    - Other rules as above
    - For the drague à volets, the same rules apply as above
- The number of dredges is limited to two per vessel or alternatively 6 per outrigger for twin dredges.
- Other technical measures on gear; e.g. maximum 4 ring attachment points, alèzes (netting rather than metal element of dredge) must be at least 140mm stretched mesh (Figure 12).

Figure 11. Scallop dredge. Source: photo taken by Géraldine Criquet onboard a fishing vessel during the site visit.

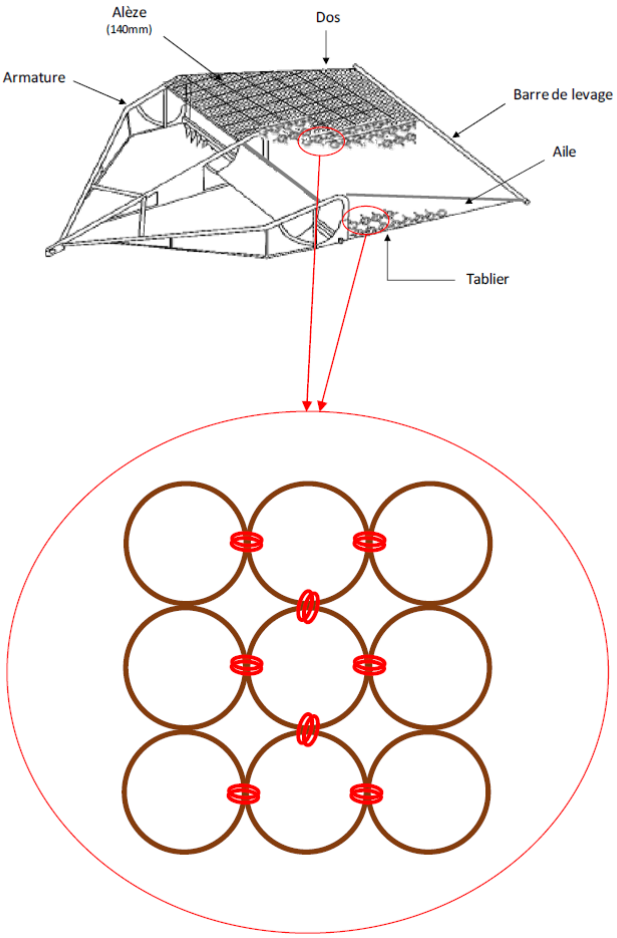

Figure 12. Illustration of the authorised dredge with alèze no less than 140 mm stretched mesh.

As well as these general measures, management is regularly adjusted throughout the season by the CDPM-Côtes d'Armor (formalised in décisions of the CRPMEM). Sectors are opened on a strict timetable, and trip limits set (and adjusted). For the 2021/22 season there were 8 open days applying to sectors 1 and 3, with fishing allowed between 9h and 13h. For the rest of the season in sector 4 there were 42 open days and 27 'rattrapage' days, during which fishing was permitted for 45 minutes. The 'rattrapage' system allows for vessels to fish if they were not able to go out on an open day because of bad weather or other 'force majeure'.

Other decisions taken during this season specifically:

- For sectors 2 and 3, the trip quota of 1150 kg was increased to 1300 kg.
- Trip quota for Sector 1 was increased to 900 kg.
- 18 and 25 November were open only for a subset of vessels listed in the relevant annex to the décision. Trip quota 1250 kg.

In terms of management of areas / fisheries not part of the UoA:

- The gisement of Perros-Guirec is currently closed due to presence of a toxin (Décision 110-2021 du Comité Régional, 30 séptembre 2021)
- The dive fishery (not part of UoA) has a similar management framework to the dredge fishery (e.g. déliberation 2020-013, décisions 109-2021 and 115-2021).

9.2.1.10 Catch profiles

Landings of the UoA by season, sector and département are given in Table 15 and Figure 13.

Landings in sectors 1 and 4 contributes to more than 80% of total landings for any fishing season ("campagne de pêche) (Figure 13). Sector 4 contributes to the highest landings accounting for more than 70% of total landings (Figure 13).

Table 15. Landings (kg) from the Baie de St. Brieuc scallop fishery by Sector and Département (22=Côte d'Armor, 35=Ile et Vilaine), for 2014/15-2020/21. Data provided by CDPM.

Campagne de pêche	Secteur	Département		TOTAL per sector
		22	35	
2014/2015	2 et 3	866993	99452	966445
	1 et 4	4031743	131424	4163167
2015/2016	2 et 3	911022	100942	1011964
	1 et 4	4840519	246250	5086769
2016/2017	2 et 3	565952	79116	645068
	1 et 4	4516285	282025	4798310
2017/2018	2 et 3	372167	88041	460208
	1 et 4	4600512	182415	4782927
2018/2019	2 et 3	461708	96532	558240
	1 et 4	5237529	204461	5441990
2019/2020	2 et 3	345422	78835	424257
	1 et 4	4418022	194526	4612548
2020/2021	2 et 3	500,342	106047	606389
	1 et 4	6883769	375903	7259672

Table 16. Number of licences and production by sector and in total, as well as Ifremer model output ('quota') 2014/15-2020/21 (t).

	2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019	2019/ 2020	2020/ 2021
Nombre de licenciés SB (actifs hors MER)	213	217	231	225	225	229	226
PRODUCTION secteur 1 (zones crépidulées)	491	536	550	667	663	501	690
PRODUCTION secteurs 2+3 (Large/Nerput)	966	1061	645	460	558	424	606
PRODUCTION secteur 4 (Gisement principal)	3672	4551	4249	4116	4779	4728	6756
'QUOTA' préconisé sur le secteur 4 ('optimum catch' from Ifremer model)	3550	3800	3550	3850	4550	4350	6300
PRODUCTION tous gisements (en kg)	5290	6147	5443	5416	6000	5653	8098

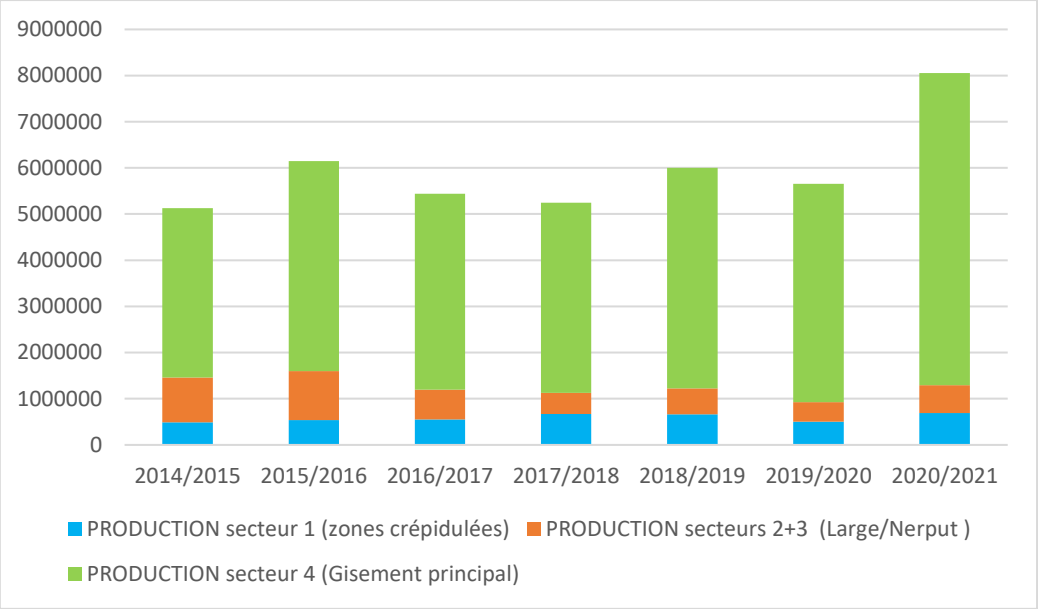

Figure 13. Landings(kg) from the Baie de St. Brieuc scallop fishery by Sector (landings by Département are combined) for 2014/15-2020/21 period. Data provided by CDPM.

9.2.1.11 Total Allowable Catch (TAC) and catch data

Table 17. Total Allowable Catch (TAC) and catch data				
TAC	Year	n/a	Amount	n/a
UoA share of TAC	Year	n/a	Amount	n/a
UoA share of total TAC	Year	n/a	Amount	n/a
Total green weight catch by UoC	Year (most recent)	2020/2021	Amount	7,866 t
Total green weight catch by UoC	Year (second most recent)	2019/2020	Amount	5,037 t

9.2.2 Principle 1 references

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Lubet P., Devauchelle N., Muzellec ML, Paulet YM, Faveris R and Dao JC. 1995. Reproduction of *Pecten maximus* from different fisheries areas : Rade de Brest, Baie de St Brieuc, Baie de Seine. https://archimer.ifremer.fr/doc/00049/15984/13427.pdf

Nicolle, A., Moitié, R., Ogor, J., Dumas, F., Foveau, A., Foucher, E., and Thiébaut, E. Modelling larval dispersal of *Pecten maximus* in the English Channel: a tool for the spatial management of the stocks. ICES Journal of Marine Science, 74: 1812–1825.

9.2.3 Principle 1 Performance Indicator scores and rationales

PI 1.1.1 – Stock status

PI 1.1.1		The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing		
Scoring Issue		SG 60	SG 80	SG 100
a	**Stock status relative to recruitment impairment**			
	Guide post	It is **likely** that the stock is above the point where recruitment would be impaired (PRI).	It is **highly likely** that the stock is above the PRI.	There is a **high degree of certainty** that the stock is above the PRI.
	Met?	**RBF**	**RBF**	**RBF**

Rationale

The assessment team used the criteria in MSC FCP v2.2 Table 3 to decide whether the fishery may be data-deficient with respect to the scallop stock.

Reference points are **not** available, derived either from analytical stock assessment or using empirical approaches. In accordance with Table 3, the RBF is used for this PI.

Table 3: Criteria for triggering the use of the RBF

Performance Indicator	Criteria	Consideration	Notes
1.1.1 Stock status	Stock status reference points are available, derived either from analytical stock assessment or using empirical approaches.	Yes	Use default Performance Indicator Scoring Guideposts within default assessment tree for this PI.
		No	Use Annex PF (RBF) for this PI.

An RBF analysis for PI 1.1.1 requires both a Consequence Analysis (CA) and a Productivity-Susceptibility Analysis (PSA). The RBF is presented in Appendix 10.7.

b	**Stock status in relation to achievement of Maximum Sustainable Yield (MSY)**			
	Guide post		The stock is at or fluctuating around a level consistent with MSY.	There is **a high degree of certainty** that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years.
	Met?		**RBF**	**RBF**

Rationale

The use of the RBF is triggered as explained in rationale for scoring issue a.

References

See Appendix 11.7.

PI 1.1.1	The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing

Stock status relative to reference points

	Type of reference point	Value of reference point	Current stock status relative to reference point
Reference point used in scoring stock relative to PRI (SIa)	*n/a*	*n/a*	*n/a*
Reference point used in scoring stock relative to MSY (SIb)	*n/a*	*n/a*	*n/a*

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs likely met			Likely overall PI score
	SG60	SG80	SG100	
	n/a	n/a	n/a	≥80
Information gap indicator	Information sufficient to score PI			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	RBF			**82**
Condition number (if relevant)				**NA**

PI 1.1.2 – Stock rebuilding

PI 1.1.2		Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe		
Scoring Issue		SG 60	SG 80	SG 100
a	**Rebuilding timeframes**			
	Guide post	A rebuilding timeframe is specified for the stock that is the **shorter of 20 years or 2 times its generation time**. For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years.		The shortest practicable rebuilding timeframe is specified which does not exceed **one generation time** for the stock.
	Met?	**Not scored**		**Not scored**
Rationale				
As per Table PF1, if the RBF is used to score PI 1.1.1, this PI is not scored.				
b	**Rebuilding evaluation**			
	Guide post	Monitoring is in place to determine whether the rebuilding strategies are effective in rebuilding the stock within the specified timeframe.	There is **evidence** that the rebuilding strategies are rebuilding stocks, **or it is likely** based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the **specified timeframe**.	There is **strong evidence** that the rebuilding strategies are rebuilding stocks, **or it is highly likely** based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the **specified timeframe**.
	Met?	**Not scored**	**Not scored**	**Not scored**
Rationale				
As per Table PF1, if the RBF is used to score PI 1.1.1, this PI is not scored.				
References				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	Not scored	**Not scored**	**Not scored**	**Not scored**
Information gap indicator	More information sought/Information sufficient to score PI			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	

PI 1.1.2	Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe			
	Not scored	Not scored	Not scored	Not scored
Condition number (if relevant)				NA

PI 1.2.1 – Harvest strategy

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
Scoring Issue		SG 60	SG 80	SG 100
a	**Harvest strategy design**			
	Guide post	The harvest strategy is **expected** to achieve stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy **work together** towards achieving stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and is **designed** to achieve stock management objectives reflected in PI 1.1.1 SG80.
	Met?	**Yes**	**Yes**	**No**

Rationale

The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy **work together** towards achieving stock management objectives reflected in PI 1.1.1 SG80.

MSC defines a harvest strategy as '*the combination of monitoring, stock assessment, harvest control rules and management actions, which may include an MP or an MP (implicit) and be tested by MSE*' (MSC – MSCI Vocabulary v1.1).

As noted in PI 1.1.1, there are no official reference points for this stock to act as management objectives – and this is reasonable given that standard fixed reference points (Bmsy, B_0 etc.) are not particularly useful concepts for this stock where recruitment and biomass are highly variable and cyclic, and there is no evidence of a stock-recruit relationship. At the site visit, Dr Fifas noted that they had in the past tried to estimate Fmsy, but because the yield curve was flat, it was not informative or useful as a reference point.

There are, however, qualitative management objectives, which are explicit in the analyses that Ifremer use to provide management advice (described in detail in Section 9.2.1.8 above):

1. Retain sufficient biomass each year to ensure that recruitment is maximised (in line with external trends);
2. Retain sufficient biomass from the large year classes to provide biomass during poor periods and hence reduce (to the extent possible) interannual variability in landings.

Ifremer puts forward its recommendation on total catch based on these two objectives (currently objective 2 since biomass is so high). Objective 1 is the most relevant to PI 1.1.1. Ifremer shows that recruitment is highly variable and cyclic with a periodicity of ~15 years. Over the monitoring time series (since 1991) the stock has recovered three times from periods of low recruitment (Year classes 1989, 1992-8, 2009-11), suggesting that this objective is being met. In fact, however, due to the lack of reference points, PI 1.1.1 was scored using the risk-based framework, and this suggests that the fishery is low risk for the stock. Therefore, the harvest strategy is achieving stock management objectives as per PI 1.1.1 – SG60 is met.

The details of the management of the fishery (opening and closing of fishing periods and gisements) are closely adjusted from year to year and even within the season based on the pre-season survey and management advice from Ifremer, as well as the week to week experience of the fishery. Management is therefore highly responsive to the state of the stock.

The main elements of the harvest strategy (i.e. the monitoring and stock assessment via the Ifremer survey, and the various management measures to control effort) work together in that the management is adjusted from year to year based (at least in part) on the survey outcome. **SG80 is met.**

The harvest strategy is empirical, with different elements having been added and adjusted over the years based on the available information (e.g. the increase in ring size to improve selectivity). It is not 'designed' (although actually it is none the worse for that), nor has there been any kind of formal management strategy evaluation. **SG100 is not met.**

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
b	**Harvest strategy evaluation**			
	Guide post	The harvest strategy is **likely** to work based on prior experience or plausible argument.	The harvest strategy may not have been fully **tested** but evidence exists that it is achieving its objectives.	The performance of the harvest strategy has been **fully evaluated** and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.
	Met?	**Yes**	**Yes**	**No**

Rationale

The harvest strategy may not have been fully **tested** but evidence exists that it is achieving its objectives.

Over the last 9 years (since 2012/13, not including the 2021/22 season for which we do not yet have information) the harvest strategy has resulted in the removal of 21-32% of the exploitable biomass present at the start of the season. The proportion of adult (reproductive) biomass will be lower since the minimum size is set higher than the size at maturity, and these figures also do not allow for growth over the course of the season. It is highly unlikely that this % removal from a stock of a highly productive species such as king scallop would be unsustainable – SG60 is met. There is evidence about the performance of the harvest strategy in that we have information on biomass trends from the annual Ifremer surveys. It is clear that biomass is cyclic (following recruitment) but in recent years has been increasing and is currently at a record high in the time series. A risk analysis (RBF – see Appendix 11.7) suggests that the fishery is low risk for the stock. **SG80 is met.**

Regarding SG100, the harvest strategy has been evaluated to some extent: for example there has been an analysis of fishing capacity which shows that regulation has been able to arrest the increase in capacity at the start of the fishery, and maintain it fairly constant from ~1995 onwards (Fifas and Fresnard 2011); however this analysis only runs to 2004. More generally, the fact that there is a fishery-independent estimate of biomass and recruitment at the start of each season is a test of the harvest strategy. However, there has not been any formal MSE or other management evaluation methods, and the 'target level' for the stock is not clear (for good reasons which are explained above). **SG100 is not met**.

c	**Harvest strategy monitoring**			
	Guide post	Monitoring is in place that is expected to determine whether the harvest strategy is working.		
	Met?	**Yes**		

Rationale

Monitoring is in place that is expected to determine whether the harvest strategy is working.

There is an annual survey by Ifremer at the start of each season which provides a direct estimate of adult and exploitable biomass as well as recruitment and stock size and age structure. There is also an annual summer spat survey which gives a qualitative idea of the size of the new year class. There is monitoring of landings and catch-at-size at the auction by the Comité Départemental. **SG60 is met.**

d	**Harvest strategy review**			
	Guide post			The harvest strategy is periodically reviewed and improved as necessary.
	Met?			**Yes**

PI 1.2.1	There is a robust and precautionary harvest strategy in place

Rationale

The harvest strategy is periodically reviewed and improved as necessary.

Elements of the harvest strategy have been adjusted in recent years in the light of scientific information – for example the dredge ring size. The change from 92mm to 97mm was subsequently taken up by other French fisheries and now at EU level. The harvest strategy is also adjusted within seasons (e.g. trip quotas, opening days and times) based on the experience of the fishery. **SG100 is met.**

e	**Shark finning**			
	Guide post	It is **likely** that shark finning is not taking place.	It is **highly likely** that shark finning is not taking place.	There is a **high degree of certainty** that shark finning is not taking place.
	Met?	**NA**	**NA**	**NA**

Rationale

The target species is not a shark.

f	**Review of alternative measures**			
	Guide post	There has been a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock.	There is a **regular** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock and they are implemented as appropriate.	There is a **biennial** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock, and they are implemented, as appropriate.
	Met?	**NA**	**NA**	**NA**

Rationale

This SI concerns unwanted catch of the target species (scallops). Unwanted catch of other species is considered under Principle 2.

According to SA2.4.8.1, *the team shall apply scoring issue f to target stocks in P1 in the same way as applied to species in P2*. MSC definition of 'unwanted catch':

SA3.1.6 In PIs 2.1.2 and 2.2.2, the term 'unwanted catch' shall be interpreted by the team as the part of the catch that a fisher did not intend to catch but could not avoid, and did not want or chose not to use.

In Section 9.2.1.7., we discuss how Ifremer is able to estimate total removals and partition them according to different sources. The sources that they considered relevant when this exercise was carried out were: legal commercial catch, winter illegal catch, summer illegal catch, discard mortality and unobserved mortality (breakage by the dredge of scallops on the seabed). To this we should add unreported recreational catch, since other stakeholders considered that it might be significant. Of these sources of mortality, discard mortality would come under the definition of unwanted catch. Seabed damage to scallops would not, since it is not part of the catch, but a function of the action of the gear on the seabed, which is considered under Principle 2 (habitats and ecosystem). Other sources of removals are considered below.

This analysis was last conducted by Ifremer in 2007, and estimated discard mortality at 0.3% of total mortality. Since then it should have reduced further, for two reasons: i) mainly because of the increase in the minimum dredge ring size, which stakeholders agree has improved size selectivity and reduced discards of undersized scallops significantly (and has been taken up across other scallop fisheries for that reason); and ii) also to some extent according to Dr Fifas because of the introduction

PI 1.2.1	There is a robust and precautionary harvest strategy in place

of the possibility of 'rattrapage' (catch up fishing days) which has reduced the need for vessels to fish during bad weather, which reduces selectivity and increases damage.

During the site visit, two team members (Principles 1 & 2 assessors) were taken on a scallop fishing trip, and observed that (at least for this one trip) discard rates were very low.

According to GSA3.5.3 *in cases where there is negligible unwanted catch of a species, the team may use their discretion as to whether the SI would be scored, but the decision should be made in accordance with a precautionary approach. When determining what is 'negligible' the MSC does not specify a set cutoff; the team may consider the significance of the catch in relation to things like the proportion of the unwanted catch as part of the total catch or as part of the total amount of unwanted catch, as well as the regularity of the catch occurring when deciding whether it is negligible.*

We therefore conclude that the level of 'unwanted catch' in this fishery is negligible, and score this SI as not applicable.

References

Fifas and Caroff 2020,2021, CDPM-Côtes d'Armor 2016, 2020, 2021, Foucher et al. 2020, Fifas and Fresnard 2011
Déliberation du CRPMEM-Bretagne 2020-004, 2020-011, 2021-023
Décisions du CRPMEM-Bretagne 108-2021, 109-2021, 114-2021, 115-2021
Arrêté de la Région Bretagne R53-2020-04-24-002

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

	Applicable SGs/elements likely met			Likely overall PI score
Draft scoring range	SG60	SG80	SG100	
	4 of 4	2 of 3	1 of 4	60 – 79
Information gap indicator	More information sought At present we do not have enough information to score SG80 and SG100 of SIf (unwanted catch) – hence they have been scored as Not Met for now. Information on discard mortality for this fishery or similar fisheries (if available) would also inform the scoring of SIf. It would be helpful to have more details on the model used by Ifremer to provide advice on the annual catch level, but this is not essential.			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

	Applicable SGs/elements met			Overall score
Overall Performance Indicator score	SG60	SG80	SG100	
	3 of 3	2 of 2	1 of 3	**85**
Condition number (if relevant)				**NA**

PI 1.2.2 – Harvest control rules and tools

PI 1.2.2		There are well defined and effective harvest control rules (HCRs) in place		
Scoring Issue		SG 60	SG 80	SG 100
a	**HCRs design and application**			
	Guide post	**Generally understood** HCRs are in place **or available** that are **expected** to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached.	**Well defined** HCRs are **in place** that **ensure** that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock **fluctuating around** a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.	The HCRs are expected to keep the stock **fluctuating at or above** a target level consistent with MSY, or another more appropriate level taking into account the ecological role of the stock, **most** of the time.
	Met?	**Yes**	**No**	**No**

Rationale

Generally understood HCRs are in place **or available** that are **expected** to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached.

There is no formal harvest control rule for this fishery – management measures are adjusted as required to achieve a level of effort aligned with the general management objectives outlined in 1.2.1a, as well as socio-economic objectives. The figure below shows landings over the season as a proportion of adult and exploitable biomass at the start of the season, and demonstrates that in recent years, management has been highly successful at maintaining proportional removals at a sustainable rate (~20% of adult biomass and ~30% of exploitable biomass), which is coherent with the objective of reducing inter-annual fluctuations in the fishery and maintaining maximum recruitment. We can argue that maintaining landing at around this level is a 'generally-understood' HCR, in the sense that it is a clear, if implicit, objective of management.

In terms of reducing the exploitation rate in relation to the PRI, it is unclear how to define the PRI for this stock. Recruitment is environmentally driven rather than related to stock biomass, and the stock has shown several times it can recover from low biomass with large recruitments, so the PRI is presumably well below anything ever observed over the timescale of the fishery. However, by maintaining the exploitation rate at this level, the PRI should never be approached – **SG60 is met.**

Critical guidance GSA2.5: *HCRs should be regarded as 'well-defined' in the sense required to achieve an 80 score when they exist in some written form that has been agreed by the management agency, ideally with stakeholders, and clearly state what actions will be taken at what specific trigger reference point levels. HCRs should be regarded as only 'generally understood' as required to achieve a 60 score in cases where they can be shown to have been applied in some way in the past, but have not been explicitly defined or agreed.*

SG80 requires a well-defined HCR. Ifremer have a model which takes the management objectives (reducing interannual variability and maintaining recruitment) and uses them to provide a 'quota' (which is not a formal management quota, but rather a piece of management advice). This is clearly a HCR, and it is clearly defined within the model. As already noted, the rule is clearly able to ensure that the PRI is not approached. However, this 'quota' is not applied directly in the fishery in the form of a catch limit; nor is it translated directly into effort controls. Rather it is taken into account in management decision-making alongside other pieces of information (notably the biomass estimates provided by the COSB surveys, but also the experience of the fishery through the season etc.). In recent years with a high and increasing biomass, maintaining relatively constant effort in the fishery has tended to result in total catch which is above the level of the 'quota'.

In relation to maintaining the stock at a target level consistent with MSY: for this stock MSY reference points cannot be estimated (or at least, they can in theory but they are not meaningful). In practice the appropriate target level would fluctuate from year to year according to long-term cyclic trends in recruitment (as well as unidirectional trends due to climate change); the aim of management is to allow escapement of some part of the biomass during the high points in recruitment, to fill in the

PI 1.2.2	There are well defined and effective harvest control rules (HCRs) in place

troughs in biomass to some extent – a fixed inter-annual target would either be too high to be achievable during the low points in the cycle, or too low to be appropriate during the high points. It therefore makes sense that the target is expressed more in terms of stock trajectory than a specific stock biomass. In any case, according to Dr Fifas, the whole range of estimates of Fmsy were significantly higher than the current level of exploitation rate, which makes sense since for this highly productive stock, Bmsy would likely be quite a low proportion of B_0; which is not the case here. On this basis, the rule is based on the most appropriate objective to maintain a highly productive stock (the intent of 'a level consistent with MSY').

There is, therefore, a HCR which is applied by Ifremer to generate management advice, and is used as part of management decision-making. It is not, however, explicitly part of the management process, nor is it written down, nor (as far as we know) agreed with stakeholders. In fact, it took the assessment team some time and work to figure out what the rule was and how it was applied. Therefore, it can be considered 'generally understood' but not 'well-defined'. **SG60 is met but SG80 is not met.**

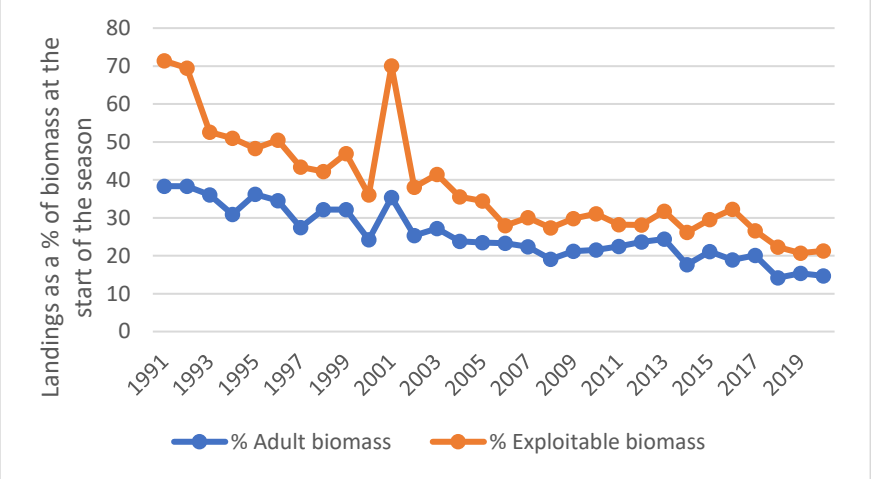


Figure 14. Landings over the season (starting in the year mentioned) as a proportion of estimated adult (blue) and exploitable (orange) biomass at the start of the season (COSB September survey). Based on data provided in Fifas and Caroff 2020.

b	**HCRs robustness to uncertainty**			
	Guide post		The HCRs are likely to be robust to the main uncertainties.	The HCRs take account of a **wide** range of uncertainties including the ecological role of the stock, and there is **evidence** that the HCRs are robust to the main uncertainties.
	Met?		**Yes**	**Yes**

Rationale

The HCRs take account of a **wide** range of uncertainties including the ecological role of the stock, and there is **evidence** that the HCRs are robust to the main uncertainties.

What makes the management system for this fishery particularly robust is that biomass and recruitment are directly estimated at the start of each season. This avoids most of the uncertainties associated with a stock-assessment model (assumption that CPUE is a proxy indicator of abundance, assumptions around a stock-recruit relationship required to estimate reference points etc.). In terms of the long-term management of this fishery, the key uncertainty is the level of recruitment. This is measured in the COSB survey, and also via the CDPM spat survey, so there is several years' warning of poor year classes coming through. **SG80 is met.**

In relation to SG100, while the ecological role of the stock is not explicitly part of management objectives, the strategy of maintaining a high proportion of biomass in the water will ensure that it is maintained (particularly since there are many other suspension-feeding species in the Baie de St. Brieuc, not least the crepidula). The recovery of the stock from periods of poor

PI 1.2.2	There are well defined and effective harvest control rules (HCRs) in place

recruitment plus the general upwards trend in recruitment and biomass (cycles notwithstanding) provides evidence that the harvest strategy is robust. **SG100 is met**.

C	**HCRs evaluation**			
	Guide post	There is **some evidence** that tools used **or available** to implement HCRs are appropriate and effective in controlling exploitation.	**Available evidence indicates** that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	**Evidence clearly shows** that the tools in use are effective in achieving the exploitation levels required under the HCRs.
	Met?	**Yes**	**Yes**	**Yes**

Rationale

The tools used to manage this fishery are list in Section 9.2.1.9 (harvest strategy). Management is essentially by a strict control of effort, via limited access and very short open periods for the fishery, as well as restrictions on gear and vessel power and a daily landing limit. Other important measures aim to maximise selectivity (minimum size and dredge minimum ring diameter).

The data set out in the figure above (landings as a proportion of biomass) clearly show that these tools are effective in maintaining a sustainable exploitation rate. The information on biomass and recruitment is much better than in most fisheries, because these can be estimated directly. **SG60, SG80 and SG100 are met.**

References

Fifas and Caroff 2020, 2021, CDPMEM-Côte d'Armor 2020, 2021, FIfas et al. 2019
Déliberation du CRPMEM-Bretagne 2020-004, 2020-011, 2021-023
Décisions du CRPMEM-Bretagne 108-2021, 109-2021, 114-2021, 115-2021
Arrêté de la Région Bretagne R53-2020-04-24-002

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	2 of 2	2 of 3	2 of 3	60 – 79
Information gap indicator	Information sufficient to score PI			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	2 of 2	2 of 3	2 of 3	**75**
Condition number (if relevant)				**1**

PI 1.2.3 – Information and monitoring

PI 1.2.3		Relevant information is collected to support the harvest strategy		
Scoring Issue		SG 60	SG 80	SG 100
a	**Range of information**			
	Guide post	**Some** relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.	**Sufficient** relevant information related to stock structure, stock productivity, fleet composition and other data are available to support the harvest strategy.	A **comprehensive range** of information (on stock structure, stock productivity, fleet composition, stock abundance, UoA removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.
	Met?	**Yes**	**Yes**	**Yes**

Rationale

A **comprehensive range** of information (on stock structure, stock productivity, fleet composition, stock abundance, UoA removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.

The annual COSB surveys provide information on stock size/age structure and stock productivity (recruitment, growth rates via aging). The annual spat survey also provides further information on productivity (spat settlement rates). There is sufficient information on scallop phenotypes, genetics and larval transport to be confident that it is appropriate to manage the Baie de St. Brieuc as a separate stock (see analysis in Section 9.2.1.2). Fleet composition is known (list of licenced vessels, characteristics of vessels and gear understood). **SG60 is met.**

In terms of 'other data' at SG80, crucially it is possible via the annual COSB surveys to estimated directly total biomass, adult (reproductive) biomass, exploitable biomass and year class size. The survey estimates of recruits and pre-recruits, as well as the spat survey also provide information on the likely size of year classes which have not yet entered the fishery. UoA removals (landings since discard mortality is likely to be low) are known. Total removals can be estimated from size structure and natural mortality, and parsed into different (presumed) sources. **SG80 is met.**

In relation to SG100, it is important to recognise that this empirical direct estimate of biomass and recruitment provides a much more robust information base for managing a fishery than even the most sophisticated stock assessment, which still depends on a whole series of assumptions about abundance indicators and underlying population dynamics which are not required here. Ifremer has worked on the underlying environmentally-driven dynamics of the stock, showing a ~15 year cycle in recruitment, although the (presumably) environmental drivers behind this cycle are not yet understood as far as we are aware. **SG100 is met.**

b	**Monitoring**			
	Guide post	Stock abundance and UoA removals are monitored and **at least one indicator** is available and monitored with sufficient frequency to support the harvest control rule.	Stock abundance and UoA removals are **regularly monitored at a level of accuracy and coverage consistent with the harvest control rule**, and **one or more indicators** are available and monitored with sufficient frequency to support the harvest control rule.	**All information** required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent **uncertainties** in the information [data] and the robustness of assessment and management to this uncertainty.
	Met?	**Yes**	**Yes**	**Yes**

PI 1.2.3	Relevant information is collected to support the harvest strategy

Rationale

All information required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent **uncertainties** in the information [data] and the robustness of assessment and management to this uncertainty.

As already outlined, stock abundance can be directly estimated rather than inferred from a model. This is done annually at the start of the season by the COSB survey. UoA removals (landings) are likewise closely monitored). **SG60 and SG80 are met.**

In relation to SG100, the team would regard the direct estimate of biomass as 'a high degree of certainty' compared to almost all fisheries. The surveys are annual, but Ifremer is able to infer biomass throughout the year based on their information about growth rates, which are also monitored annually. There is also monitoring of recruitment to provide some information on forthcoming year classes, allowing forward planning. The uncertainties in biomass estimates are quantified statistically, while Ifremer has evaluated the uncertainties in year class sizes (i.e. the extent to which a given estimate of age-1 or age-2 abundance results in given level of adult or exploitable biomass in subsequent years). **SG100 is met.**

C	**Comprehensiveness of information**			
	Guide post		There is good information on all other fishery removals from the stock.	
	Met?		**Yes**	

Rationale

There is good information on all other fishery removals from the stock.

Landings from the UoA are categorised in several ways: e.g. landings from crepidula areas, crew share ('godaille') and landings for the 'fête de la coquille' are sometimes counted separately, but all are quantified and recorded.

The other commercial fishery is the dive fishery. These landings are recorded in the same way as for the UoA, and the CDPM provided data for the last six seasons (not including 2021/22). These amounted to 184 t in 2020/21 (the highest in the time series).

In relation to other removals, the issue of compliance by the UoA is considered under PI 3.2.3. Illegal activities in other fisheries are not relevant to this assessment, as long as total removals can be quantified and are used as the basis for management, and are not impacting the sustainability of the stock.

By making an assumptions about natural mortality, Ifremer is able to use the model to estimate total removals from the stock (as explained in Section 9.2.1.7.). This alone meets the requirement of this SI, in that removals from all sources combined are estimated, and used as a basis for the model and hence management advice. This analysis is now somewhat out of date, but stakeholder (and specifically Ifremer themselves) agree that it provides a worst case scenario, and is able to determine that any possible unquantified removals (fishery-related or other) are not having an impact on the stock or management.
SG80 is met.

It is recommended, however, that this analysis be updated.

References

Fifas and Caroff 2020, 2021, CDPMEM-2020, 2021
Landings data provided by the CDPM-Côtes d'Armor

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met	

PI 1.2.3	Relevant information is collected to support the harvest strategy			
	SG60	SG80	SG100	Likely overall PI score
	2 of 2	3 of 3	2 of 2	≥80
Information gap indicator	Information sufficient to score PI However, to confirm with full confidence that this scoring is correct, it would be helpful to clarify exactly the status and estimates of the various sources of landings (crepidulées, fête de la coquille, rattrappage etc.)			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	2 of 2	3 of 3	2 of 2	**100**
Condition number (if relevant)				**NA**

PI 1.2.4 – Assessment of stock status

PI 1.2.4		There is an adequate assessment of the stock status		
Scoring Issue		SG 60	SG 80	SG 100
a	**Appropriateness of assessment to stock under consideration**			
	Guide post		The assessment is appropriate for the stock and for the harvest control rule.	The assessment takes into account the major features relevant to the biology of the species and the nature of the UoA.
	Met?		**Yes / No**	**Yes / No**
Rationale				
As per Table PF1, if the RBF is used to score PI 1.1.1, a default score of 80 shall be awarded to this PI.				
b	**Assessment approach**			
	Guide post	The assessment estimates stock status relative to generic reference points appropriate to the species category.	The assessment estimates stock status relative to reference points that are appropriate to the stock and can be estimated.	
	Met?	**Yes / No**	**Yes / No**	
Rationale				
As per Table PF1, if the RBF is used to score PI 1.1.1, a default score of 80 shall be awarded to this PI.				
c	**Uncertainty in the assessment**			
	Guide post	The assessment **identifies major sources** of uncertainty.	The assessment **takes uncertainty into account**.	The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a **probabilistic** way.
	Met?	**Yes / No**	**Yes / No**	**Yes / No**
Rationale				
As per Table PF1, if the RBF is used to score PI 1.1.1, a default score of 80 shall be awarded to this PI.				
d	**Evaluation of assessment**			
	Guide post			The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.
	Met?			**Yes / No**
Rationale				
As per Table PF1, if the RBF is used to score PI 1.1.1, a default score of 80 shall be awarded to this PI.				

PI 1.2.4	There is an adequate assessment of the stock status			
e	**Peer review of assessment**			
	Guide post		The assessment of stock status is subject to peer review.	The assessment has been **internally and externally** peer reviewed.
	Met?		**Yes / No**	**Yes / No**

Rationale
As per Table PF1, if the RBF is used to score PI 1.1.1, a default score of 80 shall be awarded to this PI.
References

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	As per Table PF1, if the RBF is used to score PI 1.1.1, a default score of 80 shall be awarded to this PI.			≥80
Information gap indicator	Information sufficient to score PI			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	As per Table PF1, if the RBF is used to score PI 1.1.1, a default score of 80 shall be awarded to this PI.			**Default score of 80**
Condition number (if relevant)				**NA**

9.3 Principle 2

9.3.1 Principle 2 background

Table 18. Scoring elements.

Component	Scoring elements	Designation	Data-deficient
Target species	King scallop, *Pecten maximus* Baie de Saint-Brieuc stock	NA	Yes
Primary species	Anglerfish, *Lophius budegassa* Anglerfish in Subarea 7 and Divisions 8.a-b and 8d (Celtic Sea, Bay of Biscay)	Minor	No
Primary species	Sole, *Solea solea* Sole in Division 7.e (western English Channel)	Minor	No
Secondary species	Bittersweet clam, *Glycymeris glycymeris*	Minor	Yes
Secondary species	Brill, *Scophthalmus rhombrus*	Minor	Yes
Secondary species	Whelk, *Buccinum undatum*	Minor	Yes
Secondary species	Gurnard, Triglidae	Minor	Yes
Secondary species	Sandeel, *Ammodytes spp.*	Minor	Yes
Secondary species	Ray spp.	Minor	Yes
Secondary species	Undulate ray, *Raja undulata*	Minor	Yes
Secondary species	Blonde ray, *Raja brachyura*	Minor	Yes
Secondary species	Marbled electric ray, *Torpedo marmorata*	Minor	Yes
Secondary species	Dogfish, *Scyliorhinus canicula*	Minor	Yes
Secondary species	Cuttlefish, *Sepia officinalis*	Minor	Yes
Secondary species	Edible crab, *Cancer pagurus*	Minor	Yes
Secondary species	Turbot, *Scophthalmus maximus*	Minor	Yes
Secondary species	Sea spider, *Maja squinado*	Minor	Yes
Habitats	Fine sand and silted sand	Commonly encountered habitat	No
Habitats	Medium sand	Commonly encountered habitat	No
Habitats	Maërl	VME	No
Habitats	*Zostera* meadows	VME	No

9.3.1.1 The ecosystem the Baie de Saint-Brieuc scallop fishery depends on

9.3.1.1.1 Baie de Saint-Brieuc ecosystem

Ecosystem features of the Baie de Saint-Brieuc have been extensively studied and literature is broadly available.

The Baie de Saint-Brieuc is located on the North coast of Brittany in the western English Channel. The intertidal domain extends mainly to the two large coves, Yffiniac and Morieux, to the western shingle of the Rosaries and Binic in Saint-Quay-Portrieux, and to oriental shingle from Pléneuf-Val-André to Erquy and from Sables-d'Or-les-Pins (Figure 15).

The Baie covers a surface of approximately 800 km^2 until a depth of 30 m and has a gentle slope (Figure 15). However, there are several rocky areas with some reaching height of 20 m, they are shown as dark grey areas ("roches découvrantes") in Figure 15.

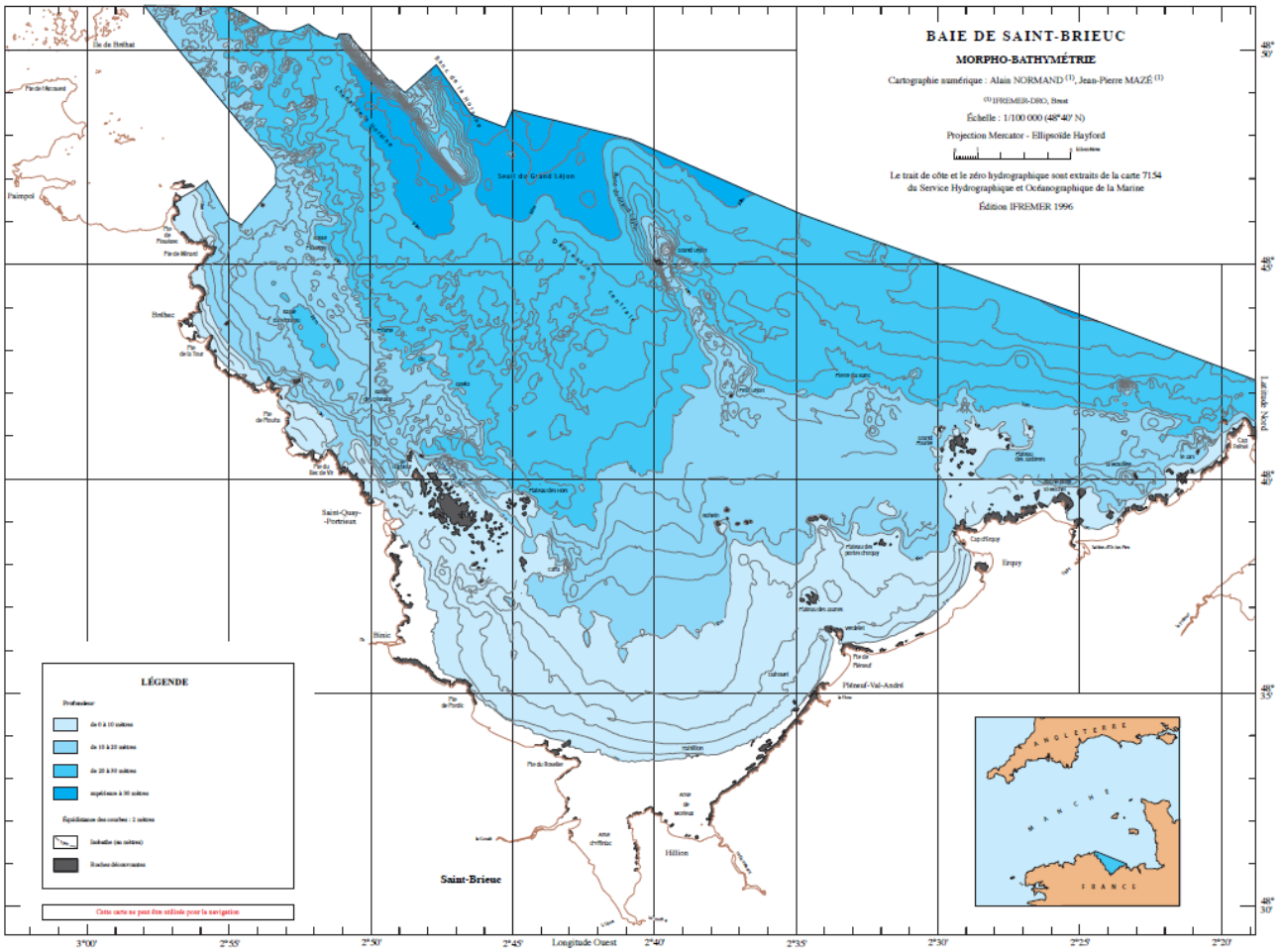


Figure 15. Map of the localisation and bathymetry of the Baie de Saint-Brieuc. Curves equidistance: 2 meters. Source: Augris and Hamon, 1996.

Table 19. Translated legend of Figure 15	
Depth (meter, m)	
	0 to 10 m
	10 to 20 m
	20 to 30 m
	>30 m
10m	Isobath (m)
	Emerged rocks

The bay is under the influence of a semi-diurnal megatidal regime, with tidal range varying between 4 m at neap tides and 13 m during spring tide. The Baie de Saint-Brieuc is the 5th bay in the world in terms of tidal amplitude.

This semi-diurnal megatidal regime is the main driver of the hydrodynamic of the Baie which is under a clockwise circulation, with maximum velocity in the area of capes and minimum velocity at the back of the bay (Figure 16).

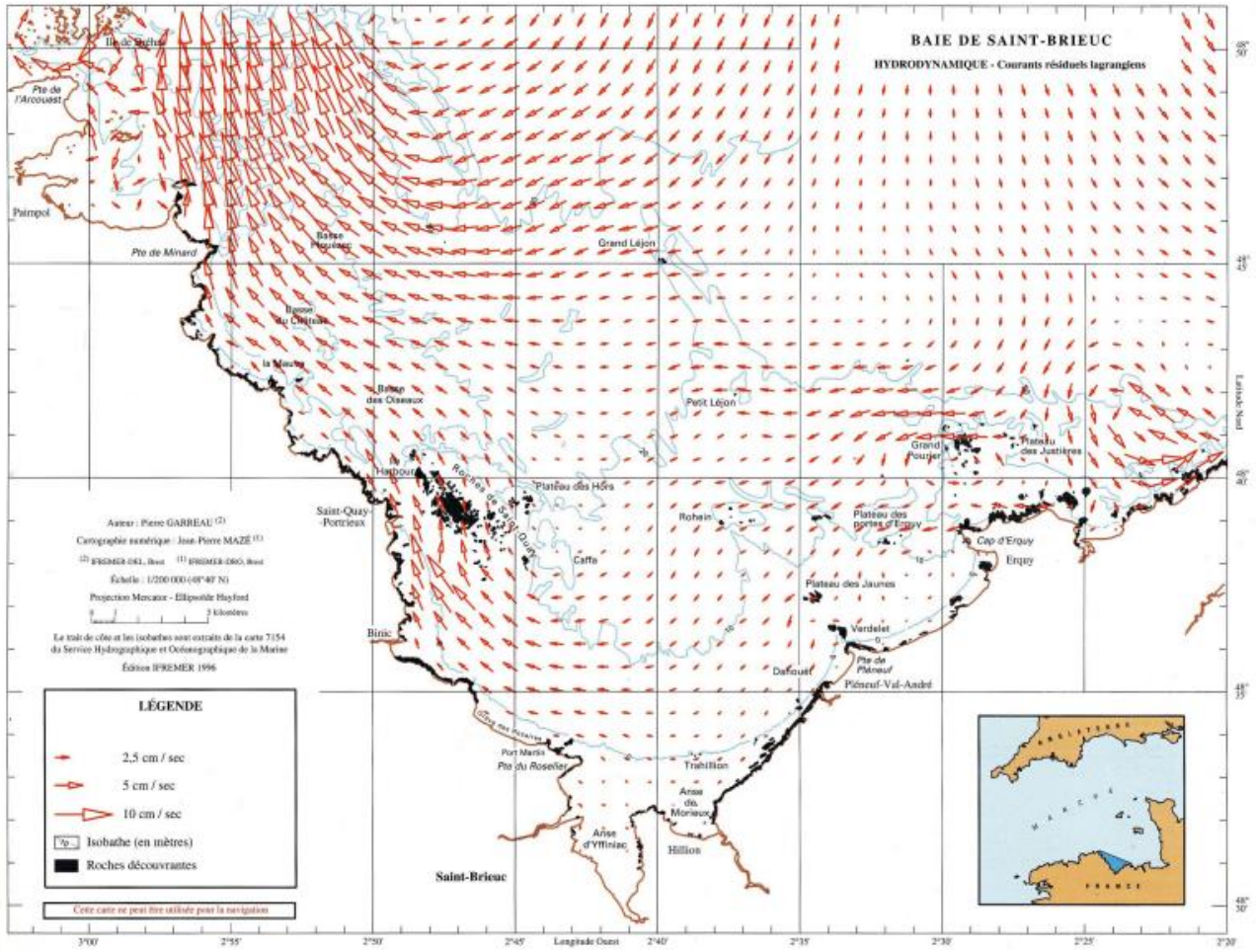


Figure 16. Hydrodynamic of the Baie de Saint-Brieuc, residual Langrangian current**.** Source: Augris and Hamon, 1996.

Table 20. Translated legend of Figure 16	
Depth (meter, m)	
→	2.5 cm / sec
⇾	5 cm / sec
⇨	10 cm / sec
10	Isobath (m)
■	Emerged rocks

Bottom habitats are described in section 9.3.1.4.

The Baie de Saint-Brieuc is characterised by a high biological productivity and diversity and supports various fishing activities as shown in Figure 17.

There are two main fishing seasons:

1. From October to April (Figure 17, upper panel) during which the following fishing activities occur.

• dredge for scallop  , whelk  , bittersweet clam  , and warty venus  .

• bottom trawl for brill  , anglerfish  , skates  and sole  .

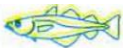
2. During the summer (Figure 17, lower panel) during which the following fishing activities occur.

• pots for spider crab  , lobster  , and cuttlefish  .

• dredge for clams  ,  .

• trawls for brill  , seabream  , mackerel  , skates  , red mullet  , cuttlefish  , sole  and turbot  .

• longlines for seabass  , brill  , skates  and turbot  .

• pole & line / handline for seabass  , saithe  and mackerel  .

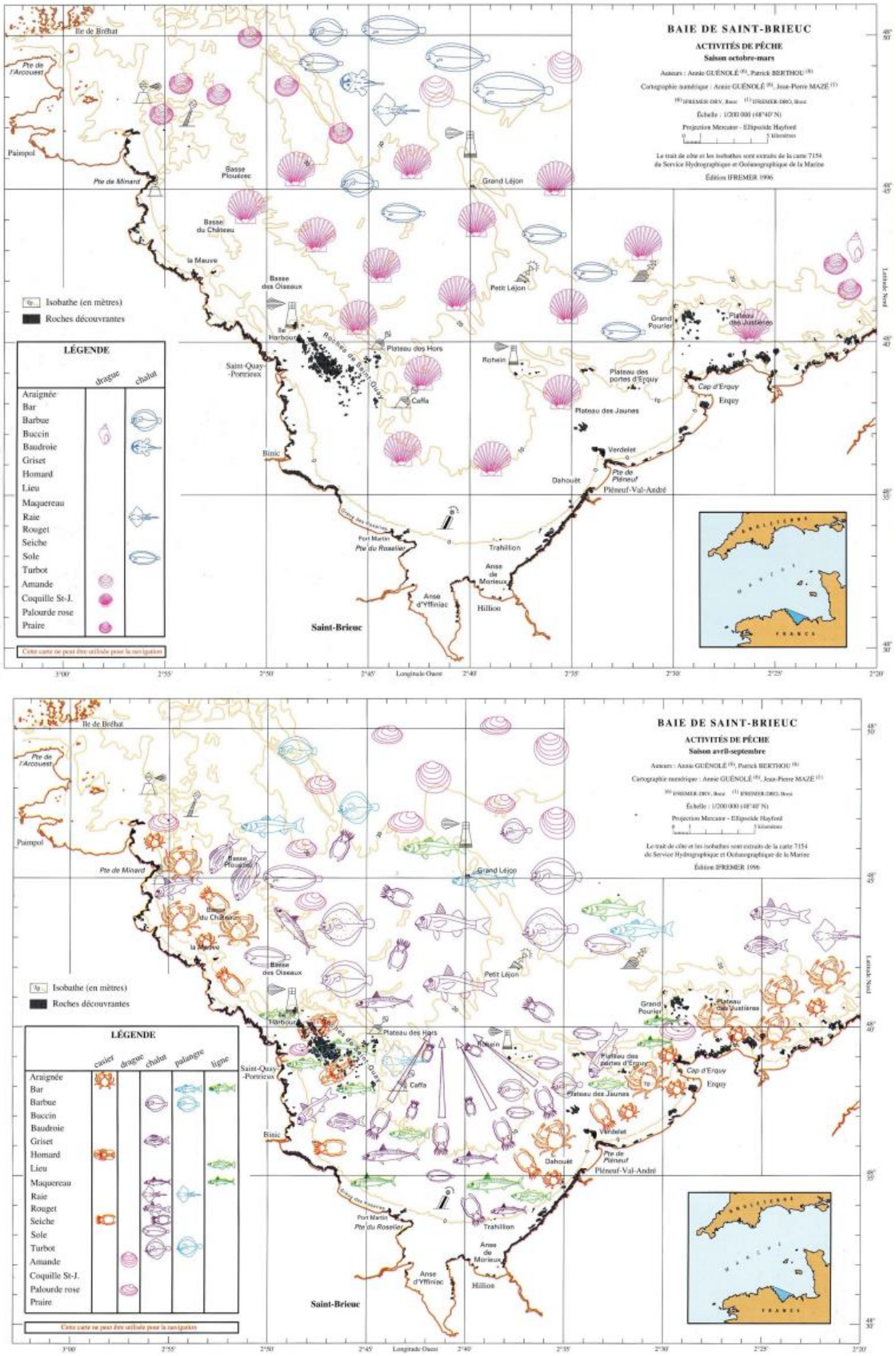


Figure 17. Fishing activities in the Baie de Saint-Brieuc. Upper panel: from October to April; and lower panel: summer period (outside scallop fishing season. Source: Augris and Hamon, 1996.

9.3.1.1.2 Impact of scallop dredging on the Baie de Saint-Brieuc ecosystem

In accordance with the MSC Guidance to Fisheries Standard v2.1 GSA3.16, the Ecosystem component addresses system-wide issues, primarily impacted indirectly by the fishery, including ecosystem structure, trophic relationships and biodiversity.

The ecosystem effects of scallop dredge fisheries have been investigated.
The effects of scallop dredging on marine ecosystems vary with different seabed types, levels of background disturbance, local hydrography, fishing intensity, and the characteristics of the ecological community (Stewart and Howarth, 2016). Physical impacts of scallop dredging are reviewed in the habitats section.
According to Stewart and Howarth (2016), scallop dredging has a potential to disrupt the benthic fauna which can potentially percolate through the entire marine ecosystem as they constitute an important food resource to fish, invertebrates, and other higher trophic levels.
The analysis carried out by Drogou et *al*. (2008) suggest that boat -towed dredges used in the France Atlantic impact ecosystems by changing the species communities structure, by modifying the interactions between species, and changing the ecosystems function and biodiversity.

Recent studies characterised the spatio-temporal changes in intertidal and subtidal benthic communities in the Baie de Saint Brieuc (Sturbois *et al.,* 2021a, 2021b and 2021c).
In the intertidal zone where none of the fishing activities showed in Figure 17 occurs, the analysis of samples taken in 1987, 2001 and 2019 showed that abundance, taxa richness and species diversity slightly increased over time, the distribution and structuration of benthic assemblages and overall functional properties remained stable over time (Sturbois *et al.,* 2021a).
(Sturbois *et al*., 2021b & c). Changes were observed in the contribution of main taxonomic groups to total local abundance over the time. The study also observed a temporal change in the distribution of assemblages and a decrease in the overall diversity over time. Abundance and distribution of main bivalve species changed over time. Functional changes mainly with a decrease of deposit-feeders, tubiculous and flexible and fragile species were observed. Sturbois et al.'s study suggests that these changes are recent and may not be strictly related to habitat characteristics but to fishing activities including scallop dredging.

The effects of scallop dredge fishing are relatively short-lived on ecological communities adapted to high-energy environments with frequent natural disturbance by currents, tides, storms, and re-suspension of sediments such as those inhabiting soft mud/sand/sandy/gravel sediments (Bradshaw *et al.*, 2000). Although there is evidence of reduced physical heterogeneity (including decreased sand waves, or biogenic features) and of changes in the abundance of some taxa, there is no evidence of loss or change in the number of taxa. Some research has demonstrated recovery of benthic fauna on silty sand sediments within six months post-dredging unexploited areas at a depth of 15m on Gulf of Maine (Watling *et al.,* 2001). Furthermore, no evidence of scallop dredge impact was apparent one year after a pre-dredge and post-dredge survey at three sites on sand sediments (depth of 45-88m) in the Hudson Canyon of Mid-Atlantic (Sullivan *et al.,* 2003).
A study of the effect of bottom fishing on benthic megafauna in Georges Bank, an area that had been closed to bottom fishing, speculated that in predominantly pebble/cobble sediments substrate areas the recovery of epibenthic communities, including complex structural species aggregations, was on the order of 5 to 10 yrs. (Collie *et al.,* 2005).

9.3.1.1.3 Ecosystem management

The European Union's Marine Strategy Framework Directive (directive 2008/56/EC) was adopted on 17 June 2008. Its aims to protect more effectively the marine environment across Europe.
The Commission also produced a set of detailed criteria and methodological standards to help Member States implement the Marine Strategy Framework Directive. These were revised in 2017 leading to the new Commission Decision on Good Environmental Status.

Annex III of the Directive was also amended in 2017 to better link ecosystem components, anthropogenic pressures and impacts on the marine environment with the MSFD's 11 descriptors and with the new Decision on Good Environmental Status.
The new EU Biodiversity Strategy for 2030 (adopted in May 2020) aims to strengthen the protection of marine ecosystems and to restore them to achieve "good environmental status", including through the expansion of protected areas and the establishment of strictly protected areas for habitats and fish stocks recovery. It stresses the need for an ecosystem-based approach to the management of human activities at sea. This means addressing the overexploitation of fishing stocks to or under, Maximum Sustainable Yield levels (i.e. a level that will allow a healthy future for the fish stock's biomass); eliminating bycatch, or at least reducing it to non-dangerous levels, in order to protect sea mammals, turtles and birds, especially those that are threatened with extinction or in bad status; and tackling practices that damage the seabed

In France, the Directive was transposed in the Code de l'Environnement and a National Strategy for the Marine Environment (Directive Cadre Stratégique pour le milieu marin) was implemented in 2016. At the Regional level, a strategy was adopted for the North Atlantic – western English Channel (Ministère de la Transition écologique et solidaire – Direction interrégionale de la mer Nord Atlantique – Manche Ouest)

The Baie de Saint-Brieuc scallop dredge fishery is subject to management measures that may minimise the impacts on the ecosystem: cap of the number of licences, gear characteristics, fishing season (seasonal closure), fishing allowed two days per week, daily fishing time capped, daily scallop catch capped, scallop minimum landing size, and vessel engine capped. Sectors 2+3 and Sector 4 are not opened simultaneously, and fishers must choose between Sector 1 and Sector 3. Sector 3 is opened at the start of the fishing season in October and November, and then is closed for the remaining of the fishing season.

9.3.1.2 Primary and secondary species

According to MSC Fisheries Standard v.2.01, primary and secondary species are non-target species that are not ETP species. Table 21 gives the definition of these two components bearing in mind that primary and secondary species can be either landed or discarded or species used as bait.

Table 21. Definition of Primary and Secondary Species (Table GSA2 of MSC Guidance to MSC Fisheries Standard v.2.01.).

Primary Species	Secondary Species
• In scope species, e.g. fish and shellfish • Managed with tools controlling exploitation • Reference points are in place • Analytical or empirical derived stock assessment in place	• Fish and shellfish, and out of scope species (birds, reptiles, amphibians and mammals) that are not ETP species • Not managed according to reference points • No analytical or empirical derived stock assessment in place

The assessment team determines which species are considered as main and which are considered as minor according to the MCS Fisheries Standard v.2.1. A species is considered as main if:

- The catch of a species by UoAs comprises 5% or more by weight of the total catch of all species by the UoA; or
- The species is classified as less resilient and the catch of the species by the UoA comprises 2% or more by weight of the total catch of all species by UoAs.
- In the case of very large fisheries with exceptionally large catches (MSC GSA 3.4.4), the assessment team shall still classify species that do not meet the threshold of 5% and 2% as main. It is not the case for the UoA which total catches cannot be considered as exceptionally large.

Note that where individuals are released alive, they shall not contribute to the definition of main (MSC SA3.4.3).

9.3.1.2.1 Non-target species catch composition

The CDPMEM 22 provided the team with an example of the catch reporting documents, fishing form/"fiche de pêche"or logbook/"journal de pêche where landed catch and discards per species over 50 kg must be reported. The "fiche de pêche" is to be completed by under 10 m fishing vessels whereas "journal de pêche" is to be completed by 10 m or above fishing vessels. Both documents must be returned to the DDTM/DML monthly and daily for "fiche de pêche" and "journal de pêche", respectively (DDTM/DML – Obligations Déclaratives).

The CDPMEM 22 implemented a non-target species catch monitoring project where fishers record on a voluntary basis all the non-target species catch in a specific project logbook. This project started in 2021 and the assessment was provided with the data collected in 2021 and 2022.
Given that landed catch and discards must be reported in "fiche de pêche" and "journal de pêche" only when they are over 50 kg, the assessment team used the data from the CDPMEM 22 non-target species catch project to determine the non-target species catch composition.
An estimation of bycatch for the 2021 and 2022 was extrapolated from the CDPMEM 22 non-target catch project, see Table 23.

During the site visit, stakeholders mentioned that the non-target species catches are very low due to the gear characteristics and the harvest strategy.
None of the species account for more than 0.01% of the total catch (Table 23). Therefore, there are no main primary and secondary species but minor only.
This is in line with what the assessors observed during the site visit. Two of the assessment team members went onboard a fishing vessel during a fishing trip. The catch of all hauls was almost exclusively composed of scallop (Figure 18). The highest bycatch in number and weight was spider crab.

Figure 18. Catch from one haul. Source: photo taken by Géraldine Criquet onboard a fishing vessel during the site visit.

9.3.1.2.2 Stock status of minor primary species

Sole (*Solea solea*) in Division 7.e (western English Channel)

Fishing pressure on the stock is at FMSY and spawning stock biomass is above MSY $B_{trigger}$, B_{pa}, and B_{lim} (Figure 19).

The assessment team used the MSC Interpretation in regard to scoring ICES stocks[2] to determine whether or not the western English Channel sole stock is highly likely to be above the PRI. To meet the SG100 of PI 2.1.1 ("highly likely to be above the PRI), the stock is to be estimated above ½ of the distance between B_{lim} and B_{pa}. SSB is well above MSY $B_{trigger}$ and is at least twice B_{lim}, therefore the sole stock is highly likely to be above the PRI.

[2] https://mscportal.force.com/interpret/s/article/Scoring-stock-status-against-Bmsy-for-ICES-stocks-PI-1-1-1-1527262010506

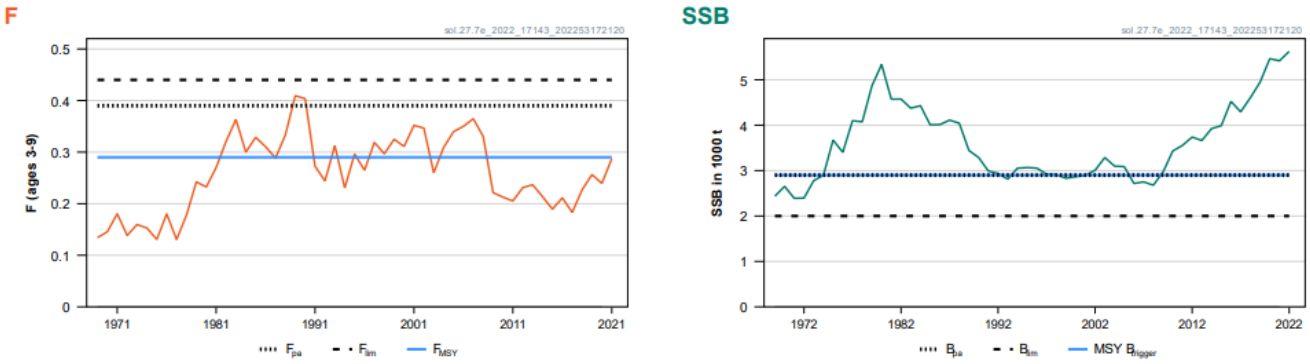


Figure 19. Sole in Division 7.e. Summary of stock assessment. Source: ICES 2022a.

Anglerfish (*Lophius budegassa*) in Subarea 7 and Division 8.a-b and 8d (Celtic Sea, Bay of Biscay)

Fishing pressure on the stock is at FMSY and spawning stock biomass is above MSY $B_{trigger}$, B_{pa}, and B_{lim} (Figure 20).

The assessment team used the MSC Interpretation in regard to scoring ICES stocks to determine whether or not the anglerfish stock is highly likely to be above the PRI. To meet SG100 guidepost of PI 2.1.1 ("highly likely to be above the PRI), the stock is to be estimated above ½ of the distance between B_{lim} and B_{pa}. SSB is well above MSY $B_{trigger}$ and is at least twice B_{lim}, therefore the anglerfish stock is highly likely to be above the PRI.

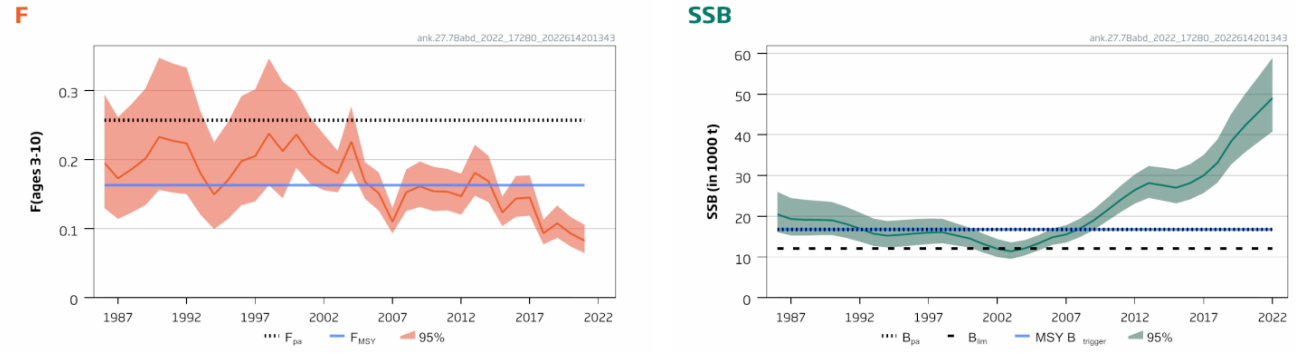


Figure 20. Black-bellied anglerfish in Subarea 7 and divisions 8.a–b and 8.d. Summary of the stock assessment. Source: ICES 2022b.

9.3.1.2.3 The Atlantic slipper limpet (*Crepidula fornicata*)

The Atlantic slipper limpet is an introduced and invasive species. This filter-feeder gastropod is native of the North American Atlantic coast and has been introduced accidentally in Europe, first in Great Britain along with the American oyster (*Crassostrea virginica*) at the end of the 19th century (Ménesguen and Gregoris, 2018). In the Baie de Saint-Brieuc, the species was first observed fixed on scallop shells in 1974 (Hamon and Blanchard, 1994). The slipper limpet is protandric hermaphrodite: male during the first part of its life before turning female. It has the specificity of piling and by doing so forming chains of 5 to 6 individuals (Figure 21). The oldest individuals, at the base of the chain, are females while the younger ones, at the end of the chain, are males. Secondary chains may establish on a primary chain.

Crépidule (© Ifremer/X. Caisey)

Figure 21. Atlantic slipper limpet.

MSC FCP v.2.2 §7.4.2.13 Table 2 defines the scope criteria for Introduced Species Based Fishery (ISBF). The slipper limpet meets all the criteria set in the MSC FCP v2.2 Table 2 (Table 22).

Table 22. Criteria for ISBF and determination for the Baie de Saint-Brieuc slipper limpet.

Provisional scope criteria for ISBF			Baie de Saint-Brieuc slipper limpet
A. Irreversibility of the introduction in the new location	i	The introduced species has a large population size (comparable to or larger than the population sizes of other native species occupying similar ecological niches in the new location).	The size of the slipper limpet populations is colossal, and the species occupies similar ecological niches of native filter-feeder bivalve species.
	ii	The species has spread to a range beyond that its initial introduction in the new location.	The slipper limpet has been introduced accidentally in Europe, first in Great Britain along with the American oyster (*Crassostrea virginica*) at the end of the 19th century (Ménesguen and Grégoris, 2018). The species has spread and invaded benthic grounds along the North Europe coast.
	iii	There is evidence to demonstrate that the species cannot be eradicated from the location by known mechanisms without serious ecological, economic and/or social consequences.	The species cannot be eradicated from the France Atlantic coastline.
B. History of the introduction	i	The species was introduced to the new location prior to 1993; this being the year that the Convention on Biological Diversity (CBD), which includes provisions to introduced species, was ratified.	In the Baie de Saint-Brieuc, the species was first observed fixed on scallop shells in 1974 (Hamon and Blanchard, 1994), which is well before the ratification of the CBD.
	ii	If the introduction occurred after the CBD was ratified, such fisheries shall only potentially be in scope if the introduction was non-deliberate and occurred at least 20 years prior to the date the application is made for the assessment against the MSC Fisheries Standard.	NA

C. No further introductions	i	There is no continuing introduction of the introduced species being considered for certification to the location (i.e. the species is now entirely self-sustaining in its new location).	There is no other introduction of the slipper limpet along the French Atlantic coastline, the species is self-maintaining in its new locations due to its biological features.

Annex SD – Introduced Species Based Fisheries (ISBF) SD3.1.1 requires the CAB to determine *if the introduced species is not the target species in the fishery being considered for certification, but is a primary or secondary species that is impacted in some way by fishing activity on the target species.*
The slipper limpet is not the target species for the fishery being considered for certification but is caught as bycatch during scallop dredging operations. The assessment team determined that the species is a secondary species as there is no formal management tools in place and no reference points defined. Fishers are not required to report the catch of slipper limpet.

As per Annex SD – Introduced Species Based Fisheries (ISBF) SD3.1.1.1 *Consideration of how such species are treated in an assessment shall depend on the status accorded that species in the management*.

SD3.1.1.1.b *If the non-native primary/secondary species is subject to a formal or informal eradication policy because it is considered to have a 'nuisance' status the CAB shall not take the impact of the fishery on the introduced species into consideration in the assessment.*
The invasion by very dense population of slipper limpet results in competition for space, alters the cycle of scallop and impact the scallop fishing activity by the clogging of dredges (Ménesguen and Gregoris, 2018).
The species is subject to an CDPMEM 22's informal eradication policy. The slipper limpet is mainly distributed in Sector 1. The Sector is fished in order to "break" the piles and chains of individuals and thus to hamper the slipper limpet reproduction. Only vessels with no other scallop licences (for other gisements) may exploit Sector 1, and they must sign up to a list in advance of the season. Scallops must be landed 'décrepidulées' (*Crepidula* removed) by regulation.

Therefore, SD3.1.1.1.b applies and the assessment team does not take the impact of the UoA on the slipper limpet into consideration in this assessment.

9.3.1.2.4 Management of non-target species

The Baie de Saint-Brieuc scallop dredge fishery is subject to management measures (listed in section 9.2.1.8 a) to control fishing effort which are also relevant for the management of non-target species.
The two minor primary species are TAC-managed.
Note that the EU Regulation prohibits to retain on board or land any quantity of marine organisms unless at least 95% by live weight thereof consists of bivalve molluscs, gastropods or sponges, except unintended catches of species subject to landing obligation (EU, 2019/1241).

Table 23. Estimated catch of non-target species in 2021 and 2022 based on data provided by the CDPMEM 22.							
Species		**Reference points**	**Retained (R) or discarded (D)**	**Estimated catch (kg) 2021**	**Estimated catch (kg) 2022**	**% of total catch**	**Category**
Bittersweet clam (amande)	*Glycymeris glycymeris*	No	D	12.6	12.1	<0.01	Minor secondary
Brill (barbue)	*Scophthalmus rhombrus*	No	R	12.6	3.15	<0.01	Minor secondary
Whelk (bulot)	*Buccinum undatum*	No	R & D	14.5	3.2	<0.01	Minor secondary
Gurnard (groundin)	Triglidae	No	D	2.45	5.25	<0.01	Minor secondary
Sandeel (lançon)	*Ammodytes* spp.	No	D	5.25	0	<0.01	Minor secondary
Anglerfish (lotte)	*Lophius budegassa*	Yes (F_{MSY})	R	31.5	9.1	<0.01	Minor primary
Ray (raie)	Ray spp.	?	R & D	222.25	43.75	<0.01	Likely Minor secondary
Undulate ray (raie brunette)	*Raja undulata*	No	D	8.75	55.3	<0.01	Minor secondary
Blonde ray (raie lisse)	*Raja brachyura*	No	R & D	7	14	<0.01	Minor secondary
Marbled electric ray (raie torpille)	*Topedo marmorata*	No	D	3.5	0	<0.01	Minor secondary
Lesser-spotted dogfish (roussette)	*Scyliorhinus canicula*	No	R & D	7	41.65	<0.01	Minor secondary
Edible crab (tourteau)	*Cancer pagurus*	No	D	< 1	0	<0.01	Minor secondary
Cuttlefish (seiche)	*Sepia officinalis*	No	R	243.25	175.7	<0.01	Minor secondary
Turbot (turbot)	*Scophthalmus maximus*	No	R	14	30.1	<0.01	Minor secondary
Sea spider (araignée de mer)	*Maja squinado*	No	R and D	826	1,211.7	<0.01	Minor secondary
Sole (sole)	*Solea solea*	Yes	R and D	17.15	16.8	<0.01	Minor primary

9.3.1.3 Endangered, Threatened and Protected (ETP species)

According to MSC Standard v.2.01, ETP species are species recognized by national ETP legislation and/or listed in binding international agreements listed in SA3.1.5.2. Binding in this context refers to the agreement being binding on the parties to the agreement and does not require the state in whose waters the fishery takes place to be a signatory to the agreement for it to be applicable. Also, ETP species are species classified as out-of-scope (amphibians, reptiles, birds and mammals) that are listed in the IUCN Red List as vulnerable, endangered or critically endangered.

The Baie of Saint-Brieuc is an important area for seabirds and marine mammals. All seabird species are protected under France national legislation. Arrêtés of the 9 July 1999 and of the 1 July 2011 list protected and threatened vertebrate species for which the geographical distribution extends beyond a department and protected marine mammals, respectively[3]. It is mandatory for fishers to report bycatch of ETP species.

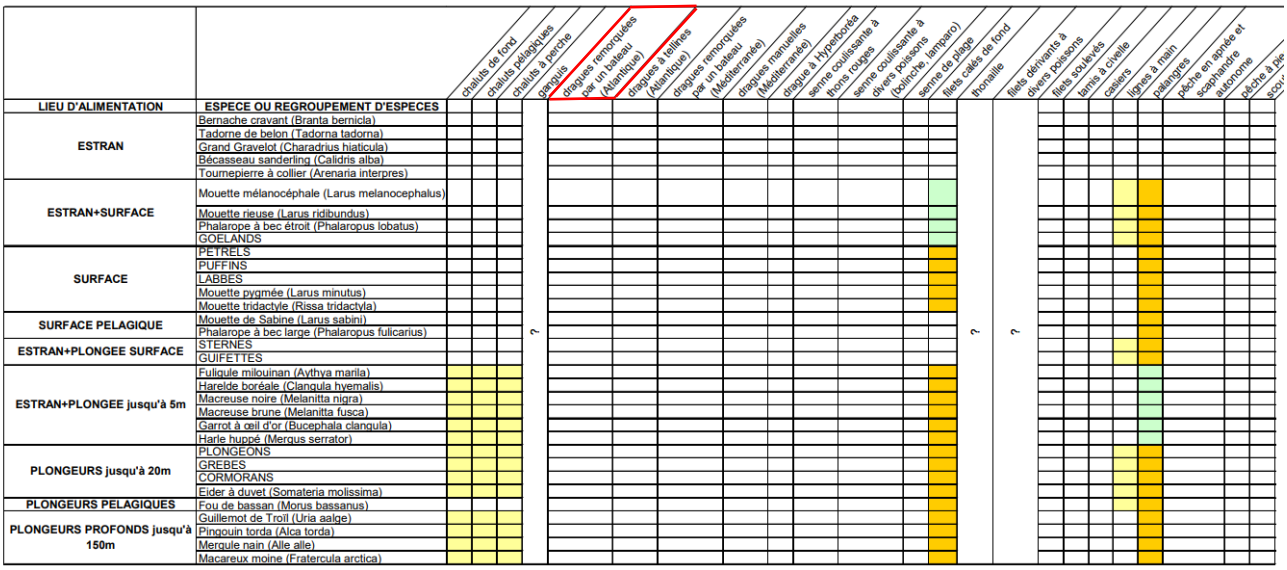
By-catch of Endangered, Threatened, and Protected species is generally very rare in scallop dredge fisheries (Stewart and Howarth, 2016).
The ICES advice on bycatch of ETP species from the 2017-2020 monitoring data does not show any bycatch of ETP species by dredge in the whole Northeast Atlantic and adjacent seas (ICES 2021).
An analysis of the impact of fishing gears on the Habitats and Birds Directives (Natura 2000) in France was carried out in 2008 (Drogou et *al*., 2008). It concluded that boat-towed dredges operating in the Atlantic, which includes scallop dredging, has no impact on fish, marine mammals, reptiles and birds species with community interest (Table 24 and Table 25).

Table 24. Organisms with community interest (fish, marine mammals, reptiles) and the impacts of fishing gears. Boat-towed dredge (Atlantic) is identified by the red shape. pas de capture = no accidental catch; espèce cible = target species; capture accessoire = bycatch; capture accessoire rare = rare bycatch; capture accessoire potentielle = potential bycatch; ? : Capture inconnue = unknown. Source: Drogou et *al.* (2008).

INTERACTIONS ENGINS/ ESPECES D'INTERET COMMUNAUTAIRE (DH)/ METIERS	chaluts de fond	chaluts pélagiques	chaluts à perche	ganguis	dragues remorquées par un bateau (Atlantique)	dragues à tellines (Atlantique)	dragues remorquées par un bateau (Méditerranée)	dragues manuelles (Méditerranée)	drague à Hyperborea	senne coulissante à thons rouges	senne coulissante à divers poissons (bolinche, lamparo)	senne de plage	filets calés de fond	thonaille à thons rouge et espadons	filets dérivants à divers poissons	filets soulevés	tamis à civelle	casiers	lignes à main	palangres	pêche en apnée et scaphandre autonome	pêche à pied	scoubi
ESPECES D'INTERET COMMUNAUTAIRE (DH)																							
1095 : lamproie marine (Petromyzon marinus)																							
1099 : lamproie de rivière (Lampetra fluviatilis)																							
1101 : esturgeon (Acipenser sturio)																							
1102 : grande alose (Alosa alosa)																							
1103 : alose feinte (Alosa fallax)																							
1106 : saumon atlantique (Salmo salar)																							
1224 : tortue caouanne (Caretta caretta)																							
1227 : tortue verte (Chelonia mydas)																							
1349 : grand dauphin (Tursiops truncatus)																							
1351 : marsouin commun (Phocoena phocoena)																							
1355 : loutre d'europe (Lutra lutra)													?		?								
1364 : phoque gris (Halichoerus grypus)																							
1365 : phoque veau marin (Phoca vitulina)																							

[3] http://inpn.mnhn.fr/reglementation/protection/listeEspecesParArrete/3561

Table 25. Organisms with community interest (birds) and the impacts of fishing gears. Boat-towed dredge (Atlantic) is identified by the red shape. pas de capture accidentelle = no accidental catch; captures accidentelles = accidental catch; captures accidentelles rares = rare accidental catch; captures accidentelles potentielles = potential accidental bycatch; ? : manque d'information = lack of information. Source: Drogou et *al.* (2008).



Drogou et *al* (2008)'s interaction matrix was updated in 2021 for amphihaline species (Acou et *al*., 2021). Table 26 list the amphihaline species inhabiting the Atlantic coast and considered in this fishing gear risk analysis. The analysis concluded that accidental captures in boat-towed dredges are *a priori* non-existent or exceptional.

Table 26. List of amphihaline species inhabiting the Atlantic coast and their protection status. Source: Acou et *al.*, 2021.

Species		Protection Status
Latin name	**Common name**	
Acipenser sturio	Sturgeon, sturgeon européen	Bern, Bonn, Barcelona, CITES, Habitats Fauna and Flora Directive (DHFF), Directive Cadre Stratégie Milieu Marin (DCSMM)
Alosa alosa	Hallis shad, grande alose	Bern, Ospar, DHFF, DCSMM
Alosa fallax	Twaited shad, alose feinte atlantique	Bern, Ospar, DHFF, DCSMM
Anguilla anguilla	European eel, anguille européenne	Bonn, Ospar, Barcelona, DCSMM
Lampreta fluviatilis	River lamprey, lamproie fluviatile	Bern, Ospar, Barcelona, DCSMM
Petromyzon marinus	Sea lamprey, lamproie marine	Bern, Ospar, Barcelona, DHFF, DCSMM
Salmo salar	Atlantic salmon, saumon atlantique	Bern, Ospar, DHFF, DCSMM
Salmo trutta	Sea trout, truite de mer	DCSMM

During the site visit, the CDPMEM 22 and fishers interviewed mentioned that catches of ETP has never been reported.

In conclusion, based on the gear type and fishing operations and the above evidence, it is determined that the fishery does not interact with any ETP species inhabiting the Baie de Saint-Brieuc.

9.3.1.4 Habitats

9.3.1.4.1 Commonly encountered habitats and VMEs

According to MSC Fisheries Standard v2.01 SA3.13.2, if a benthic habitat is being assessed, the assessment team shall recognise habitat categories based on the following habitat characteristics:

- Substratum – sediment type (e.g., hard substrate)
- Geomorphology – seafloor topography (e.g., flat rocky terrace)
- Biota – characteristic floral and/or faunal group(s) (e.g., kelp-dominated seagrass bed and mixed epifauna, respectively)

Furthermore, MSC Fisheries Standard v2.01 SA3.13.3 requires the team to determine which habitats are "commonly encountered" and/or "Vulnerable Marine Ecosystems (VME)", both of which are treated as "main habitats" with respect to the MSC assessment.

MSC Fisheries Standard v2.01 SA3.13.3.1 defines a commonly encountered habitat as a habitat that regularly comes into contact with a gear used by the UoA, considering the spatial (geographical) overlap of fishing effort with the habitats range within the management area(s) covered by the governance body(s) relevant to the UoA.

MSC Fisheries Standard v2.01 GSA3.13.3.2 defines a VME as having one or more of the following characteristics:

- Uniqueness or rarity – an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by similar areas or ecosystems;
- Functional significance of the habitat – discrete areas or habitats that are necessary for survival, function, spawning/reproduction, or recovery of fish stocks; for particular life-history stages (e.g., nursery grounds, rearing areas); or for ETP species;
- Fragility – an ecosystem that is highly susceptible to degradation by anthropogenic activities;
- Life-history traits of component species that make recovery difficult – ecosystems that are characterised by populations or assemblages of species that are slow growing, are slow maturing, have low or unpredictable recruitment, and/or are long lived; and,
- Structural complexity – an ecosystem that is characterised by complex physical structures created by significant concentrations of biotic and abiotic features.

Benthic habitats in the Baie de Saint-Brieuc have been mapped. The benthic habitats of the bay have a distribution in "belts", according to a rib-wide gradient of increasing grain size: fine sands silted up at the bottom of the bay towards the coarse sandy-gravelly sediments of the mouth of the bay (Figure 22). This breakdown is locally disturbed by the existence of rock enclaves and shoals which induce spatial variations in hydrodynamics and the sedimentary nature of the bottom.

Table 27 shows Figure 22 translated legend.

Table 27. Benthic habitats of the Baie de Saint-Brieuc.	
	Salt marsh
	Fine sands at *Macoma balthica, Nereis diversicolor*
	Fine sands at *Tellina tenuis, Cerastoderma edule*
	Fine sands at *Tellina fabula, Magelona filiformis*
	Silted fine sands at *Corbula gibba, Aponuphis grubii*
	Heterogeneous silted sands at *Ampharete grubi, Nucula hanleyi*
	Coarse sand at *Nucula hanleyi, Glycymeris glycymeris, Venus ovata*
	Sand dune at *Astarte triangularis*

	Clean or silted maërl at dominant epifauna
	Silted sediment
	Mussel leases
	Maërl
	Submerged rocks
	Emerged rocks

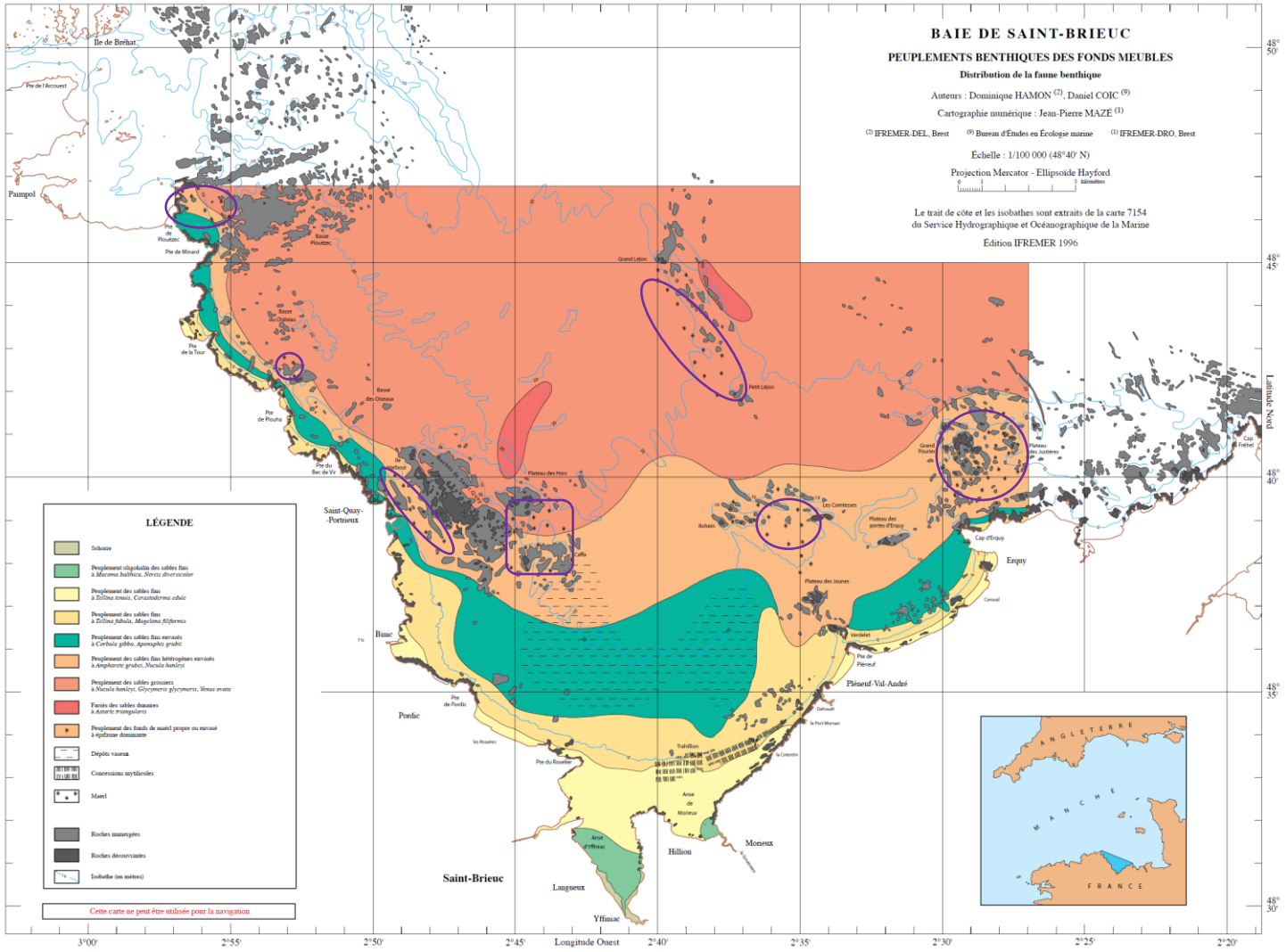


Figure 22. Map of benthic habitats of the Baie de Saint Brieuc. Purple shapes identify the areas with maërl. Source: Augris and Hamon, 1996

Scallop lives on sandy and gravely bottoms. Therefore, scallop dredging is generally associated with sandy-gravelly bottoms. Table 28 presents the commonly encountered habitats.

Table 28. Definition of the commonly encountered habitats

Habitat Type	Geomorphology	Biota
Fine sand and silted sand	Flat: simple surface structure, Unrippled/flat; current rippled/directed scour; wave rippled	Common species of endofauna and macrofauna: bivalves and burrowing infauna
Medium sand	Low relief: irregular topography with mounds and depressions, rough surface structure	Common species of endofauna and macrofauna: bivalves and burrowing infauna

Two Vulnerable Marine Ecosystems (VMEs) have been identified:

1. Maërl
2. *Zostera* meadows

Maërl is a type of sediment made up with high concentration of calcareous algae of the genus *Lithohamnion* (Figure 23). This accumulation encompasses some bioclastic fragments (bivalves, echinoderms) and some lithic debris quartz or siltites). The size of the elements mainly varies between 0.2 mm and 10 mm. The mode of deposit of the maërl is either in spots of several square kilometres (southeast of Bréhat, north of the Yellow Plateau, south of the Justières plateau or west of Cape Fréhel), or in ribbons decametric width and multi-kilometric length (southeast of Caffa, southwest of Verdelet or southeast of the Erquy gates plateau) (Figure 22 and Figure 24).

Figure 23. Maërl. Source: https://www.respect-peches-durables.org/les-bancs-de-maerl/

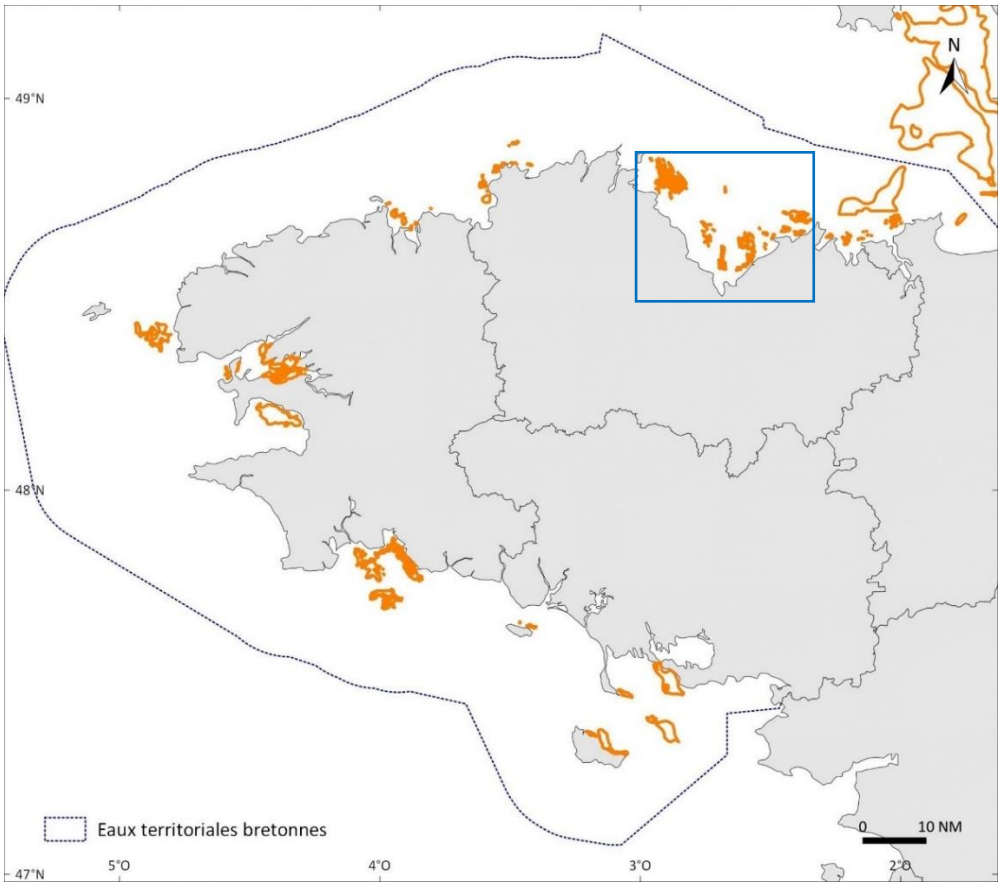


Figure 24. Map of distribution of certain and potential areas with maërl. Blue rectangle: Baie de Saint-Brieuc. Source : https://www.respect-peches-durables.org/donneesgeographiques/habitats-maerl/

Zostera marina and *Zostera noltii* are seagrass species forming meadows being the home of a high diversity (Figure 25). Seagrass meadows diminish hydrodynamic energy from wave and currents and facilitate sediment deposition, playing the role of benthic habitat stabiliser. *Zostera marina* inhabits in the infralittoral zone up to 3 to 4 m depth (exceptionally 10 m) whereas *Zostera noltii* inhabit the mediolittoral zone with immersion rates at an average of 40% to 70% Bajjouk et al. (2015).
Zostera meadows are absent from the Baie de Saint-Brieuc with only a potential area at the north western limit of the Baie (Figure 26, Figure 27).

Figure 25. Zostera meadow. © Yannis Turpin – Office français de la biodiversité. Source : https://www.respect-peches-durables.org/les-herbiers-de-zosteres-2/

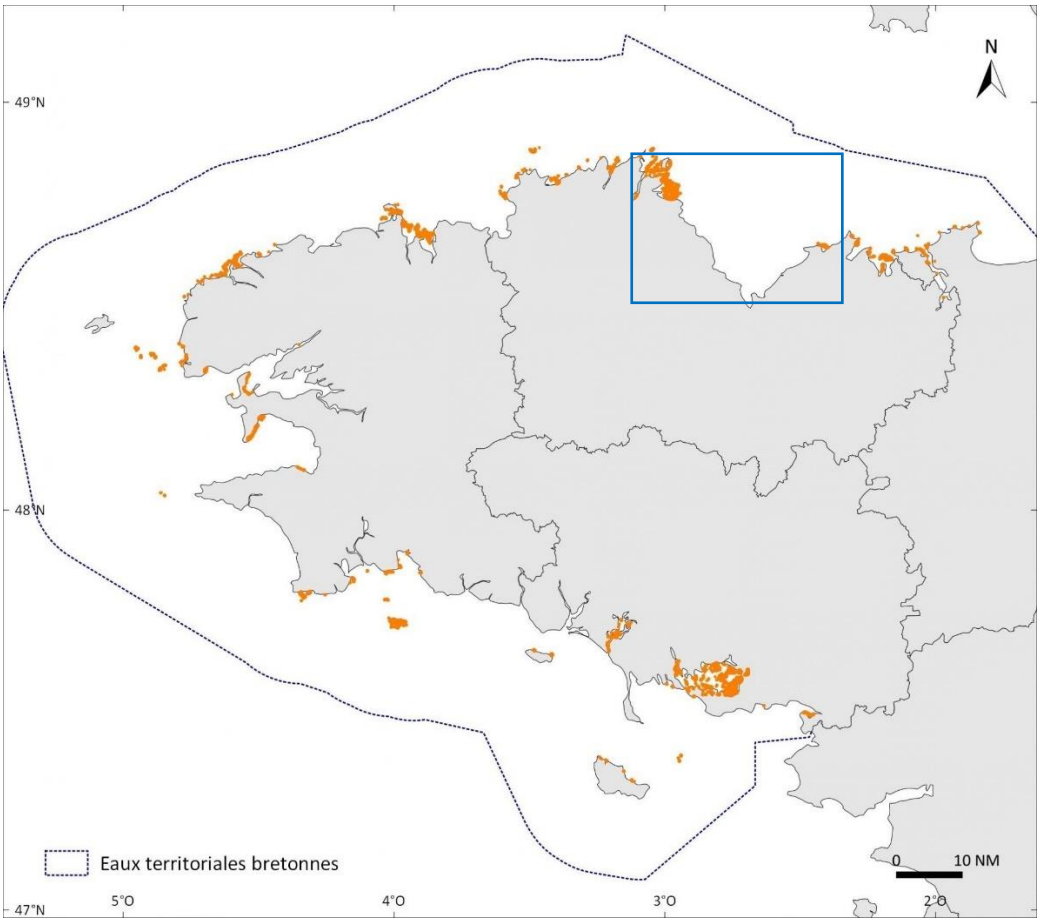


Figure 26. Map of distribution of certain and potential areas with *Zostera* meadows. Blue rectangle: Baie de Saint-Brieuc.
Source : https://www.respect-peches-durables.org/donneesgeographiques/habitats-maerl/

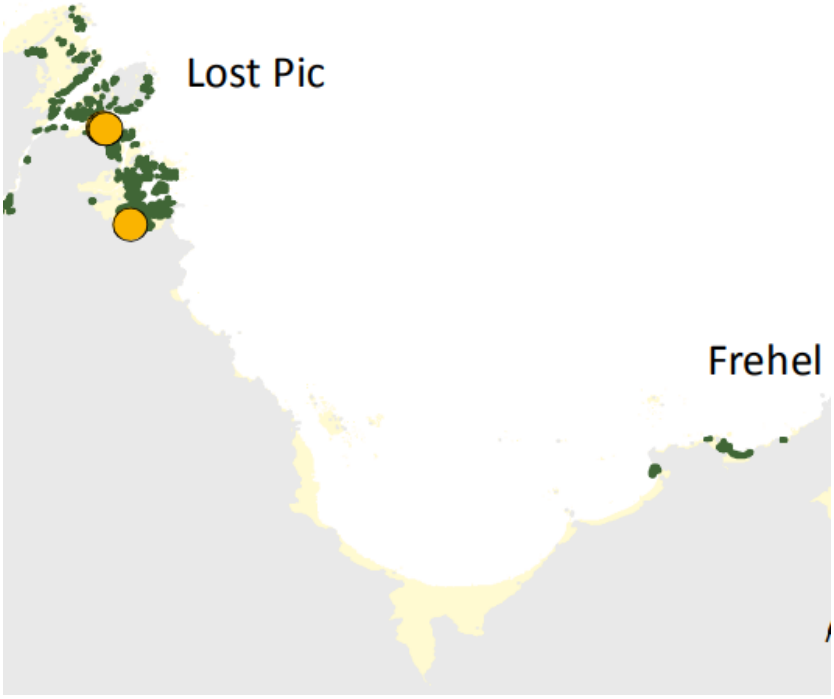


Figure 27. Map of distribution of Zostera meadows (dark green) in the Baie de Saint-Brieuc. The two orange spots correspond to REBENT stations. Source: Bajjouk *et al.,* 2015.

Table 29. Definition of the VMEs		
Habitat Type	**Geomorphology**	**Biota**
Maërl, solid reef of biogenic origin	High relief	Small erect/encrusting dominated by consolidated and unconsolidated bivalve beds, and small, low-standing sponges
Soft bottom with Zostera meadows	Flat: simple surface structure	Dominated by seagrass species

9.3.1.4.2 Impacts of scallop dredging on habitats

The MSC Principles and Criteria require that fisheries do not cause serious or irreversible harm to habitat structure and function. When assessing the status of habitats and the impacts of fishing, assessment teams are required to consider the full area managed by the local, regional, national, or international governance body(ies) responsible for fisheries management in the area(s) where the UoA operates (the "managed area" for short) (MSC Fisheries Standard v2.01, SA3.13.5). The MSC also specifies that the team shall use all available information (e.g., bioregional information) to determine the range and distribution of the habitat under consideration, and whether this distribution is entirely within the 'managed area' or extends beyond the 'managed area' (MSC Fisheries Standard v2.01, SA3.13.5.1).

Given the requirements to consider bioregional information, it was considered appropriate to regard the habitat under consideration to include habitats at the scale of the Baie de Saint-Brieuc.

Due to their penetrative nature and close contact with the seabed, scallop dredges cause substantial physical disruption to the seafloor by ploughing sediments and damaging organisms attached to or resting upon seabed, such as hydroids, bryozoans, sponges, and maerl (Stewart and Howarth, 2016).

Kaiser et al (2006) suggest that scallop dredging results in severe impact in biogenic habitats and their global analysis showed that both deposit and suspension-feeders were consistently vulnerable to scallop dredging across gravel and sand habitats. However, this global analysis also concluded that the relative effect of scallop dredging on subtidal habitats was lower and subsequent recovery times shorter than for intertidal dredging. Note that the fishery under assessment operates on the subtidal soft-bottoms of the Baie de Saint-Brieuc. The analysis suggested that it may be partly due to the highly energetic nature of shallow, subtidal, soft-sediment habitats in which physical processes will have a significant habitat-structuring influence. This is consistent with Stewart and Howarth (2016)'s study suggesting that mobile sediments which are subject to high levels of natural disturbance appear to be much more resilient to disturbance by scallop dredging.
The analysis carried out by Drogou et *al*. (2008) suggest that boat -towed dredges used in the France Atlantic impact habitats by reducing the complexity and the structure of habitats, by changing the sediments texture and by moving or destroying sessile epifauna. It also mentioned that impacts on habitats depend on the intensity and frequency of the fishing activity and the type of gear used.

A risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo was published in 2018 (Projet HARPEGE, 2018).

The methodology for the risk analysis was designed by the Muséeum National d'Histoire Naturelle in 2012 and consists in collecting, analysing, and geographically overlaying three information levels:

1. Habitats distribution.
2. Fishing activities distribution.
3. Nature of interactions between fishing gears and Habitats of Community Importance. These interactions are characterised according to:
    - potential pressures of fishing gears on habitats, and
    - specific sensibility of habitats to pressures of fishing gears.

These two parameters were used to define the risk associated to each pression on habitats (Table 30).

Table 30. Method to qualify potential risk (pression type*habitat sensibility).

Potential risk		**Pression of fishing gear on habitats (IFREMER matrix)**			
		High	**Medium**	**Low**	**Nil**
Local sensibility of habitats	**High**	High	High	Medium	Nil
	Medium	High	Medium	Low	Nil
	Low	Medium	Low	Low	Nil
	Unknown	Potential risk is unknown			

Table 31 presents the potential risks identified of scallop dredging on habitats. Potential risk on clean silted sand with Zostera meadows, sand dune and subtidal sediment with *Crepidula fornicata* was classified as medium. High potential risk was identified for Zostera meadows, subtidal silted sediments and maërl. Potential risk on reef and rocky bottoms was classified as high but rare as scallop dredging does not occur on rocky bottoms.
It is important to mention that there was a disagreement between state officials and the CRPMEM regarding the potential risk for *Zostera* meadows. State official determined that despite the fact that scallop dredging does not target Zostera meadows, accidental interactions may occur, resulting in a classification as high potential risk. However, the CRPMEM argued that fishers' interview showed an absence of overlapping between scallop dredging and *Zostera* meadows. *Zostera marina* inhabits in the infralittoral zone up to 3 to 4

m depth (exceptionally 10 m) whereas *Zostera noltii* inhabit the mediolittoral zone with immersion rates at an average of 40% to 70% Bajjouk et al. (2015), where scallop dredging activities does not occur.
Bajjouk *et al.* (2015) identifies threat to Zostera meadows as follows, and scallop dredging is not identified as a threat for these habitats:

1. Natural threat in the form of the 'wasting disease"
2. Anthropogenic threats such as hand picking for clams, boat anchors, expansion of mussel and oyster farms, and sediments extraction for extension of port facilities.

In addition, the low abundance of scallop in *Zostera* meadows and a limited fishing time (45 min) does not encourage to fish in areas with low abundance of scallop, and the risk of overloading dredge with seagrass.

Figure 26 and Figure 27 show that Zostera meadows occurs almost only in the Tregor-Goëlo zone and is absent in the Baie de Saint-Brieuc itself.

Table 31. Synthesis of risks identified resulting from habitats mapping*fishing activities mapping.

Habitats	**Potential risk**
Clean silted sand, *Zostera marina* meadows	Medium
Zostera meadows	High
Sand dune	Medium
Coarse sands and gravels, maërl	High
Maërl	High
Subtidal silted sediment, *Crepidula fornicata* areas	Medium
Subtidal silted sediment	High
Subtidal heterogeneous silted sand, maërl	High
Subtital exposed rocky bottom, macro algae	High but rare
Subtidal sheltered rocky bottom, macro algae	High but rare
Reefs, rocky bottoms	High but rare
Reefs, rocky bottoms with epifauna	High but rare

Figure 28 shows a map of potential risks of scallop dredging on Habitats of Community Importance in the Natura 2000 site of Tregor-Goëlo. A map of the scallop fishing "secteurs" of the Baie de Saint-Brieuc was also presented to show that the 2018 analysis does cover a small portion of area where the Baie de Saint-Brieuc scallop dredge fishery operates. A similar analysis is yet to be available for the Baie of Saint-Brieuc in its entirety.

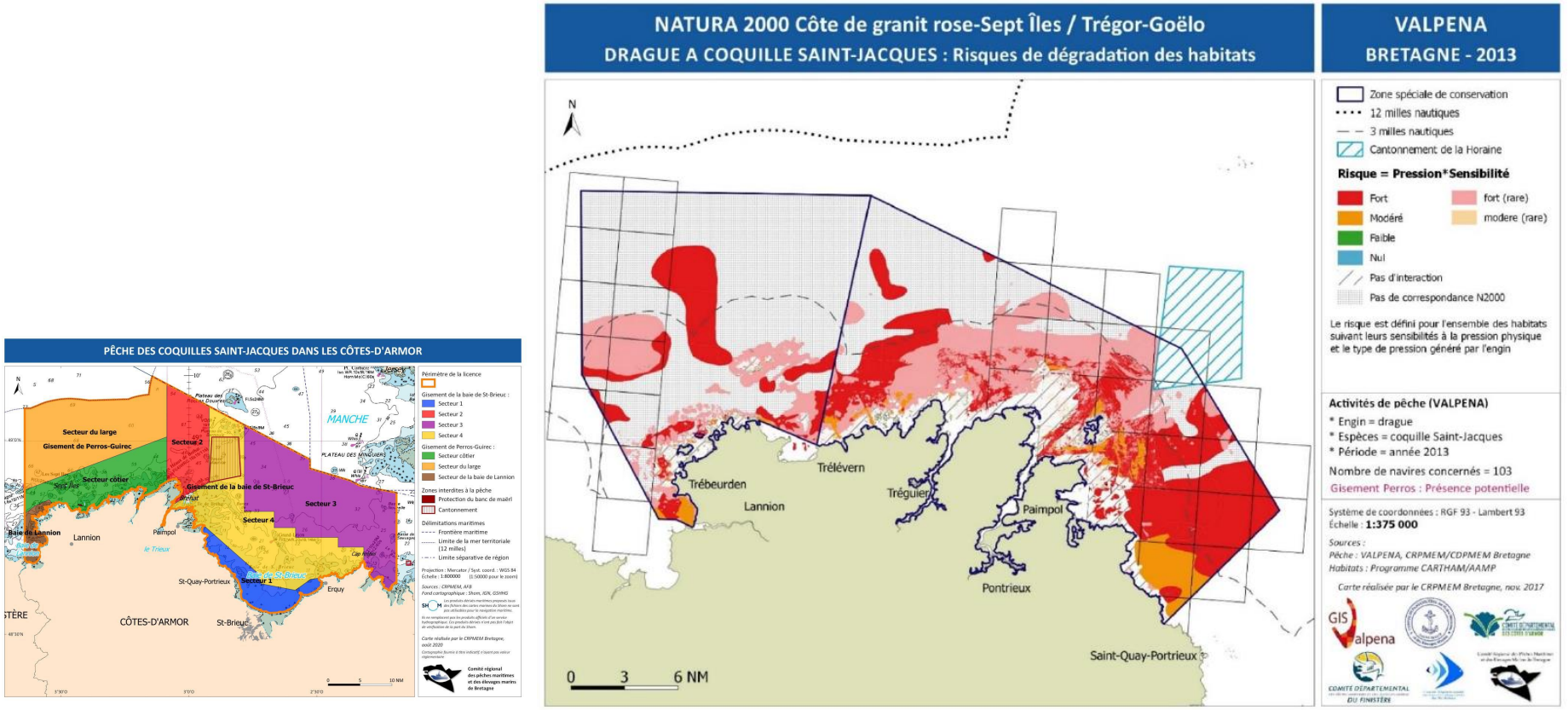


Figure 28. Left panel: map of scallop fishing "secteur". Right panel: map of potential risks of scallop dredging on Habitats of Community Importance in the Natura 2000 site of Tregor-Goëlo. Risk=pression*sensibility. high; medium; low; high but rare; no interactions; "cantonment de pêche" de la Horaine (area closed to bottom gear fishing) Source: (Projet HARPEGE, 2018).

9.3.1.4.3 Habitats management

EU members states unanimously adopted the Birds Directive in April 1979 which was amended in 2009. The Directive places great emphasis on the protection of habitats for endangered and migratory bird species. The Habitats Directive was adopted in 1992 for the conservation of natural habitats and of wild fauna and flora. Natura 2000 is a European network of important ecological sites underpinned by the Birds Directive and the Habitats Directive.

In compliance with Art.4 of the Birds Directive, EU Member States are required to designate Special Protection Areas (SPAs) to protect bird species listed in Annex I of the Directive as well as migratory species. In compliance with Art.3 and 4 of the Habitats Directive, Member States have to first propose Sites of Community Importance (SCIs) for habitat-types listed in Annex I and species listed in Annex II of the Directive. They further have to designate them as Special Areas of Conservation (SACs). SPAs and SCIs-SACs form the Natura 2000 network.

There are three Natura 2000 sites, SPAs and SACs, where the Baie de Saint-Brieuc scallop dredge fishery operates (section 9.3.1.4.3):

- Natura 2000 site Baie de Saint-Brieuc Est (Figure 29)
- Natura 2000 site Cap d'Erquy-Cap Fréhel (Figure 31)
- Natura 2000 site Tregor Goëlo (Figure 32)

The Natural 2000 site Baie de Saint-Brieuc Est encompasses the Réserve Naturelle (Natural Reserve) de la Baie de Saint-Brieuc (Figure 30) which was created in 1998 and is considered as a Wetland of International Importance for migratory birds. Measures are in place to protect not only birds but also marine mammals.

Conservation measures specific to the Natura 2000 sites to be discussed during the site visit.

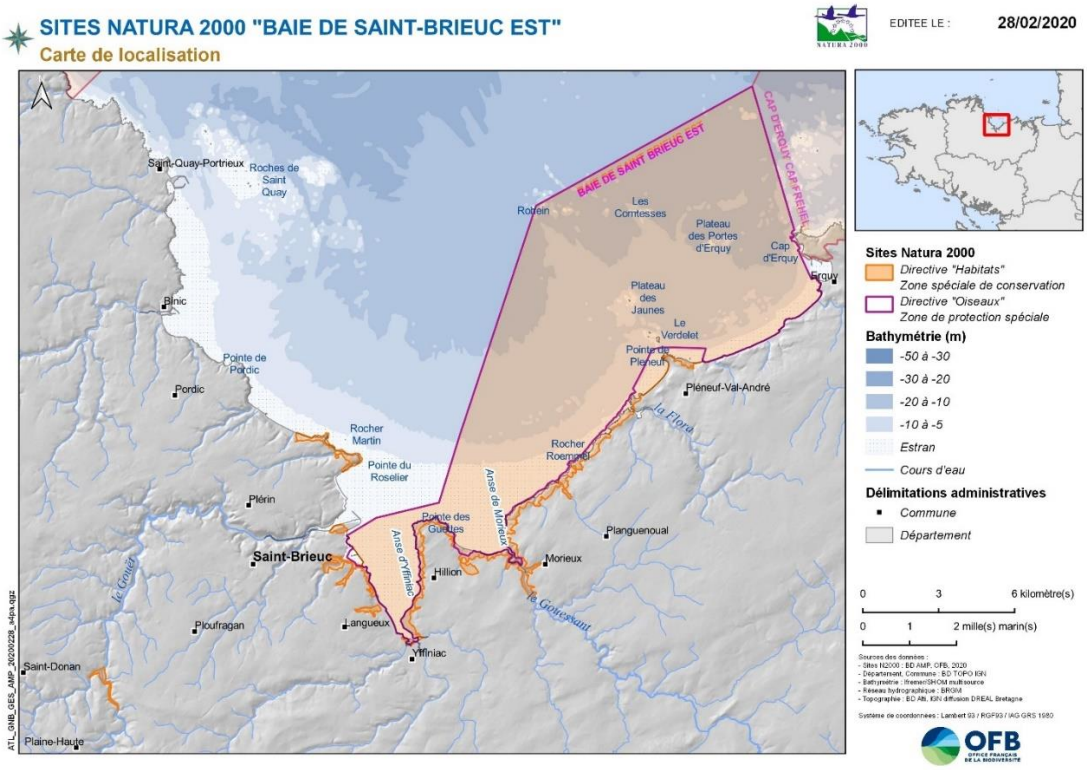


Figure 29. Map of the Natura 2000 Site of Baie de Saint-Brieuc Est. Source: http://saint-brieuc-est.n2000.fr/sites/yeusecteurmarin.n2000.fr/files/images/page/carte_vierge_baie_saint_brieuc.jpg

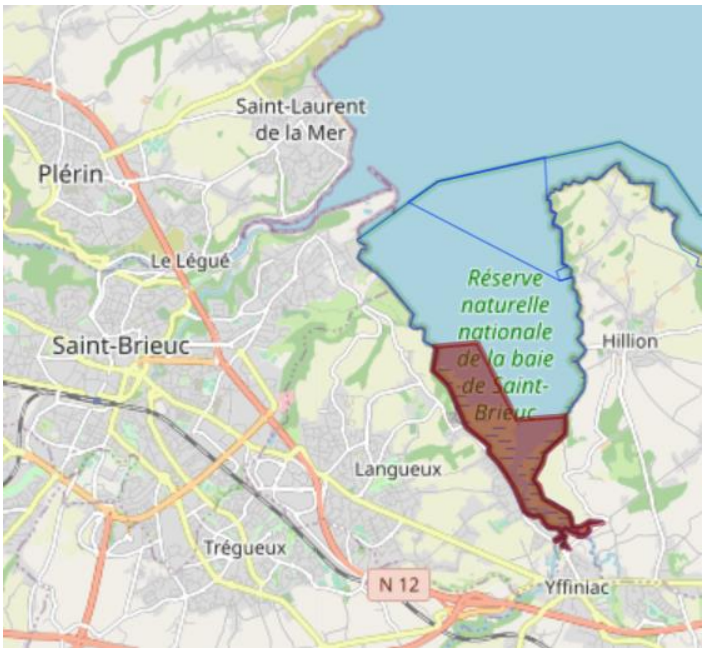


Figure 30. Map of the location of the Réserve Naturelle de la Baie de Saint-Brieuc. Source : https://www.reservebaiedesaintbrieuc.com/

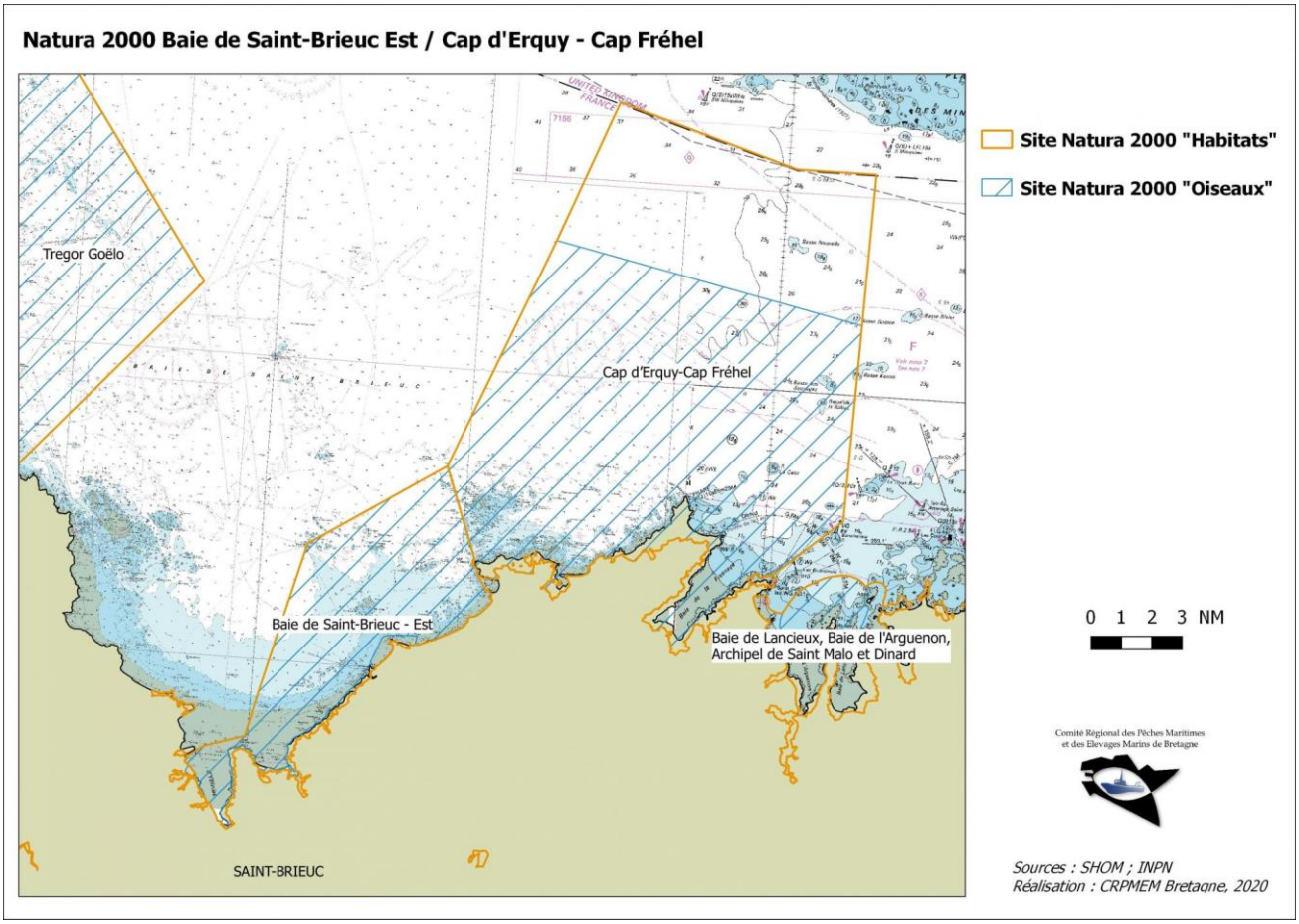


Figure 31. Map of the Natura 2000 Site of Cap d'Erquy-Cap Fréhel. Source:https://www.respect-peches-durables.org/baie-de-st-broieuc-est-erquy-frehel-baie-de-lancieux/

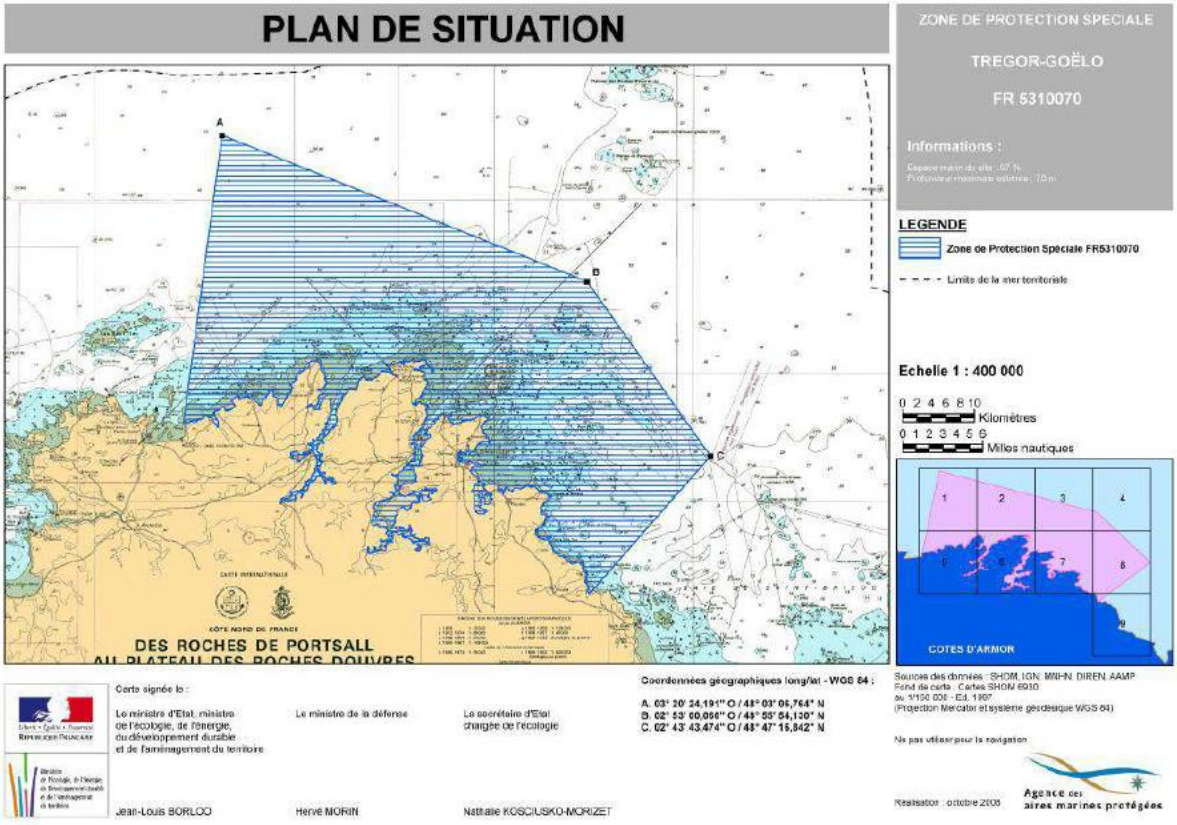


Figure 32. Map of the Natura 2000 Site of Tregor-Goëlo. Source: Communauté de Communes Paimpol-Goëlo, 2014.

In addition to the above, a "cantonnement de pêche" (area closed to fishing) was implemented in la Horaine in 1996 to protect lobster and spiny lobster resources (Figure 10). This "cantonment" covers 70 km^2 in the north portion of scallop fishing "secteur" 4 and is closed to bottom fishing including scallop dredging. La Horaine is a high relief sand dune and rocky area.

The Baie de Saint-Brieuc scallop dredge fishery is subject to management measures that may minimise the impacts on habitats: cap of the number of licences, gear characteristics, fishing season (seasonal closure), fishing allowed two days per week, daily fishing time capped, daily scallop catch capped, and vessel engine capped. Sectors 2+3 and Sector 4 are not opened simultaneously, and fishers must choose between Sector 1 and Sector 3. Sector 3 is opened at the start of the fishing season in October and November, and then is closed for the remaining of the fishing season.

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MSC Interpretations

Scoring stock status against B_{msy} for ICES stocks	
Date	30 August 2018
Question	In the absence of defining Bmsy, how should CABs and assessment team members evaluate ICES stocks (and defined reference points) against the MSC requirements?
Link	https://mscportal.force.com/interpret/s/article/Scoring-stock-status-against-Bmsy-for-ICES-stocks-PI-1-1-1-1527262010506

Move-on rules at SG60 for PI 2.4.2.a (FCR v2.0 – Annex SA PI2.4.1, 2.4.2, Table SA8, Table GSA 3)	
Date	Updated 5 November 2020
Question	Are Move-on rules (type of encounter protocol) obligatory at SG60 for PI2.4.2a?
Link	https://mscportal.force.com/interpret/s/article/Move-on-rules-at-SG60-for-PI2-4-2a-1527586956234

P2 species outcome PIs – scoring when no main or no minor (or both) (FCR v2.0 – Annex SA PI 2.1.1, 2.2.1)	
Date	30 August 2018
Question	When using the scoring element approach for 2.1.1 and 2.2.1 (version 2.0), what scores would you achieve in the following scenario: Scenario 1: no main species, minor species meet Sib SG100. Here I think we can agree the score is 100 Scenario 2: no main species, minor species do not meet Sib SG100. Here it's confusing because the score is different whether you consider that SIa is 'not applicable' or scores 100. So the score here is either 80 or 90.
Link	https://mscportal.force.com/interpret/s/article/P2-species-outcome-PIs-scoring-when-no-main-or-no-minor-or-both-PI-2-1-1-1527262009344

Use of "if necessary" in P2 management PIs (FCR v2.0 – Annex SA PI 2.1.2, 2.2.2, 2.4.2, 2.5.2)	
Date	29 August 2018
Question	Does the 'if necessary' clause in scoring issue (a) of PIs 2.1.2, 2.2.2, 2.4.2 and 2.5.2 mean that it applies to scoring issues (b) and (c), which refer back to the measures or partial strategy? i.e. If measures or partial strategy are not needed because there is no or negligible impact on the specific component, do you still need to score the SG60 and SG80 for 'management strategy evaluation' and 'management strategy implementation'?
Link	https://mscportal.force.com/interpret/s/article/Use-of-if-necessary-in-P2-management-PIs-2-1-2-2-2-2-2-4-2-2-5-2-PI-2-1-2-1527262011402

9.3.3 Principle 2 Performance Indicator scores and rationales

PI 2.1.1 – Primary species outcome

PI 2.1.1		The UoA aims to maintain primary species above the point where recruitment would be impaired (PRI) and does not hinder recovery of primary species if they are below the PRI		
Scoring Issue		SG 60	SG 80	SG 100
a	**Main primary species stock status**			
	Guide post	Main primary species are **likely** to be above the PRI. OR If the species is below the PRI, the UoA has measures in place that are **expected** to ensure that the UoA does not hinder recovery and rebuilding.	Main primary species are **highly likely** to be above the PRI. OR If the species is below the PRI, there is either **evidence of recovery** or a demonstrably effective strategy in place **between all MSC UoAs which categorise this species as main**, to ensure that they collectively do not hinder recovery and rebuilding.	There is a **high degree of certainty** that main primary species are above the PRI **and are** fluctuating around a level consistent with MSY.
	Met?	**NA**	**NA**	**NA**

Rationale

GSA3.4.2 requires *taking into account the variability of the catch composition over the last five years or fishing seasons and recognizing that some species might be main some years but not in others. Teams may choose a different length of the time series, but a rationale should be provided in all cases of the method chosen.*

During the site visit, stakeholders mentioned that the non-target species catches are very low due to the gear characteristics and the harvest strategy. The CDPMEM 22 provided the team with an example of the logbook ("fiche de pêche" & "journal de pêche européen") where landed catch and discards per species over 50 kg must be reported. In addition, the CDPMEM 22 implemented a non-target species catch monitoring project where fishers record on a voluntary basis all the non-target species catch in a specific project logbook. This project started in 2021 and the assessment was provided with the data collected in 2021 and 2022. Given that landed catch and discards must be reported in "fiche de pêche" and "journal de pêche" only when they are over 50 kg, the assessment team used the data from the CDPMEM 22 non-target species catch project to determine the non-target species catch composition. None of the species account for more than 0.01% of the total catch.
So, the non-target species composition and de signation of 'main' and 'minor' species is based on data for two years. The assessment team is confident to have a good understanding of the long-term average catch composition of non-target species and that the species composition as well as their respective catch volumes are unlikely to change over the lifetime of the certificate, pending certification decision. The non-target species catch composition and species catch volumes from the CDPMEM 22 non-target species project and the "fiches de pêche" and "journaux de pêche" are similar, and there are no significant differences between years. Also, two of the assessment team members (the P1 and P2 assessors) went onboard a fishing vessel during the site visit to observe a fishing trip. The catch of all hauls was almost exclusively composed of scallop, the highest bycatch in number and weight was spider crab, which is in line with the data from the CDPMEM 22 non-target species project.

Therefore, there are no main primary species, this scoring issue is therefore not applicable in accordance with the MSC Interpretation on P2 species outcome PIs (https://mscportal.force.com/interpret/s/article/P2-species-outcome-PIs-scoring-when-no-main-or-no-minor-or-both-PI-2-1-1-1527262009344)

Consideration of unobserved mortality due to ghost fishing (GSA3.1.8): Due to the type of fishing gear use in the fishery and the fishing operations, ghost fishing does not appear to be an issue in the Baie of Saint-Brieuc scallop dredge fishery.

PI 2.1.1				The UoA aims to maintain primary species above the point where recruitment would be impaired (PRI) and does not hinder recovery of primary species if they are below the PRI
b	**Minor primary species stock status**			
	Guide post			Minor primary species are highly likely to be above the PRI. OR If below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor primary species.
	Met?			**Yes**

Rationale

Minor primary species are highly likely to be above the PRI.

Two primary species are classified as minor primary species: sole and anglerfish.

Sole in Division 7.e (western English Channel)

Fishing pressure on the stock is at FMSY and spawning stock biomass is above MSY Btrigger, Bpa, and Blim.

The assessment team used the MSC Interpretation in regard to scoring ICES stocks to determine whether or not the western English Channel sole stock is highly likely to be above the PRI. To meet SG100, the stock is to be estimated above ½ of the distance between B_{lim} and B_{pa}. SSB is well above $MSYB_{trigger}$ and is at least twice B_{lim}, therefore the sole stock is highly likely to be above the PRI, **SG100 is met**.

Anglerfish in Subarea 7 and Division 8.a-b and 8d (Celtic Sea, Bay of Biscay)

Fishing pressure on the stock is at FMSY and spawning stock biomass is above MSY Btrigger, Bpa, and Blim.

The assessment team used the MSC Interpretation in regard to scoring ICES stocks to determine whether or not the anglerfish stock is highly likely to be above the PRI. To meet SG100, the stock is to be estimated above ½ of the distance between B_{lim} and B_{pa}. SSB is well above $MSYB_{trigger}$ and is at least twice B_{lim}, therefore the anglerfish stock is highly likely to be above the PRI, **SG100 is met**.

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ICES 2022b
MSC Interpretation
https://mscportal.force.com/interpret/s/article/Scoring-stock-status-against-Bmsy-for-ICES-stocks-PI-1-1-1-1527262010506
https://mscportal.force.com/interpret/s/article/P2-species-outcome-PIs-scoring-when-no-main-or-no-minor-or-both-PI-2-1-1-1527262009344

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Individual scoring elements (add rows as required; delete if not scoring by elements)		Applicable SGs likely met per individual scoring element			Likely scoring element scores
		SG60	SG80	SG100	
1	Main primary species	NA	NA	NA	NA
2	Sole (minor primary)	NA	NA	1 of 1	≥80
3	Anglerfish (minor primary)	NA	NA	1 of 1	≥80

PI 2.1.1	The UoA aims to maintain primary species above the point where recruitment would be impaired (PRI) and does not hinder recovery of primary species if they are below the PRI		
Draft scoring range	Applicable SGs/elements likely met		Likely overall PI score
	SG60	SG80	SG100
	NA	NA	Both minor species meet SG100	60-79
Information gap indicator	Although no species are classified as main both minor species meet SG100, the likely score assigned is 60-79 as more information sought (in accordance with G7.10.2.e). Information on bycatch provided to the assessment team is very limited (only for two months of the 2020-2021 fishing season).		

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Individual scoring elements		Applicable SGs met per individual scoring element			Scoring element scores
		SG60	SG80	SG100	
1	Main primary species	NA	NA	NA	**NA**
2	Sole (minor primary)	NA	NA	1 of 1	**100**
3	Anglerfish (minor primary)	NA	NA	1 of 1	**100**
Overall Performance Indicator score		Applicable SGs/elements met			Overall score
		SG60	SG80	SG100	
		NA	NA	Met	**100**
Condition number (if relevant)					**NA**

PI 2.1.2 – Primary species management strategy

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are **measures** in place for the UoA, if necessary, that are expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are likely to be above the PRI.	There is a **partial strategy** in place for the UoA, if necessary, that is expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are highly likely to be above the PRI.	There is a **strategy** in place for the UoA for managing main and minor primary species.
	Met?	**Yes**	**Yes**	**No**

Rationale

In the context of scoring this PI, definitions provided in MSC Fisheries Standard v.2.01 Table SA8 is considered:
• "Measures" are actions or tools in place that either explicitly manage impacts on the component or indirectly contribute to management of the component under assessment having been designed to manage impacts elsewhere.
• A "partial strategy" represents a cohesive arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome and an awareness of the need to change the measures should they cease to be effective. It may not have been designed to manage the impact on that component specifically.
• A "strategy" represents a cohesive and strategic arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome, and which should be designed to manage impact on that component specifically. A strategy needs to be appropriate to the scale, intensity and cultural context of the fishery and should contain mechanisms for the modification fishing practices in the light of the identification of unacceptable impacts.

There are no main primary species. The assessment team considered MSC Fisheries Standard v.2.01 Table SA8, the MSC interpretation on "the use of 'if necessary' in P2 management PIs", and G7.17.10.a *for 'minor' species SGs only exit at SG100 level in some PIs, when scoring such minor species the team should assume that SG80 level is met by default, such that the scores are simply based on how many of the scoring issues that apply to 'minor' species are met at the SG100 level*.
SG60 and SG80 are therefore met by default.

The Baie de Saint-Brieuc scallop dredge fishery is subject to management measures to control fishing effort which are relevant for the management of non-target species. There is a fishing season with specified fishing days and times, fishing Sectors are not open simultaneously, landings are capped per vessel per day, there is a minimum inner diameter of dredge rings and other dredge characteristics. Management is regularly adjusted throughout the fishing season by the CDPMEM. The two minor primary species are TAC-managed.
EU Regulation prohibits to retain on board or land any quantity of marine organisms unless at least 95% by live weight thereof consists of bivalve molluscs, gastropods or sponges, except unintended catches of species subject to landing obligation (EU, 2019/1241). Fishers are required to report their catches. "Godaille" (catch keep by the crew for personal consumption) is capped at 50 kg and must be weighted at landings sites.

However, the above cannot be defined as a strategy as the measures are not specifically designed to manage impacts on primary species. **SG100 is therefore not met.**

b	Management strategy evaluation			
	Guide post	The measures are considered **likely** to work, based on plausible argument (e.g., general experience, theory or	There is some **objective basis for confidence** that the measures/partial strategy will work, based on some	**Testing** supports **high confidence** that the partial strategy/strategy will work, based on information directly

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch		
		comparison with similar fisheries/species).	information directly about the fishery and/or species involved.	about the fishery and/or species involved.
	Met?	**Yes**	**Yes**	**No**

Rationale

There are no main primary species. The assessment team considered MSC Fisheries Standard v.2.01 Table SA8, the MSC interpretation on "the use of 'if necessary' in P2 management PIs", and G7.17.10.a *for 'minor' species SGs only exit at SG100 level in some PIs, when scoring such minor species the team should assume that SG80 level is met by default, such that the scores are simply based on how many of the scoring issues that apply to 'minor' species are met at the SG100 level*.
SG80 is therefore met by default.

There is no evidence of testing, **preventing the fishery from meeting SG100.**

c	Management strategy implementation			
	Guide post		There is **some evidence** that the measures/partial strategy is being **implemented successfully**.	There is **clear evidence** that the partial strategy/strategy is being **implemented successfully and is achieving its overall objective as set out in scoring issue (a).**
	Met?		**Yes**	**Yes**

Rationale

There are no main primary species. The assessment team considered MSC Fisheries Standard v.2.01 Table SA8, the MSC interpretation on "the use of 'if necessary' in P2 management PIs", and G7.17.10.a *for 'minor' species SGs only exit at SG100 level in some PIs, when scoring such minor species the team should assume that SG80 level is met by default, such that the scores are simply based on how many of the scoring issues that apply to 'minor' species are met at the SG100 level*.
SG80 is therefore met by default.

The MCS local competent authority DDTM/DML22 finds that the level of compliance has been very satisfactory for some years, and has a high degree of confidence that the fishers comply with the management measures. Non-target species catches are very low due to the gear characteristics and the harvest strategy. None of the species account for more than 0.01% of the total catch.
Therefore, there is clear evidence that the strategy is being implemented successfully and is achieving its overall objectives.
SG100 is met.

d	Shark finning			
	Guide post	It is **likely** that shark finning is not taking place.	It is **highly likely** that shark finning is not taking place.	There is a **high degree of certainty** that shark finning is not taking place.
	Met?	**NA**	**NA**	**NA**

Rationale

There is no shark classified as primary species. Therefore, this scoring issue is not scored.

e	Review of alternative measures			
	Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of	There is a **regular** review of the potential effectiveness and practicality of alternative measures to minimise UoA-	There is a **biennial** review of the potential effectiveness and practicality of alternative measures to minimise UoA-

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch		
		unwanted catch of main primary species.	related mortality of unwanted catch of main primary species and they are implemented as appropriate.	related mortality of unwanted catch of all primary species, and they are implemented, as appropriate.
	Met?	**NA**	**NA**	**NA**

Rationale

According to SA3.1.6, *in PIs 2.1.2 and 2.2.2, the terms 'unwanted catch' shall be interpreted by the team as part of the catch that a fisher did not intent to catch but could not avoid, and did not want or chose not to use.*

According to GSA3.5.3 *in cases where there is negligible unwanted catch of a species, the team may use their discretion as to whether the SI would be scored, but the decision should be made in accordance with a precautionary approach. When determining what is 'negligible' the MSC does not specify a set cut-off; the team may consider the significance of the catch in relation to things like the proportion of the unwanted catch as part of the total catch or as part of the total amount of unwanted catch, as well as the regularity of the catch occurring when deciding whether it is negligible.*

As noted above, there are no main primary species and two primary species are categorised as 'minor'. None of the non-target species account for more than 0.01% of the total catch. In addition, some portion of the bycatch is retained, "godaille" which is capped at 50 kg.

Therefore, the assessment team determines that there is negligible unwanted catch, and this scoring issue is not scored.

References

Bycatch data provided by the CDPMEM 22
ICES 2022a
ICES 2022b
délibération du CRPMEM-Bretagne 2021-023
décisions du CRPMEM-Bretagne 108-2021, 109-2021, 114-2021, 115-2021
arrêté de la Région Bretagne R53-2020-04-24-002
MSC Interpretation
https://mscportal.force.com/interpret/s/article/Use-of-if-necessary-in-P2-management-PIs-2-1-2-2-2-2-2-4-2-2-5-2-PI-2-1-2-1527262011402

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	2 of 2	3 of 3	0 of 4	60 – 79
Information gap indicator	Although no species are classified as main, the likely score assigned is 60-79 as more information sought (in accordance with G7.10.2.e). Information on bycatch provided to the assessment team is very limited (only for two months of the 2020-2021 fishing season).			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	All met	All met	1 of 3	**85**

PI 2.1.2	There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch
Condition number (if relevant)	**NA**

PI 2.1.3 – Primary species information

PI 2.1.3		Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species		
Scoring Issue		SG 60	SG 80	SG 100
a	**Information adequacy for assessment of impact on main primary species**			
	Guide post	Qualitative information is **adequate to estimate** the impact of the UoA on the main primary species with respect to status. **OR** **If RBF is used to score PI 2.1.1 for the UoA:** Qualitative information is adequate to estimate productivity and susceptibility attributes for main primary species.	Some quantitative information is available and is **adequate to assess** the impact of the UoA on the main primary species with respect to status. **OR** **If RBF is used to score PI 2.1.1 for the UoA:** Some quantitative information is adequate to assess productivity and susceptibility attributes for main primary species.	Quantitative information is available and is **adequate to assess with a high degree of certainty** the impact of the UoA on main primary species with respect to status.
	Met?	**Yes**	**Yes**	**No**

Rationale

Although there are no main primary species, this scoring issue is scored in line with SA3.3.1.

According to GSA3.6.3 *generally, having only one form of data collection with a high level of potential bias or other limitation (e.g. logbooks or interviews with fishermen) by itself should not be enough to meet SG80 – additional information sources that compensate for the limitation would also need to be provided and assessed.*
Table GSA5 presents examples of data collection methods according to their level of verifiability.

Table GSA5: Examples of data collection methods according to their level of verifiability

Column A (higher level of verifiability, lower bias)	Column B (lower level of verifiability, higher bias)
Observer programmes	Standardised logbooks
Electronic monitoring of location/position (e.g., VMS, AIS)	Interviews with fishers
Other technologies to monitor impact/compliance (e.g., cameras)	Enforced mandatory retention of all catch with full dockside monitoring
Independent research projects or programmes	Information obtained from co-management and community based management.

However, according to GSA 3.6 and GSA3.6.3.1 *if the management approach is very precautionary or where there is a high level of certainty that a species is well above its limit or the catches and impacts of those catches are very low, less precaution is necessary and only two or more methods from Column B could be acceptable.*

Fishers are required to report their catches in logbooks (“fiche de pêche” & “journal de pêche européen”) when landed catch and discards are over 50 kg. “Godaille” (catch keep by the crew for personal consumption) is capped at 50 kg and must be weighted at landings sites. The CDPMEM 22 implemented a non-target species catch monitoring project where fishers record on a voluntary basis all the non-target species catch in a specific project logbook. All these data collection methods have a lower level of verifiability and high bias (Column B), and there are no data collection methods from Column A.
However, the scallop fishery management approach is very precautionary, the level of bycatch is very low (none of the species account for more than 0.01% of the total catch) thanks to the gear characteristics and the harvest strategy, there is no main primary species.

PI 2.1.3	Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species

Therefore, based on the above, the assessment team determines that the qualitative and quantitative information available is adequate to assess the impact of the UoA on the main primary species with respect to status. **SG60 and SG80 are met.**

The quantitative information is not adequate to assess with a high degree of confidence of certainty the impact of the UoA on the primary species due to the absence of high level of verifiability and low bias data collection methods (Column A) and the fact that some non-target species catch are recorded with no identification at the species level, **SG100 is not met**.

The assessment team has raised a recommendation regarding the data collection on non-target species catch, see section 7.3.4.

b	**Information adequacy for assessment of impact on minor primary species**			
	Guide post			Some quantitative information is adequate to estimate the impact of the UoA on minor primary species with respect to status.
	Met?			**Yes**

Rationale

The same rationale as for scoring issue a applies for this scoring issue.

Fishers are required to report their catches in logbooks (“fiche de pêche” & “journal de pêche européen”) when landed catch and discards are over 50 kg. “Godaille” (catch keep by the crew for personal consumption) is capped at 50 kg and must be weighted at landings sites. The CDPMEM 22 implemented a non-target species catch monitoring project where fishers record on a voluntary basis all the non-target species catch in a specific project logbook. All these data collection methods have a lower level of verifiability and high bias (Column B), and there are no data collection methods from Column A.
However, the scallop fishery management approach is very precautionary, the level of bycatch is very low (none of the species account for more than 0.01% of the total catch) thanks to the gear characteristics and the harvest strategy, and the minor primary species are highly likely to the above their PRI.

Therefore, based on the above, the assessment team determines that the quantitative information available is adequate to assess the impact of the UoA on the minor primary species with respect to status. **SG100 is met.**

The assessment team has raised a recommendation regarding the data collection on non-target species catch, see section 7.3.4.

c	**Information adequacy for management strategy**			
	Guide post	Information is adequate to support **measures** to manage **main** primary species.	Information is adequate to support a **partial strategy** to manage **main** primary species.	Information is adequate to support a **strategy** to manage **all** primary species, and evaluate with a **high degree of certainty** whether the strategy is achieving its objective.
	Met?	**Yes**	**Yes**	**No**

Rationale

Information is adequate to support **measures** to manage **main** primary species.

The assessment teams considered GSA3.6, 3.6.3 and 3.6.3.1 as for in scoring issues 1 and 2.
Fishers are required to report their catches in logbooks (“fiche de pêche” & “journal de pêche européen”) when landed catch and discards are over 50 kg. “Godaille” (catch keep by the crew for personal consumption) is capped at 50 kg and must be weighted at landings sites. The CDPMEM 22 implemented a non-target species catch monitoring project where fishers record on a voluntary basis all the non-target species catch in a specific project logbook. All these data collection methods have a lower level of verifiability and high bias (Column B), and there are no data collection methods from Column A.

PI 2.1.3	Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species

However, the scallop fishery management approach is very precautionary, the level of bycatch is very low (none of the species account for more than 0.01% of the total catch) thanks to the gear characteristics and the harvest strategy, and the minor primary species are highly likely to the above their PRI.

Therefore, based on the above, the assessment team determines that the Information is adequate to support measures to manage main primary species. **SG60 and SG80 are met.**

The information is not adequate to support a strategy to manage all primary species, and evaluate with a high degree of certainty whether the strategy is achieving its objective due to the absence of high level of verifiability and low bias data collection methods (Column A) and the fact that some non-target species catch are recorded with no identification at the species level, **SG100 is not met**.

The assessment team has raised a recommendation regarding the data collection on non-target species catch, see section 7.3.4.

References

Bycatch data provided by the CDPMEM 22
ICES 2022a
ICES 2022b

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	2 of 2	0 of 2	0 of 3	60 – 79
Information gap indicator	More information sought Information on bycatch provided to the assessment team is very limited (only for two months of the 2020-2021 fishing season).			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	2 of 2	2 of 2	1 of 3	**85**
Condition number (if relevant)				**NA**
Recommendation number				**1**

PI 2.2.1 – Secondary species outcome

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit		
Scoring Issue		SG 60	SG 80	SG 100
	Main secondary species stock status			
a	Guide post	Main secondary species are **likely** to be above biologically based limits. OR If below biologically based limits, there are **measures** in place expected to ensure that the UoA does not hinder recovery and rebuilding.	Main secondary species are **highly likely** to be above biologically based limits. OR If below biologically based limits, there is either **evidence of recovery** or a **demonstrably effective partial strategy** in place such that the UoA does not hinder recovery and rebuilding. AND Where catches of a main secondary species outside of biological limits are **considerable**, there is either **evidence of recovery** or a, **demonstrably effective strategy in place between those MSC UoAs that have considerable catches of the species**, to ensure that they collectively do not hinder recovery and rebuilding.	There is a **high degree of certainty** that main secondary species are above biologically based limits.
	Met?	**NA**	**NA**	**NA**

Rationale

GSA3.4.2 required *taking into account the variability of the catch composition over the last five years or fishing seasons and recognizing that some species might be main some years but not in others. Teams may choose a different length of the time series, but a rationale should be provided in all cases of the method chosen.*

During the site visit, stakeholders mentioned that the non-target species catches are very low due to the gear characteristics and the harvest strategy. The CDPMEM 22 provided the team with an example of the logbook ("fiche de pêche" & "journal de pêche européen") where landed catch and discards per species over 50 kg must be reported. In addition, the CDPMEM 22 implemented a non-target species catch monitoring project where fishers record on a voluntary basis all the non-target species catch in a specific project logbook. This project started in 2021 and the assessment was provided with the data collected in 2021 and 2022. Given that landed catch and discards must be reported in "fiche de pêche" and "journal de pêche" only when they are over 50 kg, the assessment team used the data from the CDPMEM 22 non-target species catch project to determine the non-target species catch composition. None of the species account for more than 0.01% of the total catch.
So, the non-target species composition and de signation of 'main' and 'minor' species is based on data for two years. The assessment team is confident to have a good understanding of the long-term average catch composition of non-target species and that the species composition as well as their respective catch volumes are unlikely to change over the lifetime of the certificate, pending certification decision. The non-target species catch composition and species catch volumes from the CDPMEM 22 non-target species project and the "fiches de pêche" and "journaux de pêche" are similar, and there are no significant differences between years. Also, two of the assessment team members (the P1 and P2 assessors) went onboard a fishing vessel during the site visit to observe a fishing trip. The catch of all hauls was almost exclusively composed of scallop,

PI 2.2.1	The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit

the highest bycatch in number and weight was spider crab, which is in line with the data from the CDPMEM 22 non-target species project.

Therefore, there are no secondary primary species, this scoring issue is therefore not applicable in accordance with the MSC Interpretation on P2 species outcome PIs (https://mscportal.force.com/interpret/s/article/P2-species-outcome-PIs-scoring-when-no-main-or-no-minor-or-both-PI-2-1-1-1527262009344)

Consideration of unobserved mortality due to ghost fishing (GSA3.1.8): Due to the type of fishing gear use in the fishery and the fishing operations, ghost fishing does not appear to be an issue in the Baie of Saint-Brieuc scallop dredge fishery.

b	**Minor secondary species stock status**			
	Guide post			Minor secondary species are highly likely to be above biologically based limits. OR If below biologically based limits', there is evidence that the UoA does not hinder the recovery and rebuilding of secondary species
	Met?			**No**

Rationale

There are minor secondary species (Table 18).

In accordance with G7.17.10.a *for 'minor' species SGs only exit at SG100 level in some PIs, when scoring such minor species the team should assume that SG80 level is met by default, such that the scores are simply based on how many of the scoring issues that apply to 'minor' species are met at the SG100 level*.

Given that biogically based limits are undefined for these stocks, the RBF should have been triggered as per Table 3. However, the team elected not to use the RBF to score minor secondary species. Therefore, the final PI score shall not be greater than 80 as per PF5.3.2.1.

References

Bycatch data provided by the CDPMEM 22
MSC interpretation
https://mscportal.force.com/interpret/s/article/P2-species-outcome-PIs-scoring-when-no-main-or-no-minor-or-both-PI-2-1-1-1527262009344

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Individual scoring elements (add rows as required; delete if not scoring by elements)		Applicable SGs likely met per individual scoring element			Likely scoring element scores
		SG60	SG80	SG100	
1	Main secondary species	NA	NA	NA	**NA**
2	Minor secondary species	NA	NA	0 of 1	**80**
Draft scoring range		Applicable SGs/elements likely met			

PI 2.2.1	The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit			
	SG60	SG80	SG100	Likely overall PI score
	NA	NA	0 of 1	60 – 9
Information gap indicator	Although no species are classified is SG80 is met at scoring issue b, the likely score assigned is 60-79 as more information sought (in accordance with G7.10.2.e). Information on bycatch provided to the assessment team is very limited (only for two months of the 2020-2021 fishing season).			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Individual scoring elements (add rows as required; delete if not scoring by elements)		Applicable SGs met per individual scoring element			Scoring element scores
		SG60	SG80	SG100	
1	Main secondary species	NA	NA	NA	**NA**
2	Minor secondary species	NA	NA	0 of 1	**80**
Overall Performance Indicator score		Applicable SGs/elements met			Overall score
		SG60	SG80	SG100	
		X of x	X of x	No	**80 in accordance with PF5.3.2.1**
Condition number (if relevant)					**NA**

PI 2.2.2 – Secondary species management strategy

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch		
Scoring Issue		SG 60	SG 80	SG 100
a	**Management strategy in place**			
	Guide post	There are **measures** in place, if necessary, which are expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be above biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a **partial strategy** in place, if necessary, for the UoA that is expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be above biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a **strategy** in place for the UoA for managing main and minor secondary species.
	Met?	**Yes**	**Yes**	**No**

Rationale

In the context of scoring this PI, definitions provided in MSC Fisheries Standard v.2.01 Table SA8 is considered:
• "Measures" are actions or tools in place that either explicitly manage impacts on the component or indirectly contribute to management of the component under assessment having been designed to manage impacts elsewhere.
• A "partial strategy" represents a cohesive arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome and an awareness of the need to change the measures should they cease to be effective. It may not have been designed to manage the impact on that component specifically.
• A "strategy" represents a cohesive and strategic arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome, and which should be designed to manage impact on that component specifically. A strategy needs to be appropriate to the scale, intensity and cultural context of the fishery and should contain mechanisms for the modification fishing practices in the light of the identification of unacceptable impacts.

There are no main secondary species. The assessment team considered MSC Fisheries Standard v.2.01 Table SA8, the MSC interpretation on "the use of 'if necessary' in P2 management PIs", and G7.17.10.a *for 'minor' species SGs only exit at SG100 level in some PIs, when scoring such minor species the team should assume that SG80 level is met by default, such that the scores are simply based on how many of the scoring issues that apply to 'minor' species are met at the SG100 level*.
SG60 and SG80 are therefore met by default.

The Baie de Saint-Brieuc scallop dredge fishery is subject to management measures to control fishing effort which are relevant for the management of non-target species. There is a fishing season with specified fishing days and times, fishing Sectors are not open simultaneously, landings are capped per vessel per day, there is a minimum inner diameter of dredge rings and other dredge characteristics. Management is regularly adjusted throughout the fishing season by the CDPMEM.
EU Regulation prohibits to retain on board or land any quantity of marine organisms unless at least 95% by live weight thereof consists of bivalve molluscs, gastropods or sponges, except unintended catches of species subject to landing obligation (EU, 2019/1241).
Fishers are required to report their catches. "Godaille" (catch keep by the crew for personal consumption) is capped at 50 kg and must be weighted at landings sites.

However, the above cannot be defined as a strategy as the measures are not specifically designed to manage impacts on secondary species. **SG100 is therefore not met.**

b	**Management strategy evaluation**			
	Guide post	The measures are considered **likely** to work, based on plausible argument (e.g. general	There is **some objective basis for confidence** that the measures/partial strategy will	**Testing** supports **high confidence** that the partial strategy/strategy will work, based on information

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch		
		experience, theory or comparison with similar UoAs/species).	work, based on some information directly about the UoA and/or species involved.	directly about the UoA and/or species involved.
	Met?	**Yes**	**Yes**	**No**

Rationale

There are no main secondary species. The assessment team considered MSC Fisheries Standard v.2.01 Table SA8, the MSC interpretation on "the use of 'if necessary' in P2 management PIs", and G7.17.10.a *for 'minor' species SGs only exit at SG100 level in some PIs, when scoring such minor species the team should assume that SG80 level is met by default, such that the scores are simply based on how many of the scoring issues that apply to 'minor' species are met at the SG100 level*.
SG80 is therefore met by default.

There is no evidence of testing, **preventing the fishery from meeting SG100.**

c	**Management strategy implementation**			
	Guide post		There is **some evidence** that the measures/partial strategy is being **implemented successfully**.	There is **clear evidence** that the partial strategy/strategy is being **implemented successfully and is achieving its objective as set out in scoring issue (a).**
	Met?		**Yes**	**Yes**

Rationale

There are no secondary primary species. The assessment team considered MSC Fisheries Standard v.2.01 Table SA8, the MSC interpretation on "the use of 'if necessary' in P2 management PIs", and G7.17.10.a *for 'minor' species SGs only exit at SG100 level in some PIs, when scoring such minor species the team should assume that SG80 level is met by default, such that the scores are simply based on how many of the scoring issues that apply to 'minor' species are met at the SG100 level*.
SG80 is therefore met by default.

The MCS local competent authority DDTM/DML22 finds that the level of compliance has been very satisfactory for some years, and has a high degree of confidence that the fishers comply with the management measures. Non-target species catches are very low due to the gear characteristics and the harvest strategy. None of the species account for more than 0.01% of the total catch.
Therefore, there is clear evidence that the strategy is being implemented successfully and is achieving its overall objectives.
SG100 is met.

d	**Shark finning**			
	Guide post	It is **likely** that shark finning is not taking place.	It is **highly likely** that shark finning is not taking place.	There is a **high degree of certainty** that shark finning is not taking place.
	Met?	**Yes**	**Yes**	**No**

Rationale

It is **highly likely** that shark finning is not taking place.

Given the type and size of the gear, the only shark species caught is the lesser-spotted dogfish (*Scyliorhinus canicular)*. There is an EU regulation prohibiting the practice of "shark finning" and forbids any removal of fins of sharks on board vessels by EU-registered vessels (EU, 2013). There is no market for shark fins in France, and some portion of the dogfish catch are retained for "godaille".

PI 2.2.2	There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch

On that basis, **SG60 and SG80 are met**. **SG100 is not met** given the absence of an observer coverage.

e	**Review of alternative measures to minimise mortality of unwanted catch**			
	Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of **unwanted** catch of main secondary species.	There is a **regular** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of **unwanted** catch of main secondary species and they are implemented as appropriate.	There is a **biennial** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of **unwanted** catch of all secondary species, and they are implemented, as appropriate.
	Met?	**NA**	**NA**	**NA**

Rationale

According to SA3.1.6, *in PIs 2.1.2 and 2.2.2, the terms 'unwanted catch' shall be interpreted by the team as part of the catch that a fisher did not intent to catch but could not avoid, and did not want or chose not to use.*

According to GSA3.5.3 *in cases where there is negligible unwanted catch of a species, the team may use their discretion as to whether the SI would be scored, but the decision should be made in accordance with a precautionary approach. When determining what is 'negligible' the MSC does not specify a set cut-off; the team may consider the significance of the catch in relation to things like the proportion of the unwanted catch as part of the total catch or as part of the total amount of unwanted catch, as well as the regularity of the catch occurring when deciding whether it is negligible.*

As noted above, there are no main secondary species. None of the non-target species account for more than 0.01% of the total catch. In addition, some portion of the bycatch is retained, "godaille" which is capped at 50 kg.

Therefore, the assessment team determines that there is negligible unwanted catch, and this scoring issue is not scored.

References

Bycatch data provided by the CDPMEM 22
délibération du CRPMEM-Bretagne 2021-023
décisions du CRPMEM-Bretagne 108-2021, 109-2021, 114-2021, 115-2021
arrêté de la Région Bretagne R53-2020-04-24-002
EU, 2013
MSC Interpretation
https://mscportal.force.com/interpret/s/article/Use-of-if-necessary-in-P2-management-PIs-2-1-2-2-2-2-2-4-2-2-5-2-PI-2-1-2-1527262011402

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	3 of 3	4 of 4	0 of 5	60 – 79
Information gap indicator	Although no species are classified as main, the likely score assigned is 60-79 as more information sought (in accordance with G7.10.2.e). Information on bycatch provided to the assessment team is very limited (only for two months of the 2020-2021 fishing season).			

PI 2.2.2	There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	All met	All met	1 of 4	**85**
Condition number (if relevant)				**NA**

PI 2.2.3 – Secondary species information

PI 2.2.3		Information on the nature and amount of secondary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage secondary species		
Scoring Issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impacts on main secondary species			
	Guide post	Qualitative information is **adequate to estimate** the impact of the UoA on the main secondary species with respect to status. OR **If RBF is used to score PI 2.2.1 for the UoA:** Qualitative information is adequate to estimate productivity and susceptibility attributes for main secondary species.	Some quantitative information is available and **adequate to assess** the impact of the UoA on main secondary species with respect to status. OR **If RBF is used to score PI 2.2.1 for the UoA:** Some quantitative information is adequate to assess productivity and susceptibility attributes for main secondary species.	Quantitative information is available and **adequate to assess with a high degree of certainty** the impact of the UoA on main secondary species with respect to status.
	Met?	**Yes**	**Yes**	**No**

Rationale

Although there are no main secondary species, this scoring issue is scored in line with SA3.3.1.

According to GSA3.6.3 *generally, having only one form of data collection with a high level of potential bias or other limitation (e.g. logbooks or interviews with fishermen) by itself should not be enough to meet SG80 – additional information sources that compensate for the limitation would also need to be provided and assessed.*
Table GSA5 presents examples of data collection methods according to their level of verifiability.

Table GSA5: Examples of data collection methods according to their level of verifiability

Column A (higher level of verifiability, lower bias)	Column B (lower level of verifiability, higher bias)
Observer programmes	Standardised logbooks
Electronic monitoring of location/position (e.g., VMS, AIS)	Interviews with fishers
Other technologies to monitor impact/compliance (e.g., cameras)	Enforced mandatory retention of all catch with full dockside monitoring
Independent research projects or programmes	Information obtained from co-management and community based management.

However, according to GSA 3.6 and GSA3.6.3.1 *if the management approach is very precautionary or where there is a high level of certainty that a species is well above its limit or the catches and impacts of those catches are very low, less precaution is necessary and only two or more methods from Column B could be acceptable.*

Fishers are required to report their catches in logbooks (“fiche de pêche” & “journal de pêche européen”) when landed catch and discards are over 50 kg. “Godaille” (catch keep by the crew for personal consumption) is capped at 50 kg and must be weighted at landings sites. The CDPMEM 22 implemented a non-target species catch monitoring project where fishers record on a voluntary basis all the non-target species catch in a specific project logbook. All these data collection methods have a lower level of verifiability and high bias (Column B), and there are no data collection methods from Column A.
However, the scallop fishery management approach is very precautionary, the level of bycatch is very low (none of the species account for more than 0.01% of the total catch) thanks to the gear characteristics and the harvest strategy, there is no main secondary species.

PI 2.2.3	Information on the nature and amount of secondary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage secondary species

Therefore, based on the above, the assessment team determines that the qualitative and quantitative information available is adequate to assess the impact of the UoA on the main secondary species with respect to status. **SG60 and SG80 are met.**

The quantitative information is not adequate to assess with a high degree of confidence of certainty the impact of the UoA on the secondary species due to the absence of high level of verifiability and low bias data collection methods (Column A) and the fact that some non-target species catch are recorded with no identification at the species level, **SG100 is not met**.

The assessment team has raised a recommendation regarding the data collection on non-target species catch, see section 7.3.4.

b	**Information adequacy for assessment of impacts on minor secondary species**			
	Guide post			Some quantitative information is adequate to estimate the impact of the UoA on minor secondary species with respect to status.
	Met?			**Yes**

Rationale

The same rationale as for scoring issue a applies for this scoring issue.

Fishers are required to report their catches in logbooks (“fiche de pêche” & “journal de pêche européen”) when landed catch and discards are over 50 kg. “Godaille” (catch keep by the crew for personal consumption) is capped at 50 kg and must be weighted at landings sites. The CDPMEM 22 implemented a non-target species catch monitoring project where fishers record on a voluntary basis all the non-target species catch in a specific project logbook. All these data collection methods have a lower level of verifiability and high bias (Column B), and there are no data collection methods from Column A.
However, the scallop fishery management approach is very precautionary, the level of bycatch is very low (none of the species account for more than 0.01% of the total catch) thanks to the gear characteristics and the harvest strategy.

Therefore, based on the above, the assessment team determines that the quantitative information available is adequate to assess the impact of the UoA on the minor secondary species with respect to status. **SG100 is met.**

The assessment team has raised a recommendation regarding the data collection on non-target species catch, see section 7.3.4.

c	**Information adequacy for management strategy**			
	Guide post	Information is adequate to support **measures** to manage **main** secondary species.	Information is adequate to support a **partial strategy** to manage **main** secondary species.	Information is adequate to support a **strategy** to manage **all** secondary species, and **evaluate** with a **high degree of certainty** whether the strategy is **achieving its objective**.
	Met?	**Yes**	**Yes**	**No**

Rationale

Information is adequate to support **measures** to manage **main** primary species.

The assessment teams considered GSA3.6, 3.6.3 and 3.6.3.1 as for in scoring issues 1 and 2.
Fishers are required to report their catches in logbooks (“fiche de pêche” & “journal de pêche européen”) when landed catch and discards are over 50 kg. “Godaille” (catch keep by the crew for personal consumption) is capped at 50 kg and must be weighted at landings sites. The CDPMEM 22 implemented a non-target species catch monitoring project where fishers record on a voluntary basis all the non-target species catch in a specific project logbook. All these data collection methods have a lower level of verifiability and high bias (Column B), and there are no data collection methods from Column A.

PI 2.2.3	Information on the nature and amount of secondary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage secondary species

However, the scallop fishery management approach is very precautionary, the level of bycatch is very low (none of the species account for more than 0.01% of the total catch) thanks to the gear characteristics and the harvest strategy.

Therefore, based on the above, the assessment team determines that the Information is adequate to support measures to manage main secondary species. **SG60 and SG80 are met.**

The information is not adequate to support a strategy to manage all secondary species, and evaluate with a high degree of certainty whether the strategy is achieving its objective due to the absence of high level of verifiability and low bias data collection methods (Column A) and the fact that some non-target species catch are recorded with no identification at the species level, **SG100 is not met.**

The assessment team has raised a recommendation regarding the data collection on non-target species catch, see section 7.3.4.

References

Bycatch data provided by the CDPMEM 22

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	2 of 2	0 of 2	0 of 3	60 – 79
Information gap indicator	More information sought Information on bycatch provided to the assessment team is very limited (only for two months of the 2020-2021 fishing season).			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	All met	All met	1 of 3	**85**
Condition number (if relevant)				**NA**

PI 2.3.1 – ETP species outcome

PI 2.3.1		The UoA meets national and international requirements for the protection of ETP species The UoA does not hinder recovery of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	**Effects of the UoA on population/stock within national or international limits, where applicable**			
	Guide post	Where national and/or international requirements set limits for ETP species, the **effects of the UoA** on the population/ stock are known and **likely** to be within these limits.	Where national and/or international requirements set limits for ETP species, the **combined effects of the MSC UoAs** on the population /stock are known and **highly likely** to be within these limits.	Where national and/or international requirements set limits for ETP species, there is a **high degree of certainty** that the **combined effects of the MSC UoAs** are within these limits.
	Met?	**Yes**	**Yes**	**Yes**

Rationale

According to SA3.2.1 *If a team determines that a UoA has no impact on a particular component, it shall receive a score of 100 under the Outcome PI.*

By-catch of Endangered, Threatened, and Protected species interactions are generally very rare in scallop dredge fisheries (Stewart and Howarth, 2016). The ICES advice on bycatch of ETP species from the 2017-2020 monitoring data does not show any bycatch of ETP species by dredge in the whole Northeast Atlantic and adjacent seas (ICES 2021). An analysis of the impact of fishing gears on the Habitats and Birds Directives (Natura 2000) in France was carried out in 2008 (Drogou et *al*., 2008). It concluded that boat-towed dredges operating in the Atlantic, which includes scallop dredging, has no impact on fish, marine mammals, reptiles and bird species with community interest. Drogou et *al* (2008)'s interaction matrix was updated in 2021 for amphihaline species (Acou et *al*., 2021). The analysis concluded that accidental captures in boat-towed dredges are *a priori* nonexistent or exceptional.

Therefore, the assessment team has applied SA3.2.1.

b	**Direct effects**			
	Guide post	Known direct effects of the UoA are likely to not **hinder recovery** of ETP species.	Direct effects of the UoA are **highly likely** to not **hinder recovery** of ETP species.	There is a **high degree of confidence** that there are no **significant detrimental direct effects** of the UoA on ETP species.
	Met?	**Yes**	**Yes**	**Yes**

Rationale

According to SA3.2.1 *If a team determines that a UoA has no impact on a particular component, it shall receive a score of 100 under the Outcome PI.*

By-catch of Endangered, Threatened, and Protected species interactions are generally very rare in scallop dredge fisheries (Stewart and Howarth, 2016). The ICES advice on bycatch of ETP species from the 2017-2020 monitoring data does not show any bycatch of ETP species by dredge in the whole Northeast Atlantic and adjacent seas (ICES 2021). An analysis of the impact of fishing gears on the Habitats and Birds Directives (Natura 2000) in France was carried out in 2008 (Drogou et *al*., 2008). It concluded that boat-towed dredges operating in the Atlantic, which includes scallop dredging, has no impact on fish, marine mammals, reptiles and bird species with community interest. Drogou et *al* (2008)'s interaction matrix was updated in 2021 for amphihaline species (Acou et *al*., 2021). The analysis concluded that accidental captures in boat-towed dredges are *a priori* nonexistent or exceptional.

Therefore, the assessment team has applied SA3.2.1.

PI 2.3.1			The UoA meets national and international requirements for the protection of ETP species The UoA does not hinder recovery of ETP species	
C	**Indirect effects**			
	Guide post		Indirect effects have been considered for the UoA and are thought to be **highly likely** to not create unacceptable impacts.	There is a **high degree of confidence** that there are no **significant detrimental indirect effects** of the UoA on ETP species.
	Met?		**Yes**	**Yes**

Rationale

According to SA3.2.1 *If a team determines that a UoA has no impact on a particular component, it shall receive a score of 100 under the Outcome PI.*

By-catch of Endangered, Threatened, and Protected species interactions are generally very rare in scallop dredge fisheries (Stewart and Howarth, 2016). The ICES advice on bycatch of ETP species from the 2017-2020 monitoring data does not show any bycatch of ETP species by dredge in the whole Northeast Atlantic and adjacent seas (ICES 2021). An analysis of the impact of fishing gears on the Habitats and Birds Directives (Natura 2000) in France was carried out in 2008 (Drogou et *al*., 2008). It concluded that boat-towed dredges operating in the Atlantic, which includes scallop dredging, has no impact on fish, marine mammals, reptiles and bird species with community interest. Drogou et *al* (2008)'s interaction matrix was updated in 2021 for amphihaline species (Acou et *al*., 2021). The analysis concluded that accidental captures in boat-towed dredges are *a priori* nonexistent or exceptional.

Therefore, the assessment team has applied SA3.2.1.

References

Acou *et al.*, 2021
Drogou *et al.*, 2008
ICES 2021
Stewart and Howarth, 2016

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	1 of 1	2 of 2	0 of 2	≥80
Information gap indicator	Information sufficient to score PI			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	All met	All met	All met	**100**
Condition number (if relevant)				**NA**

PI 2.3.2 – ETP species management strategy

PI 2.3.2		The UoA has in place precautionary management strategies designed to: - meet national and international requirements; - ensure the UoA does not hinder recovery of ETP species. Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place (national and international requirements)			
	Guide post	There are **measures** in place that minimise the UoA-related mortality of ETP species, and are expected to be **highly likely to achieve** national and international requirements for the protection of ETP species.	There is a **strategy** in place for managing the UoA's impact on ETP species, including measures to minimise mortality, which is designed to be **highly likely to achieve** national and international requirements for the protection of ETP species.	There is a **comprehensive strategy** in place for managing the UoA's impact on ETP species, including measures to minimise mortality, which is designed to **achieve above** national and international requirements for the protection of ETP species.
	Met?	**Yes**	**Yes**	**No**

Rationale

In the context of scoring this PI, definitions provided in MSC Fisheries Standard v.2.01 Table SA8 is considered:
• "Measures" are actions or tools in place that either explicitly manage impacts on the component or indirectly contribute to management of the component under assessment having been designed to manage impacts elsewhere.
• A "strategy" represents a cohesive and strategic arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome, and which should be designed to manage impact on that component specifically. A strategy needs to be appropriate to the scale, intensity and cultural context of the fishery and should contain mechanisms for the modification fishing practices in the light of the identification of unacceptable impacts.
• A "comprehensive strategy" (applicable only for ETP component) is a complete and tested strategy made up of linked monitoring, analyses and management measures and responses.

EU members states unanimously adopted the Birds Directive in April 1979 which was amended in 2009. The Directive places great emphasis on the protection of habitats for endangered and migratory bird species. The Habitats Directive was adopted in 1992 for the conservation of natural habitats and of wild fauna and flora.
Natura 2000 is a European network of important ecological sites underpinned by the Birds Directive and the Habitats Directive. In compliance with Art.4 of the Birds Directive, EU Member States are required to designate Special Protection Areas (SPAs) to protect bird species listed in Annex I of the Directive as well as migratory species. In compliance with Art.3 and 4 of the Habitats Directive, Member States have to first propose Sites of Community Importance (SCIs) for habitat-types listed in Annex I and species listed in Annex II of the Directive. They further have to designate them as Special Areas of Conservation (SACs). SPAs and SCIs-SACs form the Natura 2000 network.
There are three Natura 2000 sites, SPAs and SACs, where the Baie de Saint-Brieuc scallop dredge fishery operates:

- Natura 2000 site Baie de Saint-Brieuc Est
- Natura 2000 site Cap d'Erquy-Cap Fréhel
- Natura 2000 site Tregor Goëlo

The Natural 2000 site Baie de Saint-Brieuc Est encompasses the Réserve Naturelle (Natural Reserve) de la Baie de Saint-Brieuc which was created in 1998 and is considered as a Wetland of International Importance for migratory birds.
Measures are in place to protect not only birds but also marine mammals.

The Baie de Saint-Brieuc scallop dredge fishery is subject to management measures to control fishing effort which are also relevant for the management of ETP species. There is a fishing season with specified fishing days and times, fishing Sectors are not open simultaneously, landings are capped per vessel per day, there are dredge characteristics.

PI 2.3.2	The UoA has in place precautionary management strategies designed to: - meet national and international requirements; - ensure the UoA does not hinder recovery of ETP species. Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species		
Based on all the above, the assessment teams determined that there is a strategy in place for managing the UoA's impact on ETP species. **SG60 and SG80 are met. SG100 is not met** as the strategy cannot be defined as comprehensive.			
b	**Management strategy in place (alternative)**		
	Guide post	There are **measures** in place that are expected to ensure the UoA does not hinder the recovery of ETP species.	There is a **strategy** in place that is expected to ensure the UoA does not hinder the recovery of ETP species.	There is a **comprehensive strategy** in place for managing ETP species, to ensure the UoA does not hinder the recovery of ETP species.
	Met?	**NA**	**NA**	**NA**
Rationale			
This scoring issue is not applicable in accordance with SA3.11.2 (scoring issue a is scored so this scoring issue is not scored).			
c	**Management strategy evaluation**		
	Guide post	The measures are **considered likely** to work, based on **plausible argument** (e.g., general experience, theory or comparison with similar fisheries/species).	There is an **objective basis for confidence** that the measures/strategy will work, based on **information** directly about the fishery and/or the species involved.	The strategy/comprehensive strategy is mainly based on information directly about the fishery and/or species involved, and a **quantitative analysis** supports **high confidence** that the strategy will work.
	Met?	**Yes**	**Yes**	**No**
Rationale			
There is an **objective basis for confidence** that the measures/strategy will work, based on **information** directly about the fishery and/or the species involved. By-catch of Endangered, Threatened, and Protected species interactions are generally very rare in scallop dredge fisheries (Stewart and Howarth, 2016). The ICES advice on bycatch of ETP species from the 2017-2020 monitoring data does not show any bycatch of ETP species by dredge in the whole Northeast Atlantic and adjacent seas (ICES 2021). An analysis of the impact of fishing gears on the Habitats and Birds Directives (Natura 2000) in France was carried out in 2008 (Drogou et *al*., 2008). It concluded that boat-towed dredges operating in the Atlantic, which includes scallop dredging, has no impact on fish, marine mammals, reptiles and bird species with community interest. Drogou et *al* (2008)'s interaction matrix was updated in 2021 for amphihaline species (Acou et *al*., 2021). The analysis concluded that accidental captures in boat-towed dredges are *a priori* nonexistent or exceptional. **SG60 and SG80 are met. SG100 is not met** as there is no quantitative analysis to support high confidence.			
d	**Management strategy implementation**		
	Guide post		There is some **evidence** that the measures/strategy is being implemented successfully.	There is **clear evidence** that the strategy/comprehensive strategy is being implemented successfully and **is achieving its objective as set out in scoring issue (a) or (b).**

PI 2.3.2		The UoA has in place precautionary management strategies designed to: - meet national and international requirements; - ensure the UoA does not hinder recovery of ETP species. Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species		
	Met?		**Yes**	**Yes**

Rationale

There is **clear evidence** that the strategy/comprehensive strategy is being implemented successfully and **is achieving its objective as set out in scoring issue (a) or (b).**

In compliance with Art.3 and 4 of the Habitats Directive, Member States have to first propose Sites of Community Importance (SCIs) for habitat-types listed in Annex I and species listed in Annex II of the Directive. They further have to designate them as Special Areas of Conservation (SACs). SPAs and SCIs-SACs form the Natura 2000 network.
There are three Natura 2000 sites, SPAs and SACs, where the Baie de Saint-Brieuc scallop dredge fishery operates:

- Natura 2000 site Baie de Saint-Brieuc Est
- Natura 2000 site Cap d'Erquy-Cap Fréhel
- Natura 2000 site Tregor Goëlo

The Natural 2000 site Baie de Saint-Brieuc Est encompasses the Réserve Naturelle (Natural Reserve) de la Baie de Saint-Brieuc which was created in 1998 and is considered as a Wetland of International Importance for migratory birds.
Measures are in place to protect not only birds but also marine mammals.

The MCS local competent authority DDTM/DML22 finds that the level of compliance has been very satisfactory for some years, and has a high degree of confidence that the fishers comply with the management measures.

By-catch of Endangered, Threatened, and Protected species interactions are generally very rare in scallop dredge fisheries (Stewart and Howarth, 2016). The ICES advice on bycatch of ETP species from the 2017-2020 monitoring data does not show any bycatch of ETP species by dredge in the whole Northeast Atlantic and adjacent seas (ICES 2021). An analysis of the impact of fishing gears on the Habitats and Birds Directives (Natura 2000) in France was carried out in 2008 (Drogou et *al*., 2008). It concluded that boat-towed dredges operating in the Atlantic, which includes scallop dredging, has no impact on fish, marine mammals, reptiles and bird species with community interest. Drogou et *al* (2008)'s interaction matrix was updated in 2021 for amphihaline species (Acou et *al*., 2021). The analysis concluded that accidental captures in boat-towed dredges are *a priori* nonexistent or exceptional.

Based on the above, the assessment team concluded that **SG80 and SG100 are met.**

e	**Review of alternative measures to minimize mortality of ETP species**			
	Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species.	There is a **regular** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species and they are implemented as appropriate.	There is a **biennial** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality ETP species, and they are implemented, as appropriate.
	Met?	**NA**	**NA**	**NA**

Rationale

By-catch of Endangered, Threatened, and Protected species interactions are generally very rare in scallop dredge fisheries (Stewart and Howarth, 2016). The ICES advice on bycatch of ETP species from the 2017-2020 monitoring data does not show any bycatch of ETP species by dredge in the whole Northeast Atlantic and adjacent seas (ICES 2021). An analysis of the impact of fishing gears on the Habitats and Birds Directives (Natura 2000) in France was carried out in 2008 (Drogou et *al*., 2008). It concluded that boat-towed dredges operating in the Atlantic, which includes scallop dredging, has no impact on fish, marine

PI 2.3.2	The UoA has in place precautionary management strategies designed to: - meet national and international requirements; - ensure the UoA does not hinder recovery of ETP species. Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species

mammals, reptiles and bird species with community interest. Drogou et *al* (2008)'s interaction matrix was updated in 2021 for amphihaline species (Acou et *al*., 2021). The analysis concluded that accidental captures in boat-towed dredges are *a priori* nonexistent or exceptional.

The UoA has no impact on ETP species, therefore this scoring issue is not scored.

References

Acou *et al.*, 2021
Drogou *et al.*, 2008
ICES 2021
Stewart and Howarth, 2016
délibération du CRPMEM-Bretagne 2021-023
décisions du CRPMEM-Bretagne 108-2021, 109-2021, 114-2021, 115-2021
arrêté de la Région Bretagne R53-2020-04-24-002
EC Habitats Directive 92/43/EEC
https://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm
EC Birds Directive 2009/147/EC
https://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm
Réserve Naturelle de la Baie de Saint-Brieuc (Natural Reserve of the Baie de Saint-Brieuc)
https://www.reservebaiedesaintbrieuc.com/

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	3 of 3	4 of 4	1 of 4	≥80
Information gap indicator	Information sufficient to score PI			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	All met	All met	1 of 3	**85**
Condition number (if relevant)				**NA**

PI 2.3.3 – ETP species information

PI 2.3.3		Relevant information is collected to support the management of UoA impacts on ETP species, including: - Information for the development of the management strategy; - Information to assess the effectiveness of the management strategy; and - Information to determine the outcome status of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	**Information adequacy for assessment of impacts**			
	Guide post	Qualitative information is **adequate to estimate** the UoA related mortality on ETP species. **OR** **If RBF is used to score PI 2.3.1 for the UoA:** Qualitative information is **adequate to estimate productivity and susceptibility** attributes for ETP species.	Some quantitative information is **adequate to assess** the UoA related mortality and impact and to determine whether the UoA may be a threat to protection and recovery of the ETP species. **OR** **If RBF is used to score PI 2.3.1 for the UoA:** Some quantitative information is **adequate to assess productivity and susceptibility attributes** for ETP species.	Quantitative information is available to assess with a high degree of certainty the **magnitude of UoA-related impacts, mortalities and injuries and the consequences for the status** of ETP species.
	Met?	**Yes**	**Yes**	**No**

Rationale

According to SA3.3.1 *if a team determined that the UoA has no impact on a particular component and therefore scored 100 under the Outcome PI, the Information PI shall still be scored.*

Some quantitative information is **adequate to assess** the UoA related mortality and impact and to determine whether the UoA may be a threat to protection and recovery of the ETP species.

According to GSA3.6.3 *generally, having only one form of data collection with a high level of potential bias or other limitation (e.g. logbooks or interviews with fishermen) by itself should not be enough to meet SG80 – additional information sources that compensate for the limitation would also need to be provided and assessed.*
Table GSA5 presents examples of data collection methods according to their level of verifiability.

Table GSA5: Examples of data collection methods according to their level of verifiability

Column A (higher level of verifiability, lower bias)	Column B (lower level of verifiability, higher bias)
Observer programmes	Standardised logbooks
Electronic monitoring of location/position (e.g., VMS, AIS)	Interviews with fishers
Other technologies to monitor impact/compliance (e.g., cameras)	Enforced mandatory retention of all catch with full dockside monitoring
Independent research projects or programmes	Information obtained from co-management and community based management.

However, according to GSA 3.6 and GSA3.6.3.1 *if the management approach is very precautionary or where there is a high level of certainty that a species is well above its limit or the catches and impacts of those catches are very low, less precaution is necessary and only two or more methods from Column B could be acceptable. Some methods of recording data that are inherently open to bias, such as logbooks, are also less likely to provide accurate data on non-fish species, and therefore when*

PI 2.3.3	Relevant information is collected to support the management of UoA impacts on ETP species, including: - Information for the development of the management strategy; - Information to assess the effectiveness of the management strategy; and - Information to determine the outcome status of ETP species

considering the need for accurate information on interactions with out-of-scope species CABs should seek higher quality data sources (Column A).

Fishers are required to report interactions with ETP species. An analysis of the impact of fishing gears on the Habitats and Birds Directives (Natura 2000) in France was carried out in 2008 (Drogou et *al*., 2008). It concluded that boat-towed dredges operating in the Atlantic, which includes scallop dredging, has no impact on fish, marine mammals, reptiles and bird species with community interest. Drogou et *al* (2008)'s interaction matrix was updated in 2021 for amphihaline species (Acou et *al*., 2021). The analysis concluded that accidental captures in boat-towed dredges are *a priori* nonexistent or exceptional.
Therefore, the data collection methods include reporting by fishers (column B) and independent research projects (column A).

Based on the above the assessment team determines that **SG60 and SG80 are met.** Although data collection methods include independent research projects (column A), the assessment team determines that the quantitative information available to assess the magnitude of UoA-related impacts cannot be qualified as "high degree of certainty" as these independent research projects are qualitative analysis and Drogou et al. (2008)'s interaction matrix has not been updated for marine mammals, reptiles and birds. **SG100 is not met.**

b	**Information adequacy for management strategy**			
	Guide post	Information is adequate to support **measures** to manage the impacts on ETP species.	Information is adequate to measure trends and support a **strategy** to manage impacts on ETP species.	Information is adequate to support a **comprehensive strategy** to manage impacts, minimize mortality and injury of ETP species, and evaluate with a **high degree of certainty** whether a strategy is achieving its objectives.
	Met?	**Yes**	**Yes**	**No**

Rationale

According to SA3.3.1 *if a team determined that the UoA has no impact on a particular component and therefore scored 100 under the Outcome PI, the Information PI shall still be scored.*

The same rationale as for scoring issue a applies for this scoring issue.

Fishers are required to report interactions with ETP species. An analysis of the impact of fishing gears on the Habitats and Birds Directives (Natura 2000) in France was carried out in 2008 (Drogou et *al*., 2008). It concluded that boat-towed dredges operating in the Atlantic, which includes scallop dredging, has no impact on fish, marine mammals, reptiles and birds species with community interest. Drogou et *al* (2008)'s interaction matrix was updated in 2021 for amphihaline species (Acou et *al*., 2021). The analysis concluded that accidental captures in boat-towed dredges are *a priori* nonexistent or exceptional.
Therefore, the data collection methods include reporting by fishers (column B) and independent research projects (column A).

Based on the above the assessment team determines that **SG60 and SG80 are met.** Although data collection methods include independent research projects (column A), the assessment team determined that **SG100 is not met** as the strategy cannot be defined as comprehensive and the information available does not allow to assess with a high degree of certainty the potential impacts of the UoA on ETP species.

References

Acou *et al.*, 2021
Drogou *et al.*, 2008
ICES 2021
Stewart and Howarth, 2016
Bycatch information provided by the CDPMEM 2022

PI 2.3.3	Relevant information is collected to support the management of UoA impacts on ETP species, including: - Information for the development of the management strategy; - Information to assess the effectiveness of the management strategy; and - Information to determine the outcome status of ETP species

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	2 of 2	2 of 2	0 of 2	≥80
Information gap indicator	Information sufficient to score PI			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	All met	All met	0 of 2	**80**
Condition number (if relevant)				**NA**

PI 2.4.1 – Habitats outcome

PI 2.4.1		The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates		
Scoring Issue		SG 60	SG 80	SG 100
a	**Commonly encountered habitat status**			
	Guide post	The UoA is **unlikely** to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	The UoA is **highly unlikely** to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	There is **evidence** that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.
	Met?	Fine sand and silted sand **Yes** Medium sand **Yes**	Fine sand and silted sand **Yes** Medium sand **Yes**	Fine sand and silted sand **No** Medium sand **No**

Rationale

Table SA8 defines serious or irreversible harm to structure and function. *It means changes caused by the UoA that fundamentally alter the capacity of the habitat to maintain its structure and function. This is the reduction in habitat structure, biological diversity, abundance and function such that the habitat would be unable to recover to at least 80% of its unimpacted structure, biological biodiversity and function within 5-20 years, if fishing were to cease entirely.*

Table SA9 presents the probability required at different scoring guidepost. *For this PI, "unlikely" = 40th %ile; high unlikely = 30th %ile, and "evidence of highly unlikely" = 20th %ile. Note that the language of probability in this PI is reversed but holds the same probability expectation as for PI 2.2.1:*

Performance indicator	SG60 probability requirement	SG80 probability requirement	SG100 probability requirement
PI 2.2.1	Likely = > 60th %ile	Highly likely = > 70th %ile	High degree of certainty = > 80th %ile

Due to their penetrative nature and close contact with the seabed, scallop dredges cause substantial physical disruption to the seafloor by ploughing sediments and damaging organisms attached to or resting upon seabed, such as hydroids, bryozoans, sponges, and maerl (Stewart and Howarth, 2016).

Kaiser *et al* (2006) suggest that scallop dredging results in severe impact in biogenic habitats and their global analysis showed that both deposit and suspension-feeders were consistently vulnerable to scallop dredging across gravel and sand habitats. However, this global analysis also concluded that the relative effect of scallop dredging on subtidal habitats was lower and subsequent recovery times shorter than for intertidal dredging. Note that the fishery under assessment operates on the subtidal soft-bottoms of the Baie de Saint-Brieuc. The analysis suggested that it may be partly due to the highly energetic nature of shallow, subtidal, soft-sediment habitats in which physical processes will have a significant habitat-structuring influence. This is consistent with Stewart and Howarth (2016)'s study suggesting that mobile sediments which are subject to high levels of natural disturbance appear to be much more resilient to disturbance by scallop dredging. However, although the Baie de Saint-Brieuc is subject to high level of physical disturbance, mainly its semi-diurnal megatidal regime, it does not automatically mean that benthic communities are highly disturbed and will recover quickly from dredging.
The analysis carried out by Drogou et *al*. (2008) suggests that boat -towed dredges used in the France Atlantic impact habitats by reducing the complexity and the structure of habitats, by changing the sediments texture and by moving or destroying sessile epifauna. It also mentioned that impacts on habitats depend on the intensity and frequency of the fishing activity and the type of gear used.
The effects of scallop dredge fishing are relatively short-lived on ecological communities adapted to high-energy environments with frequent natural disturbance by currents, tides, storms, and re-suspension of sediments such as those inhabiting soft mud/sand/sandy/gravel sediments (Bradshaw *et al.*, 2000). Although there is evidence of reduced physical heterogeneity (including decreased sand waves, or biogenic features) and of changes in the abundance of some taxa, there is no evidence of loss or change in the number of taxa. Some research has demonstrated recovery of benthic fauna on silty sand sediments within

PI 2.4.1	The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates

six months post-dredging unexploited areas at a depth of 15m on Gulf of Maine (Watling *et al.,* 2001). Furthermore, no evidence of scallop dredge impact was apparent one year after a pre-dredge and post-dredge survey at three sites on sand sediments (depth of 45-88m) in the Hudson Canyon of Mid-Atlantic (Sullivan *et al.,* 2003).
A study of the effect of bottom fishing on benthic megafauna in Georges Bank, an area that had been closed to bottom fishing, speculated that in predominantly pebble/cobble sediments substrate areas the recovery of epibenthic communities, including complex structural species aggregations, was on the order of 5 to 10 yrs. (Collie *et al.,* 2005).

Based on the above, the assessment team determined that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm, **SG60 and SG80 are met.**
SG100 is not met due to the lack of specific information demonstrating evidence that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.

b	**VME habitat status**			
	Guide post	The UoA is **unlikely** to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	The UoA is **highly unlikely** to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	There is **evidence** that the UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.
	Met?	*Zostera* meadows **Yes** Maërl **Yes**	*Zostera* meadows **Yes** Maërl **No**	*Zostera* meadows **No** Maërl **No**

Rationale

***Zostera* meadows**

High potential risk was identified for *Zostera* meadows as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. However, there was a disagreement between state officials and the CRPMEM regarding the potential risk for *Zostera* meadows. State official determined that despite the fact that scallop dredging does not target *Zostera* meadows, accidental interactions may occur, resulting in a classification as high potential risk. The CRPMEM of Bretagne argued that fishers' interview confirmed an absence of overlapping between scallop dredging. Figure 26 and Figure 27 show that Zostera meadows are located almost only in the Tregor-Goëlo zone and are absent in the Baie de Saint-Brieuc itself. Figure 33 shows the distribution of the scallop dredgers in the Baie de Saint-Brieuc in 2012 and 2017 and shows that there is low overlap with *Zostera* meadows. *Zostera marina* inhabits in the infralittoral zone up to 3 to 4 m depth (exceptionally 10 m) whereas *Zostera noltii* inhabit the mediolittoral zone with immersion rates at an average of 40% to 70% Bajjouk et al. (2015), where scallop dredging activities do not occur. Bajjouk *et al.* (2015) identifies threat to Zostera meadows as follows, and scallop dredging was not identified as a threat for these habitats:

1. Natural threat in the form of the 'wasting disease"
2. Anthropogenic threats such as hand picking for clams, boat anchors, expansion of mussel and oyster farms, and sediments extraction for extension of port facilities.

In addition, the low abundance of scallop in *Zostera* meadows and a limited fishing time (45 min) does not encourage to fish in areas with low abundance of scallop, and the risk of overloading dredge with seagrass.
During the site visit, stakeholders confirmed that scallop dredging is not a concern for Zostera meadows as scallop dredging does not overlap with the *Zostera* meadows (CDPMEM 22 and A. Sturbois from the Naturel Reserve of the Baie de Saint-Brieuc, *pers. comm.)*.
Therefore, the assessment team determines that the UoA is highly unlikely to reduce structure and function of the *Zostera* meadows to a point where there would be serious or irreversible harm, **SG60 and SG 80 are met**.
However, **SG100 is not met** as there is no evidence that the UoA is highly unlikely to reduce structure and function of the *Zostera* meadows to a point where there would be serious or irreversible harm. More detailed and recent mapping of the distribution of the fishing effort is needed.

Maërl

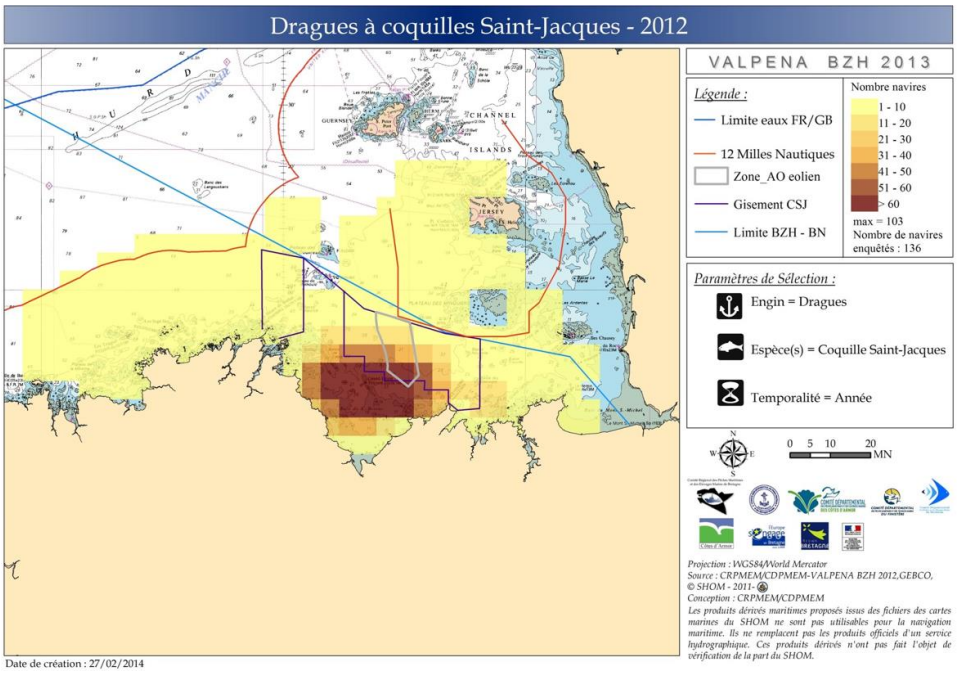
High potential risk was identified for maërl as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Fishers interviews as part of this risk analysis confirmed a potential interaction between scallop

PI 2.4.1	The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates

dredging and maërl in the Tregor-Goëlo area. Figure 22 shows the distribution of maërl beds in the Baie-de-Saint-Brieuc. It is either in spots of several square kilometres (southeast of Bréhat, north of the Yellow Plateau, south of the Justières plateau or west of Cape Fréhel), or in ribbons decametric width and multi-kilometric length (southeast of Caffa, southwest of Verdelet or southeast of the Erquy gates plateau). This map shows that maërl is mostly associated with rocks. Scallop dredging is mostly associated with sandy-gravelly bottoms where scallop inhabits, rocky areas are avoided particularly those close to the shore. Rocky areas are well known, and fishing grounds have not changed since a decade (Figure 33). The CRPMEM of Bretagne has implemented the project RESPECT (Appendix 10.10) in association with four CDPMEM including the CDPMEM 22. The objective of the project is to encourage sustainable fishing practices and to address potential risk identified by the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. A booklet was distributed to fishers and includes a recommendation to adapt fishing practices by avoiding maërl beds. Management measures are in place that may minimise the impacts of habitats: cap of the number of licences, gear characteristics, fishing season, fishing allowed two days per week, daily fishing time capped, daily scallop catch capped, and vessel engine capped. Sectors 2+3 and Sector 4 are not opened simultaneously, and fishers must choose between Sector 1 and Sector 3. Sector 3 is opened at the start of the fishing season in October and November, and then is closed for the remaining of the fishing season.

Therefore, the assessment team determines that the UoA is unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm, **SG60 is met**.

However, the assessment team determines that information available so far does not allow to determine that the UoA is highly unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm**, SG80 is not met**; the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available yet.



PI 2.4.1	The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates

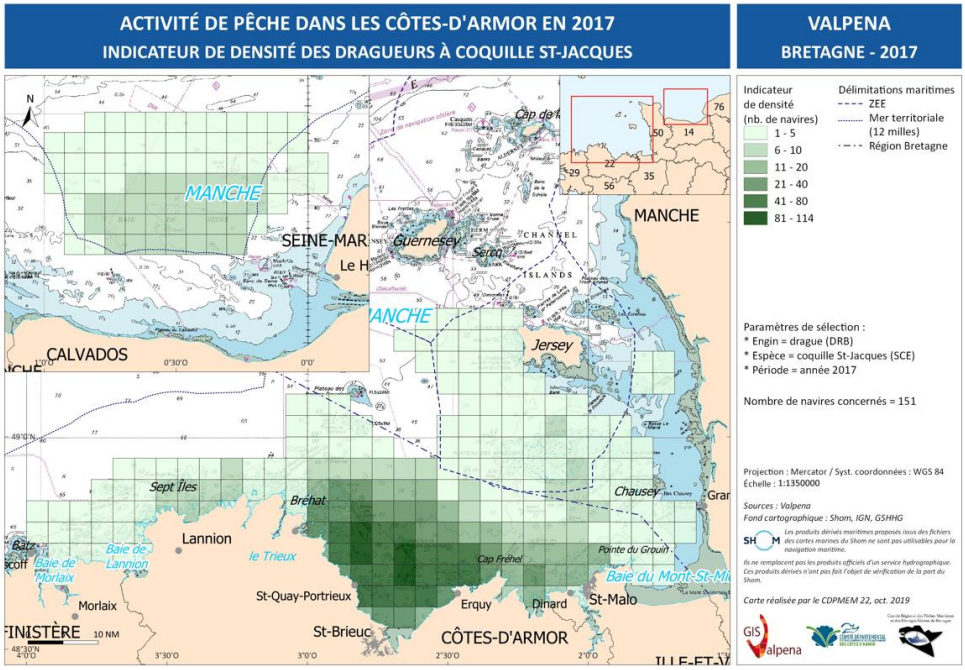


Figure 33. Indicator of the density scallop dredgers (number of boats per square) in 2012 (upper panel) and 2017 (lower panel).

C	**Minor habitat status**			
	Guide post			There is **evidence** that the UoA is highly unlikely to reduce structure and function of the minor habitats to a point where there would be serious or irreversible harm.
	Met?			**NA**

Rationale

Minor habitats have not been identified; this scoring issue is not scored.

References

Bajjouk *et al.* (2015)
Bradshaw *et al.*, 2000
Collie *et al.,* 2005
AUGRIS C., HAMON D. (coordinateurs) et *al*., 1996
Drogou et *al*., 20008
HARPEGE, 2018
Kaiser et *al*, 2006
Stewart and Howarth, 2016
Sullivan *et al.,* 2003
Watling *et al.,* 2001
CDPMEM 22 – Projet RESPECT
https://cdpmem22.fr/pecher-en-cotes-darmor/environnement/natura-2000/

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

PI 2.4.1	The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates				
Individual scoring elements		Applicable SGs likely met per individual scoring element			Likely scoring element scores
		SG60	SG80	SG100	
Commonly encountered habitats	Fine sand and silted sand	1 of 1	1 of 1	0 of 1	≥80
	Medium sand	1 of 1	1 of 1	0 of 1	≥80
VMEs	Maërl	0 of 1	0 of 1	0 of 1	<60
	Zostera meadows	1 of 1	1 of 1	0 of 1	≥80
Draft scoring range		Applicable SGs/elements likely met			Likely overall PI score
		SG60	SG80	SG100	
		One scoring element does not met SG60	One scoring element does not met SG80	None met	<60
Information gap indicator		More information sought Information regarding the distribution of the scallop fishing effort at the Baie de Saint-Brieuc-wide, and information on interactions with maërl			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Individual scoring elements		Applicable SGs met per individual scoring element			Scoring element scores
		SG60	SG80	SG100	
Commonly encountered habitats	1 Fine sand and silted sand	1 of 1	1 of 1	0 of 1	**80**
	2 Medium sand	1 of 1	1 of 1	0 of 1	**80**
VMEs	3 *Zostera* meadows	1 of 1	1 of 1	0 of 1	**80**
	4 Maërl	1 of 1	0 of 1	0 of 1	**60**
Overall Performance Indicator score		Applicable SGs/elements met			Overall score
		SG60	SG80	SG100	
		All met	Not met for 1 of 4 scoring element	Not met	**75**
Condition number (if relevant)					**2**

PI 2.4.2 – Habitats management strategy

PI 2.4.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats		
Scoring Issue		SG 60	SG 80	SG 100
a	**Management strategy in place**			
	Guide post	There are **measures** in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.	There is a **partial strategy** in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.	There is a **strategy** in place for managing the impact of all MSC UoAs/non-MSC fisheries on habitats.
	Met?	Commonly encountered habitats **Yes** *Zostera* meadows **Yes** Maërl **Yes**	Commonly encountered habitats **Yes** *Zostera* meadows **Yes** Maërl **No**	Commonly encountered habitats **No** *Zostera* meadows **No** Maërl **No**

Rationale

In the context of scoring this PI, definitions provided in MSC Fisheries Standard v.2.01 Table SA8 is considered:
• "Measures" are actions or tools in place that either explicitly manage impacts on the component or indirectly contribute to management of the component under assessment having been designed to manage impacts elsewhere.
• A "partial strategy" represents a cohesive arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome and an awareness of the need to change the measures should they cease to be effective. It may not have been designed to manage the impact on that component specifically.
• A "strategy" represents a cohesive and strategic arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome, and which should be designed to manage impact on that component specifically. A strategy needs to be appropriate to the scale, intensity and cultural context of the fishery and should contain mechanisms for the modification fishing practices in the light of the identification of unacceptable impacts.

EU members states unanimously adopted the Birds Directive in April 1979 which was amended in 2009. The Directive places great emphasis on the protection of habitats for endangered and migratory bird species. The Habitats Directive was adopted in 1992 for the conservation of natural habitats and of wild fauna and flora.
Natura 2000 is a European network of important ecological sites underpinned by the Birds Directive and the Habitats Directive. In compliance with Art.4 of the Birds Directive, EU Member States are required to designate Special Protection Areas (SPAs) to protect bird species listed in Annex I of the Directive as well as migratory species. In compliance with Art.3 and 4 of the Habitats Directive, Member States have to first propose Sites of Community Importance (SCIs) for habitat-types listed in Annex I and species listed in Annex II of the Directive. They further have to designate them as Special Areas of Conservation (SACs). SPAs and SCIs-SACs form the Natura 2000 network.
There are three Natura 2000 sites, SPAs and SACs, where the Baie de Saint-Brieuc scallop dredge fishery operates (section 9.3.1.4.3):

- Natura 2000 site Baie de Saint-Brieuc Est
- Natura 2000 site Cap d'Erquy-Cap Fréhel
- Natura 2000 site Tregor Goëlo

The Natural 2000 site Baie de Saint-Brieuc Est encompasses the Réserve Naturelle (Natural Reserve) de la Baie de Saint-Brieuc which was created in 1998 and is considered as a Wetland of International Importance for migratory birds.

In addition to the above, a "cantonnement de pêche" (area closed to fining) was implemented in la Horaine in 1996 to protect lobster and spiny lobster resources. This "cantonment" covers 70 km^2 in the north portion of scallop fishing "secteur" 4 and is closed to bottom fishing including scallop dredging. La Horaine is a high relief sand dune and rocky area.

The Baie de Saint-Brieuc scallop dredge fishery is subject to management measures to control fishing effort: cap of the number of licences, gear characteristics, fishing season (seasonal closure), fishing allowed two days per week, daily fishing time capped, daily scallop catch capped, and vessel engine capped. Sectors 2+3 and Sector 4 are not opened simultaneously, and fishers must

PI 2.4.2	There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats

choose between Sector 1 and Sector 3. Sector 3 is opened at the start of the fishing season in October and November, and then is closed for the remaining of the fishing season.

Based on the above, the assessment team determined that there is a partial strategy in place for the commonly encountered habitats that is expected to achieve the Habitat Outcome 80 level of performance or above, **SG60 and SG80 are met for commonly encountered habitats.**

There is no interaction between the UoA and *Zostera* meadows. **SG60 and SG80 are therefore met by default** in accordance with MSC Fisheries Standard v.2.01 Table SA8 and the MSC interpretation on "the use of 'if necessary' in P2 management PIs".

High potential risk was identified for maërl as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Fishers interviews as part of this risk analysis confirmed a potential interaction between scallop dredging and maërl in the Tregor-Goëlo area. Figure 22 shows that maërl is mostly associated with rocks. Scallop dredging is mostly associated with sandy-gravelly bottoms where scallop inhabits, rocky areas are avoided particularly those close to the shore. Rocky areas are well known, and fishing grounds have not changed since a decade (Figure 33).

As part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo, a maërl bed was identified for a proposition of closure to bottom mobile gears (Figure 34). Stakeholders involved in the HARPEGE project agreed that further information on this maërl bed needs to be collected before the implementation of a spatial closure to bottom mobile gears. In the meantime, it is recommended not to increase the fishing effort in this area.

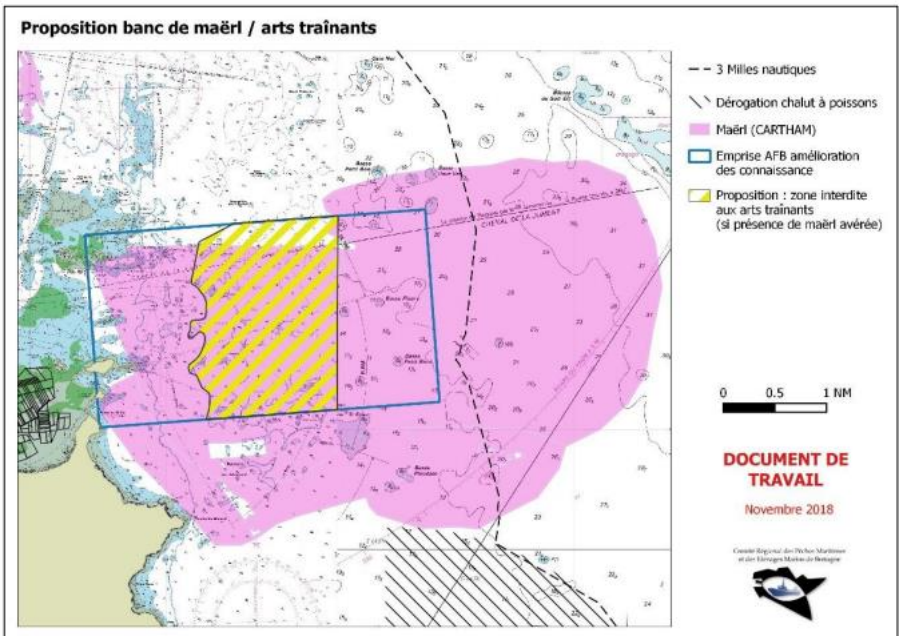


Figure 34. Spatial closure proposed for maërl conservation following consultation with fishers.

SA3.14.2.3 states that *in scoring issue (a) at the SG60 level, "measures" for a UoA that encountered VMEs shall include, at least, the following points:*

a. Requirements to comply with management measures to protect VMEs (e.g., designation of closed areas);

b. Implementation by the UoA of precautionary measures to avoid encounters with VMEs, based on commonly accepted move-on rules.

It is required to comply with management measures. Scallop fishing conditions are included in the CRPMEM of Bretagne's Délibérations which are binding. Once the spatial closure or other measures will be adopted and implemented, it will be added into the CRPMEM of Bretagne's Délibérations pertaining to scallop dredging in the Côtes d'Armor. The CRPMEM of Bretagne has implemented the project RESPECT (Appendix 10.10) in association with four CDPMEM including the CDPMEM 22. The

PI 2.4.2	There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats

objective of the project is to encourage sustainable fishing practices and to address potential risk identified by the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. A booklet was distributed to fishers and includes a recommendation to adapt fishing practices by avoiding maërl beds. Fishers met during the site visit explained that maërl beds are known and their positions are identified in fishing vessels GPS such that they can be avoided during fishing operations.
Therefore, precautionary measures to avoid maërl beds are implemented in the form of commonly move-on/avoidance rules.
The assessment team determined that there are measures in place, **SG60 is met.**
However, the assessment teams determined that **SG80 is yet to be met** as closed area in the Special Protection Area of Tregor-Goëlo was proposed but is yet to be adopted and the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available yet.

SG100 is not met as there is no evidence of a strategy for managing the impact of all MSC UoAs/non-MSC fisheries on habitats.

b	**Management strategy evaluation**			
	Guide post	The measures are **considered likely** to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/habitats).	There is some **objective basis for confidence** that the measures/partial strategy will work, based on **information directly about the UoA and/or habitats** involved.	**Testing** supports **high confidence** that the partial strategy/strategy will work, based on **information directly about the UoA and/or habitats** involved.
	Met?	Commonly encountered habitats **Yes** *Zostera* meadows **Yes** Maërl **Yes**	Commonly encountered habitats **Yes** *Zostera* meadows **Yes** Maërl **No**	Commonly encountered habitats **No** *Zostera* meadows **No** Maërl **No**

Rationale

For commonly encountered habitats
Based on the rationale provided in PI 2.4.1 scoring issue a, the assessment team determined that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm. Therefore, the assessment team determined that there is some objective basis for confidence that the partial strategy will work, **SG60 and SG80 are met.**

For *Zostera* meadows
There is no interaction between the UoA and *Zostera* meadows. **SG60 and SG80 are therefore met by default** in accordance with MSC Fisheries Standard v.2.01 Table SA8 and the MSC interpretation on "the use of 'if necessary' in P2 management PIs".

For maërl
High potential risk was identified for maërl as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Fishers interviews as part of this risk analysis confirmed a potential interaction between scallop dredging and maërl in the Tregor-Goëlo area.
Based on the rationale provided in PI 2.4.1 scoring issue b, the assessment team determined that the UoA is unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm. However, the assessment team determines that information available so far does not allow to determine that the UoA is highly unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm.
Therefore, the assessment team determines that the measures are considered likely to work, **SG60 being met**, but **SG80 is not met.**

For all scoring elements
SG100 is not met as there is no testing supporting high confidence that the partial strategy will work.

c	**Management strategy implementation**			
	Guide post		There is **some quantitative evidence** that the	There is **clear quantitative evidence** that the partial

PI 2.4.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats		
			measures/partial strategy is being implemented successfully.	strategy/strategy is being implemented successfully and is achieving its objective, as outlined in scoring issue (a).
	Met?		Commonly encountered habitats **Yes** *Zostera* meadows **Yes** Maërl **No**	Commonly encountered habitats **No** *Zostera* meadows **No** Maërl **No**

Rationale

For commonly encountered habitats

Based on the rationale provided in PI 4.2.1 scoring issue a, the assessment team determined that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm. The MCS local competent authority DDTM/DML22 finds that the level of compliance has been very satisfactory for some years, and has a high degree of confidence that the fishers comply with the management measures.

Therefore, the assessment team determined that there is some quantitative evidence that the partial strategy is being implemented successfully, **SG80 is met.**

For *Zostera* meadows

There is no interaction between the UoA and *Zostera* meadows. **SG80 are therefore met by default** in accordance with MSC Fisheries Standard v.2.01 Table SA8 and the MSC interpretation on "the use of 'if necessary' in P2 management PIs". The MCS local competent authority DDTM/DML22 finds that the level of compliance has been very satisfactory for some years, and has a high degree of confidence that the fishers comply with the management measures.

Therefore, the assessment team determined that there is some quantitative evidence that the partial strategy is being implemented successfully, **SG80 is met.**

For maërl

Based on the rationale provided in PI 4.2.1 scoring issue b, the assessment team determined that the UoA is unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm. The MCS local competent authority DDTM/DML22 finds that the level of compliance has been very satisfactory for some years, and has a high degree of confidence that the fishers comply with the management measures.

However, the assessment team determines that information available so far does not allow to determine that the UoA is highly unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm as the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available. In addition, the proposed closed area oe other measures in the Special Protection Area of Tregor-Goëlo are yet to be adopted.

Therefore, the assessment team determined that some quantitative evidence that the measures are being implemented successfully is yet to be available, **SG80 is not met.**

For all scoring elements

There is no clear quantitative evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective**, SG100 is not met**.

d	**Compliance with management requirements and other MSC UoAs'/non-MSC fisheries' measures to protect VMEs**			
	Guide post	There is **qualitative evidence** that the UoA complies with its management requirements to protect VMEs.	There is **some quantitative evidence** that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.	There is **clear quantitative evidence** that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.
	Met?	*Zostera* meadows **Yes** Maërl **Yes**	*Zostera* meadows **Yes** Maërl **No**	*Zostera* meadows **No** Maërl **No**

PI 2.4.2	There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats

Rationale

There are no other MSC UoAs in the Baie de Saint-Brieuc.

For *Zostera* meadows

There is no interaction between the UoA and *Zostera* meadows. **SG60 and SG80 are therefore met by default** in accordance with MSC Fisheries Standard v.2.01 Table SA8 and the MSC interpretation on "the use of 'if necessary' in P2 management PIs". In addition, the MCS local competent authority DDTM/DML22 finds that the level of compliance has been very satisfactory for some years, and has a high degree of confidence that the fishers comply with the management measures.

For maërl

Based on the rationale provided in PI 4.2.1 scoring issue b, the assessment team determined that the UoA is unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm. The MCS local competent authority DDTM/DML22 finds that the level of compliance has been very satisfactory for some years, and has a high degree of confidence that the fishers comply with the management measures.
However, the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available and the proposed closed area or other measures in the Special Protection Area of Tregor-Goëlo are yet to be adopted.
Therefore, the assessment team determined that **SG60 is met but SG80 is not met.**

For both scoring elements

There is no clear quantitative evidence that the evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by non-MSC fisheries, **SG100 is not met**.

References

délibération du CRPMEM-Bretagne 2021-023
décisions du CRPMEM-Bretagne 108-2021, 109-2021, 114-2021, 115-2021
arrêté de la Région Bretagne R53-2020-04-24-002
EC Habitats Directive 92/43/EEC
HARPEGE, 2018
https://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm
EC Birds Directive 2009/147/EC
https://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm
MSC Interpretation
https://mscportal.force.com/interpret/s/article/Use-of-if-necessary-in-P2-management-PIs-2-1-2-2-2-2-2-4-2-2-5-2-PI-2-1-2-1527262011402
https://mscportal.force.com/interpret/s/article/Move-on-rules-at-SG60-for-PI2-4-2a-1527586956234

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Individual scoring elements		Applicable SGs likely met per individual scoring element			Likely scoring element scores
		SG60	SG80	SG100	
Commonly encountered habitats		2 of 2	3 of 3	0 of 3	≥80
VMEs	Maërl	0 of 3	0 of 4	0 of 4	<60
	Zostera meadows	3 of 3	4 of 4	4 of 4	≥80
Draft scoring range		Applicable SGs/elements likely met			Likely overall PI score
		SG60	SG80	SG100	

PI 2.4.2	There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats			
	One scoring element does not met SG60	One scoring element does not met SG80	None met	<60
Information gap indicator	More information sought Information regarding the distribution of the scallop fishing effort at the Baie de Saint-Brieuc-wide, and information on interactions with maërl			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Individual scoring elements		Applicable SGs met per individual scoring element			Scoring element scores
		SG60	SG80	SG100	
Commonly encountered habitats	1 Fine sand and silted sand	2 of 2	3 of 3	0 of 3	**80**
	2 Medium sand	2 of 2	3 of 3	0 of 3	**80**
VMEs	3 *Zostera* meadows	3 of 3	4 of 4	0 of 4	**80**
	4 Maërl	3 of 3	0 of 4	0 of 4	**60**
Overall Performance Indicator score		Applicable SGs/elements met			Overall score
		SG60	SG80	SG100	
		All met	Not met by maërl scoring element	None met	**75**
Condition number (if relevant)					**3**

PI 2.4.3 – Habitats information

PI 2.4.3		Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat		
Scoring Issue		SG 60	SG 80	SG 100
a	**Information quality**			
	Guide post	The types and distribution of the main habitats are **broadly understood**. **OR** **If CSA is used to score PI 2.4.1 for the UoA:** Qualitative information is adequate to estimate the types and distribution of the main habitats.	The nature, distribution and **vulnerability** of the main habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA. **OR** **If CSA is used to score PI 2.4.1 for the UoA:** Some quantitative information is available and is adequate to estimate the types and distribution of the main habitats.	The distribution of all habitats is known over their range, with particular attention to the occurrence of vulnerable habitats.
	Met?	Commonly encountered habitats **Yes** *Zostera* meadows **Yes** Maërl **Yes**	Commonly encountered habitats **Yes** *Zostera* meadows **Yes** Maërl **No**	**No**

Rationale

According to SA3.15.4 the team shall interpret "vulnerability" for the SG80 and SG100 levels to mean the combination of:

SA3.15.4.1 The likelihood that the gear would encounter the habitat, and

SA3.15.4.2 The likelihood that the habitat would be altered if an encounter between the gear and the habitat did occur.

Commonly encountered habitats

Commonly encountered habitats are fine sand and silted sand, and medium sand.

Benthic habitats in the Baie de Saint-Brieuc have been mapped. The benthic habitats of the bay have a distribution in "belts", according to a rib-wide gradient of increasing grain size: fine sands silted up at the bottom of the bay towards the coarse sandy-gravelly sediments of the mouth of the bay.

Impacts of scallop dredging on habitats have been extensively studied. Based on the rationale provided in PI 2.4.1 scoring issue a, the assessment team determined that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.

Therefore, the assessment team determined that the nature, distribution and vulnerability of the commonly encountered habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA. **SG60 and SG80 are met.**

VMEs - *Zostera* meadows

High potential risk was identified for *Zostera* meadows as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Figure 26 and Figure 27 show that Zostera meadows are located almost only in the Tregor-Goëlo zone and are absent in the Baie de Saint-Brieuc itself. Scallop dredging is not a concern for *Zostera* meadows as it does not overlap with the *Zostera* meadows as demonstrated in PI 2.4.1 scoring issue b.

Therefore, the assessment team determined that the nature, distribution and vulnerability of *Zostera* meadows in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA. **SG60 and SG80 are met.**

PI 2.4.3	Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat

VMEs - maërl

High potential risk was identified for maërl as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Fishers interviews as part of this risk analysis confirmed a potential interaction between scallop dredging and maërl in the Tregor-Goëlo area. Figure 22 shows the distribution of maërl beds in the Baie-de-Saint-Brieuc. It is either in spots of several square kilometres (southeast of Bréhat, north of the Yellow Plateau, south of the Justières plateau or west of Cape Fréhel), or in ribbons decametric width and multi-kilometric length (southeast of Caffa, southwest of Verdelet or southeast of the Erquy gates plateau). However, the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available

Therefore, the assessment team determined that the nature and distribution of *maërl* in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA, **SG60 is met**. However, its vulnerability to scallop dredging is not known at a level of detail relevant to the scale and intensity of the UoA, **SG80 is not met.**

The distribution of all habitats is not known over their range, with particular attention to the occurrence of vulnerable habitats, **SG100 is not met.**

b	**Information adequacy for assessment of impacts**			
	Guide post	Information is adequate to broadly understand the nature of the main impacts of gear use on the main habitats, including spatial overlap of habitat with fishing gear. OR **If CSA is used to score PI 2.4.1 for the UoA:** Qualitative information is adequate to estimate the consequence and spatial attributes of the main habitats.	Information is adequate to allow for identification of the main impacts of the UoA on the main habitats, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear. OR **If CSA is used to score PI 2.4.1 for the UoA:** Some quantitative information is available and is adequate to estimate the consequence and spatial attributes of the main habitats.	The physical impacts of the gear on all habitats have been quantified fully.
	Met?	Commonly encountered habitats **Yes** *Zostera* meadows **Yes** Maërl **Yes**	Commonly encountered habitats **Yes** *Zostera* meadows **Yes** Maërl **No**	**No**

Rationale

For UoAs encountered VMEs, scoring issue b at the SG80 level should, at least, include the following information:

a. Maps and specific position information relating to the UoA's footprint.
b. Position of closed areas to protect VMEs.
c. Position of closed areas that were established by the UoA, other MSC UoAs, and non-MSC fisheries fishing in the area as a precautionary measure, subject to the provisions of SA3.14.3.2.
d. Catch and catch rates of VME-indicator organisms and information to support the scientific definition of precautionary trigger levels, where these are used.

Commonly encountered habitats

Commonly encountered habitats are fine sand and silted sand, and medium sand.

PI 2.4.3	Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat

Benthic habitats in the Baie de Saint-Brieuc have been mapped. The benthic habitats of the bay have a distribution in "belts", according to a rib-wide gradient of increasing grain size: fine sands silted up at the bottom of the bay towards the coarse sandy-gravelly sediments of the mouth of the bay.
Impacts of scallop dredging on habitats have been extensively studied. Based on the rationale provided in PI 4.2.1 scoring issue a, the assessment team determined that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.
Fishing effort in spatially and temporally distributed. Sectors 2+3 and Sector 4 are not opened simultaneously, and fishers must choose between Sector 1 and Sector 3. Sector 3 is opened at the start of the fishing season in October and November, and then is closed for the remaining of the fishing season.
Therefore, the assessment team determined that information is adequate to allow for identification of the main impacts of the UoA on the commonly encountered habitats, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear, **SG60 and SG80 are met.**

VMEs - *Zostera* meadows
High potential risk was identified for *Zostera* meadows as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Figure 26 and Figure 27 show that Zostera meadows are located almost only in the Tregor-Goëlo zone and are absent in the Baie de Saint-Brieuc itself. Scallop dredging is not a concern for *Zostera* meadows as it does not overlap with the *Zostera* meadows as demonstrated in PI 2.4.1 scoring issue b.
Fishing effort in spatially and temporally distributed. Sectors 2+3 and Sector 4 are not opened simultaneously, and fishers must choose between Sector 1 and Sector 3. Sector 3 is opened at the start of the fishing season in October and November, and then is closed for the remaining of the fishing season.
Therefore, the assessment team determined that information is adequate to allow for identification of the main impacts of the UoA on *Zostera* meadows, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear, **SG60 and SG80 are met.**

VMEs - maërl
High potential risk was identified for maërl as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Fishers interviews as part of this risk analysis confirmed a potential interaction between scallop dredging and maërl in the Tregor-Goëlo area. Figure 22 shows the distribution of maërl beds in the Baie-de-Saint-Brieuc. It is either in spots of several square kilometres (southeast of Bréhat, north of the Yellow Plateau, south of the Justières plateau or west of Cape Fréhel), or in ribbons decametric width and multi-kilometric length (southeast of Caffa, southwest of Verdelet or southeast of the Erquy gates plateau). **SG60 is met.**
However, the assessment team determines that information available so far does not allow to determine that the UoA is highly unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm**,** the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available
Therefore, the assessment team determined that there no is reliable information on the spatial extent of interaction with the fishing gear, **SG80 is not met.**

The physical impacts of the gear on all habitats in the Baie de Sait-Brieuc have been quantified fully., **SG100 is not met.**

C	**Monitoring**			
	Guide post		Adequate information continues to be collected to detect any increase in risk to the main habitats.	Changes in all habitat distributions over time are measured.
	Met?		Commonly encountered habitats **Yes** *Zostera* meadows **Yes** Maërl **No**	**No**

Rationale

Commonly encountered habitats
Commonly encountered habitats are fine sand and silted sand, and medium sand.

PI 2.4.3	Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat

Benthic habitats in the Baie de Saint-Brieuc have been mapped. The benthic habitats of the bay have a distribution in "belts", according to a rib-wide gradient of increasing grain size: fine sands silted up at the bottom of the bay towards the coarse sandy-gravelly sediments of the mouth of the bay.
Impacts of scallop dredging on habitats have been extensively studied included recent studies.
Therefore, the assessment team determined that adequate information continues to be collected to detect any increase in risk to commonly encountered habitats**. SG80 is met.**

VMEs - *Zostera* meadows
High potential risk was identified for *Zostera* meadows as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Figure 26 and Figure 27 show that Zostera meadows are located almost only in the Tregor-Goëlo zone and are absent in the Baie de Saint-Brieuc itself. Scallop dredging is not a concern for *Zostera* meadows as it does not overlap with the *Zostera* meadows as demonstrated in PI 2.4.1 scoring issue b.
Therefore, the assessment team determined that adequate information continues to be collected to detect any increase in risk to *Zostera* meadows**. SG80 is met.**

VMEs - maërl
High potential risk was identified for maërl as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Fishers interviews as part of this risk analysis confirmed a potential interaction between scallop dredging and maërl in the Tregor-Goëlo area. Figure 22 shows the distribution of maërl beds in the Baie-de-Saint-Brieuc. It is either in spots of several square kilometres (southeast of Bréhat, north of the Yellow Plateau, south of the Justières plateau or west of Cape Fréhel), or in ribbons decametric width and multi-kilometric length (southeast of Caffa, southwest of Verdelet or southeast of the Erquy gates plateau). However, the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available
Therefore, the assessment team determined that adequate information does not continue to be collected to detect any increase in risk to maërl**. SG80 is not met.**

Changes in all habitat distributions over time are not measured, **SG100 is not met.**

References

Bradshaw *et al.*, 2000
Collie *et al.,* 2005
AUGRIS C., HAMON D. (coordinateurs) et *al*., 1996
Drogou et *al*., 20008
HARPEGE, 2018
Kaiser et *al*, 2006
Stewart and Howarth, 2016
Sullivan *et al.,* 2003
Watling *et al.,* 2001

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Individual scoring elements (add rows as required; delete if not scoring by elements)	Applicable SGs likely met per individual scoring element			Likely scoring element scores
	SG60	SG80	SG100	
Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	2 of 2	1 of 3	1 of 3	60 – 79
Information gap indicator	More information sought			

PI 2.4.3	Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat
	Information regarding the distribution of the scallop fishing effort at the Baie de Saint-Brieuc-wide, and information on interactions with maërl

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Individual scoring elements		Applicable SGs met per individual scoring element			Scoring element scores
		SG60	SG80	SG100	
1	Commonly encountered habitats	2 of 2	3 of 3	0 of 3	**80**
VMEs	2 *Zostera* meadows	2 of 2	3 of 3	0 of 3	**80**
	3 Maërl	2 of 2	0 of 3	0 of 3	**60**
Overall Performance Indicator score		Applicable SGs/elements met			Overall score
		SG60	SG80	SG100	
		All met	Not met by maërl scoring element	None met	**75**
Condition number (if relevant)					**4**

PI 2.5.1 – Ecosystem outcome

PI 2.5.1		The UoA does not cause serious or irreversible harm to the key elements of ecosystem structure and function		
Scoring Issue		SG 60	SG 80	SG 100
a	**Ecosystem status**			
	Guide post	The UoA is **unlikely** to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	The UoA is **highly unlikely** to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	There is **evidence** that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
	Met?	**Yes**	**Yes**	**No**

Rationale

Table SA8 defines serious or irreversible harm to structure and function. *It means changes caused by the UoA that fundamentally alter the capacity of the habitat to maintain its structure and function. This is the reduction of key features most crucial to maintaining the integrity of its structure and functions and ensuring that ecosystem resilience and productivity is not adversely impacted. This includes, but is not limited to, permanent changes in the biological diversity of the ecological community and the ecosystem's capacity to deliver ecosystem services.*

Table SA9 presents the probability required at different scoring guidepost. *For this PI, "unlikely" = 40th %ile; high unlikely = 30th %ile, and "evidence of highly unlikely" = 20th %ile. Note that the language of probability in this PI is reversed but holds the same probability expectation as for PI 2.2.1:*

Performance indicator	SG60 probability requirement	SG80 probability requirement	SG100 probability requirement
PI 2.2.1	Likely = > 60th %ile	Highly likely = > 70th %ile	High degree of certainty = > 80th %ile

The ecosystem effects of scallop dredge fisheries have been investigated.

The effects of scallop dredging on marine ecosystems vary with different seabed types, levels of background disturbance, local hydrography, fishing intensity, and the characteristics of the ecological community (Stewart and Howarth, 2016). Physical impacts of scallop dredging are reviewed in the habitats section.
According to Stewart and Howarth (2016), scallop dredging has a potential to disrupt the benthic fauna with can potentially percolate through the entire marine ecosystem as they constitute an important food resource to fish, invertebrates, and other higher trophic levels.
The analysis carried out by Drogou et *al*. (2008) suggest that boat -towed dredges used in the France Atlantic impact ecosystems by changing the species communities structure, by modifying the interactions between species, and changing the ecosystems function and biodiversity.

Recent studies characterised the spatio-temporal changes in intertidal and subtidal benthic communities in the Baie de Saint Brieuc (Sturbois *et al.,* 2021a, 2021b and 2021c).
In the intertidal zone, abundance, taxa richness and species diversity slightly increased over time, the distribution and Structure of benthic assemblages and overall functional properties remained stable over time.
In the subtidal zone where the scallop dredge fishery operates, changes were observed in the contribution of main taxonomic groups to total local abundance over the time. The study also observed a temporal change in the distribution of assemblages and a decrease in the overall diversity over time. Abundance and distribution of main bivalve species changed over time. Functional changes mainly with a decrease of deposit-feeders, tubiculous and flexible and fragile species were observed. Sturbois et al.'s study suggests that these changes are recent and may not be strictly related to habitat characteristics but to fishing activities including scallop dredging.

PI 2.5.1	The UoA does not cause serious or irreversible harm to the key elements of ecosystem structure and function

The effects of scallop dredge fishing are relatively short-lived on ecological communities adapted to high-energy environments with frequent natural disturbance by currents, tides, storms, and re-suspension of sediments such as those inhabiting soft mud/sand/sandy/gravel sediments (Bradshaw *et al.*, 2000). Although there is evidence of reduced physical heterogeneity (including decreased sand waves, or biogenic features) and of changes in the abundance of some taxa, there is no evidence of loss or change in the number of taxa. Some research has demonstrated recovery of benthic fauna on silty sand sediments within six months post-dredging unexploited areas at a depth of 15m on Gulf of Maine (Watling *et al.,* 2001). Furthermore, no evidence of scallop dredge impact was apparent one year after a pre-dredge and post-dredge survey at three sites on sand sediments (depth of 45-88m) in the Hudson Canyon of Mid-Atlantic (Sullivan *et al.,* 2003).
A study of the effect of bottom fishing on benthic megafauna in Georges Bank, an area that had been closed to bottom fishing, speculated that in predominantly pebble/cobble sediments substrate areas the recovery of epibenthic communities, including complex structural species aggregations, was on the order of 5 to 10 yrs. (Collie *et al.,* 2005).
Scallops are suspension-feeding organisms, and their main predator is the starfish *Marthasterias glacialis*. Scallop dredging does not remove apex predators.

Studies show that the scallop dredge fishery clearly impacts the ecosystem but not at a level where there would be serious or irreversible harms. The assessment team determines that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm, **SG60 and SG80 are met.**

SG100 is not met due to the lack of specific information demonstrating evidence at the entire Baie de Saint-Brieuc level that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.

References

Bradshaw *et al.*, 2000
Collie *et al.,* 2005
Drogou et *al.*, 20008
HARPEGE, 2018
Kaiser et *al*, 2006
Stewart and Howarth, 2016
Sturbois et al, 2021a, 2021b, 2021c
Sullivan *et al.,* 2003
Watling *et al.,* 2001

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	1 of 1	1 of 1	0 of 1	≥80
Information gap indicator	Information sufficient to score PI			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	1 of 1	1 of 1	0 of 1	**80**
Condition number (if relevant)				**NA**

PI 2.5.2 – Ecosystem management strategy

PI 2.5.2		There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function		
Scoring Issue		SG 60	SG 80	SG 100
a	**Management strategy in place**			
	Guide post	There are **measures** in place, if necessary which take into account the **potential impacts** of the UoA on key elements of the ecosystem.	There is a **partial strategy** in place, if necessary, which takes into account **available information and is expected to restrain impacts** of the UoA on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.	There is a **strategy** that consists of a **plan**, in place which contains measures to **address all main impacts of the UoA** on the ecosystem, and at least some of these measures are in place.
	Met?	**Yes**	**Yes**	**No**

Rationale

In the context of scoring this PI, definitions provided in MSC Fisheries Standard v.2.01 Table SA8 is considered:
• "Measures" are actions or tools in place that either explicitly manage impacts on the component or indirectly contribute to management of the component under assessment having been designed to manage impacts elsewhere.
• A "partial strategy" represents a cohesive arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome and an awareness of the need to change the measures should they cease to be effective. It may not have been designed to manage the impact on that component specifically.
• A "strategy" represents a cohesive and strategic arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome, and which should be designed to manage impact on that component specifically. A strategy needs to be appropriate to the scale, intensity and cultural context of the fishery and should contain mechanisms for the modification fishing practices in the light of the identification of unacceptable impacts.

The European Union's Marine Strategy Framework Directive (directive 2008/56/EC) was adopted on 17 June 2008. It aims to protect more effectively the marine environment across Europe.
The Commission also produced a set of detailed criteria and methodological standards to help Member States implement the Marine Strategy Framework Directive. These were revised in 2017 leading to the new Commission Decision on Good Environmental Status.
Annex III of the Directive was also amended in 2017 to better link ecosystem components, anthropogenic pressures and impacts on the marine environment with the MSFD's 11 descriptors and with the new Decision on Good Environmental Status.
The new EU Biodiversity Strategy for 2030 (adopted in May 2020) aims to strengthen the protection of marine ecosystems and to restore them to achieve "good environmental status", including through the expansion of protected areas and the establishment of strictly protected areas for habitats and fish stocks recovery. It stresses the need for an ecosystem-based approach to the management of human activities at sea. This means addressing the overexploitation of fishing stocks to or under, Maximum Sustainable Yield levels (i.e. a level that will allow a healthy future for the fish stock's biomass); eliminating bycatch, or at least reducing it to non-dangerous levels, in order to protect sea mammals, turtles and birds, especially those that are threatened with extinction or in bad status; and tackling practices that damage the seabed

In France, the Directive was transposed in the Code de l'Environnement and a National Strategy for the Marine Environment (Directive Cadre Stratégique pour le milieu marin) was implemented in 2016. At the Regional level, a strategy was adopted for the North Atlantic – western English Channel (Ministère de la Transition écologique et solidaire – Direction interrégionale de la mer Nord Atlantique – Manche Ouest).

EU members states unanimously adopted the Birds Directive in April 1979 which was amended in 2009. The Directive places great emphasis on the protection of habitats for endangered and migratory bird species. The Habitats Directive was adopted in 1992 for the conservation of natural habitats and of wild fauna and flora.
Natura 2000 is a European network of important ecological sites underpinned by the Birds Directive and the Habitats Directive.

PI 2.5.2	There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function

In compliance with Art.4 of the Birds Directive, EU Member States are required to designate Special Protection Areas (SPAs) to protect bird species listed in Annex I of the Directive as well as migratory species. In compliance with Art.3 and 4 of the Habitats Directive, Member States have to first propose Sites of Community Importance (SCIs) for habitat-types listed in Annex I and species listed in Annex II of the Directive. They further have to designate them as Special Areas of Conservation (SACs). SPAs and SCIs-SACs form the Natura 2000 network.
There are three Natura 2000 sites, SPAs and SACs, where the Baie de Saint-Brieuc scallop dredge fishery operates (section 9.3.1.4.3):

- Natura 2000 site Baie de Saint-Brieuc Est
- Natura 2000 site Cap d'Erquy-Cap Fréhel
- Natura 2000 site Tregor Goëlo

The Natural 2000 site Baie de Saint-Brieuc Est encompasses the Réserve Naturelle (Natural Reserve) de la Baie de Saint-Brieuc which was created in 1998 and is considered as a Wetland of International Importance for migratory birds.

The Baie de Saint-Brieuc scallop dredge fishery is subject to management measures: cap of the number of licences, gear characteristics, fishing season (seasonal closure), fishing allowed two days per week, daily fishing time capped, daily scallop catch capped, scallop minimum landing size, and vessel engine capped. Sectors 2+3 and Sector 4 are not opened simultaneously, and fishers must choose between Sector 1 and Sector 3. Sector 3 is opened at the start of the fishing season in October and November, and then is closed for the remaining of the fishing season.

The assessment team determined that there is a partial strategy in place, if necessary, which takes into account available information and is expected to restrain impacts of the UoA on the ecosystem, **SG60 and SG80 is met.**
However, **SG100 is not met** as there is no strategy that consists of a plan.

b	**Management strategy evaluation**			
	Guide post	The **measures** are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar UoAs/ ecosystems).	There is **some objective basis for confidence** that the measures/ partial strategy will work, based on some information directly about the UoA and/or the ecosystem involved.	**Testing** supports **high confidence** that the partial strategy/ strategy will work, based on information directly about the UoA and/or ecosystem involved.
	Met?	**Yes**	**Yes**	**No**

Rationale

There is some objective basis for confidence that the measures/ partial strategy will work, based on some information directly about the UoA and/or the ecosystem involved.

Based on the rationale provided in PI 2.5.1 scoring issue a, the assessment team determines that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
Therefore, the assessment team determined that there is some objective basis for confidence that the partial strategy will work, **SG60 and SG80 are met.**

SG100 is not met as there is no testing supporting high confidence that the partial strategy will work.

c	**Management strategy implementation**			
	Guide post		There is **some evidence** that the measures/partial strategy is being **implemented successfully**.	There is **clear evidence** that the partial strategy/strategy is being **implemented successfully and is achieving its objective as set out in scoring issue (a).**

PI 2.5.2	There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function		
Met?		**Yes**	**No**

Rationale

There is some evidence that the measures/partial strategy is being implemented successfully.

Based on the rationale provided in PI 2.5.1 scoring issue a, the assessment team determines that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm. The MCS local competent authority DDTM/DML22 finds that the level of compliance has been very satisfactory for some years, and has a high degree of confidence that the fishers comply with the management measures.
Therefore, the assessment team determined that there is some quantitative evidence that the partial strategy is being implemented successfully, **SG80 is met.**

There is no clear quantitative evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective**, SG100 is not met**.

References

délibération du CRPMEM-Bretagne 2021-023
décisions du CRPMEM-Bretagne 108-2021, 109-2021, 114-2021, 115-2021
arrêté de la Région Bretagne R53-2020-04-24-002
EC Habitats Directive 92/43/EEC
https://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm
EC Birds Directive 2009/147/EC
https://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm
Ministère de la Transition écologique et solidaire – Direction interrégionale de la mer Nord Atlantique – Manche Ouest. Stratégie de façade maritime, Document stratégique de la façade Nord Atlantique – Manche Ouest.
The Marine Strategy Framework Directive
https://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

	Applicable SGs/elements likely met			Likely overall PI score
Draft scoring range	SG60	SG80	SG100	
	2 of 2	2 of 3	1 of 3	60 – 79
Information gap indicator	More information sought Compliance reports			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

	Applicable SGs/elements met			Overall score
Overall Performance Indicator score	SG60	SG80	SG100	
	2 of 2	3 of 3	0 of 3	**80**
Condition number (if relevant)				**NA**

PI 2.5.3 – Ecosystem information

PI 2.5.3		There is adequate knowledge of the impacts of the UoA on the ecosystem		
Scoring Issue		SG 60	SG 80	SG 100
a	**Information quality**			
	Guide post	Information is adequate to **identify** the key elements of the ecosystem.	Information is adequate to **broadly understand** the key elements of the ecosystem.	
	Met?	**Yes**	**Yes**	
Rationale				
Information is adequate to broadly understand the key elements of the ecosystem. The Baie de Saint-Brieuc is broadly known and there is a continued monitoring of the ecosystem by different institutions. **SG60 and SG80 are met.**				
b	**Investigation of UoA impacts**			
	Guide post	Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, but **have not been investigated** in detail.	Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, and **some have been investigated in detail**.	Main interactions between the UoA and these ecosystem elements can be inferred from existing information, and **have been investigated in detail**.
	Met?	**Yes**	**Yes**	**No**
Rationale				
Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, and some have been investigated in detail. The Baie de Saint-Brieuc is broadly known and there is a continued monitoring of the ecosystem by different institutions. The effects of scallop dredging on marine ecosystems vary with different seabed types, levels of background disturbance, local hydrography, fishing intensity, and the characteristics of the ecological community (Stewart and Howarth, 2016). Physical impacts of scallop dredging are reviewed in the habitats section. According to Stewart and Howarth (2016), scallop dredging has a potential to disrupt the benthic fauna with can potentially percolate through the entire marine ecosystem as they constitute an important food resource to fish, invertebrates, and other higher trophic levels. The analysis carried out by Drogou et *al*. (2008) suggest that boat -towed dredges used in the France Atlantic impact ecosystems by changing the species communities structure, by modifying the interactions between species, and changing the ecosystems function and biodiversity. Recent studies characterised the spatio-temporal changes in intertidal and subtidal benthic communities in the Baie de Saint Brieuc (Sturbois *et al.,* 2021a, 2021b and 2021c). The assessment team determines that main impacts of the UoA on these key ecosystem elements can be inferred from existing information, and some have been investigated in detail. **SG60 and SG80 are met.** **SG100 is not met** as main interactions have not been all investigated in detail.				
c	**Understanding of component functions**			
	Guide post		The main functions of the components (i.e., P1 target species, primary, secondary and ETP species and Habitats) in the ecosystem are **known**.	The impacts of the UoA on P1 target species, primary, secondary and ETP species and Habitats are identified and the main functions of these

PI 2.5.3		There is adequate knowledge of the impacts of the UoA on the ecosystem		
				components in the ecosystem are **understood**.
	Met?		**Yes**	**Yes**

Rationale

The impacts of the UoA on P1 target species, primary, secondary and ETP species and Habitats are identified and the main functions of these components in the ecosystem are **understood**.

The impacts of the UoA on scallop are identified, there is qualitative and quantitative information on non-target species catches, an analysis of the potential risk to habitats is being conducted, there are no interactions with ETP species. The main functions of these components are understood. There is a continued monitoring of the ecosystem by different institutions.
SG80 and SG100 are met.

	Information relevance			
d	Guide post		Adequate information is available on the impacts of the UoA on these components to allow some of the main consequences for the ecosystem to be inferred.	Adequate information is available on the impacts of the UoA on the components **and elements** to allow the main consequences for the ecosystem to be inferred.
	Met?		**Yes**	**No**

Rationale

Adequate information is available on the impacts of the UoA on these components to allow some of the main consequences for the ecosystem to be inferred.
The impacts of the UoA on scallop are identified, the scallop stock is monitored annually, catches of scallop are monitored and are available at the “secteur” level, there is qualitative and some quantitative information on non-target species catches, an analysis of the potential risk to habitats is being conducted, there are no interactions with ETP.
The assessment team determined that adequate information is available on the impacts of the UoA on these components to allow some of the main consequences for the ecosystem to be inferred. **SG80 is met.**
However, **SG100 is not met** as adequate information is not available on the impacts of the UoA on the components and elements to allow the main consequences for the ecosystem to be inferred. The risk analysis for Saint-Brieuc East and Cap d’Erquy-Cap Fréhel is ongoing and results are not available

	Monitoring			
e	Guide post		Adequate data continue to be collected to detect any increase in risk level.	Information is adequate to support the development of strategies to manage ecosystem impacts.
	Met?		**Yes**	**No**

Rationale

Adequate data continue to be collected to detect any increase in risk level.

The stock is monitored annually, catches of scallop are monitored and are available at the “secteur” level, there is qualitative and some quantitative information on non-target species catches, an analysis of the potential risk to habitats is being conducted, there are no interactions with ETP. **SG80 is met.**
However, **SG100 is not met** as adequate information is not available to support the development of strategies to manage ecosystem impacts. The risk analysis for Saint-Brieuc East and Cap d’Erquy-Cap Fréhel is ongoing and results are not available

References

PI 2.5.3	There is adequate knowledge of the impacts of the UoA on the ecosystem

Bradshaw *et al.*, 2000
Collie *et al.,* 2005
Drogou et *al*., 20008
HARPEGE, 2018
Kaiser et *al*, 2006
Stewart and Howarth, 2016
Sturbois et al, 2021a, 2021b, 2021c
Sullivan *et al.,* 2003
Watling *et al.,* 2001https://wwz.ifremer.fr/peche/content/download/41283/file/Coquille-Saint-Jacques%20Bio.pdf
Bycatch data form the CDPMEM 22

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	2 of 2	4 of 5	0 of 4	60 – 79
Information gap indicator	More information sought adequate quantitative data on bycatch Distribution of the scallop fishing effort at the Baie de Saint-Brieuc-wide and the interaction with maërl			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	2 of 2	5 of 5	1 of 4	**85**
Condition number (if relevant)				**NA**

9.4 Principle 3

9.4.1 Principle 3 background

9.4.1.1 Jurisdictions and institutions

The fishery takes place entirely in French territorial waters inside 12 nautical miles of the coast baseline off the Côtes d'Armor département (or county number 22), there is no access for non-EU or for other EU non-French vessels. Therefore EU institutions are not directly involved in the management of the fishery, although some EU legislation apply to the extent that the EU Common Fisheries Policy (CFP) applies to all EU member states (see next section), with common data collection obligations, protocols, exchange formats and scientific cooperation, and EU Common Market and state aid rules (Table 32).

The vessels licensed to fish are owner-operated, registered in ports of the Brittany (Bretagne) region and mostly 13m and under in length overall (LOA).

The fishery is co-managed by the French government system of central (DGAMPA) and devolved administrations (DIRM, DDTM-DML22) and by the industry's Comités des Pêches (Comité national CNPMEM, Comité régional Bretagne CRPMEM-Bretagne[4] and Comité départemental des Côtes d'Armor CDPMEM22).

There is a national scallops' licence ("autorisation nationale de pêche"), which gives a common frame with the conditions of sub-national permits, and amounts to a European permit for the local sub-stocks ("gisements") that straddle outside territorial waters, which is not the case for the Saint-Brieux gisement.

The competent devolved administrations are the Direction inter-régionale de la Mer Nord Atlantique Manche Ouest (DIRM-NAMO), which coordinates public policies implementation regarding activities at sea (fishing, lights, safety, search and rescue, planning and training) and around the coast. The DIRM NAMO also coordinates controls (fisheries, aquaculture, marine environment, safety at sea etc.) and operates a 141ft (46m) long patrol vessel, the Osiris, and administers public funds such as supports to the fishing industry impacted by the pandemic.

The CRPMEM-Bretagne manages fishing licences for non-quota stocks, including for scallops around the coasts of Brittany and the Baie de Saint-Brieuc scallop fishery. Decisions from the CRPMEM become bylaws once approved by the "prefêt.e" who is the government representative for the region. In a similar way, the CNPMEM decisions become law (decrees) once approved at ministerial level. For this fishery, the President of the CRPMEM-Bretagne signs the "decisions", on the advice of the Côtes d'Armor Scallop Committee (Commission coquilles Saint-Jacques des Côtes d'Armor) and of the president of the « Coquillages Pêche Embarquée » working group.

The Brittany region has four (county-level) Comités départementaux des Pêches et des Elevages Marins (CDPMEM). The fishery in the Baie de Saint-Brieuc is locally managed by the CDPMEM Côtes d'Armor, or CDPMEM22, which brings together elected professionals who have a fishing vessel registered in one of the two maritime districts of the department (Paimpol and Saint-Brieuc), or who have a fishing company whose head office is based in the county. Local producer organisations (POs) and maritime cooperatives are also represented.

Bylaws proposed at county level by the CDPMEM22 scallop sub-committee (Commission Coquilles des Côtes d'Armor) are the discussed to be adopted by the regional Committee. The CRPMEM-Bretagne proposes management measures including fishing dates and times, any catch-up days, and makes proposals for sanctions and interruption of the fishing campaign, as needed. The Committee invites permanent representatives of the Producer Organisations (POs) who play a key role to stabilise the scallops' market, and

[4] http://www.bretagne-peches.org/

of the local government offices DML22 and DML35 (St-Malo), of auctions22 and of the IFREMER research institute. Management measures agreed in its 'délibérations' become bylaws following a legality check and agreement of the government representative (Préfet de region).

Some vessels are members of the Producer Organisation (PO) COBRENORD, others are members of the PO Les Pêcheurs de Bretagne and few vessels are not members of a PO. The St-Brieuc scallop stock is not managed through EU quota but still falls under the 2013 EU Regulation N°1379/2013 on the common organisation of the markets in fishery and aquaculture products (EU, 2013b) because the POs intervene to stabilise first-sale market prices for their members.

A "Dive fishery" is presently also authorized by the CRPMEMs that have carried out two conclusive diving fishing experimental campaigns on the beds under their jurisdiction and have produced a report made at the end of each fishing campaign. Diving activities are framed by specific health and safety requirements for divers, all catch has to be sold through an auction, and local evaluations will be conducted after two years.

Table 32. Institutions of the Baie de St Brieuc scallop fishery	
European	
International Council for the Exploration of the Sea (ICES)	Scallop Assessment Group (WGSCALLOP), in charge of compile and present data on scallop fisheries in ICES sub areas 2, 4, 5, 6 and 7; review recent/current stock assessment methods of the main scallop species; share expertise, knowledge and technical advance; refine stock structure using genetics and larval dispersal information, and look to improve current mapping of scallop stocks
National level - France	
DGAMPA	The ministerial Direction Générale des Affaires Maritimes, de la Pêche et de l'Aquaculture – (DGAMPA) is the central government legislative and management level for fisheries sustainable management and economic development. The DGAMPA also negotiates and legislates the bases of the EU Common Fisheries Policy in France and internationally.
Comité National des Pêches maritimes et des élevages marins (CNPMEM)	The CNPMEM statutory government advisor and consultee for matters related to the fishing industry representation and organisation, and to fisheries management legislation.
France Filière Pêche (FFP)	A cross-professional association brings together producers, fishmongers, wholesalers, processors, mass distribution and retail fishmongers in France, to support sustainable development. Frequent co-financer of EU-EMFF supported industry-led projects.
Sub-national level - Région Bretagne	
Direction inter-régionale de la Mer (DIRM)	Nord Atlantique-Manche Ouest (DIRM NAMO) based in Rennes, the DIRM represents the French government at sub-national level. In charge of commercial fisheries licensing that is administered by the CRPMEM-Bretagne by delegation (see below); Also in charge of compliance with legislation, including relating to fishing activities, and coordinating delivery on the integrated maritime and coastal policy implementation and other EU and international obligations. For the purpose of MCS, the DIRM has small crafts based in coastal units (unités littorales des affaires maritimes - ULAM), and regional and national fisheries patrol vessels. It reports to the ministry (DGAMPA) on EU programs of data collection, monitoring and evaluation programs for the MSFD, the Water Framework Directive, Natura2000 marine protected areas (Birds and Habitats Directives); and on EU fleet and market public support programs.

Table 32. Institutions of the Baie de St Brieuc scallop fishery	
Comité Régional des Pêches Maritimes de Bretagne (CRPMEM-Bretagne) Commission Coquille	The CRPMEM-Bretagne has delegated powers to represent and champion the interests of professionals along the value chains (producers, buyers and sellers) in all relevant aspects (production, marketing, social, training and environment,...). Most importantly, through the CRPMEM-Bretagne, the local CDPMEM22 (see below) proposes fisheries management measures that are then validated by government, with the dual objective of regulating fishing activities and productions for their sustainability and to support local livelihoods.
COBRENORD	The producer organisation (PO) intervenes to stabilise 1st sales prices, PO members contribute towards a fund that may be used to set a minimum auction price.
Ifremer	Scientific research and stock assessment institute – a national organisation with headquarters in Brest (Brittany) and regional offices dealing with locally-relevant issues.
Local level – Baie de St Brieuc (Côtes d'Armor 22)	
Comité Départemental des Pêches Maritimes des Côtes d'Armor (CDPMEM22)	Scallop and other fishing licence applications have to be placed through the CDPMEM of the vessel's port of registration and CRPMEM-Bretagne, the CDPEM22 for the UoA vessels.
Direction Départementale des Territoire et de la Mer (DDTM / DML 22)	By delegation, the DDTM22 participates in the sustainable development of the county (département), including of maritime activities. The DML 22 treat administrative authorisations. The DDTM22 is in charge of fisheries controls, with the MCS means of the ULAM (Local Unit of Affaires Maritimes), and suggests sanctions to the DIRM in case of non-compliance.

9.4.1.2 Legal and customary framework

The management system is framed by French fisheries legislation at national and at local levels, which is itself framed by the European Common Fisheries Policy (CFP) and associated secondary legislation.

The French primary legislation for fisheries (Code Rural et de la Pêche Maritime - Livre IX, France 2012a) and for the marine environnement (Code de l'Environnement - Livre II, Titre 1er, France 2021b) both apply. Some EU Common fisheries policy (CFP – see EU, 2013a) and associated legislation also prevail, on technical measures, the provision of data, the organisation of markets and the role and duties of producer organisations, they are listed in Table 33.

A Comité des Pêches may vote to adopt a deliberation at the appropriate local, sub-national or national level, which is then turned into legislation after validation and usually public consultation.

Table 33. Fisheries Management framework legislation (October 2021)			
Year	Origin	Name	Purpose
2008	EU	Directive 2008/56/CE 17 June 2008	Marine Strategy Framework Directive, regional Action Plan under DIRM NAMO adopted after public consultation in 2019.
2009	EU	Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Community control system for ensuring compliance with the rules of the common fisheries policy (...)	Art. 29: To ensure that all catches are properly controlled Member States should ensure that all fisheries products are first marketed or registered at an auction centre or to registered buyers or to producer organisations.
2013	EU	Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013	European Common Fisheries Policy

Table 33. Fisheries Management framework legislation (October 2021)			
Year	Origin	Name	Purpose
2013	EU	Regulation (EU) No 1379/2013	on the common organisation of the markets in fishery and aquaculture products
2019	EU	Regulation (EU) No 1241/2019 (art. 13) on Technical measures	Scallops must be kept on board and unloaded whole.
2013	France	Arrêté du 6 novembre 2013 on the classification of shellfish beds and monitoring live shellfish for food safety	Regarding the classification according to sanitary conditions, monitoring (traceability) and management of production areas and relaying areas for live shellfish, in accordance with the provisions of Articles R. 231-38 and R. 231-41 of the Code Rural[5].
2015	France	Arrêté (ministériel) du 18 mars 2015 relatif aux obligations déclaratives en matière de pêche maritime	Art.5: (translated) Registered buyers, registered auctions or authorized bodies and persons ensuring the first placing on the market of fishery products are required to draw up and transmit sales notes electronically.
2015	France	Code Rural et de la Pêche Maritime (updated, Livre IX)	Frames co-management system, including DGAMPA, DIRM, DDTM/DML and Comités des Pêches (CNPMEM, CRPMEM, CDPMEM) responsibilities and frames delivery of the EU CFP obligations.
2015	France	Code l'Environnement (2015 updated, Livre II, Titre 1er)	Incorporates the marine strategy, and frames the delivery of the EU MSFD, Habitats and Birds Directives and other international obligations (e.g. OSPAR).

The scallop fishery is framed at national level by a specific scallop licence proposed by the CNPMEM (Délibération du Bureau N° B45/2020 published as a ministerial arrêté (France, 2020), complemented by délibération n° B48/2021 France, 2021c), with the following provisions:

- A ***scallop national fishing license*** issued after validation by the CRPMEM-Bretagne, by delegation of the CNPMEM and mandatory for the fishery. For ICES zones IV and VII, the maximum number of licences that can be awarded by the CRPMEM-Bretagne is 370 (art. 3). The licence is awarded to a specific vessel-vessel owner combination, it is valid for a single fishing season and cannot be transferred.
- The scallop fishing campaign is set nationally to start on the first working day of October, and end for all French vessels on May 14th of the following year at midnight, regardless of the zone.
- Scallops subjected to shelling as a result of the regulations following contamination by ASP or DSP must be weighed and recorded either at the auction or at an approved unloading point and in the presence of an agent appointed by the auction.

For ICES division 7e (Western Channel, this fishery) specifically, the following technical measures apply from 1st October 2021:

- Dredge rings must have a minimum inside diameter of 97 mm (92 mm previously);
- For "Breton" type dredges, the rings must be attached to each other in a square pattern without overlap, and be connected by a maximum of 4 fasteners (appendix 1) at the level of the apron and the back of the dredge net (appendix 2). By derogation, some may have additional attachment points on the first two rows of rings bordering the frame of the machine (knife side) or the sides (wings); some nettings may be used ("alèze") provided its stretched mesh size is 140 mm minimum.

[5]https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000044909759?dateVersion=02%2F07%2F2022&etatArticle=ABROGE_DIFF&etatArticle=VIGUEUR&etatTexte=ABROGE_DIFF&etatTexte=VIGUEUR&nomCode=9VJvOg%3D%3D&page=1&pageSize=10&query=Articles+R.+231-38+&searchField=ALL&searchType=ALL&tab_selection=code&typePagination=ARTICLE&typeRecherche=date

In addition, a ***Côtes d'Armor licence is mandatory for scallop dredgers and/ or divers*** for the Baie de Saint-Brieux (this fishery). Separate licences are necessary for other target species and gear and for the other scallops "gisements" in Brittany, as per the "Coquilles pêche embarquée" 2021-22 licence application form. A summary of licence numbers and vessels characteristics per port of registration and département is given in Table 34. The CRPMEM-Bretagne delivers licences, and considers the following criteria, in case the demand for a specific scallops "gisement" licence exceeds the maximum:

1. Fishing history: 4 priority levels, from 1 (top) for a renewal with same vessel and owner combination, to 4 for owner with no licence the year before and vessel with no licence ever;
2. Socio-economic criteria: vessels smaller than 13m LOA and engine power <184kW (250HP), and owner up-to-date with any payment in case of an administrative sanction the previous season; with some derogations for larger or more powerful vessels, which had a licence in the previous year, which length or engine had not been modified, and which has remained registered in the same port.

Table 34. Maximum number of licences Côtes d'Armor (del. 2016-051) and Baie de Saint-Brieux Scallop licence applications for 2020-21.

Port	Dept.	Max. Nb.	Nb. Applic.	Min LHT (m)	Avg. LHT (m)	Max LHT (m)	Min kW	Avg. kW	Max kW
Cherbourg CH	50	1	1	12.00	12.00	12.00	103	103.00	103
Saint-Malo SM	35	22	20	9.95	11.22	12.00	88	137.25	184
Saint-Brieuc SB	22	194	112	6.49	10.70	16.00	63	131.24	291
Paimpol PL	22		76	5.90	10.10	16.00	39	122.97	327
Morlaix MX	29	21	13	8.35	9.99	11.98	64	115.92	177
Brest BR	29		6	8.90	10.75	13.00	54	112.67	144
Le Guilvinec GV	29		2	11.95	11.97	11.98	132	132.00	132
Total		**238**	**230**	**5.90**	**10.53**	**16.00**	**39**	**127.57**	**327**

The Baie Saint-Brieuc "gisement" is presently divided into 4 sectors ("secteur" or "sous-gisement", see 2020-011 CSJ 22: Critères d'attribution) (Figure 10), which cannot all be fished in a single fishing trip.

A diversity of management measures has been in place for decades, with some adjustments since 2008 summarised, updated from Lesueur et al, 2009 and Lesur-Irichabeau et al, 2015. The CRPMEM-Bretagne website gives the most recent measures that are specific to the Baie de Saint-Brieuc "gisement" referenced in CDPMEM22 deliberations approved by CRPMEM-Bretagne (see Principle 1 section), with corresponding DIRM arrêtés[6].
For the 2021-22 Baie de Saint-Brieuc scallop season (2021-23 Déliberation CSJ Cotes d'Armor), management measures concerned effort control, such as a maximum number of scallop licences for the Côtes d'Armor, opening days and minutes (45 per day during peak season) per area; vessel sizes (LOAm, kW) and gear characteristics (dredge number, types and size per sector, inside ring diameter to 97mm since 2020), and some output control measures such as maximum daily landings per vessel per crew and minimum scallop landing size of 102mm (110mm for recreational catches), according to an annual indicative catch (since mid-70s) proposed by Ifremer scientists for the main sector (number 4), see Table 35.

In addition, as per Regulation (EU) No 1241/2019 (EU, 2019: art. 13), scallops must be kept on board and unloaded whole, the DDTM/DML22 is in charge of informing locally (and enforcing, see section 9.4.1.6) France's obligations to the EU in terms of catch and activity declarations up to the 1st point of sale.

[6] see http://www.bretagne-peches.org/?mode=deliberations-peche-embarquee&crit2=3&crit3=22#

Table 35. CDPMEM22 key management measures decisions for the Baie de Saint-Brieuc scallops dredge fishery (https://cdpmem22.fr/pecher-en-cotes-darmor/coquille-saint-jacques/)		
Year	**Name**	**Purpose**
2016	2016-051 "Coquilles Saint-Jacques-Côtes d'Armor B" du CRPMEM-Bretagne	Fixing the total number of Scallops licences in Côtes d'Armor at 238, of which 194 are for CDPMEM22 members, including a maximum of 10 for divers (from 2017).
2018	2018-057 "Coquilles Saint-Jacques-Côtes d'Armor–C2"	Mandatory % contribution on all Côtes d'Armor scallops sales (split equally between producer and 1st sale buyer).
2020	Arrêté du 21 août 2020 portant approbation d'une délibération du CNPMEM relative aux conditions d'exercice de la pêche à la coquille Saint-Jacques	CRPMEM-Bretagne issues a scallop fishing license after validation, by delegation of the CNPMEM and after its validation. Capped licence numbers for ICES zones IV and VII that may be delivers by CRPMEM Bretagne = 370; For ICES division 7e season dates between 1st Oct. 2021 and 14th May, also gear specifications (locally adopted below)
2020	2020-004_dragues_csj_bretagne.pdf	Minimum ring size 97mm and other technical gear specifications
2020	2020-011_csj_cotes_d-armor_a.pdf "Coquilles Saint-Jacques-Côtes d'Armor A"	Licence allocation criteria and licence conditions for the two Côtes d'Armor "gisements": Baie de Saint-Brieuc (and Perros-Guirrec – presently closed, not this UoA), and fishing times.
2021	2021-023_csj_cotes_d-armor_b2.pdf "Coquilles Saint-Jacques-Côtes d'Armor B2"	Baie de Saint-Brieux, sector 4 and sectors 2 and 3 cannot be fished simultaneously, idem for sector 4 and gisement Perros-Guirrec; one sector per day only (dredges to be entirely lifted on deck during travel), MLS = 10.2cm; no shelling, and landing of starfish to be destroyed; official weighing upon landing; "godaille" 50kg max; set sorting area per sector, no sorting or discard on land; designated landing points some with 3-hour warning; maximum landing per day, per sector. Gear technical specifications (art. 11) per sector; restricted access to sector 1 for vessels with local gisement licence only.
	Followed by several bylaws during the season	Setting the "dredge" calendar and specific opening and closing times and days by sector, mainly to match market demand and maximise prices.

9.4.1.3 Consultation, roles and responsibilities

The institutions, legal bases (Table 32, Table 33 and Table 35) and co-management decision-making processes are well-defined, with clear responsibilities and obligations at each step of the process, between local, regional and national levels, and between the Committees and government competent authorities.

The Committees collaborate with Ifremer scientists who run annual recruitment and stock assessment surveys (COSB, since 1965), and provide management advice (see Principle 1 section). Collaboration over the years has been through a number of participatory research projects with CDPMEM22 members through the CRPMEM-Bretagne, for example on population dynamics (COSB[7]) or on gear design to minimize gear impacts on habitats (project HARPEGE[8]). Funding, including from the EU fisheries structural fund EMFAF, is sourced in collaboration between the industry (France Filière Pêche, the CRPMEM-Bretagne) and scientists Ifremer[9].

The role of the Committees, Ifremer, and of the DIRM-NAMO and its local administrative and operational units (DDTM/DML) regarding licensing, data submission and MCS are also well-understood and clearly explained on their various websites.

Bylaws proposed by the CRPMEM are put up for public consultation, together with a background explanatory note, on the DIRM website for a period of three calendar weeks prior to being adopted.

[7] see https://wwz.ifremer.fr/sciences_technologies_halieutiques/Campagnes/Agenda/Cosb

[8] see project HARPEGE https://www.respect-peches-durables.org/lescomitesenaction/aires-marines-natura-2000/

[9] see https://wwz.ifremer.fr/Actualites-et-Agenda/Toutes-les-actualites/Coquilles-Saint-Jacques-en-baie-de-Seine-et-en-baie-de-Saint-Brieuc-record-absolu

There is also a coordination with all other fisheries on the same stock ("gisement"), such as with the professional diving fishery presently limited to a small number of fishing vessels and nominated professional fishermen who are also qualified divers and are regulated by the CDPMEM22. Recreational fishing activities for scallops, diving or dredging or on foot, are regulated by the Côtes d'Armor Préfecture[10] with a maximum of 30 scallops per day, of a minimum size of 11cm (slightly larger than the professional MLS of 10.2 cm), and are open on the same days as for the professional fishery, hence relatively easier to police.

9.4.1.4 Objectives

Long-term fisheries policy objectives are set by states in the European CFP (EU, 2013a). The French Fisheries policy objective is given in the Code Rural et de la Pêche Maritime (France, 2021a) to "sustainably exploit and enhance the collective heritage that constitutes the fishery resources to which France has access, both on the foreshore and in its waters under jurisdiction or sovereignty and in other waters where it has fishing rights under agreements international or high seas, as part of an ecosystem approach to minimize negative environmental impacts". which integrates the long-term sustainability objectives of the European CFP, and of the Marine Strategy Framework Directive through the French national integrated strategy (see France, 2021b and of international agreements to which France is signatory, such as the OSPAR Convention (see Principle 2). The precautionary principle is also mentioned in the CFP and in the Code de l'Environnement (France, 2021b).

Regarding short-term and long-term fishery-specific objectives, in the absence of a fishery management plan, the EU Marine Strategy Framework Directive (MFSD) indicator for the Baie de Saint-Brieuc king scallop, provides clear objectives. Foucher, and Delaunay, 2018 indicate that ICES puts the stock in category 3, which translates into the CFP sustainability MSY objective obtained through proxies such as length-based indicators (LBI), mean length Z (MLZ) or others may be used as reference points (ICES, 2018), either being already reached (by 2020), or attained by 2030 (new horizon).

For the other ecosystem components, the EU Marine Strategy Framework Directive (MFSD) has started a process of cataloguing important marine features and species to protect, together with the main risks they face and setting action plans and monitoring programs to maintain and or restore them. The MSFD was translated into a national Marine Strategy for marine and coastal ecosystems, which was incorporated into the Code de l'Environnement (chapter IX, in 2010), with a clear objective to reach and maintain Good Environmental Status (GES) by 2020 (now been pushed back to 2030). A monumental amount of work has been done regarding the coasts and water of Northern Brittany (the Celtic Seas), including the Baie de Saint Brieuc. Regarding all other ecosystem components and habitat features, status, monitoring and measures are being brought together with the Natura2000 for local sites[11] indicators for vulnerable and protected species and habitats, some of which are monitored as part of France's obligations under the OSPAR Convention.
The DIRM-NAMO coordinates the project for its region and collates the large body of scientific work done so far to identify the features, their status and program of measures needed to implement in the Action Plans.

9.4.1.5 Decision-making processes

The CDPMEM22 delibérations update management measures annually, and again regularly during the fishing season for specific dates, times and sectors. Once agreed at local level, these are examined by the regional Scallop Committee (Commission Coquilles Saint Jacques) of the CRPMEM-Bretagne to be proposed as decisions, which are then validated, open for public consultation and published as bylaws (arrêtés) by the DIRM-NAMO préfet.

[10] https://www.cotes-darmor.gouv.fr/Politiques-publiques/Mer-littoral-et-securite-maritime/Peche-professionnelle/Peche-a-la-coquille-Saint-Jacques

[11] see local sites (D2, D3 and D4) descriptions at: http://www.bretagne.developpement-durable.gouv.fr/fiches-descriptives-des-sites-etendus-au-milieu-a1538.html

9.4.1.6 Compliance and enforcement

A number of agencies come together to deliver monitoring, control and surveillance (MCS) for French coastal fisheries. In the Baie de Saint-Brieuc, the Délégation à la mer et au littoral (DML) of the DDTM22 is in charge of local operations, coordinated by the DIRM-NAMO when regional assets (patrol vessels, airplane) or the cooperation of other agencies, such as the office français de la biodiversité, brigade nautique de la gendarmerie nationale, CDPMEM22, guards from the réserve naturelle nationale de la baie de Saint-Brieuc, may be mobilised, in part coordinated by the national Fisheries Monitoring Centre (FMC) based in Etel. There is an MoU between various government services, such as the Gendarmerie maritime, local Police or Customs, who may interact in their various control capacity (France, 2015c). The DML of DDTM22 provided the audit team with a note that summarised the various means of monitoring, control and surveillance activities (MCS) deployed for this fishery as follows:

- Unité littorale des affaires maritimes (ULAM22): 160 controls per year onshore (landings, transport), at sea and from an airplane chartered by the CDPMEM22 controlling fishing times and areas;
- Gendarmerie maritime: two units with controls onshore or at sea (patrol vessel);
- Gendarmerie départementale (Côtes d'Armor – 22): a dedicated sea going unit (brigade nautique) with controls at sea, on land and occasionally from a helicopter;
- Customs: some 15 controls per season, on land and at sea;
- Food safety controls of landings at auctions, regarding health risks and traceability, about 10 controls per year.

According to the, person in charge at the Competent Authority (DDTM – Service activités maritimes), there is a commendable synergy between government services and the CDPMEM22 who charters the airplane and collaborates actively to ensure the resource sustainable use and stability of market prices.

There is a system of sanctions, from verbal to written cautions, administrative penalties and criminal records. Sanctions for non-compliance with deliberations are detailed in the Code rural et de la pêche maritime (France, 2021a: art. L. 941-1, L. 946-2, L. 946-5 et L. 946-6; see CRPMEM-Bretagne, 2020). Minor offences may be settled with a fine up to 1 500 euros (décret 89‑554 du 2 août 1989[12]). Any major or repeat offence will be settled in court, and carries the risk of having the scallop licence removed temporarily (from 1 day suspension) or permanently. According to the DDTM/DML22, the system is very effective, well known and suitably deterrent. The number of sanctions has been stable over the past six years and around 40 per year, with a decrease in 2019/20 because of the COVID-19 pandemic stopping fishing operations, and an increase in the season 2020/2021 because of a change in the fishing time accounting method.

9.4.1.7 Monitoring and management performance evaluation

The fishery's co-management system operates across several jurisdictional levels, from local (CDPMEM22 and DDTM/DML22), to regional (CRPMEM-Bretagne and DIRM NAMO) and national (CNDPMEM and DGAMPA). Each level is evaluated by the one above, including the parts of the national level reporting to the EU regarding vessel licensing, data reporting. Ifremer evaluate the effect of measurement measures on the stock mortality and biomass, which are also scrutinised by the ICES, 2020 (see Principle 1 section). For the fishery's management specifically, the effectiveness of current management measures is reviewed annually by the Ifremer scientific advisors, on the basis of pre-season scientific surveys, models and the fishery's production. The DDTM/DML22 organises an informal review of the fishery's surveillance and control activities with all actors and the Public Prosecutor once a year. The PO COBRENORD also reviews the impacts of its market stabilising measures annually. There are occasional external reviews, through ICES and through scientific projects.

[12] https://www.legifrance.gouv.fr/loda/id/JORFTEXT000000886009/2021-05-04

Regarding the Baie de Saint-Brieuc ecosystem (see Principle 2 section), it is included in the Celtic Seas ecosystem, for which a marine and coastal environmental strategy was adopted in 2019 (DIRM, 2019). In addition, indicators of good environmental status are also monitored as part of the EU MSFD action plan, and their status evaluated. The risk of impacts on designated habitats features Natura2000 protected marine sites (Saint-Brieuc Est et Cap d'Erquy – Cap Fréhel) are currently being assessed (project HARPEGE) in collaboration with CRPMEM-Bretagne, in order to evaluate the effectiveness of their protection in the future.

The national and EU frameworks monitoring, reporting and evaluation programs are coordinated by the DIRM-NAMO, which brings together all current national, EU and international obligations.

Finally, there is a General Inspectorate in each ministry (e.g. Ministère de l'Agriculture et de la Souveraineté Alimentaire and Ministère de la Transition Ecologique), which reviews some components of the management system regularly such as for European funds (EMFAF, across ministries) and others occasionally (IGAM, 2020).

9.4.2 Principle 3 references

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9.4.3 Principle 3 Performance Indicator scores and rationales

PI 3.1.1 – Legal and/or customary framework

PI 3.1.1		The management system exists within an appropriate legal and/or customary framework which ensures that it: - Is capable of delivering sustainability in the UoA(s); - Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and - Incorporates an appropriate dispute resolution framework		
Scoring Issue		SG 60	SG 80	SG 100
a	**Compatibility of laws or standards with effective management**			
	Guide post	There is an effective national legal system **and a framework for cooperation** with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2	There is an effective national legal system and **organised and effective cooperation** with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2.	There is an effective national legal system and **binding procedures governing cooperation with other parties** which delivers management outcomes consistent with MSC Principles 1 and 2.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				
There is an effective national legal system and **binding procedures governing cooperation with other parties** which delivers management outcomes consistent with MSC Principles 1 and 2. The fishery is co-managed by the French government through its central (DGAMPA) and devolved (DIRM, DDTM-DML22) administrations jointly with the Comités des pêches maritimes et des élevages marins at national (CNPMEM), regional (CRPMEM-Bretagne) and county (département des Côtes d'Armor - CDPMEM22) levels. The co-management system is well organised and effective. It is consistent with laws and standards aimed at achieving sustainable fisheries in accordance with the French primary legislations for fisheries (Code Rural et des Pêches Maritimes, 2015) and marine ecosystems (Code de l'Environnement, 2015), which are in accordance with MSC Principles 1 and 2, **SG60 is met**. The CDPMEM22 is in charge of the day-to-day management of the Baie de St-Brieuc scallop fishery through a specific coquilles Saint-Jacques committee of the regional CRPMEM-Bretagne. The Committee membership extends to all professional levels in the value chain. The CDPMEM drafts bylaws validated and published by the government, in a cooperative, timely and effective fashion, **SG80 is met**. Membership of a Comité des pêches is mandatory for professional fishers, and the collaborative fisheries management law making processes result in binding legislation, **SG100 is met**.			
b	**Resolution of disputes**			
	Guide post	The management system incorporates or is subject by law to a **mechanism** for the resolution of legal disputes arising within the system.	The management system incorporates or is subject by law to a **transparent mechanism** for the resolution of legal disputes which is **considered to be effective** in dealing with most issues and that is appropriate to the context of the UoA.	The management system incorporates or is subject by law to a **transparent mechanism** for the resolution of legal disputes that is appropriate to the context of the fishery and has been **tested and proven to be effective**.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				
The management system incorporates by law a **transparent mechanism** for the resolution of legal disputes that is appropriate to the context of the fishery and has been **tested and proven to be effective.**				

PI 3.1.1	The management system exists within an appropriate legal and/or customary framework which ensures that it: - Is capable of delivering sustainability in the UoA(s); - Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and - Incorporates an appropriate dispute resolution framework

The French co-management system of fisheries inside territorial waters is designed to facilitate information and responsibility of producers through the entire decision-making process. It is designed to resolve problems before they become legal disputes. Regulations are open to public consultation before they become law. However, in case of disagreement, public mediators may be consulted free of charge, and if stakeholders feel they are affected by existing legislation or find they have not been heard during the period of consultation for new bylaws, these can be challenged in the local/ regional/ national administrative courts, **SG60 is met**. The management system in place is common to French fisheries that take place in territorial waters, dispute resolution mechanisms are transparent and, in the absence of disputes in recent years, they are considered to be effective in the context of the fishery's management system, **SG80 is met**. The legal disputes in the past have mostly concerned sentences for non-compliance, they have tested the system and proved it to be effective, **SG100 is met**.

c	**Respect for rights**			
	Guide post	The management system has a mechanism to **generally respect** the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to **observe** the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to **formally commit** to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
	Met?	**Yes**	**Yes**	**Yes**

Rationale

The management system has a mechanism to **formally commit** to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.

In the French inshore fisheries management system, local fishing rights cannot be sold or transferred, they are attached to a specific owner-vessel combination. Baie de Saint-Brieuc scallop licences are valid for one fishing season only, and have to be applied for each year. However, the total number of licences is capped, and a rating system gives clear priority to renewals, **SG60 is met**. The licence application system includes a number of socio-economic criteria to observe the explicit legal rights of small-scale) owner-operators previously active in the fishery (CRPMEM-Bretagne 2020-11), **SG80 is met**. The co-management system is formally committed to existing rights, with some eligibility conditions such as proofs of up-to-date mandatory membership (CRPMEM-CDPMEM), vessel safety certification and compliance with catch data submission (from DIRM/DML), which reinforce said rights, **SG100 is met**.

References

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	3 of 3	3 of 3	2 of 3	≥80

PI 3.1.1	The management system exists within an appropriate legal and/or customary framework which ensures that it: - Is capable of delivering sustainability in the UoA(s); - Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and - Incorporates an appropriate dispute resolution framework
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	3 of 3	3 of 3	3 of 3	**100**
Condition number (if relevant)				**NA**

PI 3.1.2 – Consultation, roles and responsibilities

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties		
Scoring Issue		SG 60	SG 80	SG 100
a	**Roles and responsibilities**			
	Guide post	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are **generally understood**.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are **explicitly defined and well understood for key areas** of responsibility and interaction.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are **explicitly defined and well understood for all areas** of responsibility and interaction.
	Met?	**Yes**	**Yes**	**Yes**

Rationale

Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are **explicitly defined and well understood for all areas** of responsibility and interaction.

The French co-management system for fisheries inside territorial waters through the Comités des Pêches has been in existence for many years. There are local government offices around the coast of Brittany and locally (DDTM in Saint-Brieuc), and the CDPMEM22 is also based on the Baie de Saint-Brieuc (Pordic and Erquy). Membership of a Comité des Pêches is mandatory for all professional fishers, owners and crew, fish traders and processors. CDPMEM22 members are steering committee members of the several Natura 2000 Marine protected areas (MPA) in the Baie and have contributed, with the scientists on the CDPMEM22 staff, to each MPA risk-assessment linked to this fishery. The CDPMEM22 has a specific Shellfish working group, which acts as sub-committee to the CRPMEM-Bretagne (Brittany region) regional Shellfish fisheries Committee, with explicitly and well understood terms of reference, **SG60 and SG80 are met**. Professional membership of actors along the value chain and coordination with other all actors - representatives of the POs, the DML22 (authorities), auctions-22 and Ifremer (fisheries research) are permanent invitees of the CRPMEM-Bretagne Shellfish fisheries Committee, mean that roles and responsibilities are well understood for all areas of responsibility, **SG100 is met**.

b	**Consultation processes**			
	Guide post	The management system includes consultation processes that **obtain relevant information** from the main affected parties, including local knowledge, to inform the management system.	The management system includes consultation processes that **regularly seek and accept** relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.	The management system includes consultation processes that **regularly seek and accept** relevant information, including local knowledge. The management system demonstrates consideration of the information and **explains how it is used or not used**.
	Met?	**Yes**	**Yes**	**No**

Rationale

The management system includes consultation processes that **regularly seek and accept** relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.

Management measures for the fishery are proposed by the local Comité des Pêches (CDPMEM22) informed by scientific advice from Ifremer (see Principle 1 and Principle 2 sections), before being validated by government (see 114-2021-Calendrier-CSJ-SB-

PI 3.1.2	The management system has effective consultation processes that are open to interested and affected parties The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties

dragues-1.pdf). Bylaws are discussed by the CRPMEM-Bretagne prior to becoming decisions, which ensures that all potentially affected parties at regional level are also informed and involved, **SG60 is met**. There is a continuous consultation and deliberating process in place at each committee stage, and every bylaw is submitted to a public consultation before taking effect, advertised through its website and through the website of the government administration concerned (préfêt de region), **SG80 is met.** The management system explains how information collected through public consultation may be used, but it has not been possible to find examples of explanation when information as not used, **SG100 is not met.**

C	**Participation**			
	Guide post		The consultation process **provides opportunity** for all interested and affected parties to be involved.	The consultation process provides **opportunity and encouragement** for all interested and affected parties to be involved, and **facilitates** their effective engagement.
	Met?		**Yes**	**Yes**

Rationale

The consultation process **provides opportunity and encouragement** for all interested and affected parties to be involved, and **facilitates** their effective engagement.

The local co-management process, through the CDPMEM22 and CRPMEM-Bretagne Shellfish fisheries Committee, provides regular opportunities for all interested and affected parties to be involved, through their membership and regular cooperation with scientific projects, **SG80 is met**. Once adopted, the Comité de Pêche decisions become bylaws after validation by the préfet or the minister and a systematic 3-week period of public consultation (see website reference below). Consultation is an integral part of the co-management process. The CRPMEM-Bretagne Shellfish fisheries Committee permanent invitations to the POs, the DML22 (authorities), auctions-22 and Ifremer (fisheries research) encourages and facilitates an effective engagement of all interested and affected parties, **SG100 is met**.

References

For all bylaws, including 114-2021-Calendrier-CSJ-SB-dragues-1.pdf and 2021-023_csj_cotes_d-armor_b2.pdf

For the consultation process see website reference: https://www.prefectures-regions.gouv.fr/bretagne/Documents-publications/Consultation-publique-conditions-peche-coquilles-Saint-Jacques-dans-les-Cotes-d-Armor-B2

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements <u>likely</u> met			<u>Likely</u> overall PI score
	SG60	SG80	SG100	
	2 of 2	3 of 3	0 of 3	≥80
Information gap indicator	Information sufficient to score PI			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	

PI 3.1.2	The management system has effective consultation processes that are open to interested and affected parties The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties			
	2 of 2	3 of 3	2 of 3	**95**
Condition number (if relevant)				**NA**

PI 3.1.3 – Long term objectives

PI 3.1.3		The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Fisheries Standard, and incorporates the precautionary approach		
Scoring Issue		SG 60	SG 80	SG 100
a	**Objectives**			
	Guide post	Long-term objectives to guide decision-making, consistent with the MSC Fisheries Standard and the precautionary approach, are **implicit** within management policy.	**Clear** long-term objectives that guide decision-making, consistent with MSC Fisheries Standard and the precautionary approach are **explicit** within management policy.	**Clear** long-term objectives that guide decision-making, consistent with MSC Fisheries Standard and the precautionary approach, are **explicit** within **and required by** management policy.
	Met?	**Yes**	**Yes**	**Yes**

Rationale

Clear long-term objectives that guide decision-making, consistent with MSC Fisheries Standard and the precautionary approach, are **explicit** within **and required by** management policy.

The French inshore fisheries co-management system has clear and explicit objectives that guide decision-making. The French Fisheries policy objective of the Code Rural et de la Pêche Maritime to "sustainably exploit and enhance the collective heritage that constitutes the fishery resources to which France has access, both on the foreshore and in its waters under jurisdiction or sovereignty and in other waters where it has fishing rights under agreements international or high seas, as part of an ecosystem approach to minimize negative environmental impacts" (see France, 2015a: art. L911-2), which integrates the long-term sustainability objectives of the European CFP, and of the Marine Strategy Framework Directive through the national integrated strategy (see France, 2015b) , and of international agreements to which France is signatory, such as the OSPAR Convention (see Principle 2). The precautionary principle is also mentioned in the CFP (EU, 2013: art.10) and in the Code de l'Environnement (France, 2015b: art. L110-1). Objectives are explicit, **SG60 and SG80 are met**. Long-term sustainability objectives, and the precautionary approach are required by the French fisheries and marine environment management systems across both Principle 1 and Principle 2, explicitly in the legal framework mentioned above, **SG100 is met**.

References

EU, 2013. Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC, consolidated version https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02013R1380-20190814

France, 2015a. Code Rural et de la Pêche Maritime, Livre IX.
https://www.legifrance.gouv.fr/codes/texte_lc/LEGITEXT000006071367/

France, 2015b. Code de l'Environnement, Livre 1er.
https://www.legifrance.gouv.fr/codes/section_lc/LEGITEXT000006074220/LEGISCTA000006129022/#LEGISCTA000006129022

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	1 of 1	1 of 1	1 of 1	≥80
Information gap indicator	More information sought / Information sufficient to score PI			

PI 3.1.3	The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Fisheries Standard, and incorporates the precautionary approach

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	1 of 1	1 of 1	1 of 1	**100**
Condition number (if relevant)				**NA**

PI 3.2.1 – Fishery-specific objectives

PI 3.2.1		The fishery-specific management system has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2		
Scoring Issue		SG 60	SG 80	SG 100
a	**Objectives**			
	Guide post	**Objectives**, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are **implicit** within the fishery-specific management system.	**Short and long-term objectives**, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are **explicit** within the fishery-specific management system.	**Well defined and measurable short and long-term objectives**, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are **explicit** within the fishery-specific management system.
	Met?	**Yes**	**Yes**	**No**

Rationale

Short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are **explicit** within the fishery-specific management system.

The fishery takes place in the wider ecosystem of the Baie de Saint-Brieuc, over a precisely specified few hours for a few days each year. For Principle 1, the long-term objective of sustainable use is implicit to all co-management measures, **SG60 is met**. In addition the long-term objective is explicitly stated in all bylaws, while explicit short-term objectives, such as to stabilise the exploitable biomass, are discussed in reports by Ifremer (see Principle 1 section) and endorsed by the CDPM22 and CRPMEM-Bretagne, **SG80 is met**. The MSFD indicator for scallops (see Foucher and Delaunay, 2018) mentions proxies for the category 3 stock but these do not appear to be well-defined yet (see ICES, 2018), **SG100 is not met**. For Principle 2, long-term objectives are also set by the authorities according to scientific advice, and after public consultation, to protect marine sites designated for habitats and marine birds (Natura 2000 see web references), now integrated with the Marine Strategy Framework Directive (MSFD) program of measures led by the DIRM NAMO. CDPMEM22 members sit on each protected site steering committee, and through the CRPMEM-Bretagne, have actively contributed to a mapping of fishing activities and risks to habitats and protected species. Work is on-going with the DIRM, **SG60 and SG80 are met**. Principle 2-related objectives are not yet all well-defined or measurable for all protected areas, **SG100 is not met**.

References

web references DIRM-NAMO: http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/document-strategique-de-facade-dsf-r188.html

For explicit environmental objectives see http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/IMG/pdf/dds_vaenamo_cle6ad51e.pdf

Foucher, E. and Delaunay, D., 2018. Evaluation du descripteur 3 « espèces exploitées à des fins commerciales » en France métropolitaine. Rapport scientifique pour l'évaluation 2018 au titre de la DCSMM, 156 p. Document stratégique de la façade Nord-Atlantique - Manche Ouest Annexe 2 : Synthèse scientifique et technique relative à l'évaluation initiale de l'état écologique des eaux marines et de l'impact environnemental des activités humaines sur ces eaux (article R.219-5 du code de l'environnement) Partie a : évaluation de l'état des eaux marines au regard des 11 descripteurs de la DCSMM, http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/IMG/pdf/annexe_2a_internet_cle5117e3.pdf

ICES, 2018. Technical Guidelines, ICES reference points for stocks in categories 3 and 4, February 2018. https://doi.org/10.17895/ices.pub.4128

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

PI 3.2.1	The fishery-specific management system has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2			
Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	1 of 1	1 of 1	0 of 1	≥80
Information gap indicator	Information sufficient to score PI			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	1 of 1	1 of 1	0 of 1	**80**
Condition number (if relevant)				**NA**

PI 3.2.2 – Decision-making processes

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery		
Scoring Issue		SG 60	SG 80	SG 100
a	**Decision-making processes**			
	Guide post	There are **some** decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.	There are **established** decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.	
	Met?	**Yes**	**Yes**	
Rationale				
There are **established** decision-making processes that result in measures and strategies to achieve the fishery-specific objectives. Between the local (Baie de Saint-Brieuc, Côtes d'Armor) and the regional (Bretagne) level, the co-management system is well defined, with clear responsibilities and obligations at each step of the process. The CDPMEM22 delibérations update management measures annually, once agreed these are examined by the Scallop Committee (Commission Coquilles Saint Jacques) of the CRPMEM-Bretagne. Once adopted, the CRPMEM decisions are validated, open for consultation and published as bylaws (arrêtés) by the DIRM (the préfet), **SG60 and SG80 are met.**				
b	**Responsiveness of decision-making processes**			
	Guide post	Decision-making processes respond to **serious issues** identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.	Decision-making processes respond to **serious and other important issues** identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.	Decision-making processes respond to **all issues** identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.
	Met?	**Yes**	**Yes**	**No**
Rationale				
Decision-making processes respond to **serious and other important issues** identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions. The fishery has met several problems in the past, including to manage the natural cycles in the scallops' recruitment (see Principle 1 section) and the threat of potential unlicensed fishing. In the last five years, the co-management partnerships between the CDPMEM22 and the DDTM/DML22 locally, and between the CRPMEM and DIRM Bretagne at regional level have responded to serious and other important issues, by increasing the dredge ring size to 97mm, or by piloting aerial drone and airplane surveys of the vessels during the scallop opening times (see ULAM, 2018). **SG60 and SG80 are met**. It is unlikely that decision-making processes for such a small fishery could respond to all issues. **SG100 is not met.**				
c	**Use of precautionary approach**			
	Guide post		Decision-making processes use the precautionary approach and	

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery		
			are based on best available information.	
	Met?		**Yes**	
Rationale				
Decision-making processes use the precautionary approach and are based on best available information. The fishery-specific co-management system is based on systematic cooperation between fishers, buyers, processors, scientific teams and police powers. Bylaws demonstrate how decision-making processes make use of the best available information, and are indeed precautionary, which they are required to be by law, for example with the recent increase in ring size to 97mm, **SG80 is met.**				
d	**Accountability and transparency of management system and decision-making process**			
	Guide post	Some information on the fishery's performance and management action is generally available on request to stakeholders.	**Information on the fishery's performance and management action is available on request**, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.	Formal reporting to all interested stakeholders **provides comprehensive information on the fishery's performance and management actions** and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.
	Met?	**Yes**	**Yes**	**No**
Rationale				
Information on the fishery's performance and management action is available on request, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. Information on the fishery's management, activities and production are submitted to the DIRM (through the DDTMs) and onto the DGAMPA. The same information is discussed by the CDPMEM22, the CRPMEM-Bretagne and the CNPMEM Scallops Committees, together with scientific advice from Ifremer, and from various research projects supported by the industry. During the fishing season, any decision to open or close specific grounds is debated and publicly shared on the CDPM22 and CRPMEM-Bretagne website (see website references below). **SG60 is met**. Numerous analyses of the fishery's management were published between 2014 and 2016 as part of the MSFD and Marine Spatial Planning EU initial processes (see CRPMEM-Bretagne, 2014). From then on, even more information appears to be collected, but it has to be requested, **SG80 is met,** but **SG100 is not met.**				
e	**Approach to disputes**			
	Guide post	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery.	The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.	The management system or fishery acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery		
	Met?	**Yes**	**Yes**	**Yes**

Rationale

The management system or fishery acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.

The system of limited licensing and limited fishing activities appears to be well accepted. There is no evidence that the fishery's co-management system is subject to court challenges, **SG60 is met**. Judicial decisions concern essentially non-compliance. Administrative penalties may be settled promptly in case of minor infringements, **SG80 is met**. Appeals and cases of serious infringements may take months, but local courts are familiar with such cases. The local MCS competent authority (DDTM/DML22) also organises an informal meeting with all control agencies and the Public Prosecutor to discuss non-compliance and sanctions in order to avoid legal disputes and implement judicial decisions rapidly, **SG100 is met**

References

CRPMEM-Bretagne, 2014. Cartographie du système de gestion des pêches dans les eaux territoriales bretonnes / Années 2013/2014 / CRPMEM Bretagne Conception, Terra Maris / Altran Ouest réalisation, from http://www.bretagne-peches.org/modules/kameleon/upload/atlas_2013_terramaris_altran.pdf

ULAM, 2018. https://www.boreal-uas.com/2018/01/15/campagne-de-vol-surveillance-de-peche-eaux-territoriales-francaises-2/

Website references: CRPMEM-Bretagne: http://www.bretagne-peches.org/?mode=deliberations-peche-embarquee&crit2=3&crit3=22 CDPMEM22: https://cdpmem22.fr/pecher-en-cotes-darmor/coquille-saint-jacques/

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

	Applicable SGs/elements likely met			Likely overall PI score
Draft scoring range	SG60	SG80	SG100	
	4 of 4	3 of 5	0 of 3	60 – 79
Information gap indicator	More information sought (regarding the precautionary approach application in the decision-making processes and any recent judicial decision & outcome)			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

	Applicable SGs/elements met			Overall score
Overall Performance Indicator score	SG60	SG80	SG100	
	4 of 4	5 of 5	1 of 3	**85**
Condition number (if relevant)				**NA**

PI 3.2.3 – Compliance and enforcement

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with		
Scoring Issue		SG 60	SG 80	SG 100
a	**MCS implementation**			
	Guide post	Monitoring, control and surveillance **mechanisms** exist, and are implemented in the fishery and there is a reasonable expectation that they are effective.	A monitoring, control and surveillance **system** has been implemented in the fishery and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.	A **comprehensive** monitoring, control and surveillance system has been implemented in the fishery and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.
	Met?	**Yes**	**Yes**	**No**

Rationale

A monitoring, control and surveillance **system** has been implemented in the fishery and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.

MCS mechanisms ranges mobilise several agencies in charge of monitoring and surveillance at sea, onshore and from the air, operating affectively and in a coordinated fashion, **SG60 is met**. The MCS system has been in place for many years, statistics show a stable number of infringements, which remain small given the number of actors and extents of the controls along the value chain, **SG80 is met.** MCS operations involve all possible means of control, some coordinated through the national Fisheries Monitoring Centre (FMC based in Etel), including controls at sea, airbone (airplane chartered by the CRPMEM22, a helicopter from the Gendarmerie) as well as landings and transport, and product health safety controls, and cross-validation of activities and sales information streams. However, according to the Ifremer scientific analysis (see Principle 1 section), recreational catches, which are not recorded, and bycatch of scallops by trawlers outside this fishery's may not be fully reported, decreasing the degree of confidence in the overall system, the MCS system cannot be defined as comprehensive, **SG100 is not met**.

b	**Sanctions**			
	Guide post	Sanctions to deal with non-compliance exist and there is some evidence that they are applied.	Sanctions to deal with non-compliance exist, **are consistently applied** and thought to provide effective deterrence.	Sanctions to deal with non-compliance exist, are consistently applied and **demonstrably** provide effective deterrence.
	Met?	**Yes**	**Yes**	**Yes**

Rationale

Sanctions to deal with non-compliance exist, are consistently applied and **demonstrably** provide effective deterrence.

Sanctions to deal with non-compliance exist and span from simple warning to administrative penalties and criminal proceedings, **SG60 is met**. In case of non-compliance that cannot be resolved by the payment of a fine (up to EUR1 500) inside a fishing season, the fishing licence renewal for the next season may put on hold or the Scallops licence suspended, from 1 day to permanently. According to the DDTM/DML22 person in charge, sanctions are well known and consistently applied, **SG80 is met**. The numbers of infringements are monitored and discussed across MCS agencies in an annual informal meeting in the presence of the local court Public Prosecutor. They have remained relatively small in number over the past 6 years, demonstrating the effectiveness of sanctions and of the system altogether, **SG100 is met**.

c	**Compliance**			
	Guide post	Fishers are **generally thought** to comply with the management	**Some evidence exists** to demonstrate fishers comply with	There is a **high degree of confidence** that fishers comply

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with		
		system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery.	the management system under assessment, including, when required, providing information of importance to the effective management of the fishery.	with the management system under assessment, including, providing information of importance to the effective management of the fishery.
	Met?	**Yes**	**Yes**	**Yes**

Rationale

Some evidence exists to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery.

Evidence suggest that fishers not only comply with the fishery's co-management measures, but also actively contribute to research projects aimed at decreasing the mortality of younger scallops (ring size increase) and cushioning the scallops natural recruitment cycles (see Principle 1 section), **SG60 and SG80 are met**. The MCS local competent authority DDTM/DML22 finds that the level of compliance has been very satisfactory for some years, and has a high degree of confidence that the fishers comply with the management system, **SG100 is met.**

	Systematic non-compliance			
d	Guide post		There is no evidence of systematic non-compliance.	
	Met?		**Yes**	

Rationale

There is no evidence of systematic non-compliance.

There is an impressive number of controls for this fishery (see Principle 3 section) involving a diversity of agencies at sea, on land and in aerial controls of fishing effort and areas during the fishing season. The local MCS competent authority DDTM/DML22 find that compliance in the fishery is good, with a well-known system of effective sanctions and is no evidence of systematic non-compliance, **SG80 is met**.

References

Data received from the DDTM/DML

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	3 of 3	1 of 4	0 of 3	60 – 70
Information gap indicator	More information sought (enforcement and compliance reports)			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	3 of 3	4 of 4	2 of 3	**95**

PI 3.2.3	Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with
Condition number (if relevant)	**NA**

PI 3.2.4 – Monitoring and management performance evaluation

PI 3.2.4		There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives There is effective and timely review of the fishery-specific management system		
Scoring Issue		SG 60	SG 80	SG 100
a	**Evaluation coverage**			
	Guide post	There are mechanisms in place to evaluate **some** parts of the fishery-specific management system.	There are mechanisms in place to evaluate **key** parts of the fishery-specific management system.	There are mechanisms in place to evaluate **all** parts of the fishery-specific management system.
	Met?	**Yes**	**Yes**	**No**

Rationale

There are mechanisms in place to evaluate **key** parts of the fishery-specific management system.

The fishery's co-management system operates across several jurisdictional levels, from local (CDPMEM22 and DDTM/DML22), to regional (CRPMEM-Bretagne and DIRM NAMO) and national (CNDPMEM and DGAMPA). Each level is evaluated by the one above, including the parts of the national level reporting to the EU regarding vessel licensing, data reporting. Ifremer evaluate the effect of measurement measures on the stock mortality and biomass, which are also scrutinised by the ICES, 2020 (see Principle 1 section). Regarding the Baie de Saint-Brieuc ecosystem, indicators of good environmental status are monitored and their status evaluated (see DIRM, 2019). The risk of impacts on designated habitats features Natura2000 protected marine sites (Saint-Brieuc Est et Cap d'Erquy – Cap Fréhel) are currently being assessed (project HARPEGE, CRPMEM-Bretagne), in order to evaluate the effectiveness of their protection in the future. **SG60 and SG80 are met**. Not all parts of the management system are evaluated. For example, there was mention in the press that the very short time windows of the fishery's operation may increase the risk of accidents. The risks appear to be high (one vessel sunk in October 2021, a crew seriously injured in November 2021), which does not appear to have been analysed, **SG100 is not met**.

b	**Internal and/or external review**			
	Guide post	The fishery-specific management system is subject to **occasional internal** review.	The fishery-specific management system is subject to **regular internal** and **occasional external** review.	The fishery-specific management system is subject to **regular internal and external** review.
	Met?	**Yes**	**Yes**	**No**

Rationale

The fishery-specific management system is subject to **regular internal** and **occasional external** review.

The effectiveness of current management measures is reviewed annually by the Ifremer scientific advisors, on the basis of pre-season scientific surveys, models and the fishery's production. The PO COBRENORD also reviews the impacts of its market stabilising measures annually, which limit landings, and therefore are also relevant to Principle 1. There are occasional external reviews, through ICES and through scientific projects. Regarding Principle 2, there is extensive monitoring and evaluation as part of the national obligations under the EU Marine Strategy Framework Directive, with baseline scientific evaluations, an action plan and monitoring program are currently (2021) being finalised to reach France's national strategic goals by 2030. For the region including the Baie de Saint-Brieux, the DIRM-NAMO is the competent authority (see website references). In addition, there is a General Inspectorate in each ministry, which reviews some components of the management system regularly (European funds - EMFAF) and others occasionally (IGAM, 2020), **SG60 and SG80 are met**. There is no formal regular external review, **SG100 is not met**.

References

DIRM-NAMO, 2019. Document stratégique de la façade Nord Atlantique - Manche Ouest http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/document-strategique-de-facade-dsf-r188.html

PI 3.2.4	There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives There is effective and timely review of the fishery-specific management system

ICES. 2020. Scallop Assessment Working Group (WGSCALLOP). ICES Scientific Reports. 2:111. 57 pp. http://doi.org/10.17895/ices.pub.7626

IGAM, 2020. Inspection Générale des Affaires Maritimes, Rapport d'activités 2019. Ministère de la Transition Ecologique et Solidaire, http://www.igam.developpement-durable.gouv.fr/rapports-annuels-r8.html

MSFD website references: http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/reunion-du-conseil-maritime-de-facade-du-21-05-a1230.html - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/saisine-de-l-autorite-environnementale-sur-les-a1212.html

Project HARPEGE, CRPMEM-Bretagne: http://dev73.id-interactive.fr/comitedespeches/projet-harpege-3/

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	Applicable SGs/elements likely met			Likely overall PI score
	SG60	SG80	SG100	
	2 of 2	2 of 2	0 of 2	≥80
Information gap indicator	Information sufficient to score PI			

Overall Performance Indicator scores added from Client and Peer Review Draft Report

	SG60	SG80	SG100	
	2 of 2	2 of 2	0 of 2	**80**
Condition number (if relevant)				**NA**

10 Appendices

10.1 Assessment information

10.1.1 Small-scale fisheries

Table 36. Small-scale fisheries

Unit of Assessment (UoA)	Percentage of vessels with length <15m	Percentage of fishing activity completed within 12 nautical miles of shore
UoA	99.5%	100%

10.1.2 Evaluation processes and techniques

10.1.2.1 Site visit

The site visit stage in the assessment provides an opportunity for the assessment team to meet with relevant entities (management organisations, stakeholders etc.) allowing an opportunity to seek clarification, verify information, fill information gaps, explore and discuss areas of concern and address any questions regarding the assessment.

The majority of the site visit meetings took place in Brittany in the region of Saint-Brieuc (Figure 35) on the 11th-13th April 2022.

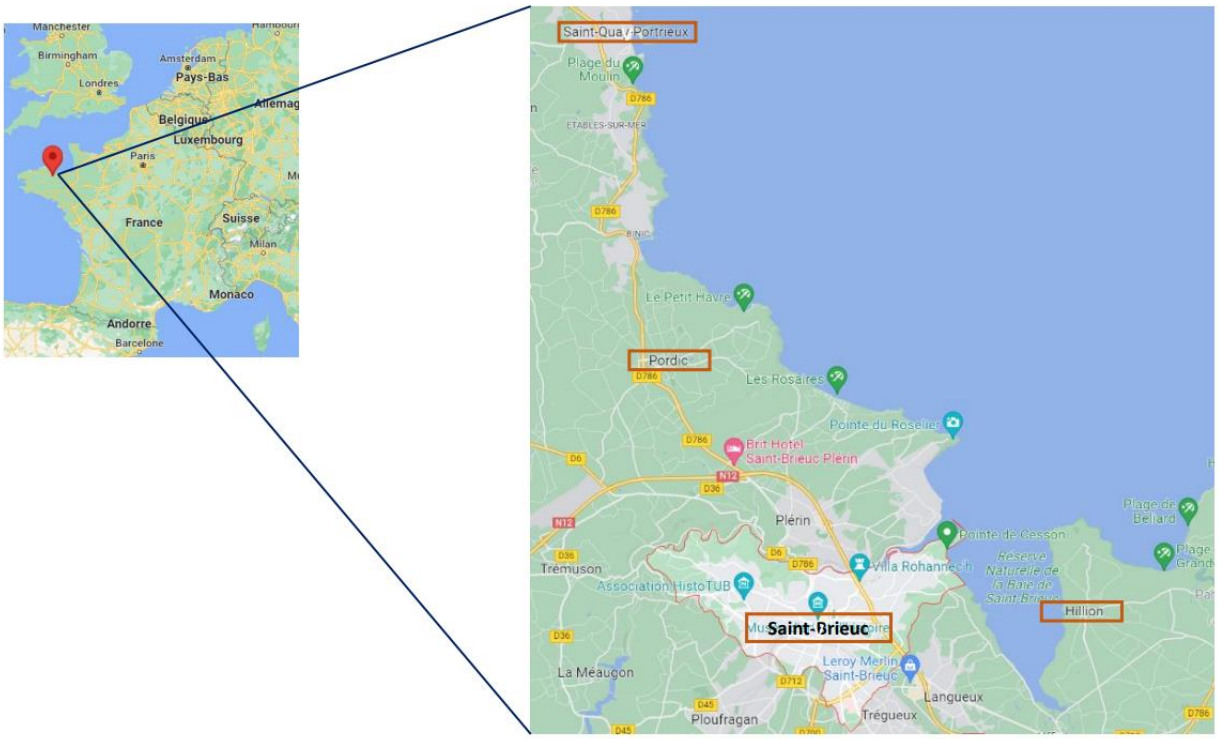


Figure 35. Map of the area visited by the assessment team.

The Principle 3 assessor attended the site visit remotely while the other team members attended in person. Also, the assessment team met the Ifremer scallop scientist remotely on 17 May 2022. A Variation Request (VR) was submitted to the MSC on 14 March 2022 to allow the Principle 3 assessor to attend the site visit remotely and the meeting with the Ifremer scallop scientist to be held by conference call; this VR was accepted.

The itinerary of the site visit is presented in Table 37.

Table 37. Itinerary of the site visit.

Date	Location	Organisation
11 April 2022	Saint-Quay-Portrieux	Onboard a fishing vessel
12 April 2022	Pordic	CDPMEM 22, CRPMEM de Bretagne, COBRENORD, PO Les Pêcheurs de Bretagne
12 April 2022	Pordic	DDTM/DML
13 April 2022	Hillion	National Natural Reserve of the Baie de Saint-Bieuc (Réserve Nationale Naturelle de la Baie de Saint-Bieuc)
13 April 2022	Hillion	Assessment team meeting
13 April 2022	Pordic	CDPMEM 22 (client closing meeting)

10.1.2.2 Stakeholder participation

In addition to posting information on the MSC webpage for this fishery and email announcements, stakeholders were made aware of the assessment process, and of opportunities for them to contribute/comment, via direct emails. The opportunities for stakeholder engagement are set out in the table below.

Table 38. Stakeholder consultation process.

Date	Purpose	Media
13 January 2022	▪ Fishery announcement including: – Confirmation of Assessment Team. – Confirmation of Assessment Tree. – Site visit scheduled. – Indicative timeline – Assessment team members' bios	Notification on MSC website. Direct email to registered stakeholders.
	▪ Publication of Announcement Comment Draft Report (ACDR).	Notification on MSC website. Direct email to registered stakeholders.
	▪ Use of the RBF	Notification on MSC website. Direct email to registered stakeholders.
23 February 2022	▪ Stakeholder announcement of change of the site visit dates	Notification on MSC website. Direct email to registered stakeholders.
60-day stakeholder consultation period on Announcement Comment Draft Report		
22 March 2022	▪ MSC's response to Variation Request (VR) for P3 assessor to attend site visit remotely and for the team to meet the Ifremer scallop scientist remotely.	Notification on MSC website. Direct email to registered stakeholders
01 April 2022	▪ Stakeholder announcement of RBF background information document	Notification on MSC website. Direct email to registered stakeholders
01 June 2022	▪ Peer reviewer shortlist	Notification on MSC website. Announcement and consultation by the MSC Peer Review College
30 May 2022	▪ Stakeholders' input on the RBF	Direct email to registered stakeholders
30 September 2022	▪ Publication of the Public Comment Draft Report (PCDR)	Notification on MSC website. Direct email to registered stakeholders.
30-day stakeholder consultation period on Public Comment Draft Report		

10.1.2.3 Evaluation techniques

The assessment team used the criteria in MSC FCP v2.2 Table 3 to decide whether the fishery may be data-deficient with respect to the scallop stock.

Reference points are **not** available, derived either from analytical stock assessment or using empirical approaches. In accordance with Table 3, the RBF is used for this PI.

Table 3: Criteria for triggering the use of the RBF

Performance Indicator	Criteria	Consideration	Notes
1.1.1 Stock status	Stock status reference points are available, derived either from analytical stock assessment or using empirical approaches.	Yes	Use default Performance Indicator Scoring Guideposts within default assessment tree for this PI.
		No	Use Annex PF (RBF) for this PI.

An RBF analysis for PI 1.1.1 requires both a Consequence Analysis (CA) and a Productivity-Susceptibility Analysis (PSA).

The Use of RBF was announced on the 13 January 2022 using the “Use of the RBF in a Fishery Assessment Form”, and stakeholders had at least a 30-day consultation period on the proposal to use the RBF in accordance with MSC FCP v2.2 PF2.1.1.
In accordance with MSC FCP v2.2 PF2.2.1 & PF2.2.2, the preliminary information gathered by the assessment team at the ACDR stage was available to stakeholders in advance of the site visit. A RBF background information document was published on the MSC website and was directly emailed to stakeholders on the 1 April 2022.

During the site visit, the assessment team consulted with stakeholders to gather data and to seek expert opinions.

A summary of the information obtained from the stakeholder meetings including the range of opinions is presented below.
Given that this information was collected during separate stakeholder meetings, Table 39 and Table 40 were shared with all participants after the site visit for reviewing and providing comments.

Table 39. CA Table with information obtained from stakeholders during the site visit.

	Scoring element / élément de notation	Consequence subcomponents Les sous-composantes	Consequence score / score de conséquence
Principle 1: Stock status outcome	Baie de St-Brieuc scallop Coquille St-Jacque de la Baie de St-Brieuc	Population size / taille de la population	
		Reproductive capacity / capacité reproductive	
		Age/size/sex structure Structure d'âge/taille/sexe	
		Geographic range Distribution géographique	
Rationale for most vulnerable subcomponent Justification pour déterminer quelle est la sous-composante la plus vulnérable	Population size: The fishery directly removes biomass and therefore has a direct influence on population size. Taille de la population: la pêcherie prélève directement de la biomasse et donc a un impact direct sur la taille de la population. Reproductive capacity: Recruitment is highly variable and appears to have a long-term cycle with a periodicity of ~15 years (Ifremer COSB report – Fifas and Caroff 2020). The drivers of this cycle are unknown but are most likely to be environmental. Currently we are at a high point in the recruitment cycle, and high recruitment is key driver of the observed high biomass, rather than vice versa. Capacité reproductive: le recrutement est fortement variable et semble avoir un cycle à long-terme avec une périodicité d'environ 15 ans (Ifremer COSB report – Fifas and Caroff 2020). Les moteurs de ce cycle sont inconnus mais le plus probable est qu'ils soient environnementaux. En ce moment, nous sommes au point haut du cycle de recrutement, et un recrutement élevé est un moteur clé de la biomasse élevée, plutôt que l'inverse. Age/size/sex structure: Mean size of the age classes from Year 3 upwards shows a long-term decline. Ifremer hypothesises that this is driven by fishing, either directly (removal of the faster growing individuals at a younger age) or indirectly, mediated by competition with *Crepidula fornicata* (preferential exploitation of areas with low crepidula densities and therefore lower competition). Structure d'âge/taille/sexe: la moyenne de taille des classes d'âge à partir de 3 ans montre une diminution à long-terme. L'hypothèse d'Ifremer est que cela est dû à la pêche, soit directement (prélèvement des jeunes individus à croissance rapide) ou indirectement, du fait de la compétition avec la crépidule (préférence de zones d'exploitation avec des densités de crépidule faibles, et donc moins de compétition). Geographic range: The fishery operates over a small constrained area, and no change in the distribution of scallops in this area has been observed, as far as we are aware. Distribution géographique: la pêcherie opère sur une petite zone limités, et un changement dans la distribution des coquilles St-Jacques n'a pas été observée.	

	We therefore conclude that the two potentially vulnerable sub-components are i) population size and ii) age/size structure. Par conséquent, nous concluons que les deux sous-composantes potentiellement vulnérables sont i) la taille de la population et ii) la structure d'âge/taille. **Contributions des parties prenantes** **CDPMEM, OP, CRMPEM** Elimination de la distribution géographie et de la capacité reproductive car liée aux facteurs environnementaux, ponte plus tôt dans la saison liée aux changements environnementaux. **Structuration taille/âge serait la plus vulnérable car pêche cible une classe d'âge et de taille.** **Mais hésitent avec la taille de la population** : remise à l'eau des plus petites coquilles qui permet de contribuer au maintien de la population. **DDTM** Pas de point de vue **Anthony Sturbois (RNN de la Baie de St Brieuc)** Eliminer de la distribution géographique, la moins vulnérable La seconde moins vulnérable serait la capacité de reproduction, puis la taille de la population **Structure d'âge et taille serait plus la vulnérable** **Spyros Fifas (Ifremer)** **Concernant la structure de taille/âge, les tendances à long-terme seraient probablement dues à la présence de la crépidule.** **Taille de la population serait la plus vulnérable**
Rationale for consequence score Justification pour le score de conséquence (voir le Tableau PF3)	Population size / Taille de la population: At the start of the 2020/21 season, Ifremer estimated exploitable biomass at 37 050 t and adult biomass (reproductive biomass) at 53 440 t. Total landings from the season were 7866 t, or 21% of the exploitable biomass and 15% of the adult biomass. These landings are the highest since 2007. Au début de la saison 2020/2021, Ifremer a estimé la biomasse exploitable à 37050 t et la biomasse d'adultes (biomasse reproductrice) à 53440 t. Les débarquements totaux pour cette saison ont été 7866 t soit 21% de la biomasse exploitable et 15% de la biomasse d'adultes. Ce sont les débarquements le plus élevés depuis 2017. For SG60 to be met, it is required that the reduction in population size would not damage long-term recruitment dynamics. Since recruitment in 2019 was the highest ever observed (start of time series 1991), and 2017 the second highest (Figure 3), it is clear that recruitment dynamics are not impacted by the recent level of landings.

	Pour que le score de 60 soit atteint, il est requis que la réduction de la taille de la population n'endommagerait pas la dynamique de recrutement à long-terme. Comme le recrutement en 2019 a été le plus élevé observé (début de la série chronologique en 1991), et 2017 le second plus élevé (Figure 3), il est clair que la dynamique de recrutement n'a pas été impactée par les récents niveaux de débarquements. For SG80 to be met, it is required that the fishery has a minimal impact on population size and none on dynamics. In relation to dynamics, the very high levels of recent recruitment suggest no impact. While the removal of 15% of adult biomass might be detectable from the beginning to the end of the season, the 2021 Ifremer survey (September 2021) reportedly estimates that adult biomass has increased by 11% and exploitable biomass by 19% compared with the previous survey (September 2020) suggesting that the impact of the fishery on biomass is not detectable by the start of the following season. SG80 is met. Pour que le score de 80 soit atteint, il est requis que la pêcherie ait un impact minimal sur la taille de la population mais aucun sur sa dynamique. En relation avec la dynamique de population, les niveaux très élevés de recrutement récent suggèrent qu'il n'y a pas d'impact. Bien que le prélèvement de 15% de la biomasse d'adultes puisse être détectable du début à la fin de la saison, la campagne 2021 d'Ifremer (Septembre 2021) a estimé que la biomasse d'adultes a augmenté de 11% et que la biomasse exploitable a augmenté de 19% par rapport à la campagne précédente (Septembre 2020), suggérant que l'impact de la pêcherie sur la biomasse n'est pas détectable au début de la saison suivante. Le score de 80 est atteint. For SG100 to be met, the fishery should have an insignificant impact on population size and growth rate, undetectable against background variability. This begs the question about impact over what timeframe – during the course of the season vs. after the end of the season. Without very high resolution data it is difficult to evaluate how 'detectable' the fishery is; out of precaution we score SG100 as not met. Pour que le score de 100 soit atteint, la pêcherie devrait avoir un impact négligeable/insignifiant sur la taille de la population et le taux de croissance, indétectable par rapport à la variabilité naturelle. Cela soulève la question de l'impact sur que laps de temps – pendant la saison vs après la fin de la saison. Sans des données à haute résolution il est difficile d'évaluer comment la pêcherie est « détectable », donc par précaution nous déterminons que le score de 100 n'est pas atteint. <u>Age/size structure / S</u>tructure d'âge/taille. For SG60 to be met, it is required that any change in age/size structure as a consequence of the fishery would not damage long-term recruitment dynamics. Since recruitment in 2019 was the highest ever observed (start of time series 1991), and 2017 the second highest, it is clear that recruitment dynamics are not impacted by the recent level of landings. Pour que le score de 60 soit atteint, il est requis que tout changement de structure d'âge/taille comme étant une conséquence de la pêcherie n'endommagerait pas la dynamique de recrutement sur le long-terme. Comme le recrutement en 2019 a été le plus élevé observé (début de la série chronologique en 1991), et 2017 le second plus élevé, il est clair que la dynamique de recrutement n'a pas été impactée par les récents niveaux de débarquements.

	For SG80 to be met, there may be a detectable change in age/size structure, but no impact on population dynamics. The decline in size for the age classes from Year 3 upwards is detectable from Ifremer's annual survey data, and Ifremer hypothesise that this relates to the fishery either directly or indirectly, but the trend in recruitment (removing the cyclic element) has been generally upwards over this time, so it does not appear that this is having any impact on population dynamics. Pour que le score de 80 soit atteint, il se peut qu'il y ait des changements détectables dans la structure d'âge/taille, mais un impact minimal sur la dynamique de population. Le déclin de la taille des classes d'âge à partir de 3 ans est détectable dans les données de campagnes annuelles de l'Ifremer, et l'Ifremer émet l'hypothèse que cela est en relation avec la pêcherie soit directement soit indirectement. Mais la tendance du recrutement (en enlevant l'élément cyclique) a été globalement à la hausse, donc il ne semble pas que cela ait un impact sur la dynamique de population. For SG100 to be met, any change in age/size structure should not be detectable – this is not the case. Pour que le score de 100 soit atteint, tout changement de structure d'âge/taille ne devrait être détectée. Ce n'est pas le cas ici. **Contributions des parties prenantes** **CDPMEM, OP, CRMPEM** **Impact détectable donc pas 100 . Plutôt 80 . Serait plutôt la structure de taille** **Taille de la population serait aussi à 80**. **DDTM** Pas de point de vue **Anthony Sturbois (RNN de la Baie de St Brieuc)** **Structure d'âge et taille, plus vulnérable. Score de 80 est atteint.** **Spyros Fifas (Ifremer)** **Taille de la population : Score de 100 est atteint.**

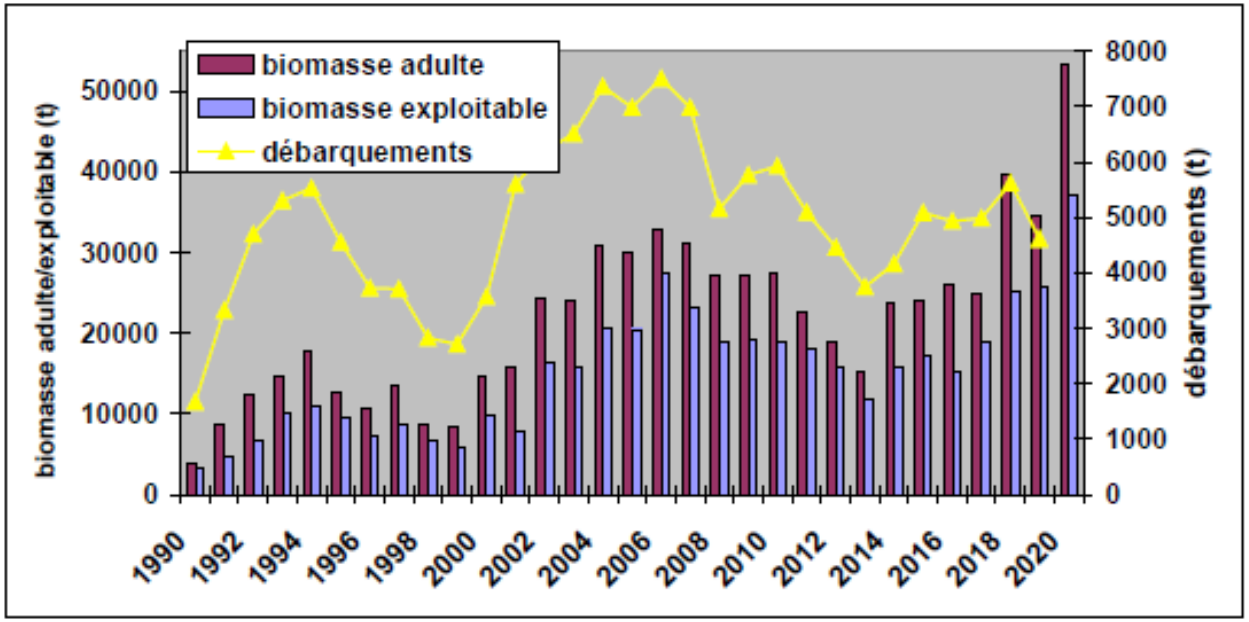


Figure 2. Evolution de la biomasse adulte (barres violettes), de la biomasse exploitable (barres bleues) estimées par les campagnes COSB et des débarquements officiels (ligne jaune) depuis 1990. Figure 2 dans Fifas and Caroff 2020.

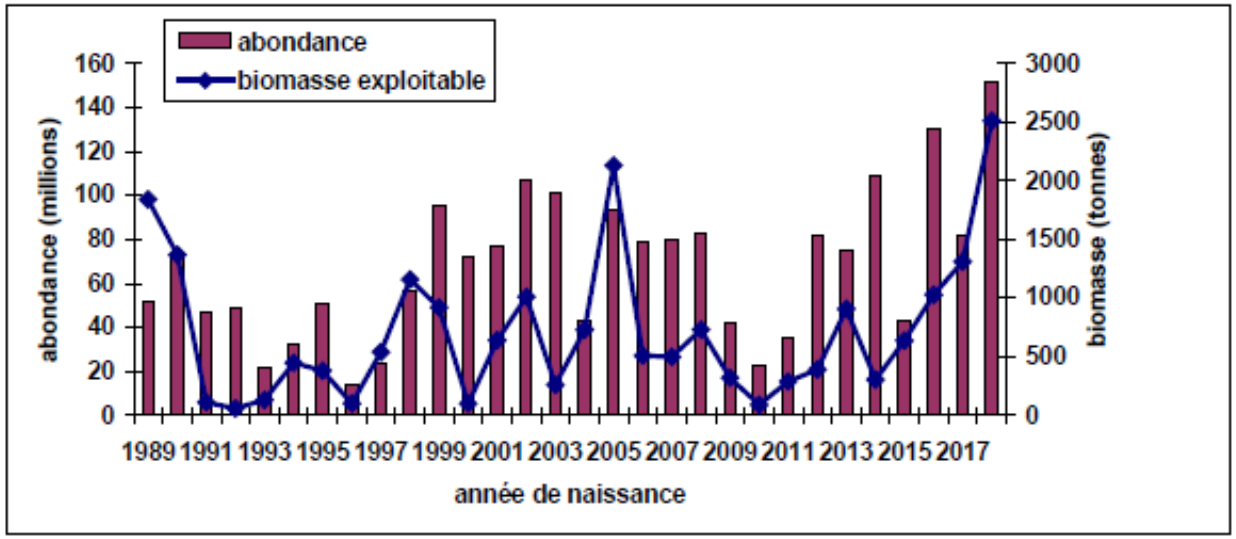


Figure 3. Abondance des recrues (barres violettes) et la biomasse exploitable (ligne bleue). Figure 5 dans Fifas and Caroff 2020.

Table 40. PSA Table with information obtained from stakeholders during the site visit.

Attributs de productivité de la PSA et les scores PSA		
Indice de Performance	1.1.1	
Productivité		
Élément noté (espèce)	Coquille St-Jacques, *Pecten maximus*	
Attribut	Justification	Score
Âge moyen à maturité	~75mm shell height – Year 2 ~75mm dans le sens de la hauteur de la coquille – Année 2 (Ifremer 2020) **Spyros Fifas (Ifremer)** 65 mm dans le sens de la hauteur – Année 2	1
Âge maximum moyen	For the purpose of aging the scallops in the survey, Ifremer use a maximum age class of 6+, suggesting scallops older than age 6 are relatively infrequent. <10 years. Pour déterminer l'âge des coquilles St-Jacques dans la campagne, l'Ifremer utilise une classe d'âge maximale de 6+, suggérant que les coquilles St-Jacques plus âgées que 6 ans ne sont pas fréquentes. <10 ans. **Spyros Fifas (Ifremer)** Entre 12 et 15 ans (en l'absence d'exploitation) Rapport de campagne Ouest du rail Ouessant (1998), projet européen Ecodredge Travaux de Recherche de l'Université de bretagne Occidentale	1 2
Fécondité	Highly fecund – females can release ~1-10 million eggs per year Très féconde – les femelles peuvent émettre ~1-10 million d'œufs par an (Cochard and Devauchelle 1993; https://www.marlin.ac.uk/species/detail/1398)	1
Taille maximale moyenne (non noté pour les invertébrés)	n/a	n/a
Taille moyenne à maturité (non noté pour les invertébrés)	n/a	n/a
Stratégie de reproduction	Broadcast spawners Ponte relâchée en pleine eau	1
Niveau trophique	We could not find a quantitative estimate, but they are suspension feeders which feed mainly on phytoplankton, therefore the trophic level is low. Nous n'avons pas trouvé une estimation quantitative, mais les coquilles St-Jacques filtrent les particules en suspension, donc se nourrissent le plus vraisemblablement de plancton. Par conséquent, le niveau trophique est faible. (Lavaud et al. 2018). **Spyros Fifas (Ifremer)** D'accord sur un faible niveau trophique.	1
Densité dépendence (pour les invertébrés seulement)	There is no evidence of either compensatory or depensatory dynamics. Recruitment is most likely a driver of population size rather than vice versa. The third highest recruitment on record (1999) corresponds to a year of low biomass (Fifas and Caroff 2020) Il n'y a pas d'évidence d'effet de dynamique compensatoire ou décompensatoire. Le recrutement est plus vraisemblablement le moteur de la taille de la population plutôt que l'inverse. Le troisième recrutement le plus élevé jamais observé (1999) corresponds à une année de faible biomasse.	2 1

Attributs de productivité de la PSA et les scores PSA		
	Spyros Fifas (Ifremer) Dynamique compensatoire démontrée ou vraisemblable à population de faible taille	
Score de productivité (préliminaire)		**1.17**
Susceptibilité		
Pêcherie (seulement que l'élément de notation est noté cumulativement)	Quelles sont les pêcheries qui impactent le gisement de la coquille St-Jacques de la Baie de St-Brieuc ? Toutes les parties prenantes sont d'accord pour les pêcheries suivantes : • L'UoA : la pêcherie à la drague de la coquille St-Jacques • La pêche commerciale en plongée • Pêche de loisir en plongée (apnée et pêche de loisir à pied) **De plus, la RNN de la Baie de St Brieuc et Spyros Fifas ont également listé la pêche au chalut.**	
Attribut	Justification	Score
Chevauchement avec l'aire de distribution **(le chevauchement combiné/cumulatif de toutes le pêcherie impactant le stock)**	•L'UoA : la pêcherie à la drague de la coquille St-Jacques Taking the Baie de St. Brieuc to be a stock, the fishery covers most or all of the area (Figure 3) Considérant le gisement de la Baie de St-Brieuc comme étant un stock, la pêcherie couvre la plupart ou toute la zone, **donc >30%** (Figure 3).	3
	• La pêche commerciale en plongée Quelle est le chevauchement de la pêche en plongée avec le gisement de la Baie de St-Brieuc ? **Anthony Sturbois (RNN de la Baie de St Brieuc)** Inférieur à 10% Veuillez noter qu'étant donné que l'on considère le chevauchement combiné/cumulatif de toutes les pêcheries, et au vue du score de 3 l'UoA seule, un score de 3 devrait être aussi donné à la pêche en plongée.	3
	• Pêche de loisir **Anthony Sturbois (RNN de la Baie de St Brieuc)** Inférieur à 10%	3
	• Pêche au chalut Veuillez noter qu'étant donné que l'on considère le chevauchement combiné/cumulatif de toutes les pêcheries, et au vue du score de 3 l'UoA seule, un score de 3 devrait être aussi donné à la pêche en plongée.	3
Probabilité de rencontre **(le probabilité de rencontre combinée/cumulative de toutes le pêcherie impactant le stock)**	•L'UoA : la pêcherie à la drague de la coquille St-Jacques The scallops and the gear are both on the seabed. Les coquilles St-Jacques et la drague sont sur le fond de la mer, donc probabilité de rencontré élevé). (Score par défaut pour les espèces cibles (Principe 1)).	3
	• La pêche commerciale en plongée Probabilité de rencontre élevée. Veuillez noter qu'étant donné que l'on considère la probabilité de rencontre combinée/cumulative de toutes les pêcheries, et au vue du score de 3 l'UoA seule, un score de 3 devrait être aussi donné à la pêche commerciale en plongée.	3
	• La pêche de loisir Veuillez noter qu'étant donné que l'on considère la probabilité de rencontre combinée/cumulative de toutes les pêcheries, et au vue du score de 3 l'UoA seule, un score de 3 devrait être aussi donné à la pêche de loisir..	3

Attributs de productivité de la PSA et les scores PSA			
	• La pêche au chalut Veuillez noter qu'étant donné que l'on considère la probabilité de rencontre combinée/cumulative de toutes les pêcheries, et au vue du score de 3 l'UoA seule, un score de 3 devrait être aussi donné à la pêche au chalut.		3
Sélectivité de l'engin de pêche **(individuelle pour chaque pêcherie impactant le stock)**	•L'UoA : la pêcherie à la drague de la coquille St-Jacques	Size at maturity is 75mm shell height, while the MLS is 102mm shell width, equivalent to 86 mm shell height (Figure 4). The dredge minimum ring size (97mm) is designed to avoid retaining scallops below the MLS. La taille à maturité est de 75 mm de hauteur de coquille, tandis que la taille minimale de débarquement est 102 mm en largeur de coquille ce qui correspond à 86 mm en hauteur de coquille (Figure 4). La taille minimale de l'anneau de la drague de 97 mm est conçue pour éviter de retenir les coquilles en dessous de la taille minimale de débarquement. **DDTM** Pas fréquent, marginal **Anthony Sturbois (RNN de la Baie de St Brieuc)** Supérieur à 50% car au fur et à mesure que l'engin se remplit, effet de colmatage **Spyros Fifas (Ifremer)** Rarement attrapés	2
		The dredge minimum ring size (97mm) is designed to avoid retaining scallops below the MLS. Therefore animals below the size at maturity can escape the gear. La taille minimale de l'anneau de la drague de 97 mm est conçue pour éviter de retenir les coquilles en dessous de la taille minimale de débarquement. Par conséquent, les animaux en dessous de la taille de maturité peuvent s'échapper de la drague.	1
	• La pêche commerciale en plongée	Étant donné la méthode de pêche, on s'attend à ce que les animaux en dessous de la taille de maturité ne soient pas pêchés.	1
		Étant donné la méthode de pêche, on s'attend à ce que les animaux en dessous de la taille de maturité ne soient pas pêchés.	1
	• La pêche de loisir	Étant donné la méthode de pêche, on s'attend à ce que les animaux en dessous de la taille de maturité ne soient pas pêchés.	1
		Étant donné la méthode de pêche, on s'attend à ce que les animaux en dessous de la taille de maturité ne soient pas pêchés.	1
	• La pêche au chalut	**Spyros Fifas (Ifremer)** Equipés de filtre pour permettre l'échappement Attrapés régulièrement	2
		Spyros Fifas (Ifremer) Individus peuvent s'échapper	1
Mortalité post-capture	•L'UoA : la pêcherie à la drague de la coquille St-Jacques		3

Attributs de productivité de la PSA et les scores PSA		
(individuelle pour chaque pêcherie impactant le stock)	• La pêche commerciale en plongée • La pêche de loisir • La pêche au chalut Target species. Default score of 3. Espèce cible. Score de 3 par défaut.	
Capture (poids) (seulement que l'élément de notation est noté cumulativement)	*Insérer les poids ou proportions des pêcheries impactant la coquille St-Jacques (FCP v2.2 Annexe PF4.4.4)* **CDPMEM, OP, CRMPEM** • L'UoA : la pêcherie à la drague de la coquille St-Jacques plus de 80% • La pêche en plongée moins de 20% • La pêche de loisir moins de 20% Pêche de loisir à pied moins de 20% **Anthony Sturbois (RNN de la Baie de St Brieuc)** • L'UoA : la pêcherie à la drague de la coquille St-Jacques plus de 80% • La pêche commerciale en plongée , 0% à 25% • La pêche de loisir, 0% à 25% (petite fenêtre, après grande marée, tempête qui ont poussé coquille, météo) **Spyros Fifas (Ifremer)** • L'UoA : la pêcherie à la drague de la coquille St-Jacques 75-100 • La pêche en plongée 0-25% • La pêche de loisir 0-25% • La pêche au chalut 0-25%	
Susceptibility score (preliminary)		
PSA score (preliminary)		
MSC score for PSA (preliminary)		
MSC score for CA (preliminary)		
MSC combined score (preliminary)		

10.2 Peer Review reports

10.2.1 Peer Reviewer A

10.2.1.1 General comments

Fishery	Assess-ment Start Year	Peer Reviewer (A/B/C)	3PE name	Question	Yes/No	Peer Reviewer Justification (as given at initial Peer Review stage). Peer Reviewers should provide brief explanations for their 'Yes' or 'No' answers in this table, summarising the detailed comments made in the PI and RBF tables.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
Baie de Saint-Brieuc scallop dredge	2022	PR A		Is the scoring of the fishery consistent with the MSC standard, and clearly based on the evidence presented in the assessment report?	Yes	In general the scoring of this fishery is consistent with the MSC standard with the potential exception of the information PIs for Principle 2 (2.1.3; 2.2.3 and 2.3.3) which I argue should have reduction to <80 as the data is not currently verifiable. I also suggest the related recomendation to continue collection of by-catch data should be formalised into a condition and include some verifiable observations.	Thank you. Regarding the comment on P2 Information PIs, the team's responses are in the PI comment section.
Baie de Saint-Brieuc scallop dredge	2022	PR A		Are the condition(s) raised appropriately written to achieve the SG80 outcome within the specified timeframe? [Reference: FCP v2.2, 7.18.1 and sub-clauses]	Yes	The conditions raised are appropriate but question why all the conditions have to wait until Year 4 until they are resolved. Can conditions 1 and 4 be brought forward?	Regarding condition 1, there are a few considerations: the extensive consultative process which is required before any changes are made to the management of the fishery; the need to formal management changes with the CRPM, which can take some time; and in addition Dr Fifas from Ifremer is due to retire soon (and as noted elsewhere, it will not be an easy task to take over from him). For this reason, it seemed appropriate to allow the fishery a good amount of time to agree and implement the HCR in an orderly way, particularly give that there was no risk to the status of the stock in the meantime. Regarding condition 4, similarly, the consideration has been given to the adequacy of the timeline set in relation with the research/work needs to be done by the stakeholders involved, and the set deadline for closure reflects the expected period at which the risk analysis for fishing impacts should be completed for the Biae de Saint-Brieuc East and Cap d'Erquy-Cap Fréhel. Also, the team set these conditions and associated milestones in conformity with the MSC FCP v2.2 §7.18.1.3.
Baie de Saint-Brieuc scallop dredge	2022	PR A		Is the client action plan clear and sufficient to close the conditions raised? [Reference FCR v2.0, 7.11.2-7.11.3 and sub-clauses]	NA	Note: Include this row for assessments completed against FCR v1.3 and v2.0, but not for FCP v2.1/v2.2 (in which the client action plan is only prepared at the same time as the peer review). Delete this text from the cell for FCR v1.3/v2.0 reviews or delete the whole row if FCP v2.1/v2.2.	
Baie de Saint-Brieuc scallop dredge	2022	PR A		Enhanced fisheries only: Does the report clearly evaluate any additional impacts that might arise from enhancement activities?	NA		
Baie de Saint-Brieuc scallop dredge	2022	PR A		Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	In general this is a very well written report.	Thank you.

Baie de Saint-Brieuc scallop dredge	2022	PR A		Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	In Principle 1 background the information could be enhanced by giving a clearer explanation of how the Ifremer recommended exploitation level ('quota') is implemented through effort controls. Is there a relationship on how effort controls are set according to the recommended quota, or are changes to effort controls throughout the season more related to economic objectives? It would also be useful to clarify how the Ifremer recommended quota is calculated. Are there different quota calculations for each of the three scenarios described on page 35? The table on p. 40 needs a caption heading and it would be useful if this was extended to provide the total Ifremer quota e.g. this was reported as 670000kg for 2020/21 season. The exploitable biomass could also be reported in this table to put it into context. Also a small point on page 35 it suggests that the COSB 2020 predicts that the 2019 class will consist of 164million individuals where as on p. 32 this is reported as being 160million individuals. The catch data in Table 16 is also slightly different to the figures reported in the table on p. 40 - an explanation may be needed on why this is the case.	The Ifremer 'quota' (which is not a quota) is one piece of input data which goes into setting the management at the start of the season and adjusting it thereafter, but is not directly 'implemented' in the fishery, except in a qualitative way as part of stakeholder discussions. Regarding the quota calculations, scenarios 1 and 2 result in a total catch which is set out in Section 9.2.1.8 (scenario 1: 36% increase; scenario 2: obviously stable since this is the constant catch scenario - so this is an input assumption for this scenario) but the 'quota' cited in the report comes from scenario 3 only which is the only one that tries to estimate an 'optimum catch'. To be quite honest, the analysis behind scenario 3 is quite opaque to the outsider (from whence in part the condition for a 'well-defined' HCR) because Dr Fifas is intimately familiar with his spreadsheets and scripts which he has been using, adding to and adjusting for quite some years without formalising any documentation. He provided us with the model, but trying to understand someone else's model without any external documentation is not necessarily very easy. However, because scenario 3 is trying to minimise inter-annual variability in landings, in practice when the biomass is so high, no adjustment for maintaining biomass is needed so the result comes out very much like scenario 2 (constant catch). Table caption heading added. The quota was actually there but poorly labelled; the table has been revised. 164 million is the prediction made in COSB2020 using a growth/mortality model as to the size of the 2019 year class in 2021, while 160 million is the estimate made by COSB2021 based on the survey as to the actual size of that year class at that point. This is explained in the text but I admit you have to be paying close attention.
Baie de Saint-Brieuc scallop dredge	2022	PR A		Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	In Principle 2 background the legend within Figures 14, 15 & 16 need to be increased so that the text is legible. On p. 62 in referring to the studies by Sturbois et al - it would be useful to note over what time period the changes were assessed. In Table 20 edible crab is not mentioned but is listed as a scoring element in Table 17. Is this because it is taken as personal catch and not recorded as by-catch by fishers? It would be useful to comment on whether sponges, sea fans, bryozoans, hydroids or maerl were likely included within non-target species recorded by fishers in 2021 and 2022 (Table 20). For the legend in Table 24 - does Schorres translate to shoreline habitat? Minor comments: on page 62 there is a typo: "scallop dredging has the potential to disrupt the benthic fauna **which...."** There are some full stops missing at the end of paragraphs on p. 63. On p. 63 type: "Fishing effort **is** spatially and temporally"	Legends for Figures 14 and 15 (now 15 and 16) have been translated in English and included in separate tables. For Figure 16 (now Figure 17), panels have been enlarged and legend explained in a short paragraph (page 61). Regarding edible crab, this was an oversight. Edible crab was added in Table 20, now Table 21. Sponges, sea fans, bryozoans, hydroids or maërl were not recorded by fishers. English translation of schorres in salt marsh, it was corrected in the table. Typos on pages 62 and 63 have been corrected.
Baie de Saint-Brieuc scallop dredge	2022	PR A		Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	In the Principle 2 background, within Figure 21, it would be useful to clarify where the maerl habitats are. In the rationale they are described as being: " either in spots of several square kilometres (southeast of Bréhat, north of the Yellow Plateau, south of the Justières plateau or west of Cape Fréhel), or in ribbons decametric width and multi-kilometric length (southeast of Caffa, southwest of Verdelet or southeast of the Erquy gates plateau)." However the places listed above are not easily read on the map due to the small font size. It would be informative as well to indicate the fishing secteurs on Figure 21 so that it is possible to see where the fishery potentially interacts with the maerl habitat. Is the main area of maerl in secteur 4 for example?	Maërl habitats are identified by * within Figure 22 (previously 21). However, in order to facilitate their location, purple shapes identifying areas with maërl have been added. We are not in a positon to add fishing secterus on this map. Considering Figure 10 (fishing secteurs), the maêrl areas are located in very small portions of all fishing secteurs and are associated with submerged rocks.

Baie de Saint-Brieuc scallop dredge	2022	PR A		Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	On p. 43 the report refers to the 'Preliminary Analysis' which I think needs to be updated for the CPRDR?	It was updated.
Baie de Saint-Brieuc scallop dredge	2022	PR A		Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	On page 9: Within strengths of Principle 2 should this say "The level of impact on non-target species…."	The sentence was changed to "Catches of non-target species are very low."
Baie de Saint-Brieuc scallop dredge	2022	PR A		Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	There are a few places in the report where section heading references are missing e.g. pages: 35, 47, 49, 53, 54, 55	Thank you. It was fixed.
Baie de Saint-Brieuc scallop dredge	2022	PR A		Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	Small typos on: p.134 (second paragraph): "It aims to…" p. 146 first sentence under 9.4.1.4: "objectives are set **by** states…"	Thank you. It was corrected.

10.2.1.2 PI comments

Fishery	Year	UoA stock	UoA gear	PR (A/B/C)	3PE	PI	PI Information	PI Scoring	PI Condition	Peer Reviewer Justification (as given at initial Peer Review stage)	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Res-ponse Code
Fishery	Assess-ment Start Year	Insert extra rows for P1 PIs if separate scores given for different UoA stocks	Insert extra rows for P2 PIs if separate scores given for different UoA gear types	Peer Revie-wer (A/B/C)	3PE name	Perfor-mance Indica-tor (PI)	Has all available relevant information been used to score this PI?	Does the information and/or rationale used to score this PI support the given score?	Will the condition(s) raised improve the fishery's performance to the SG80 level?	Peer reviewers (PRs) should provide support for their answers in the left three columns by referring to specific scoring issues and/or scoring elements, and any relevant documentation as appropriate. Additional rows should be inserted for any PIs where two or more discrete comments are raised, e.g. for different scoring issues, allowing CABs to give a different answer in each case. Paragraph breaks may also be made within cells using the Alt-return key combination. Detailed justifications are only required where answers given are one of the 'No' options. In other (Yes) cases, either confirm 'scoring agreed' or identify any places where weak rationales could be strengthened (without any implications for the scores).	CABs should summarise their response to the Peer Reviewer comments in the CAB Response Code column and provide justification for their response in this column. Where multiple comments are raised by Peer Reviewers with more than one row for a single PI, the CAB response should relate to each of the specific issues raised in each row. CAB responses should include details of where different changes have been made in the report (which section #, table etc).	See codes page for response options
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredg	PR A		1.1.1	Yes	Yes	NA	See RBF comments		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		1.1.2	NA (PI not scored)	NA (PI not scored)	NA			
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		1.2.1	No (change to rationale expected, not to scoring)	Yes	NA	The rationale could be enhanced by explaining how the Ifremer recommended quota is translated into effort controls and what provokes changes to the harvest strategy within seasons. Is this related to the recommended quota or is it related to economic objectives? It would also be good to explain how the quota is calculated: is it a summary of all the three scenarios tested or is just one of them selected? Lastly it would be useful to understand what level of tolerance there is on over-shooting the target and maintaining the sustainability of the stock. It appears that the recommended quota is regularly exceeded but that it is still lower than the estimated exploitable biomass and has not had a negative impact on the state of the stock. For example the Ifremer recommended exploitation level for 2020/21 was 670000kg, while total production was 8097696kg.	Regarding the Ifremer 'quota', it is actually a model output, and is not used as a quota for the fishery; rather it is one piece of the information available for management decision-making at the start of the year. In recent years (which is what we have been evaluating) the adjustments within seasons have related to, for example, extending openings to allow for rattrapage due to bad weather - operational and economic rather than biological objectives. However, of course, in recent years (under the management regime we have been evaluating) biomass has been high and growing, so we cannot say that under other circumstances biological objectives would not be more important. The 'quota' is from scenario 3 only; hopefully this is now clear. Overall, I am reluctant to revise the rationale in the direction of putting more emphasis on the 'quota' because it is really not a quota - it is a model output which supports management decision-making, along with other pieces of information, notably the COSB biomass estimates. I feel that the changes suggested by the reviewer risk giving a false impression of the harvest strategy as more formalised and less empirical than it actually is. But I agree that more clarity is needed, and this has been added under PI 1.2.2 which discusses the HCR specifically - this is where the details on the role of the 'quota' are most relevant, in my view.	Not accepted (no change)
			Baie de Saint-Brieuc King scallop (*Pecten maximus*)									

Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		1.2.2	No (change to rationale expected, not to scoring)	Yes	Yes	Although it mentions in the report (p.52) that it took the assessment team some time to work out the harvest control rule, this could be further clarified within the report. Is this referring to how the recommended exploitation level is calculated? Or is this referring to how this level is translated into effort controls? Both could be described in more detail to assist the reader in understanding the process, or explain further that this will be done as part of Condition 1. The figure on page 52 needs a caption heading. It would also be informative to add the Ifremer quota onto this graph.	The former. As already noted, the quota is not directly translated into effort controls. Further explanation has been added to the rationale for SIa. We are not allowed to specify how Condition 1 will be addressed - all we can say is that there needs to be a well-defined HCR. Regarding the figure, the caption was below, but MS Word is troublesome when you want to add an automated caption to a figure which is already inside a table ... Anyway, it has been put in bold which might make it more clear. I can't easily add the Ifremer quota because it is expressed in % (it is making a different point) - but a cross-ref has been added in the rationale to Table 16 where the figures can be found.	Accepted (no score change, change to rationale)
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		1.2.3	No (change to rationale expected, not to scoring)	Yes	NA	In general agree with the rationale and scoring for this PI. However for 1.2.3c, the background information on p.34 suggest that the information on all fishery removals from the stock is very out of date. Can it be justified to say that there is good information on all other fishery removals from the stock? It would be useful if the assessment team recommended that the analysis on estimated total removals including recreational use and illegal catch is updated.	Yes, good point. I think as you say the scoring is still appropriate because the existing estimates are very much a worst case scenario. However, the rationale has been revised and a recommendation added as suggested.	Accepted (no score change, change to rationale)
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		1.2.4	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.1.1	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.1.2	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.1.3	No (material score reduction expected to <80)	No (material score reduction expected to <80)	NA	Although fishers have taken part in a project to record non-target species I would argue that this is not adequate to assess the impact on the UoA as it is not verifiable data. I would therefore argue that 2.1.3 should score less than SG80. The recommendation related to this PI (that fisher-recording of bycatch should continue) should be formalised into a condition and enhanced to ensure that this information is also verified through selected independent observations.	I disagree. The requirement is not to have verifiable data but to have a combination of data with higher and lower level of verifiability in accordance with GSA3.6.3. However, GSA3.6 and GSA 3.6.3.1 allow to have only methods from Column B (lower level of verifiability, higher bias) of Table GSA5 when the management approach is very precautionary and catches and impacts of catches are very low. There are more than 2 methods from Column B used to collect data on non-target species catches, and these cathces are velry low. None of the species make up more than 0.01% of total catch.	Not accepted (no change)

Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.2.1	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.2.2	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.2.3	No (material score reduction expected to <80)	No (material score reduction expected to <80)	NA	Although fishers have taken part in a project to record non-target species I would argue that this is not adequate to assess the impact on the UoA as it is not verifiable data. It would be interesting to know whether hydroids, sea fans, sponges or bryozoans are ever caught and/or recorded as well as starfish. I would therefore argue that 2.2.3 should score less than SG80. The recommendation related to this PI (that fisher-recording of bycatch should continue) should be formalised as a condition and also enhanced to ensure that this information is also verified through selected independent observations.	I disagree. The requirement is not to have verifiable data but to have a combination of data with higher and lower level of verifiability in accordance with GSA3.6.3. However, GSA3.6 and GSA 3.6.3.1 allow to have only methods from Column B (lower level of verifiability, higher bias) of Table GSA5 when the management approach is very precautionary and catches and impacts of catches are very low. There are more than 2 methods from Column B used to collect data on non-target species catches, and these cathces are velry low. None of the species make up more than 0.01% of total catch. Also, considering habitat component species (sea fans, sponges, bryozoans) as Secondary species is not correct.	Not accepted (no change)
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.3.1	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.3.2	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.3.3	No (material score reduction expected to <80)	No (material score reduction expected to <80)	NA	Although fishers have taken part in a project to record non-target species I would argue that this is not adequate to assess the impact on the UoA as it is not verifiable data. I would therefore argue that 2.3.3 should score less than SG80 as information is not adequate to measure trends. The recommendation related to this PI (that fisher-recording of bycatch should continue) should be formalised into a condition and also enhanced to ensure that this information is also verified through selected independent observations.	I disagree. The source of information regarding potential interactions with ETP species is not anly based on the CDPMEM22 non-target catch monitoring project, but also on the impact analysis carried out by Drogou et al (2008) which was updated for amphihaline species in 2021.	Not accepted (no change)

Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.4.1	Yes	Yes	Yes	Scoring, rationale and Condition 2 agreed		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.4.2	Yes	Yes	Yes	Scoring, rationale and wording of Condition 3 agreed. It would be useful to further explain what the move-on rules are to avoid maerl beds - mentioned at the top of p. 123. As mentioned in the general comments it would be good to clarify Figure 21 to illustrate more clearly where the maerl beds are and how they correspond to the fishery secteurs.	Regarding the commonoy accepted move-on rules, as part of the CRPMEM de Bretgane's project respect, a booklet including recommendation to adapt fishing praxtices avoiding maërl beds was distributed to fishers. Fishers met during the site visit explained that maërl beds are known and their positions are identified in fishing vessels GPS such that they can be avoided during fishing operations. Maërl beds have been better identified within Figure 22 (previously Figure 21), see General comments section.	Accepted (no score change, change to rationale)
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.4.3	Yes	Yes		Scoring and rationale agreed. As mentioned in the general comments it would be good to clarify Figure 21 to illustrate more clearly where the maerl beds are and how they correspond to the fishery secteurs.	See response in the General comments, maërl beds have been better identified within Figure 22 (previously Figure 21).	Accepted (no score change, change to rationale)
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.4.3			No	As well as the maerl the condition should also cover the nature, distribution and vulnerability of other potentially fragile species which were noted in Sturbois et al.'s studies to have declined due to fishing activity. These may include: sea fans, hydroids, sponges and bryozoans.	The epifauna such as sea fans, hydroids, sponges and bryozoans are mainly associated with the maërl beds so the condition on the maërl beds implicitly covers these species.	Not accepted (no change)

Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.5.1	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A		2.5.2	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		2.5.3	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		3.1.1	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		3.1.2	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		3.1.3	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		3.2.1	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		3.2.2	Yes	Yes	NA	Scoring and rationale agreed. Should the rationale read "with the recent **increase** in ring size…"?	Thank you. Yes, the rational should be "with the recent **increase** in ring size". The rationale was corrected accordingly.	Accepted (no score change, change to rationale)
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		3.2.3	Yes	Yes	NA	Scoring and rationale agreed.		
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A		3.2.4	Yes	Yes	NA	Scoring and rationale agreed.		

10.2.1.3 RBF comments

Fishery	Year	UoA stock	UoA gear	PR (A/B/C)	PI	RBF Scoring	RBF Information	Peer Reviewer Justification (as given at initial Peer Review stage)	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
Fishery	Assessment Start Year	UoA stock (if separate scores in P1, add extra rows if needed)	UoA gear type (if separate scores in P2, add extra rows if needed)	Peer Reviewer (A/B/C)	Performance Indicator (PI)	Does the report clearly explain how the process(es) applied to determine risk using the RBF has led to the stated outcome?	Are the RBF risk scores well-referenced?	Peer reviewers (PRs) should provide support for their answers in the left three columns by referring to specific scoring issues and/or scoring elements, and any relevant documentation as appropriate. Insert additional rows for any PIs where discrete comments are raised e.g. for different scoring issues (allowing CABs to give a different answer in each case). Paragraph breaks may also be made within cells using the Alt-return key combination. Note: Detailed justifications are only required where answers given are one of the 'No' options. In other cases, please either confirm 'scoring agreed' or identify any places where weak rationales could be strengthened (without any implications for the scores).	CABs should summarise their response to the Peer Reviewer comments in the CAB Response Code column and provide justification for their response in this column. Where multiple comments are raised by Peer Reviewers with more than one row for a single PI, the CAB response should relate to the specific issues raised in each row. CAB responses should include details of where different changes have been made in the report (which section #, table etc).	See codes page for response options
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (*Pecten maximus*)	Scallop dredge	PR A	1.1.1 (RBF)	Yes	Yes	Scoring and rationale agreed	Thank you for your comment.	NA (No response needed)

10.2.2 Peer reviewer B

10.2.2.1 General comments

Fishery	Assess-ment Start Year	Peer Reviewer (A/B/C)	Question	Yes/No	Peer Reviewer Justification (as given at initial Peer Review stage). Peer Reviewers should provide brief explanations for their 'Yes' or 'No' answers in this table, summarising the detailed comments made in the PI and RBF tables.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
Baie de Saint-Brieuc scallop dredge	2022	PR B	Is the scoring of the fishery consistent with the MSC standard, and clearly based on the evidence presented in the assessment report?	No	I believe on the evidence presented the potential impacts for Zostera might be more serious than scored here.	
Baie de Saint-Brieuc scallop dredge	2022	PR B	Are the condition(s) raised appropriately written to achieve the SG80 outcome within the specified timeframe? [Reference: FCP v2.2, 7.18.1 and sub-clauses]	Yes	Yes but I believe another, similar, one may be appropriate for Zostera	
Baie de Saint-Brieuc scallop dredge	2022	PR B	Enhanced fisheries only: Does the report clearly evaluate any additional impacts that might arise from enhancement activities?		Not applicable	
Baie de Saint-Brieuc scallop dredge	2022	PR B	Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	There is a great deal of background information relevant to all three Principles and it is generally very well written and presented. I have commented on one section (2.4.1 outcome on habitats) where I felt background information was interpreted a bit generously in some respects, both in the background and in the releveant justification and this may impact in 2.4.1. Some of the figures are slightly lower resolution than is ideal for ease of use. There are a few mostly small errors listed below	Thank you for your comment. The response to your comment on PI 2.4.1 scoring is provided in the PI comments.
Baie de Saint-Brieuc scallop dredge	2022	PR B	Optional: General Comments (continued)	NA	"Error! Reference source not found." Examples on page 35; 47; 53; 54 and others	It has been fixed.
Baie de Saint-Brieuc scallop dredge	2022	PR B	Optional: General Comments (continued)	NA	Figure 1 would be better understood if all on one page.	Sorry but this comment is not understood. Figure 1 is a photo of the sanitary bag attached to packs of scallop, and is dispalyed in one page. Could have the PR mentioned the worng Figure?

Baie de Saint-Brieuc scallop dredge	2022	PR B	Optional: General Comments (continued)	NA	Table 16 on page 41 it would be useful to see if the quota and landings tend to match up. Is it possible that over shooting the "quota" contributes to accelerating of the decline periods?	The 'quota' is not a quota; it is just the output of a model which tries to minimise interannual variability in catch within appropriate sustainability parameters. Biomass fluctuations are clearly related to recruitment; overfishing can play a role in accentuating these natural fluctuations, as you say, but in this case with the high selectivity of the fishery it seems pretty unlikely.
Baie de Saint-Brieuc scallop dredge	2022	PR B	Optional: General Comments (continued)	NA	9.3.1.1.1 please explain "estran domain" (misspellng of eastern? Or does it mean intertidal?) Occurs in several other places in the document.	Estran means intertidal, correction was made to the text.
Baie de Saint-Brieuc scallop dredge	2022	PR B	Optional: General Comments (continued)	NA	Higher resolution version of Figures 14 to 16 required (especially figure 14)	Both Figures, which are now Figures 15 and 17, have been enlarged. Legends have been translated in English and included in separate tables. For Figure 16 (now Figure 17), panels have been enlarged and legend explained in a short paragraph (page 61).
Baie de Saint-Brieuc scallop dredge	2022	PR B	Optional: General Comments (continued)	NA	9.3.1.1.2 re the Sturbois and Drougou references please give an indication of the timesecales involved in these studies - they are more directly relevant to the fishery in question than the references further down this section. Minor editorial suggestions for this section : " scallop dredging has a potential to disrupt the benthic fauna with can potentially percolate" suggest change "with" to "which" Further down same page - also suggest change "structuration" to" structure"	Sturbois et al.'s study: in the intertidal zone, the analysis was based on samples taken in 1987, 2001 and 2019; in the subtidal, changes were assessed using 38 stations sampled in 1987 and 2019 coupled with one station sampled annually between 2005 and 2019. This indication was added in section 9.3.1.1.2. Drogou et al.'s provides an overview of existing studies on fishing impacts on habitats and species listed in Habitats and Birds EU Directives in France. Typo was corrected.
Baie de Saint-Brieuc scallop dredge	2022	PR B	Optional: General Comments (continued)	NA	Page 78 "pressions" (several instances) presumably this should say "pressures"	Thank you. It was corrected accordingly.
Baie de Saint-Brieuc scallop dredge	2022	PR B	Optional: General Comments (continued)	NA	Page 83 "area closed to fining" presumably this should be fishing	Thank you. It was corrected accordingly.
Baie de Saint-Brieuc scallop dredge	2022	PR B	Optional: General Comments (continued)	NA	PI 2.4.2a near bottom page "Stakeholders involved in the HARPEGE project agreed that further information on this maërl bed needs to be collected before the implementation of a spatial closure to bottom mobile gears and." This sentence should be completed	Thank you, "and" was removed.
Baie de Saint-Brieuc scallop dredge	2022	PR B	Optional: General Comments (continued)	NA	OSPAR spelt as OPSAR twice in the document.	Thank you. It was corrected accordingly.

10.2.2.2 PI comments

Fishery	Year	UoA stock	UoA gear	PR (A/B/C)	PI	PI Information	PI Scoring	PI Condition	Peer Reviewer Justification (as given at initial Peer Review stage)	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Res-ponse Code
Fishery	Assess-ment Start Year	Insert extra rows for P1 PIs if separate scores given for different UoA stocks	Insert extra rows for P2 PIs if separate scores given for different UoA gear types	Peer Revie-wer (A/B/C)	Perfor-mance Indica-tor (PI)	Has all available relevant information been used to score this PI?	Does the information and/or rationale used to score this PI support the given score?	Will the condition(s) raised improve the fishery's performance to the SG80 level?	Peer reviewers (PRs) should provide support for their answers in the left three columns by referring to specific scoring issues and/or scoring elements, and any relevant documentation as appropriate. Additional rows should be inserted for any PIs where two or more discrete comments are raised, e.g. for different scoring issues, allowing CABs to give a different answer in each case. Paragraph breaks may also be made within cells using the Alt-return key combination. Detailed justifications are only required where answers given are one of the 'No' options. In other (Yes) cases, either confirm 'scoring agreed' or identify any places where weak rationales could be strengthened (without any implications for the scores).	CABs should summarise their response to the Peer Reviewer comments in the CAB Response Code column and provide justification for their response in this column. Where multiple comments are raised by Peer Reviewers with more than one row for a single PI, the CAB response should relate to each of the specific issues raised in each row. CAB responses should include details of where different changes have been made in the report (which section #, table etc).	See codes page for response options
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	1.1.1	No (change to rationale expected, not to scoring)	No (change to rationale expected, not to scoring)	NA	See relevant RBF comments, very minor comment that will not affect score.	See the team's responses in the RBF comments.	Not accepted (no change)
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	1.1.2	Yes	Yes	NA	Not scored.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	1.2.1	No (scoring implications unknown)	No (scoring implications unknown)	NA	Regarding SI c & SI d it is not clear to me that the actions described are really monitoring / review of the harvest strategy. One thing that could be done is a comparison of actual landings - which are monitored - with the stated "tac" (I acknowledge this is not a tac in the accepted sense) predicted for that year to see how well they correlate - do the management actions result in landings approximating to those desired? It is not clear to me if a review of this nature is done. I do not consider this a major point as the comparison of landings with exploitable and adult biomass is very useful.	The 'TAC' ('quota') is poorly named (but everything is in translation from French), and it is not even particularly the landings desired. It is the output of a model which tries to balance a sustainable exploitation rate with minimising interannual variability in landings. It is one element of the information input into management decision making. In any case, the figures are provided in Table 16, which has been clarified - since this was not previously very clear. Regarding SIc specifically, I take this to mean monitoring of the stock to evaluate whether management objectives are being achieved (management objectives being broader and more qualitative than the 'TAC', as explained in SIa) - this is clearly the case with COSB etc. Regarding SId, this asks whether the harvest strategy is adjusted as necessary, and again this is clearly the case since adjustments are made within season, between seasons (effort) and periodically such as the change in ring size. I'm not sure that the 'TAC' is particularly relevant here.	Not accepted (no change)
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	1.2.2	No (scoring implications unknown)	No (scoring implications unknown)	Yes	Again as the main harvest control rule is a control of effort, ostensibly aimed at reducing proportions of available adult and exploitable biomass taken, it makes sense to me to evaluate this in more detail - at a high level it is clear that the proportion of adult and exploitable biomass taken is low and highly likely to be sustainable, but an indication of how successful the effort limitation approach is in resulting in the estimated tacs could also be useful. Note that as well as maintaining the stock one of the fishery management aims is also to spread the catch over multiple fishing seasons when biomass is in the higher part of the cycle.	Please see comment above about the 'TAC'. This rationale for SIa has been revised to explain the role of this model output (hopefully) more clearly.	Accepted (no score change, change to rationale)
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	1.2.2	No (change to rationale expected, not to scoring)	Yes	NA	Re SI c one of the main management tools is arguably daily landing limit ("quota") per sector which can be adjusted during the fishing season as listed in text in 9.1.5.2; this should be added here.	Thank you, good point - added	Accepted (no score change, change to rationale)

Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	1.2.3	No (non-material score reduction expected)	No (non-material score reduction expected)	NA	As above - monitoring of stock removals against the tac would give further information on how successful the strategy is. This is relevant to SI b here, where I question whether it meets the 100 guideline. All of the relevant information is collected but there is no monitoring of eh correlation between proposed "tac" and landings for each year. Nevertheless, overall there is clearly a great deal of information and monitoring for this fishery and it merits scoring highly.	This information is obviously available - it is presented, for example, in Table 16, although admittedly this was not previously particularly clear. But I am struggling throughout to be clear that the 'TAC' is not a TAC - it is a model output which is provided by Ifremer as one piece of information for management decision making.	Not accepted (no change)
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	1.2.4	Yes	Yes		Default score of 80 applies		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.1.1	Yes	Yes	NA	I agree with the scoring and rationale - there are clearly no main primary species in this fishery.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.1.2	No (non-material score reduction expected)	No (non-material score reduction expected)	NA	There is clearly a very low catch of finfish including the sole and monkfish and the fishery should clearly score highly for this PI; however it seems generous to score 100 in SI a here. This seems more like a partial strategy than a full strategy here. The report states elsewhere that the catch of non target species is limited "due to the gear characteristics and harvest strategy". To me it seems mostly about the gear characteristics. In the justification for SI 2.1.2a the CAB states "There is a fishing season with specified fishing days and times, fishing Sectors are not open simultaneously, landings are capped per vessel per day, there is a minimum inner diameter of dredge rings and other dredge characteristics." It is not clear to me how any of these represent a harvest strategy that reduces by catch, other than that clearly having a limit on scallop total catch means there is a limit on bycatch. EU regulation, 2019/1241 - it is not clear that this makes any material difference in this particular fishery. I recommend a score of 80 for Si 2.1.2a It would help here and elsewhere if an idea of the uptake of the voluntary recording scheme was provided - is this just one or two boats or a good representation of the fleet?	I agree and score for Sia was reduced to 80. The following was added as a conclusion: However, the above cannot be defined as a strategy as the measures are not specifically designed to manage impacts on primary species. SG100 is therefore not met. Regarding the voluntary recording shceme, 5 fishing vessels were involved in 2021 and 2022.	Accepted (non-material score reduction)
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.1.3	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.2.1	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.2.2	No (non-material score reduction expected)	No (non-material score reduction expected)	NA	As with 2.1.2: it seems generous to score 100 in SI a here. This seems more like a partial strategy than a full strategy here. The report states elsewhere that the catch of non target species is limited "due to the gear characteristics and harvest strategy". To me it seems mostly about the gear characteristics. In the justification for SI 2.2.2a the CAB states "There is a fishing season with specified fishing days and times, fishing Sectors are not open simultaneously, landings are capped per vessel per day, there is a minimum inner diameter of dredge rings and other dredge characteristics." It is not clear to me how any of these represent a harvest strategy that reduces by catch, other than that clearly having a limit on scallop total catch means there is a limit on bycatch. What are the "other dredge characteristics" that reduce non target catch in any meaningful way? EU regulation, 2019/1241 may have some influence here as it essentially requires that the majority of invertebrate catches are returned, and these are likely to have high survival rates. Nevertheless I recommend a score of 80 for Si 2.1.2a. It would help here and elsewhere if an idea of the uptake of the voluntary recording scheme was provided - is this just one or two boats or a good representation of the fleet? How well has the accuracy of the recording been verified? I accept that the team went out on a fishing trip and saw clean catches but bycatch could vary greatly with choice of fishing ground on the day as well as season.	I agree and score for Sia was reduced to 80. The following was added as a conclusion: "However, the above cannot be defined as a strategy as the measures are not specifically designed to manage impacts on secondary species. SG100 is therefore not met." Regarding the voluntary recording shceme, 5 fishing vessels were involved in 2021 and 2022. The assessment team is not aware of any verification conducted by the management agency to verify the accuracy of the information recorded.	Accepted (non-material score reduction)
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.2.3	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.3.1	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.3.2	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.3.3	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.4.1	No (change to rationale expected, not to scoring)	No (change to rationale expected, not to scoring)	NA	Regarding commonly encountered habitats,(SI a), overall I agree with the score as it would take a lot of fishing effort to prevent commonly encountered habitats from recovering to 80% of unimpacted status within 20 years. However I believe the justification overemphasises the likelihood of short term impacts on highly disturbed seabeds. In my experience many scallop beds are on relatively coarse seabeds that are relatively stable, or at least not sufficiently "highly disturbed" that they could be expected to recover quickly (though some are). The Baie de Saint-Brieuc is certainly subject to twice daily strong tides as stated but this does not automatically mean it is composed of highly disturbed communities that will automatically recover quickly from dredging - there are Zostera beds and maerl beds as a minimum! Moreover, of the references quoted the ones attributed to Drogou et al. (2008) are probably the most relevant as they appear to be local and long term and these do suggest considerable long term impacts.	Thank you, good point. The rationale was chnaged to less emphasise on the short term impacts on highly distrubed seabeds. Mentionning here Zostera and maërl beds is not relevant as there are not assessed in Sia.	Accepted (no score change, change to rationale)

Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.4.1	No (material score reduction expected to <80)	No (material score reduction expected to <80)	NA	Regarding SI(b) VMEs; Zostera: It seems misleading to state that Figure 31 shows that there is low overlap between scallop dredging and Zostera distribution. Comparing figure 25 and figure 31 strongly suggests at least the possibility of moderately high levels of fishing activity in Zostera areas in the 2017 data, but information is at too coarse a resolution to really know - but it certainly does not show low overlap. Figure 26 also supports that there is a possible overlap, and is presumably the risk analysis that the CAB appears to be discounting? I acknowledge, however, that the following my be an important piece of evidence: "During the site visit, stakeholders confirmed that scallop dredging is not a concern for Zostera meadows as scallop dredging does not overlap with the Zostera meadows (CDPMEM 22 and A. Sturbois from the Naturel Reserve of the Baie de Saint-Brieuc, pers. comm.)." However, it is not really clear what this means - specifically does this stakeholder have detailed direct knowledge of scallop fishing distribution relative to Zostera? In my opinion taking the overall evidence presented it is too generous to score this element at 80. It would quite possibly not require boats to be "overloading dredge with Zostera", nor to require very frequent interactions, to be capable of causing significant damage to Zostera beds. I recommend a score of 60 at most based on the present justification. A very similarly worded condition to that for Maerl would then be required.	Firstly, the assessemnt team has not discounted the risk analysis as suggested by the peer reviewer. The information regarding the risk analysis is clearly provided in section 9.3.1.4.2 with the method and synthesis translated by the P2 assesor presented in Tables 30 and 31 as well as the map of potential risks of scallop dredging to Habitats of Community Importance. Although Figure 26 is not a high resolution map, it clearly shows that there is no Zostera meadows in the Baie de Saint-Brieuc, and the area identfied with Zostera meadows is the north western limit of the Baie. I've searched for other supporting evidence and found a Ifremer document (Bajjouk et al., 2015) showing the distribution of the Zostera meadows in Brittany. A map of distribution was added to section 9.3.1.4. Bajjouk et al. (2015) further explain that *Z.marin* a inhabits the infralittoral zone until 3 to 4 m depth (exceptionally 10 m) whereas *Z. noltei* inhabits the mediolittoral zone with immersion rates at 40% to 70%. It does not correspond to the scallop fishing grounds, dredges are not set in the mediolittoral zone or at 3-4 m depth. It supports the unanimmous stakeholders statement regarding the absence of overlap between Zostera meadows and scallop dreding in teh Baie de Saint-Brieuc. In addition, the area of Tregor-Goëlo covers a small portion of the Baie de Saint-Brieuc scallop fishing secteurs, it is mainly the Perros-Guerrec scallop fishing secteur. The information from this Ifremer document was used to strengthen the background section and rationale.	Not accepted (no change)
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.4.1			Yes	The current condition for maerl should be sufficient to raise the score to 80 for this element.	Thank you.	NA (No response needed)

Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.4.2	No (material score reduction expected to <80)	No (material score reduction expected to <80)	NA	For Zostera I do not believe it has been demonstrated sufficiently that there is no overlap between the fishery and seagrass beds and so this element is scored too high throughout this PI. For SI d The justification states "level of compliance has been high for many years" Compliance with what? There is no protected area for Zostera. I accept there may be high compliance for all required fishery management measures but do not see how that helps here as none of them are very relevant to a strategy to prevent serious or irreversible harm to Zostera. I recommend a score of 60 at most based on the present justification. A very similarly worded condition to that for Maerl would then be required.	Firstly, the assessemnt team has not discounted the risk analysis as suggested by the peer reviewer. The information regarding the risk analysis is clearly provided in section 9.3.1.4.2 with the method and synthesis translated by the P2 assesor presented in Tables 30 and 31 as well as the map of potential risks of scallop dredging to Habitats of Community Importance. Although Figure 26 is not a high resolution map, it clearly shows that there is no Zostera meadows in the Baie de Saint-Brieuc, and the area identfied with Zostera meadows is the north western limit of the Baie. I've searched for other supporting evidence and found a Ifremer document (Bajjouk et al., 2015) showing the distribution of the Zostera meadows in Brittany. A map of distribution was added to section 9.3.1.4. Bajjouk et al. (2015) further explain that *Z.marin* a inhabits the infralittoral zone until 3 to 4 m depth (exceptionally 10 m) whereas *Z. noltei* inhabits the mediolittoral zone with immersion rates at 40% to 70%. It does not correspond to the scallop fishing grounds, dredges are not set in the mediolittoral zone or at 3-4 m depth. It supports the unanimmous stakeholders statement regarding the absence of overlap between Zostera meadows and scallop dreding in teh Baie de Saint-Brieuc. In addition, the area of Tregor-Goëlo covers a small portion of the Baie de Saint-Brieuc scallop fishing secteurs, it is mainly the Perros-Guerrec scallop fishing secteur. The information from this Ifremer document was used to strengthen the background section and rationale. Regarding your comment on compliance, compliance with the regulations capping engine power, fishing season closure, opening of sectors, that all together result in a level of intensity and frequency of fishinf activity which should be considred while assessing impacts on habitats.	Not accepted (no change)
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.4.2	No (change to rationale expected, not to scoring)	No (change to rationale expected, not to scoring)	Yes	Maerl - the justification for SI d states "level of compliance has been high for many years" Compliance with what? There is no protected area for maerl. Is compliance with the recommendation to avoid maerl monitored with sufficient rigour to say this? Elsewhere it is recognised that there is an interaction between fishing and maerl. The rationale also seems to rely on compliance with move-on rules. I have strong doubts that it will be sufficiently obvious that a dredge has encountered maerl for this to work reliably. Does the above Compliance statement refer to move-on rules? These are not mandatory as far as I can see. None of the long list of other management measures are very meaningful ways of reducing the potential impact of fishing on maerl, as despite all of these it seems higlhy likely there is more than enough residual fishing effort to be realistically capable of causing severe damage to this habitat. I accept there may be high compliance for all required fishery management measures but do not see how that helps here as none of them other than the move-on rule are very relevant to a strategy to prevent serious or irreversible harm to maerl. Overall I believe a score of 60 is fair for maerl for this SI however. The current condition for maerl should be sufficient to raise the score to 80 for this element.	Regarding your comment on compliance, compliance with the regulations capping engine power, fishing season closure, opening of sectors, that all together result in a level of intensity and frequency of fishinf activity which should be considred while assessing impacts on habitats.	Not accepted (no change)

Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.4.3	No (material score reduction expected to <80)	No (material score reduction expected to <80)	NA	I do not agree that the vulnerability of Zostera is understood sufficiently to score 80. There seems too much doubt to me about how much it may be encountered by the fishery. I recommend a score of 60 at most based on the present justification. A very similarly worded condition to that for Maerl would then be required.	Firstly, the assessemnt team has not discounted the risk analysis as suggested by the peer reviewer. The information regarding the risk analysis is clearly provided in section 9.3.1.4.2 with the method and synthesis translated by the P2 assesor presented in Tables 30 and 31 as well as the map of potential risks of scallop dredging to Habitats of Community Importance. Although Figure 26 is not a high resolution map, it clearly shows that there is no Zostera meadows in the Baie de Saint-Brieuc, and the area identfied with Zostera meadows is the north western limit of the Baie. I've searched for other supporting evidence and found a Ifremer document (Bajjouk et al., 2015) showing the distribution of the Zostera meadows in Brittany. A map of distribution was added to section 9.3.1.4. Bajjouk et al. (2015) further explain that *Z.marin* a inhabits the infralittoral zone until 3 to 4 m depth (exceptionally 10 m) whereas *Z. noltei* inhabits the mediolittoral zone with immersion rates at 40% to 70%. It does not correspond to the scallop fishing grounds, dredges are not set in the mediolittoral zone or at 3-4 m depth. It supports the unanimmous stakeholders statement regarding the absence of overlap between Zostera meadows and scallop dreding in teh Baie de Saint-Brieuc. In addition, the area of Tregor-Goëlo covers a small portion of the Baie de Saint-Brieuc scallop fishing secteurs, it is mainly the Perros-Guerrec scallop fishing secteur. The information from this Ifremer document was used to strengthen the background section and rationale.	Not accepted (no change)
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.4.3			Yes	The current condition for maerl should be sufficient to raise the score to 80 for this element.	Thank you.	NA (No response needed)
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.5.1	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.5.2	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	2.5.3	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	3.1.1	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	3.1.2	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	3.1.3	Yes	No (non-material score reduction expected)	NA	A minor point that I do not have strong feelings about - I understand why the MSFD is regarded as an important component of the long term objectives, but is it reasonable to score this PI at 100 when the original target of 2020 has been put back to 2030 (ie from a 10 year timescale to a 20 year one)? Technically there seems to be no requirement for the fishery to actually succeed in it's long term objectives (and indeed I understand there is a lot of work going on in the area in which this fishery operates with regards to MSFD) but I feel there has to be some element of realistic expectations of achieving them. A score of 80 would still give the fishery a high score for P3 which I feel is fair.	We agree with the reviewer that incorporating the notion of realistic expectation in policy-makig could be useful. For a specific fishery, the standard deals with this under PI1.2.1 and PI 1.2.2. However, for component 3.1, and PI 3.1.3 specifically, we can only go by what the standard presently requires. The long-term objectives of the French fisheries policy are clearly set out for P1 in the Code Rural et de la Pêche Maritime (art.L2) to be at MSY (art. D922-1). For P2 in the Code de l'Environnement (in conformity with the CFP and EU marine environment protection directives, and with international obligations), to exploit fisheries sustainably (art. L219-1), and thus conclude that SG100 is met.	Not accepted (no change)
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	3.2.1	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	3.2.2	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	3.2.3	Yes	Yes	NA	I agree with the scoring and rationale.		
Baie de Saint-Brieuc scallop dredge	2022	scallop	dredge	PR B	3.2.4	Yes	Yes	NA	I agree with the scoring and rationale.		

10.2.2.3 RBF comments

Fishery	Year	UoA stock	UoA gear	PR (A/B/C)	PI	RBF Scoring	RBF Information	Peer Reviewer Justification (as given at initial Peer Review stage)	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Res-ponse Code
Fishery	Assess-ment Start Year	UoA stock (if separate scores in P1, add extra rows if needed)	UoA gear type (if separate scores in P2, add extra rows if needed)	Peer Revie-wer (A/B/C)	Perfor-mance Indica-tor (PI)	Does the report clearly explain how the process(es) applied to determine risk using the RBF has led to the stated outcome?	Are the RBF risk scores well-referenced?	Peer reviewers (PRs) should provide support for their answers in the left three columns by referring to specific scoring issues and/or scoring elements, and any relevant documentation as appropriate. Insert additional rows for any PIs where discrete comments are raised e.g. for different scoring issues (allowing CABs to give a different answer in each case). Paragraph breaks may also be made within cells using the Alt-return key combination. Note: Detailed justifications are only required where answers given are one of the 'No' options. In other cases, please either confirm 'scoring agreed' or identify any places where weak rationales could be strengthened (without any implications for the scores).	CABs should summarise their response to the Peer Reviewer comments in the CAB Response Code column and provide justification for their response in this column. Where multiple comments are raised by Peer Reviewers with more than one row for a single PI, the CAB response should relate to the specific issues raised in each row. CAB responses should include details of where different changes have been made in the report (which section #, table etc).	See codes page for response options
Baie de Saint-Brieuc scallop dredge	2022	Scallop	Dredge	PR B	1.1.1 (RBF)	No (change to rationale expected, not to scoring)	Yes	I am unclear how the trawl can be given a selectivity of 2 if the dredge is given a score of 3 on the basis that there are escape panels. If small numbers of undersized scallops in most dredges results in a score of 3 I'd be very surprised if, in reality, the same did not apply in trawls. However, the way the averaging for the two elements of selectivity works I do not think this will make any difference to the scores	Dr Fifas considered that the escape panels in the trawls would allow most scallops to escape, by size and given the escape swimming response of scallops. No other stakeholders expressed any view about this fishery, and we also do not have direct information about the nature or operation of the trawls, so we took Dr Fifas' opinion as the best information we had.	Not accepted (no change)

10.2.3 Peer Reviewer A follow up

Fishery	Year	UoA stock	UoA gear	PR (A/B/C)	PI	PR Comment Code	Peer Reviewer Justification (as given at Public Comment Draft Report (PCDR) stage)	CAB response to Peer Reviewer's comments (as included in the Final Draft Report)	CAB Response
Fishery	Assessment Start Year	Insert extra rows for P1 PIs if separate scores given for different UoA stocks	Insert extra rows for P2 PIs if separate scores given for different UoA gear types	Peer Reviewer (A/B/C)	Performance Indicator (PI)	Is the CAB response to the PR's comments adequate?	Peer reviewers (PRs) should describe any concerns with the CAB's responses to their initial comments, on either PI scoring (including the RBF) or conditions. Comments at this stage should summarise any initial comments made by the PR at the previous PRDR stage, and detail those responses of the CAB (as provided in the PCDR) which are regarded as either incomplete or inconsistent with the MSC requirements. The comments in this column should be summarised in the PR Comment Code Column H. Additional rows should be inserted for any PIs where two or more discrete comments are raised, e.g. for different scoring issues, allowing CABs to give a different answer in each case. Paragraph breaks may also be made within cells where useful, using the Alt-return key combination. Detailed justifications are only required at this stage where answers given are one of the 'No' code options and the CAB responses are regarded as insufficient to address the PR's previous concerns. In other (Yes) cases, either confirm 'scoring agreed' here or identify any places where weak rationales could still be further strengthened (without any implications for	CAB response to the PR's PCDR stage comments (as included in the Final Draft Report). CABs should summarise their response to the Peer Reviewer comments in the CAB Response code column and provide justification for their response in this column.	See codes page for response options
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	1.1.1	Yes	No changes required		NA (No response needed)
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	1.1.2	NA (PI not scored)			
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	1.2.1	Yes	The explanation provided under PI 1.2.2 has provided clarity. (There is just a figure/table reference missing on p.51)	Reference has benn added in p.51.	Accepted (no score change, change to rationale)
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	1.2.2	Yes	The explanation provided under PI 1.2.2 has provided clarity.		NA (No response needed)
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	1.2.3	Yes	Rationale has been clarified (Figure/table reference missing)		NA (No response needed)
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	1.2.4	Yes	No changes required		

Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	2.1.1	Yes	No changes required			
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	2.1.2	Yes	No changes required			
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	2.1.3	Yes	Clarified in reference to GSA3.6.3.1			
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	2.2.1	Yes	No changes required			
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	2.2.2	Yes	No changes required			
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	2.2.3	Yes	Clarified in reference to GSA3.6.3.1			
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	2.3.1	Yes	No changes required			
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	2.3.2	Yes	No changes required			
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	2.3.3	Yes	Clarified in reference to GSA3.6.3.1			NA (No response needed)
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	2.4.1	Yes	No changes required			

Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	2.4.2	Yes	Clarity provided in rationale.		NA (No response needed)
Baie de Saint-Brieuc scallop dredge	2022	Baie de Saint-Brieuc King scallop (Pecten maximus)	Scallop dredge	PR A	2.4.3	Yes	Clarity provided.		NA (No response needed)

10.3 Stakeholder input

Written stakeholder input was not received during the stakeholder consultation period on the Announcement Comment Draft Report and the site visit.

Verbal submissions received during the site visit are summarised in section in Tables below.

Table 41. Verbal submissions received from fishers during the fishing trip onboard a scallop dredger.			
Fishing trip – 11 April 2022 at Saint-Quay-Portrieux			
Participants	**Organisation**	**Verbal submission**	**Assessment team's response**
Geraldine Criquet Jo Gascoigne	Assessment team	• Dredge characteristics • Fishing grounds • Fishing operations • Catch reporting • Non-target species catch • Interactions with VMEs • Consultation processes • Enforcement and compliance • Traceability	The lead assessor confirmed that the information provided will serve to evaluate the fishery against the MSC Fisheries Standard.
Grégory Métayer Laurent Azéma	Fishing vessel crew		

Table 42. Verbal submissions received from the CDPMEM 22, CRPMEM de Bretagne, COBRENORD, and Les Pêcheurs de Bretagne			
Client group meeting – 12 April 2022 at 9.30 am at Pordic			
Participants	**Organisation**	**Verbal submission**	**Assessment team's response**
Geraldine Criquet Jo Gascoigne Sophie des Clers (via conference call)	Assessment team	• Traceability within the fishery • Landing sites • Confirmation of the eligibility date • Harvest strategy • Recreational fishing • Study on dredge selectivity • Scallop "gisement" survey • EU, national and regional regulations • HCR • "Fête de la coquille"	The lead assessor confirmed that the information provided will serve to evaluate the fishery against the MSC Fisheries Standard.
Servane Le Calvez Alain Coudray Grégory Métayer	CDPMEM 22		
Julien Dubreuil	CRPMEM de Bretagne		
Damien Venzat	COBRENORD		

Dominique Thomas		• Catch reporting: “fiche de pêche” and “journal de pêche) • Non-target species catch reporting • Interactions with ETP species • Risk analysis of the impacts of scallop dredging on habitats • Management measures for the protection of VMEs • Decision-making and consultation processes • Enforcement and compliance • Relationship with the Réserve Nationale Naturelle de la Baie de Saint-Brieuc • Impact of covid on the industry • Concerns regarding the wind farm project in the Baie de Saint-Brieuc • Stakeholders’ input in the RBF	
Frank Evrat	Les Pêcheurs de Bretagne		
Stéphanie Good Mounia Essefiani	ASI (observers)		

Table 43. Verbal submissions received from the CDPMEM 22, CRPMEM de Bretagne, COBRENORD, and Les Pêcheurs de Bretagne

DDTM/DML meeting – 12 April 2022 at 2.00 pm at Pordic			
Participants	**Organisation**	**Verbal submission**	**Assessment team’s response**
Geraldine Criquet Jo Gascoigne Sophie des Clers (via conference call)	Assessment team	• Description of the entities involved in the scallop fishery management • Monitoring, control and surveillance system • Enforcement activities • Regional Plan for the Control of Maritime Fisheries • Sanctions • Compliance • Catch reporting • Risk analysis of the impacts of scallop dredging on habitats • Stakeholders’ input in the RBF	The lead assessor confirmed that the information provided will serve to evaluate the fishery against the MSC Fisheries Standard.
Eamon Mangan François-Régis Bertaud du Chazaud	DDTM/DML		
Servane Le Calvez	CDPMEM 22		
Stéphanie Good Mounia Essefiani	ASI (observers)		

Table 44. Verbal submissions received from the Réserve Nationale Naturelle (RNN) de la Baie de Saint-Brieuc			
Réserve Nationalle Naturelle de la Baie de Saint-Brieuc meeting – 13 April 2022 at 9.00 am at Hillion			
Participants	**Organisation**	**Verbal submission**	**Assessment team's response**
Geraldine Criquet Jo Gascoigne Sophie des Clers (via conference call)	Assessment team	• Ecosystem monitoring projects of the RNN • Interactions with ETP species • Risk analysis of the impacts of scallop dredging on habitats • Impacts of the scallop fishery on habitats • Fishing effort distribution • Impacts of the scallop fishery on the ecosystem • Zone "crépidulée" (with slipper limpet) • Consultation processes • Stakeholders's input in the RBF	The lead assessor confirmed that the information provided will serve to evaluate the fishery against the MSC Fisheries Standard.
Anthony Sturbois	RNN de la Baie de Saint-Brieuc		
Stéphanie Good Mounia Essefiani	ASI (observers)		

Table 45. Verbal submissions received from the CDPMEM 22			
Client closing meeting – 13 April 2022 at 2.00 pm at Pordic			
Participants	**Organisation**	**Verbal submission**	**Assessment team's response**
Geraldine Criquet Jo Gascoigne Sophie des Clers (via conference call)	Assessment team	• Fishing in the zone "crépidulée" (with slipper limpet) • Clarification on alternance of opened and closed Sectors • Recap of the site visit meetings	The lead assessor confirmed that the information provided will serve to evaluate the fishery against the MSC Fisheries Standard. The lead assessor also reminded the additional information to provide to the assessment team and deadline for submission agreed (in accordance with MSC FCP v2.2 §7.17.1.1.a. The lead assessor informed the client about the expected completion date of the CPRDR.
Servane Le Calvez Alain Coudray	CDPMEM 22		
Stéphanie Good Mounia Essefiani	ASI (observers)		

Table 46. Verbal submissions received from the Ifremer scallop scientist			
Meeting with the Ifremer scallop scientist – 17 May 2022 at 2.00 pm via conference call			
Participants	**Organisation**	**Verbal submission**	**Assessment team's response**
Geraldine Criquet Jo Gascoigne Sophie des Clers	Assessment team	• Stock assessment model used for short-term prediction scenario • Ifremer's annual surveyof the Baie de St-Brieuc scallop "gisement" (COSB) • Scallop biological features in the Baie de St-Brieuc • Fishing mortality over the time • Harvest strategy • HCR • Estimates of removals from the scallop stock from other fisheries • Impacts of the scallop fishery on the ecosystem • Stakeholders's input in the RBF	The lead assessor confirmed that the information provided will serve to evaluate the fishery against the MSC Fisheries Standard.
Spyros Fifas	Ifremer		

10.4 Conditions

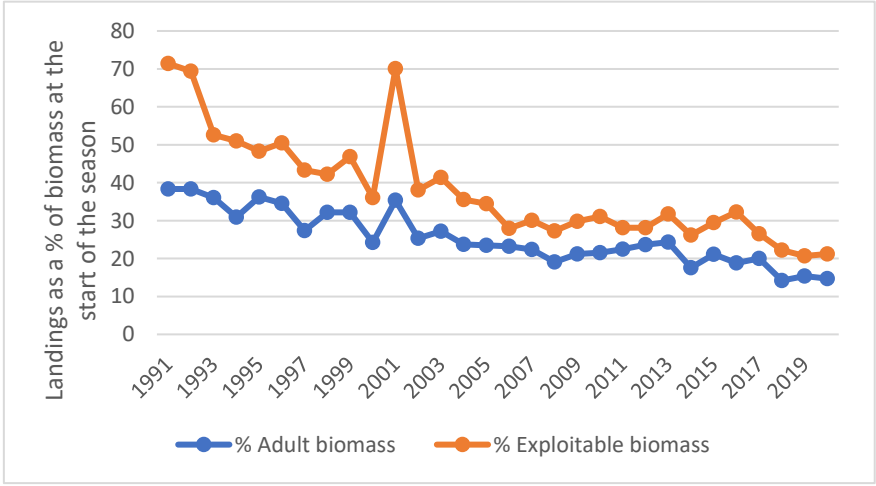
10.4.1 Conditions

Table 47. Condition 1.	
Performance Indicator	1.2.2 Harvest Control Rules and Tools Scoring issue a
Score	*75*
Justification	**Generally understood** HCRs are in place **or available** that are **expected** to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached. There is no formal harvest control rule for this fishery – management measures are adjusted as required to achieve a level of effort aligned with the general management objectives outlined in 1.2.1a, as well as socio-economic objectives. The figure below shows landings over the season as a proportion of adult and exploitable biomass at the start of the season, and demonstrates that in recent years, management has been highly successful at maintaining proportional removals at a sustainable rate (~20% of adult biomass and ~30% of exploitable biomass), which is coherent with the objective of reducing inter-annual fluctuations in the fishery and maintaining maximum recruitment. We can argue that maintaining landing at around this level is a 'generally-understood' HCR, in the sense that it is a clear, if implicit, objective of management. In terms of reducing the exploitation rate in relation to the PRI, it is unclear how to define the PRI for this stock. Recruitment is environmentally driven rather than related to stock biomass, and the stock has shown several times it can recover from low biomass with large recruitments, so the PRI is presumably well below anything ever observed over the timescale of the fishery. However, by maintaining the exploitation rate at this level, the PRI should never be approached – **SG60 is met.** Critical guidance GSA2.5: HCRs should be regarded as 'well-defined' in the sense required to achieve an 80 score when they exist in some written form that has been agreed by the management agency, ideally with stakeholders, and clearly state what actions will be taken at what specific trigger reference point levels. HCRs should be regarded as only 'generally understood' as required to achieve a 60 score in cases where they can be shown to have been applied in some way in the past, but have not been explicitly defined or agreed. SG80 requires a well-defined HCR. Ifremer have a model which takes the management objectives (reducing interannual variability and maintaining recruitment) and uses them to provide a 'quota' (which is not a formal management quota, but rather a piece of management advice). This is clearly a HCR, and it is clearly defined within the model. As already noted, the rule is clearly able to ensure that the PRI is not approached.

Table 47. Condition 1.

In relation to maintaining the stock at a target level consistent with MSY: for this stock MSY reference points cannot be estimated (or at least, they can in theory but they are not meaningful). In practice the appropriate target level would fluctuate from year to year according to long-term cyclic trends in recruitment (as well as unidirectional trends due to climate change); the aim of management is to allow escapement of some part of the biomass during the high points in recruitment, to fill in the troughs in biomass to some extent – a fixed inter-annual target would either be too high to be achievable during the low points in the cycle, or too low to be appropriate during the high points. It therefore makes sense that the target is expressed more in terms of stock trajectory than a specific stock biomass. In any case, according to Dr Fifas, the whole range of estimates of Fmsy were significantly higher than the current level of exploitation rate, which makes sense since for this highly productive stock, Bmsy would likely be quite a low proportion of B_0; which is not the case here. On this basis, the rule is based on the most appropriate objective to maintain a highly productive stock (the intent of 'a level consistent with MSY').

There is, therefore, a HCR which is applied by Ifremer to generate management advice, and is used as part of management decision-making. It is not, however, explicitly part of the management process, nor is it written down, nor (as far as we know) agreed with stakeholders. In fact, it took the assessment team some time and work to figure out what the rule was and how it was applied. Therefore, it can be considered 'generally understood' but not 'well-defined'. **SG60 is met but SG80 is not met.**



Landings over the season (starting in the year mentioned) as a proportion of estimated adult (blue) and exploitable (orange) biomass at the start of the season (COSB September survey). Based on data provided in Fifas and Caroff 2020.

Table 47. Condition 1.		
Condition		The client shall provide documented evidence that **well-defined** HRCs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY. Le client devra fournir une preuve documentée que des règles de contrôle des captures (HCR) **bien définies** sont en place pour garantir la diminution du taux d'exploitation à mesure que le PRI approche ; on s'attend à ce qu'elles maintiennent la fluctuation du stock autour d'un niveau cible cohérent avec (ou supérieur) au RMD.
Condition start		At the publication of the PCR (2022)
Condition deadline		At the 4th surveillance audit (2026)
Exceptional circumstances	☐	*NA*
Milestones		**At first surveillance audit (2023)** The client shall provide documented evidence that consultation between relevant stakeholders to discuss options of well-defined HCRs have been scheduled. **Score remains 75.** **Au premier audit de surveillance (2023)** Le client devra fournir une preuve documentée que la consultation entre les parties prenantes pertinentes afin de discuter d'options de HCR bien définies a été planifiée. **Le score reste 75.** **At second surveillance audit (2024)** The client shall provide documented evidence that consultation between relevant stakeholders to discuss options of well-defined HCRs has been held. **Score remains 75.** **Au second audit de surveillance (2024)** Le client devra fournir une preuve documentée que la consultation entre les parties prenantes pertinentes afin de discuter d'options de HCR bien définies a eu lieu. **Le score reste 75.** **At third surveillance audit (2025)** The client shall provide documented evidence of proposed HCRs. **Score remains 75.** **Au troisième audit de surveillance (2025)** Le client devra fournir une preuve documentée de proposition de HCR. **Le score reste 75.**

Table 47. Condition 1.	
	<u>At fourth surveillance audit (2026)</u> The client shall provide documented evidence that HCRs have been agreed and adopted. **Score is ≥80.** **<u>Au quatrième audit de surveillance (2026)</u>** Le client devra fournir une preuve documentée que les HCR adoptées. **Le score est ≥80.**
Verification with other entities	In accordance with MSC FCP v.2.2 § 7.19.8, Global Trust Certification consulted with the following entities: - CRPMEM de Bretagne who confirmed by email that they are satisfied that the closure of the condition is both achievable by the client and realistic in the period specified. A letter of support was provided (section 10.6). - Ifremer

Table 48. Condition 2.	
Performance Indicator	2.4.1 Habitats Outcome Scoring issue b
Score	*75*
Justification	High potential risk was identified for maërl as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Fishers interviews as part of this risk analysis confirmed a potential interaction between scallop dredging and maërl in the Tregor-Goëlo area. Figure 22 shows the distribution of maërl I beds in the Baie-de-Saint-Brieuc. It is either in spots of several square kilometres (southeast of Bréhat, north of the Yellow Plateau, south of the Justières plateau or west of Cape Fréhel), or in ribbons decametric width and multi-kilometric length (southeast of Caffa, southwest of Verdelet or southeast of the Erquy gates plateau). This map shows that maërl is mostly associated with rocks. Scallop dredging is mostly associated with sandy-gravelly bottoms where scallop inhabits, rocky areas are avoided particularly those close to the shore. Rocky areas are well known, and fishing grounds have not changed since a decade (Figure 33). The CRPMEM of Bretagne has implemented the project RESPECT (Appendix 10.10) in association with four CDPMEM including the CDPMEM 22. The objective of the project is to encourage sustainable fishing practices and to address potential risk identified by the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. A booklet was distributed to fishers and includes a recommendation to adapt fishing practices by avoiding maërl beds. Management measures are in place that may minimise the impacts of habitats: cap of the number of licences, gear characteristics, fishing season, fishing allowed two days per week, daily fishing time capped, daily scallop catch capped, and vessel engine capped. Sectors 2+3 and Sector 4 are not opened simultaneously, and fishers must choose between Sector 1 and Sector 3. Sector 3 is opened at the start of the fishing season in October and November, and then is closed for the remaining of the fishing season. Therefore, the assessment team determines that the UoA is unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm, **SG60 is met**.

Table 48. Condition 2.		
		However, the assessment team determines that information available so far does not allow to determine that the UoA is highly unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm**, SG80 is not met**; the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available yet.
Condition		The client shall provide documented evidence that the UoA is highly unlikely to reduce structure and function of maërl to a point where there would be serious or irreversible harm. Le client devra fournir une preuve documentée qu'il est fortement improbable que l'UoA réduise la structure et la fonction du maërl au point de provoquer des dommages sérieux ou irréversibles.
Condition start		At the publication of the PCR (2022)
Condition deadline		At the 4th surveillance audit (2026)
Exceptional circumstances	☐	*NA*
Milestones		**At first surveillance audit (2023)** The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel has started. **Score remains 75.** **Au premier audit de surveillance (2023)** Le client devra fournir une preuve documentée que l'analyse de risque pour Saint-Brieuc Est et le Cap d'Erquy-Cap Fréhel a débuté. **Le score reste 75.** **At second surveillance audit (2024)** The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is completed and available. **Score remains 75.** **Au second audit de surveillance (2024)** Le client devra fournir une preuve documentée que l'analyse de risque pour Saint-Brieuc Est et le Cap d'Erquy-Cap Fréhel est terminée et disponible. **Le score reste 75.** **At third surveillance audit (2025)** The client shall provide documented evidence that proposed management measures for the protection of the maërl in the Baie de Saint-Brieuc have been discussed. **Score remains 75.** **Au troisième audit de surveillance (2025)** Le client devra fournir une preuve documentée que des propositions de mesures de gestion pour la protection du maërl en Baie de Saint-Brieuc ont été discutées.

Table 48. Condition 2.	
	Le score reste 75. **At fourth surveillance audit (2026)** The client shall provide documented evidence that i) management measures for the protection of the maërl in the Baie de Saint-Brieuc have been adopted as required and ii) the UoA is highly unlikely to reduce structure and function of maërl to a point where there would be serious or irreversible harm. **Score is ≥80.** **Au quatrième audit de surveillance (2026)** Le client devra fournir une preuve documentée i) que des mesures de gestion pour la protection du maërl en Baie de Saint-Brieuc ont été adoptées comme requis ; ii) qu'il est fortement improbable que l'UoA réduise la structure et la fonction du maërl au point de provoquer des dommages sérieux ou irréversibles. **Le score est ≥80.**
Verification with other entities	In accordance with MSC FCP v.2.2 § 7.19.8, Global Trust Certification consulted with the following entities: - CRPMEM de Bretagne who confirmed by email that they are satisfied that the closure of the condition is both achievable by the client and realistic in the period specified. A letter of support was provided (section 10.6). - OFB who confirmed by email that they are satisfied that the closure of the condition is both achievable by the client and realistic in the period specified. A letter of support is to be provided.

Table 49. Condition 3.	
Performance Indicator	2.4.2 Habitats Management strategy Scoring issues a, b, c & d
Score	*75*
Justification	Scoring issue a High potential risk was identified for maërl as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Fishers interviews as part of this risk analysis confirmed a potential interaction between scallop dredging and maërl in the Tregor-Goëlo area. Figure 22 shows that maërl is mostly associated with rocks. Scallop dredging is mostly associated with sandy-gravelly bottoms where scallop inhabits, rocky areas are avoided particularly those close to the shore. Rocky areas are well known, and fishing grounds have not changed since a decade (Figure 33). The CRPMEM of Bretagne has implemented the project RESPECT (Appendix 10.10) in association with four CDPMEM including the CDPMEM 22. The objective of the project is to encourage sustainable fishing practices and to address potential risk identified by the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. A booklet was distributed to fishers and includes a recommendation to adapt fishing practices by avoiding maërl beds. As part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo, a maërl bed was identified for a proposition of closure to bottom mobile gears (Figure 34). Stakeholders involved in the HARPEGE project agreed

Table 49. Condition 3.	
	that further information on this maërl bed needs to be collected before the implementation of a spatial closure to bottom mobile gears and. In the meantime, it is recommended not to increase the fishing effort in this area. SA3.14.2.3 states that *in scoring issue (a) at the SG60 level, "measures" for a UoA that encountered VMEs shall include, at least, the following points:* a. Requirements to comply with management measures to protect VMEs (e.g., designation of closed areas); b. Implementation by the UoA of precautionary measures to avoid encounters with VMEs, based on commonly accepted move-on rules. It is required to comply with management measures. Scallop fishing conditions are included in the CRPMEM of Bretagne's Délibérations which are binding. Once the spatial closure or other measures will be adopted and implemented, it will be added into the CRPMEM of Bretagne's Délibérations pertaining to scallop dredging in the Côtes d'Armor. Precautionary measures to avoid maërl beds are implemented in the form of commonly move-on/avoidance rules as noted above. Therefore, the assessment team determined that there are measures in place, **SG60 is met.** However, the assessment teams determined that **SG80 is yet to be met** as closed area in the Special Protection Area of Tregor-Goëlo was proposed but is yet to be adopted and the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available yet. <u>Scoring issue b</u> Based on the rationale provided in PI 2.4.1 scoring issue b, the assessment team determined that the UoA is unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm. However, the assessment team determines that information available so far does not allow to determine that the UoA is highly unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm. Therefore, the assessment team determines that the measures are considered likely to work, SG60 being met, but **SG80 is not met.** <u>Scoring issue c</u> However, the assessment team determines that information available so far does not allow to determine that the UoA is highly unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm as the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available. In addition, the proposed closed area or other measures in the Special Protection Area of Tregor-Goëlo are yet to be adopted. Therefore, the assessment team determined that some quantitative evidence that the measures are being implemented successfully is yet to be available, **SG80 is not met.**

Table 49. Condition 3.	
	Scoring issue d However, the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available and the proposed closed area or other measures in the Special Protection Area of Tregor-Goëlo are yet to be adopted. Therefore, the assessment team determined that **SG60 is met but SG80 is not met.**
Condition	The client shall provide documented evidence that: i) There is a partial strategy in place that is expected to achieve the Habitat Outcome 80 level or above, for the maërl. j) There is some objective basis for confidence that the measures/partial strategy will work, based on information directly about the UoA and/or habitats involved. k) There is some quantitative evidence that the measures/partial strategy is being implemented successfully. l) There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant. Le client devra fournir une preuve documentée que : h) une stratégie partielle est en place et devrait permettre d'atteindre le niveau de performance 80 ou plus en termes d'état de l'habitat, pour le maërl i) il existe une base de confiance objective que les mesures/la stratégie partielle fonctionneront, sur la base d'informations directement relatives à l'UoA et/ou aux habitats impliqués. j) Des preuves quantitatives indiquent que les mesures/la stratégie partielle sont mises en œuvre avec succès. k) Des preuves quantitatives indiquent que l'UoA respecte ses exigences de gestion et les mesures de protection accordées aux EMV par d'autres UoA MSC/pêcherie s non-MSC, le cas échéant.
Condition start	At the publication of the PCR (2022)
Condition deadline	At the 4th surveillance audit (2026)
Exceptional circumstances ☐	*NA*
Milestones	**At first surveillance audit (2023)** The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel has started and that the proposed closed area or other management measures for the Special Protection Area of Tregor-Goëlo are further discussed. **Score remains 75.** **Au premier audit de surveillance (2023)** Le client devra fournir une preuve documentée que l'analyse de risque pour Saint-Brieuc Est et le Cap d'Erquy-Cap Fréhel a débuté et que la proposition de fermeture de zone ou autre mesure(s) de gestions pour la Zone de Protection Spéciale de Tregor-Goëlo continue(nt) d'être discutée(s). **Le score reste 75.**

Table 49. Condition 3.	
	At second surveillance audit (2024) The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is completed and available. **Score remains 75.** **Au second audit de surveillance (2024)** Le client devra fournir une preuve documentée que l'analyse de risque pour Saint-Brieuc Est et le Cap d'Erquy-Cap Fréhel est terminée et disponible. **Le score reste 75.** **At third surveillance audit (2025)** The client shall provide documented evidence that proposed management measures for the protection of the maërl in the Baie de Saint-Brieuc have been discussed. **Score remains 75.** **Au troisième audit de surveillance (2025)** Le client devra fournir une preuve documentée que des propositions de mesure(s) de gestion pour la protection du maërl en Baie de Saint-Brieuc ont été discutées. **Le score reste 75.** **At fourth surveillance audit (2026)** The client shall provide documented evidence that i) management measures for the conservation of the maërl in the Baie de Saint-Brieuc have been adopted as required; ii) there is some objective basis for confidence that the measures/partial strategy will work; iii) there is some quantitative evidence that the measures/partial strategy is being implemented successfully; and iv) There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant. **Score is ≥80.** **Au quatrième audit de surveillance (2026)** Le client devra fournir une preuve documentée i) que des mesures de gestion pour la protection du maërl en Baie de Saint-Brieuc ont été adoptées comme requis ; ii) il existe une base de confiance objective que les mesures/la stratégie partielle fonctionneront, sur la base d'informations directement relatives à l'UoA et/ou aux habitats impliqués ; iii) des preuves quantitatives indiquent que les mesures/la stratégie partielle sont mises en œuvre avec succès ; and iv) des preuves quantitatives indiquent que l'UoA respecte ses exigences de gestion et les mesures de protection accordées aux EMV par d'autres UoA MSC/pêcherie s non-MSC, le cas échéant. **Le score est ≥80.**
Verification with other entities	In accordance with MSC FCP v.2.2 § 7.19.8, Global Trust Certification consulted with the following entities:

Table 49. Condition 3.	
	- CRPMEM de Bretagne who confirmed by email that they are satisfied that the closure of the condition is both achievable by the client and realistic in the period specified. A letter of support was provided (section 10.6). - OFB who confirmed by email that they are satisfied that the closure of the condition is both achievable by the client and realistic in the period specified. A letter of support is to be provided.

Table 50. Condition 4.	
Performance Indicator	2.4.3 Habitats information Scoring issues a, b, c
Score	*75*
Justification	<u>Scoring issue a</u> High potential risk was identified for maërl as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Fishers interviews as part of this risk analysis confirmed a potential interaction between scallop dredging and maërl in the Tregor-Goëlo area. Figure 22 shows the distribution of maërl beds in the Baie-de-Saint-Brieuc. It is either in spots of several square kilometres (southeast of Bréhat, north of the Yellow Plateau, south of the Justières plateau or west of Cape Fréhel), or in ribbons decametric width and multi-kilometric length (southeast of Caffa, southwest of Verdelet or southeast of the Erquy gates plateau). However, the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available Therefore, the assessment team determined that although the nature and distribution of *maërl* in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA, its vulnerability to scallop dredging is not known at a level of detail relevant to the scale and intensity of the UoA, **SG80 is not met.** <u>Scoring issue b</u> High potential risk was identified for maërl as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Fishers interviews as part of this risk analysis confirmed a potential interaction between scallop dredging and maërl in the Tregor-Goëlo area. Figure 22 shows the distribution of maërl beds in the Baie-de-Saint-Brieuc. It is either in spots of several square kilometres (southeast of Bréhat, north of the Yellow Plateau, south of the Justières plateau or west of Cape Fréhel), or in ribbons decametric width and multi-kilometric length (southeast of Caffa, southwest of Verdelet or southeast of the Erquy gates plateau). However, the assessment team determines that information available so far does not allow to determine that the UoA is highly unlikely to reduce structure and function of the maërl to a point where there would be serious or irreversible harm**,** the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available Therefore, the assessment team determined that there no is reliable information on the spatial extent of interaction with the fishing gear, **SG80 is not met.** <u>Scoring issue c</u>

Table 50. Condition 4.		
		High potential risk was identified for maërl as part of the risk analysis of the impact of fishing on habitats in the Special Protection Area of Tregor-Goëlo. Fishers interviews as part of this risk analysis confirmed a potential interaction between scallop dredging and maërl in the Tregor-Goëlo area. Figure 22 shows the distribution of maërl beds in the Baie-de-Saint-Brieuc. It is either in spots of several square kilometres (southeast of Bréhat, north of the Yellow Plateau, south of the Justières plateau or west of Cape Fréhel), or in ribbons decametric width and multi-kilometric length (southeast of Caffa, southwest of Verdelet or southeast of the Erquy gates plateau). However, the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is ongoing and results are not available Therefore, the assessment team determined that adequate information does not continue to be collected to detect any increase in risk to maërl**. SG80 is not met.**
Condition		The client shall provide documented evidence that: g) The nature, distribution and vulnerability of maërl in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA. h) Information is adequate to allow for identification of the main impacts of the UoA on maërl, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear. i) Adequate information continues to be collected to detect any increase in risk to maërl. Le client devra fournir une preuve documentée que : f) La nature, la répartition et la vulnérabilité du maërl de la zone de l'UoA sont connus à un niveau de détail approprié à l'échelle et à l'intensité de l'UoA. g) Les informations sont adéquates pour permettre l'identification des principaux impacts de l'UoA sur le maërl, et il existe des informations fiables sur l'étendue spatiale des interactions et sur les temps et lieux d'utilisation des équipements de pêche. h) Des informations adéquates sont recueillies de façon continue afin de détecter toute augmentation du risque pour les habitats principaux.
Condition start		At the publication of the PCR (2022)
Condition deadline		At the 2nd surveillance audit (2024)
Exceptional circumstances	☐	*NA*
Milestones		**<u>At first surveillance audit (2023)</u>** The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel has started. **Score remains 75.** **<u>Au premier audit de surveillance (2023)</u>** Le client devra fournir une preuve documentée que l'analyse de risque pour Saint-Brieuc Est et le Cap d'Erquy-Cap Fréhel a débuté. **Le score reste 75.**

Table 50. Condition 4.	
	At second surveillance audit (2024) The client shall provide documented evidence that i) the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is completed and available; ii) the nature, distribution and vulnerability of maërl in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA; iii) information is adequate to allow for identification of the main impacts of the UoA on maërl, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear; and iv) adequate information continues to be collected to detect any increase in risk to maërl. **Score is ≥80.** **Au second audit de surveillance (2024)** Le client devra fournir une preuve documentée que i) l'analyse de risque pour Saint-Brieuc Est et le Cap d'Erquy-Cap Fréhel est terminée et disponible ; ii) la nature, la répartition et la vulnérabilité du maërl de la zone de l'UoA sont connus à un niveau de détail approprié à l'échelle et à l'intensité de l'UoA ; iii) les informations sont adéquates pour permettre l'identification des principaux impacts de l'UoA sur le maërl, et il existe des informations fiables sur l'étendue spatiale des interactions et sur les temps et lieux d'utilisation des équipements de pêche, iv) des informations adéquates sont recueillies de façon continue afin de détecter toute augmentation du risque pour les habitats principaux. **Le score est ≥80.**
Verification with other entities	In accordance with MSC FCP v.2.2 § 7.19.8, Global Trust Certification consulted with the following entities: - CRPMEM de Bretagne who confirmed by email that they are satisfied that the closure of the condition is both achievable by the client and realistic in the period specified. A letter of support was provided (section 10.6). - OFB who confirmed by email that they are satisfied that the closure of the condition is both achievable by the client and realistic in the period specified. A letter of support is to be provided.

10.5 Client Action Plan

10.5.1 Condition 1 on PI 1.2.2 Harvest Control Rules & tools

Table 51. Client action plan for condition 1

1	Condition number
	1
2	Performance Indicator(s)
	1.2.2 Harvest Control Rules and Tools
3	Score
	75
4	Condition(s)
	The client shall provide documented evidence that **well-defined** HRCs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY.
5	Milestone(s)
	At first surveillance audit (2023) The client shall provide documented evidence that consultation between relevant stakeholders to discuss options of well-defined HCRs have been scheduled. **At second surveillance audit (2024)** The client shall provide documented evidence that consultation between relevant stakeholders to discuss options of well-defined HCRs has been held. **At third surveillance audit (2025)** The client shall provide documented evidence of proposed HCRs. **At fourth surveillance audit (2026)** The client shall provide documented evidence that HCRs have been agreed and adopted.

6	Summary of action plan
	The action plan consists of putting in place a strategy to define and adopt HCRs by the last surveillance audit in 2026. This will be done in conjunction with the CDPMEM 22 scallop commission and the CDPMEM22 council which will discuss and validate the HCRS. The CRPMEM of Brittany will integrate them into the regulations.

Milestone	Action	Roles & Responsibilities	Outputs
At first surveillance audit (2023) The client shall provide documented evidence that consultation between relevant stakeholders to discuss options of well-defined HCRs have been scheduled	convocation of the CDPMEM 22 scallop commission to discuss the HCRs in September 2023	CDPMEM 22: realisation of the convocation of the members of the commission by mentioning the condition and the associated milestones.	Convocation with schedule and milestones.
At second surveillance audit (2024) The client shall provide documented evidence that consultation between relevant stakeholders to discuss options of well-defined HCRs has been held.	Meeting and discussion about the HCRs during the CDPMEM 22 scallop commission and CDPMEM 22 council with IFREMER (october 2024)	CDPMEM 22: organization of the meeting, consultation of members (cf. annexe 1 liste des membres) writing HCRs IFREMER : opinion on the HCRs	Debriefing of the commission and of the council
At third surveillance audit (2025) **The client shall provide documented evidence of proposed HCRs.**	Meeting and discussion about the HCRs during the CDPMEM 22 scallop commission and CDPMEM 22 council with IFREMER (october 2024)	CDPMEM 22: organization of the meeting, consultation of members (cf. annexe 1 liste des membres) writing HCRs IFREMER: Opinion on the HCRs	Debriefing of the commission Listing of HCRs and debriefing of the council
At fourth surveillance audit (2026) The client shall provide documented evidence that HCRs have been agreed and adopted.	Discussion and validation of the HCRs during the CSJ 22 commission (September 2025) Validation of the HCRs during the CDPMEM 22 council with IFREMER (December 2025) Modification of CRPMEM deliberations (June 2026)	CDPMEM 22: consultation of the members of the commission and meeting of the members of the council IFREMER : scientific validation of the HCRs CRPMEM of Brittany: modification of the deliberations	Debriefing of the commission and council deliberations or decisions approving the HCrs

10.5.2 Conditions 2, 3 & 4 on Habitats PIs

Table 52. Client action plan for condition 2

1	Condition number
	2
2	Performance Indicator(s)
	2.4.1 Habitats Outcome
3	Score
	75
4	Condition(s)
	The client shall provide documented evidence that the UoA is highly unlikely to reduce structure and function of maërl to a point where there would be serious or irreversible harm.
5	Milestone(s)
	At first surveillance audit (2023) The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel has started. **At second surveillance audit (2024)** The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is completed and available. **At third surveillance audit (2025)** The client shall provide documented evidence that proposed management measures for the protection of the maërl in the Baie de Saint-Brieuc have been discussed. **At fourth surveillance audit (2026)**

	The client shall provide documented evidence that i) management measures for the protection of the maërl in the Baie de Saint-Brieuc have been adopted as required and ii) the UoA is highly unlikely to reduce structure and function of maërl to a point where there would be serious or irreversible harm.
6	Summary of action plan
	The action plan consists of carrying out the fishing risk analysis for Natura 2000 sites and taking measures to limit interactions between fishing gear and habitats of Community interest when the level of risk so requires (moderate risk to strong). The sites concerned are all Natura 2000 sites in the Bay of Saint-Brieuc.

Milestone	Action	Roles & Responsibilities	Outputs
At first surveillance audit (2023) The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel has started.	Start fishing risk analysis for Natura 2000 sites : Saint-Brieuc-Est and Cap d'Erquy – Cap Fréhel (february 2022)	French Office for Biodiversity (OFB) with the French state services (maritime prefecture): programming of the fishing risk analysis for the Saint-Brieuc East and Cap d'Erquy – Cap Fréhel sites. CRPMEM de Bretagne, CDPMEM 22, CDPMEM 35, State services, N2000 operators, members of the HARPEGE 3 MONITORING COMMITTEE (see appendix 2, member of COSUIV HARPEGE 3): implementation of the fishing risk analysis	Debriefing COSUIV HARPEGE 3 of 03/02/2022
At second surveillance audit (2024) The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is completed and available.	Writing fishing risk analysis (last of year 2023)	CRPMEM + OFB: report writing HARPEGE 3 monitoring committee: validation of the report	Fishing risk analysis report of Natura 2000 sies : Cap d'Erquy, Cap Frehel and Saint-Brieuc Est.
At third surveillance audit (2025) The client shall provide documented evidence that proposed management measures for the protection of the maërl in the Baie de Saint-Brieuc have been discussed.	Meet fishermen and discuss mesures to the protection of maërl (June 2022 at june 2023)	CRPMEM + CDPMEM 22 + CDPMEM 35: surveys of professionals, presentation of risks and discussions of measures during working groups and/or various meetings	Debrief of work group and meeting Summary of proposed measures

At fourth surveillance audit (2026) The client shall provide documented evidence that i) management measures for the protection of the maërl in the Baie de Saint-Brieuc have been adopted as required and ii) the UoA is highly unlikely to reduce structure and function of maërl to a point where there would be serious or irreversible harm.	Adoption of mesures to reduce impact on maerl and habitat of community (2023/2024)	CDPMEM 22 + CDPMEM 35: validation by the respective councils of the CDPMEMs of the proposed measures COSUIV HARPEGE 3: validation of proposed measures COPIL NATURA 2000 (see appendix 3 COPIL members): validation of proposals MARITIME PREFET: adoption of measures CRPMEM de Bretagne: integration of measures into deliberations STATE SERVICE: integration of measures into prefectural decrees	Debrief of council of CDPMEM 22 Debrief of final COSUIV HARPEGE 3 Deliberation with mesures

Table 53. Client action plan for condition 3

1	Condition number
	3
2	Performance Indicator(s)
	2.4.2 Habitats Management strategy
3	Score
	75
4	Condition(s)
	The client shall provide documented evidence that: i) There is a partial strategy in place that is expected to achieve the Habitat Outcome 80 level or above, for the maërl. j) There is some objective basis for confidence that the measures/partial strategy will work, based on information directly about the UoA and/or habitats involved. k) There is some quantitative evidence that the measures/partial strategy is being implemented successfully.

	l) There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.
5	Milestone(s)
	At first surveillance audit (2023) The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel has started and that the proposed closed area or other management measures for the Special Protection Area of Tregor-Goëlo are further discussed **At second surveillance audit (2024)** The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is completed and available. **At third surveillance audit (2025)** The client shall provide documented evidence that proposed management measures for the protection of the maërl in the Baie de Saint-Brieuc have been discussed. **At fourth surveillance audit (2026)** The client shall provide documented evidence that i) management measures for the conservation of the maërl in the Baie de Saint-Brieuc have been adopted as required; ii) there is some objective basis for confidence that the measures/partial strategy will work; iii) there is some quantitative evidence that the measures/partial strategy is being implemented successfully; and iv) There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.
6	Summary of action plan
	The action plan consists of carrying out the fishing risk analysis for Natura 2000 sites and implementing measures to limit interactions between fishing gear and habitats of Community interest when the level of risk so requires (moderate to high risk). The sites concerned are all Natura 2000 sites in the Bay of Saint-Brieuc.

Milestone	Action	Roles & Responsibilities	Outputs
At first surveillance audit (2023) The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel has started and that the proposed closed area or other management measures for	Start fishing risk analysis for Natura 2000 sites : Saint-Brieuc-Est and Cap d'Erquy – Cap Fréhel (february 2022) Restart the discuss in natura 2000 site of Trégor Goëlo (During the first semester 2023)	French Biodiversity Office (OFB) with French state services (maritime prefet): Launch announcement of fishing risk analysis for Natura 2000 sites :Saint-Brieuc Est et Cap d'Erquy – Cap Fréhel.	Debrief of COPIL in date of 03/02/2022 Convocation of meeting to discuss on Trégor Goelo site.

the Special Protection Area of Tregor-Goëlo are further discussed		CDPMEM 22 et CRPMEM : convocation fishermen to discuss on site Natura 2000 Tregor-Goëlo	
At second surveillance audit (2024) The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is completed and available.	Writing fishing risk analysis (last of year 2023)	OFB + Natura 2000 site operator: integration of the results of the risk analysis in the documents of objectives (DOCOB) of the Natura 2000 sites	DOCOB of the sites with risk analysis results on the Saint-Brieuc East and Cap d'Erquy-Cap Fréhel sites
At third surveillance audit (2025) The client shall provide documented evidence that proposed management measures for the protection of the maërl in the Baie de Saint-Brieuc have been discussed.	Meet fishermen and discuss about mesures to protect Maërl (de 2022 à 2023)	CRPMEM + CDPMEM 22+CDPMEM 35 : surveys of professionals, presentation of risks and discussions of measures during working groups and/or various meetings	Debrief of work group and meeting Summary of proposed measures
At fourth surveillance audit (2026) The client shall provide documented evidence that i) management measures for the conservation of the maërl in the Baie de Saint-Brieuc have been adopted as required; ii) there is some objective basis for confidence that the measures/partial strategy will work; iii) there is some quantitative evidence that the measures/partial strategy is being implemented successfully; and iv) There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant	Implementation and application of the various measures to reduce the impacts on the maërl and the various habitats (2023/2024)	CDPMEM 22 + CDPMEM 35 : validation by the respective councils of the CDPMEMs of the proposed measures COSUIV HARPEGE 3 : validation of proposed measures COPIL NATURA 2000 (cf. annexe 3 membres du COPIL) : validation of propositions PREFET MARITIME : adoption of measures CRPMEM de Bretagne : integration of measures in the deliberations STATE SERVICE : integration of measures in prefectural decrees + monitoring of compliance with regulation.	Debrief of CDPMEMs council Debrief of COPIL final HARPEGE 3 Délibération with taken measures

Table 54. Client action plan for condition 4

1	Condition number
	4
2	Performance Indicator(s)
	2.4.3 Habitats information
3	Score
	75
4	Condition(s)
	The client shall provide documented evidence that: g) The nature, distribution and vulnerability of maërl in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA. h) Information is adequate to allow for identification of the main impacts of the UoA on maërl, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear. i) Adequate information continues to be collected to detect any increase in risk to maërl.
5	Milestone(s)
	At first surveillance audit (2023) The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel has started. **At second surveillance audit (2024)** The client shall provide documented evidence that i) the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is completed and available; ii) the nature, distribution and vulnerability of maërl in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA; iii) information is adequate to allow for identification of the main impacts of the UoA on maërl, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear; and iv) adequate information continues to be collected to detect any increase in risk to maërl.

6	Summary of action plan
	The action plan consists of carrying out the fishing risk analysis for Natura 2000 sites and taking measures to limit interactions between fishing gear and habitats of Community interest when the level of risk so requires (moderate risk to strong). The sites concerned are all Natura 2000 sites in the Bay of Saint-Brieuc.

Milestone	Action	Roles & Responsibilities	Outputs
At first surveillance audit (2023) The client shall provide documented evidence that the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel has started.	Start fishing risk analysis for Natura 2000 sites : Saint-Brieuc-Est and Cap d'Erquy – Cap Fréhel (february 2022)	French Biodiversity Office (OFB) with French state services (maritime prefet): Launch announcement of fishing risk analysis for Natura 2000 sites :Saint-Brieuc Est et Cap d'Erquy – Cap Fréhel.	Debrief of COPIL in date of 03/02/2022
At second surveillance audit (2024) The client shall provide documented evidence that i) the risk analysis for Saint-Brieuc East and Cap d'Erquy-Cap Fréhel is completed and available; ii) the nature, distribution and vulnerability of maërl in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA; iii) information is adequate to allow for identification of the main impacts of the UoA on maërl, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear; and iv) adequate information continues to be collected to detect any increase in risk to maërl.	Writing fishing risk analysis (last of year 2023) fishing activity mapping (year 2024 and year 2026)	OFB + Natura 2000 site operator: integration of the results of the risk analysis in the documents of objectives (DOCOB) of the Natura 2000 sites CDPMEM 22: mapping fishing activity with surveys (VALPENA program)	DOCOB of the sites with risk analysis results on the Saint-Brieuc East and Cap d'Erquy-Cap Fréhel sites Mapping of fishing activity (available in year 2025)

10.6 Letter of support

COMITE REGIONAL DES PECHES MARITIMES
ET DES ELEVAGES MARINS DE BRETAGNE
----Article L 912-1 et suivants du Code Rural et de la Pêche Maritime---

N°123-2022

Rennes, le 07 novembre 2022

Objet : soutien au processus de certification MSC du Comité Départemental des Pêches Maritimes et Elevages Marins (CDPMEM) des Côtes d'Armor pour la pêcherie de coquilles Saint-Jacques à la drague en Baie de Saint-Brieuc

Madame,

Vous avez sollicité le Comité Régional des Pêches Maritimes et Elevages Marins (CRPMEM) de Bretagne pour recueillir son avis sur le projet de certification de la pêcherie de coquilles Saint-Jacques à la drague en baie de Saint-Brieuc. Je souhaite par la présente vous faire part du soutien du CRPMEM de Bretagne dans cette démarche portée par le CDPMEM des Côtes d'Armor.

Je souhaite également vous adresser quelques compléments d'information concernant le rôle du CRPMEM sur plusieurs aspects liés à la gestion de cette pêcherie.

- **Mise en place de mesures de gestion** : le Code rural et de la pêche maritime (Livre IX, articles L912-3 et suivants) définit les missions du CRPMEM. Le CRPMEM a notamment pour attribution de participer à l'élaboration et à l'application des réglementations en matière de gestion des ressources halieutiques pour les espèces qui ne sont pas soumises à des totaux autorisés de captures ou à des quotas de captures en application d'un règlement de l'Union européenne. Dans le cas de la coquille Saint-Jacques, dont les gisements classés des Côtes d'Armor comprennent l'intégralité des eaux territoriales du département, le CRPMEM est l'instance en charge de l'élaboration de la réglementation des pêches, au titre de la gestion durable de la ressource mais également au titre de la cohabitation des métiers de la pêche et de la protection de l'environnement. Comme vous avez pu l'identifier au cours de votre audit, la pêche des coquilles Saint-Jacques dans les Côtes d'Armor est fortement encadrée et la définition des mesures de gestion se fait selon un processus associant les différents échelons du niveau départemental au niveau régional. Les propositions de gestion élaborées par la commission du CDPMEM sont validées par les professionnels élus au sein du Conseil du CDPMEM puis proposées à l'avis de la commission idoine du CRPMEM et, *in fine,* validées par le bureau du CRPMEM. La validation de cette réglementation prend la forme d'une délibération du CRPMEM, qui fait l'objet d'un arrêté d'approbation du Préfet de Région, autorité administrative compétente en matière de pêche au niveau régional. En application des délibérations du CRPMEM, et ce afin de pouvoir adapter certaines dispositions aux spécificités de l'exploitation (disponibilité de la ressource, prise en compte des aléas météorologiques, demande du marché, etc.), des décisions du Président du CRPMEM peuvent venir compléter la réglementation fixée par délibération.
- **Réalisation des analyses de risque pêche** : conformément aux dispositions du Code de l'environnement (article L.414-4), le CRPMEM réalise actuellement les « analyses de risques pêche » pour le volet des habitats marins au sein des sites Natura 2000 « Baie de Saint-Brieuc Est », « Cap d'Erquy-Cap Fréhel »[1], en partenariat avec l'Office français pour la biodiversité (OFB), les opérateurs des sites, les Comités départementaux des pêches concernés, ainsi que les services de l'Etat (Préfecture Maritime, DREAL, DIRM, DDTM). Précédemment, ces analyses ont également été réalisées sur les sites de l'ouest de la

[1] Projet HARPEGE 3 (2020-2023) bénéficiant d'un financement FEAMP

baie de Saint-Brieuc, notamment « Trégor-Goëlo »[2]. Dans ces projets, le CRPMEM a en charge la réalisation de l'état des lieux des activités de pêche, l'identification des risques avec l'OFB, et l'organisation de la phase de concertation des pêcheurs pour aboutir à des propositions de mesures, lorsque les niveaux de risques le nécessitent. Les propositions de mesures sont ensuite soumises aux services de l'Etat et au Comité de pilotage du site Natura 2000, avant approbation par l'autorité administrative. Lorsque le type de mesure retenu le permet, le CRPMEM les intègre dans ses délibérations, selon le processus détaillé ci-avant. Les calendriers de réalisation de ces analyses sont fixés conjointement avec les partenaires des projets HARPEGE, en tenant compte des calendriers d'élaboration des Documents d'objectifs Natura 2000.

La labellisation des produits de la pêche représente selon moi une opportunité pour les producteurs, notamment en terme de valorisation. La filière halieutique bretonne, structurée en association Breizhmer, développe actuellement son propre label-marque, sur des fondements différents que ceux du MSC. Dans ce cadre, nous serons collectivement attentifs à ce que les différents labels s'inscrivent en compatibilité et en complémentarité, et ce dans l'intérêt de toute la filière.

En espérant que ces précisions répondent à vos besoins dans le cadre de cette démarche de certification, je vous prie d'agréer, Madame, l'expression de mes sentiments distingués.

Le Président du CRPMEM de Bretagne
Olivier LE NEZET

CRPMEM DE BRETAGNE
1, square René Cassin
35700 RENNES

A l'attention de Mme Géraldine CRIQUET, auditrice MSC
Global Trust Certification Ltd,
Block 3, Quayside Business Park, Mill Street, Dundalk, Louth, A91 WNH1, Ireland.

[2] Projet HARPEGE (2016-2018), ayant bénéficié d'un financement FEAMP

10.7 MSC Technical Oversight

Date: 27/10/2022

SUBJECT: MSC Technical Oversight for Baie de Saint-Brieuc scallop dredge fishery - Public Comment Draft Report

Dear Geraldine Criquet (Global Trust (GT))

Please find below the results of our Technical Oversight review. This was completed by the Supply Chain Standards Team.

Ref	Type	Page	Requirement	Reference	Details	PI
32672						
32673	Minor	23	FCP-7.9.1.3 v.2.2	The CAB shall document any of the risk factors outlined in the Announcement Comment Draft Report, identifying any areas of risk for the integrity of certified products and how they are managed and mitigated.	As per FCP 7.9.1.3, the CAB shall document any of the risk factors outlines in the ACDR, identifying any areas of risk for the integrity of certified products and how they are managed and mitigated. Non-target non-UoC species e.g. slipper limpet is identified to be a bycatch and some portion of the bycatch is retained (p.95), it is unclear what segregation, identification and traceability measures are in place to prevent non-UoC species mixed with UoC and be packed onboard the vessels into packing bags.	

This report is provided for action by the CAB and ASI in order to improve consistency with the MSC scheme requirements; MSC does not review all work products submitted by Conformity Assessment Bodies and this review should not be considered a checking service. If any clarification is required, please contact the relevant FAM or SCS manager for more information.

Marine Stewardship Council
cc: Assurance Services International

Global Trust Certification's response

FCP v2.2 §7.9.1.3 has been followed by GTC. In accordance with the associated G.7.9.1.2-4, the following risk factors have been investigated and reported in Table 12 of section 8.1.:

- the possibility that non-certified gears are used within the UoA.
- The possibility that vessels from the UoC fishing outside the UoC or in different geographical areas.
- The possibility of vessels from outside the UoC or client group fishing the same stock.
- Any other risk of substitution between fish from the UoC and fish from outside this unit.

As clearly explained in section 9.3.1.2.3 of the report, the slipper limpet which is an invasive species subject to an eradication policy, cannot be retained and landed. By regulation, the scallop must be landed "décrépidulées"/slipper lippet removed. So this species does not enter into the supply chain. In addition, there is no market for slipper limpet. The non-target species, primary and secondary species, are mainly discarded and fishers are allowed to retained a portion of it for personal consumption only ("godaille") so no other species than scallop caught by the fishery enters into the supply chain . This is clearly explained in several parts of the reports: p. 70, p.93, p.98, p.103, p.104, p.105, p.107, p.108.
This text was added in the last section of Table 12.

10.8 Surveillance

Section 7.28 of the MSC FCP v2.2 sets out that during each full assessment, surveillance and re-certification assessment, the team with input from the client, shall determine the level at which subsequent surveillance of the fishery shall be undertaken. Surveillance audits shall take place according to the default surveillance level (Level 6, requiring 4 on-site surveillance audits), unless the team decides on a reduced surveillance programme.

The surveillance level for the fishery shall be determined on the basis of the confidence of the CAB in its ability to remotely verify information and progress towards meeting conditions. Where a reduced surveillance level is adopted rationale is required as to how the CAB can verify information remotely.

Table 55. Surveillance levels (Source: Table 5; MSC FCP v2.2)

Surveillance level	Surveillance requirements
Level 6 *Default surveillance*	4 on-site surveillance audits
Level 5	3 on-site surveillance audits 1 off-site surveillance audit
Level 4	2 on-site surveillance audits 2 off-site surveillance audits
Level 3	1 on-site surveillance audits 3 off-site surveillance audits
Level 2	1 on-site surveillance audits 2 off-site surveillance audits 1 review of information
Level 1 *Minimum surveillance*	1 on-site surveillance audit 1 off-site surveillance audit 2 reviews of information

To assess fisheries against the verification of information criteria the Assessment Team elected to use Table G10 provided in the FCP v2.2 to determine the likelihood that future surveillance teams will be able to access the required information remotely and that they can confirm veracity of the information. For results of this assessment of the fishery against the verification of information criteria see table below.

Table 56. Assessment of information available to enable the determination of appropriate surveillance level.

	Ability to verify remotely is low	Ability to verify remotely is high	Global Trust evaluation
Client and stakeholder input	Electronic forms of communication and other mechanisms to engage with clients and stakeholders (such as video conferencing, phone conferencing, email, phone) are absent, limited or inefficient and ineffective in providing the information required for an audit in	There are ample opportunities and mechanisms to engage with clients and stakeholders including electronic forms of communication, such as videoconferencing phone conferencing, email, phone. The mechanisms are effective in the	Electronic forms of communication are widely and readily available as evidenced by the successful completion of several remote site visits for Icelandic fisheries.

	Ability to verify remotely is low	Ability to verify remotely is high	Global Trust evaluation
	the particular circumstances of the fishery.	particular circumstances of the fishery.	Global Trust's ability to remotely verify information is determined to be **High.**
Fishery reports, government documents, stock assessment reports and/or other relevant reports	Fishery reports and other types of reports required for the surveillance, and to demonstrate fishery performance in relation to any relevant conditions and on-going performance against the MSC's standard are not available publicly and cannot be transmitted electronically. There is no remote access to the information and there are none, or very limited other sources available to triangulate and confirm status of the fishery with respect to the MSC Standard	Fishery reports and other documented evidence that can be used to demonstrate progress against conditions and other issue relevant to the MSC Principles and criteria can be easily and transparently checked remotely, due to such information being available publicly, such as being available on a website or having been widely distributed and made publicly available to several stakeholders. The reports can be transmitted electronically, and veracity easily confirmed.	Documentation relating to fisheries advice, research and management can be obtained electronically. Global Trust's ability to remotely verify information is determined to be **High.**
Information appropriate to determination of Principle 1 and 2 information requirements.	Information from electronic monitoring of position, observer data, logbooks, fisher interviews, dockside monitoring etc. is required for audits but cannot be easily transmitted to a remote auditor in a form that can be easily interpreted.	Where Information from electronic monitoring of position, observer data, logbooks, fisher interviews, dockside monitoring etc. is required to verify performance against MSC standard, this information is available to be transmitted electronically to auditors in a form that can be easily interpreted.	Data on catches and landings can be transmitted electronically. Other information that might be required can be transmitted in an electronic form. Global Trust's ability to remotely verify information is determined to be **High.**
Transparency of the management system	Level of transparency of information by management is low such that information about performance of the fishery is generally not easily and widely available.	There is a high level of transparency in management, such that information on the fishery is widely and publicly available or known to the wider group of stakeholders. Any information provided on the fishery can be easily verified.	Information on the fishery is transparent, and generally available online. Information can be verified by checking online sources or through direct contact with relevant officials. Global Trust's ability to remotely verify information is determined to be **High.**
Vessels, gear or other physical aspect of the fishery	There are milestones and conditions that require inspection of vessels or other physical aspects of the fishery during the audit and there are no reliable mechanisms for verifying these aspects of the fishery from a remote location.	There are no milestones that require investigation of physical aspects of the fishery or if there are, there are reliable mechanisms to enable verification of developments with respect to that milestone from a remote location.	The conditions and associated milestones raised do not require investigation of physical aspects of the fishery. there are reliable mechanisms to enable verification of developments with respect to that milestone from a remote location. Global Trust's ability to remotely verify information is determined to be **High.**

Based on the outcome of the above assessment, it is determined that the Surveillance Level 4 (2 on-site surveillance audits and 2 off-site surveillance audits) is appropriate.

Table 57. Fishery surveillance program.

Surveillance level	Year 1	Year 2	Year 3	Year 4
Level 4	Off-site surveillance audit	On-site surveillance audit	Off-site surveillance audit	On-site surveillance audit & re-certification site visit

Table 58. Timing of surveillance audit.

Year	Anniversary date of certificate	Proposed date of surveillance audit	Rationale
1	tbc	tbc	Audit timing will be determined based on the anniversary date of the certificate, pending certification decision.
2	tbc	tbc	
3	tbc	tbc	
4	tbc	tbc	

Table 59. Surveillance level justification.

Year	Surveillance activity	Number of auditors	Rationale
1	Off-site audit	2 auditors off-site	Based on the outcome of the above assessment (Table 56), it is determined that the Surveillance Level 4 (2 on-site surveillance audits and 2 off-site surveillance audits) is appropriate.
2	On-site surveillance audit	2 auditors on-site	
3	Off-site audit	2 auditors off-site	
4	On-site surveillance audit	2 auditors on-site	

10.9 Risk-Based Framework outputs

10.9.1 Target species – scallop

At the site visit, the team obtained input on the CA and the PSA from stakeholders. This included representatives from:

- CDPMEM
- CRPMEM
- OP
- DDTM
- RNN de la Baie de Saint Brieuc
- Ifremer

The table below provides a synthesis of the team and stakeholder input, with the consequence score determined by the team based on the various sources of input and information (since for this fishery there is extensive information on the population dynamics of the target stock).

10.9.1.1 Consequence Analysis (CA)

Table 60. CA scoring template.

	Scoring element	Consequence subcomponents	Consequence score
Principle 1: Stock status outcome	Baie de St-Brieuc scallop	Population size	80
		Reproductive capacity	
		Age/size/sex structure	80
		Geographic range	
Rationale for most vulnerable subcomponent	Population size: The fishery directly removes biomass and therefore has a direct influence on population size. The good size-selectivity of the fishery contributes to maintaining the population size by ensuring minimal mortality on smaller size classes. Ifremer considered that this is the most vulnerable sub-component, while others considered that it could be either population size or age/size structure. Reproductive capacity: Recruitment is highly variable and appears to have a long-term cycle with a periodicity of ~15 years (Ifremer COSB report – Fifas and Caroff 2020). The drivers of this cycle are unknown but are most likely to be environmental. Currently we are at a high point in the recruitment cycle, and high recruitment is key driver of the observed high biomass, rather than vice versa. No stakeholders considered that this would be the most vulnerable sub-component. Age/size/sex structure: Mean size of the age classes from Year 3 upwards shows a long term decline. In the COSB reports, it is hypothesised that this is driven by fishing, either directly (removal of the faster growing individuals at a younger age) or indirectly, mediated by competition with *Crepidula fornicata* (preferential exploitation of areas with low crepidula densities and therefore lower competition). However, in discussion with Dr Fifas, he considered that it was most likely due to high competition from crepidula, rather than directly related to the fishery. The management agencies and the RNN (Dr Sturbois) considered that this would be most likely the most vulnerable sub-component, because the fishery is targeting specific (larger) size classes, although they agreed that it was hard to choose between this and population size. Geographic range: The fishery operates over a small constrained area, and no change in the distribution of scallops in this area has been observed, as far as we are aware. All stakeholders agreed that this was the least vulnerable sub-component.		

Table 60. CA scoring template.	
	The team therefore concludes that the two potentially vulnerable sub-components are i) population size and ii) age/size structure, and both are evaluated.
Rationale for consequence score	<u>Population size</u> At the start of the 2020/21 season, Ifremer estimated exploitable biomass at 37 050 t and adult biomass (reproductive biomass) at 53 440 t. Total landings from the season were 7866 t, or 21% of the exploitable biomass and 15% of the adult biomass. These landings are the highest since 2007. For SG60 to be met, it is required that the reduction in population size would not damage long-term recruitment dynamics. Since recruitment in 2019 was the highest ever observed (start of time series 1991), and 2017 the second highest, it is clear that recruitment dynamics are not impacted by the recent level of landings. For SG80 to be met, it is required that the fishery has a minimal impact on population size and none on dynamics. In relation to dynamics, the very high levels of recent recruitment suggest no impact. While the removal of 15% of adult biomass might be detectable from the beginning to the end of the season, the 2021 Ifremer survey (September 2021) estimates that adult biomass has increased by 11% and exploitable biomass by 19% compared with the previous survey (September 2020) suggesting that the impact of the fishery on biomass is not detectable by the start of the following season. SG80 is met. All stakeholders also agreed that SG80 is met. For SG100 to be met, the fishery should have an insignificant impact on population size and growth rate, undetectable against background variability. This begs the question about impact over what timeframe – during the course of the season vs. after the end of the season. Without very high resolution data it is difficult to evaluate how 'detectable' the fishery is. Ifremer considered that SG100 is met, but the other stakeholder input for this sub-component (CDPMEM / CRPMEM) concluded that the impact of the fishery might be detectable, so SG100 is not met. The team has allocated a score of 80 for this sub-component. <u>Age/size structure</u> For SG60 to be met, it is required that any change in age/size structure as a consequence of the fishery would not damage long-term recruitment dynamics. Since recruitment in 2019 was the highest ever observed (start of time series 1991), and 2017 the second highest, it is clear that recruitment dynamics are not impacted by the recent level of landings. For SG80 to be met, there may be a detectable change in age/size structure, but no impact on population dynamics. The decline in size for the age classes from Year 3 upwards is detectable from Ifremer's annual survey data (see Figure 2), and Ifremer hypothesise that this relates to the fishery either directly or indirectly, but the trend in recruitment (removing the cyclic element) has been generally upwards over this time, so it does not appear that this is having any impact on population dynamics. For SG100 to be met, any change in age/size structure should not be detectable – this is not the case. All stakeholders who scored this sub-component agreed that 80 was the appropriate score, and the team has allocated a score of 80 for this sub-component. **Therefore, the consequence score is 80.**

10.9.1.2 Productivity Susceptibility Analysis (PSA)

Table 61. PSA productivity attributes and scores.

Performance Indicator	1.1.1		
PRODUCTIVITY			
Scoring element (species)	King scallop *Pecten maximus*		
Attribute	Rationale		Score
Average age at maturity	~65mm shell height – Year 2 (Dr Spyros Fifas, Ifremer, pers. comm.)		1
Average maximum age	The unexploited population (Ouessant) showed a maximum age of 12-15 years (Dr Spyros Fifas, Ifremer, pers. comm.)		2
Fecundity	Highly fecund – females can release ~1-10 million eggs per year (Cochard and Devauchelle 1993; https://www.marlin.ac.uk/species/detail/1398)		1
Average maximum size Not scored for invertebrates	n/a		
Average size at maturity Not scored for invertebrates	n/a		
Reproductive strategy	Broadcast spawners		1
Trophic level	We could not find a quantitative estimate, but they are suspension feeders which feed mainly on phytoplankton, therefore the trophic level is low (Lavaud et al. 2018). Dr Fifas agreed with this assessment.		1
Density dependence Invertebrates only	There is no evidence of depensatory dynamics. The third highest recruitment on record (1999) corresponds to a year of low biomass (Fifas and Caroff 2020; see Figures 6 and 7). According to Dr Fifas (Ifremer), compensatory dynamics are likely to operate, but we cannot provide any particular source of evidence.		2
Productivity score			**1.33**
SUSCEPTIBILITY			
Fishery Only where the scoring element is scored cumulatively	Dredge fishery (UoA) Commercial dive fishery Recreational fishery (free-diving and on foot) Trawl fishery (added by RNN and Ifremer stakeholders)		
Attribute	Rationale		Score
Areal Overlap	UoA	Taking the Baie de St. Brieuc to be a stock, the fishery covers most or all of the area. Consensus among stakeholders.	3
	Commercial dive fishery	Agreed by stakeholders <10%	1
	Recreational fishery	Dr Sturbois scored this at <10%; he is a participant in the recreational fishery. The others had no opinion. There is no reporting requirement on this fishery, but fishers usually stay close to shore.	1
	Trawl fishery	We have no information. Score of 3 given	3
	Overall score	The score is cumulative, so the overall areal overlap of all these fisheries is high – score 3	**3**
Encounterability	For all 4 fisheries, the scallop and the gears or fishers are on the seabed, default score for Principle 1 species is 3.		**3**
Selectivity of gear type a) Individuals below the size at maturity are rarely / regularly / frequently caught	UoA	Size at maturity is 65mm shell height, while the MLS is 102mm shell width, equivalent to 86mm shell height (see Figure below). Animals smaller than this size must be discarded (alive; discard mortality is estimated to be very low as a proportion of total fishing-related mortality). The dredge minimum ring size (97mm) is designed to avoid retaining scallops below the MLS.	3

Table 61. PSA productivity attributes and scores.

		The observation of Jo and Geraldine on board the scallop vessel was that a few undersized individuals were discarded in most hauls. Although this was a small number each time, 'rarely, regularly and frequently' are defined by MSC in terms of hauls rather than individuals. Since it took place in most hauls, the score would be 'frequently' – i.e. 3	
	Commercial dive fishery	All stakeholders and the assessment team agreed a score of 1 due to the fishing method. Divers can select individuals at or above the MLS.	1
	Recreational fishery	All stakeholders and the assessment team agreed a score of 1 due to the fishing method. Harvesters can select individuals at or above the MLS.	1
	Trawl fishery	The only stakeholders who expressed an opinion about this fishery was Dr Fifas of Ifremer. Trawls are equipped with escapement filters. He scored this at 2. Trawls are equipped with escapement filters.	2
Selectivity of gear type b) Individuals below the size at maturity / below half the size at maturity can escape or avoid the gear, or individuals < half the size at maturity are retained	UoA	The dredge minimum ring size (97mm) is designed to avoid retaining scallops below the MLS. The high selectivity of the gear means that most individuals below the size at maturity are able to escape the gear. Stakeholders agreed a score of 1.	1
	Commercial dive fishery	All stakeholders and the assessment team agreed a score of 1 due to the fishing method. Divers can select individuals at or above the MLS.	1
	Recreational fishery	All stakeholders and the assessment team agreed a score of 1 due to the fishing method. Harvesters can select individuals at or above the MLS.	1
	Trawl fishery	The only stakeholders who expressed an opinion about this fishery was Dr Fifas of Ifremer. Trawls are equipped with escapement filters, individuals below the size at maturity can escape. He scored this at 1.	1
Overall score for selectivity (as per PF4.4.8.c.i "Where elements (a) and (b) indicate different risk scores, the team shall assign a score as the average of the two categories, rounded up to the nearest whole number on the 1:3 scale."	UoA		**2**
	Commercial dive fishery		**1**
	Recreational fishery		**1**
	Trawl fishery		**2**
Post capture mortality	For all 4 fisheries, default score of 3 for retained species.		**3**
Catch (weight) Only where the scoring element is scored cumulatively	This is based on the proportions of total mortality estimated by Ifremer. The mortality allocated to the commercial fisheries (~80% landings plus 4% unobserved / discard mortality) has been divided between the UoA and the dive fishery according to their relative landings for the 2020/21 season. ~16% of mortality has been allocated to the recreational fishery and trawl fishery in equal proportions, having no information to do otherwise. 2020/21 catch of UoA: 7866 t : 98% of commercial catch, 82% of overall estimated removals 2020/21 catch of commercial dive fishery: 184 t : 2% of commercial catch, ~2% of overall estimated removals (rounded to nearest whole number) Recreational fishery: 8% Trawl fishery: 8%		

Table 61. PSA productivity attributes and scores.

<table>
<tr><td></td><td colspan="2">Given that catch data are not available for the recreational fishery and the trawl fishery but estimated % from the information-gathering process, PF4.4.4.1.b is applied and a weight is applied to each fishery according to Table PF6/
Table PF6: Weighting of fisheries
<table><tr><th>% contribution of catch</th><th>Weighting score</th></tr><tr><td>0–25</td><td>1</td></tr><tr><td>25–50</td><td>2</td></tr><tr><td>50–75</td><td>3</td></tr><tr><td>75–100</td><td>4</td></tr></table>Weighting score assigned
UoA: 4
Commercial dive fishery:1
Recreational fishery:1
Trawl fishery:1</td></tr>
<tr><td rowspan="4">Susceptibility score</td><td>UoA</td><td>2.33</td></tr>
<tr><td>Commercial dive fishery</td><td>1.65</td></tr>
<tr><td>Recreational fishery</td><td>1.65</td></tr>
<tr><td>Trawl fishery</td><td>2.33</td></tr>
<tr><td colspan="2">Weighted PSA score</td><td>2.52</td></tr>
<tr><td colspan="2">MSC score for PSA</td><td>84</td></tr>
<tr><td colspan="2">MSC score for CA</td><td>80</td></tr>
<tr><td colspan="2">Final MSC combined score</td><td>82</td></tr>
</table>

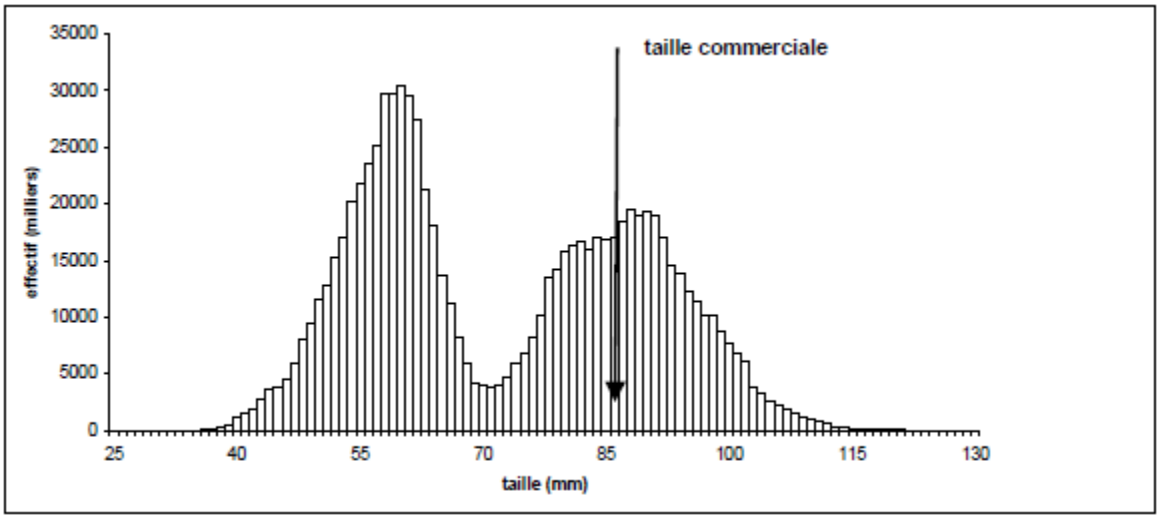


Figure 36. Size structure of the Baie de St. Brieuc scallop population in September 2020, showing the shell height equivalent (86mm) of the minimum legal size (taille commerciale) of 102mm shell width. Figure 3 in Fifas and Caroff 2020.

Table 62. MSC RBF Worksheet

							Productivity Scores [1-3]									Susceptibility Scores [1-3]						Cumulative only								
Scoring element	First of each scoring element	Family name	Scientific name	Common name	Species type	Fishery descriptor	Average age at maturity	Average max age	Fecundity	Average max size	Average size at Maturity	Reproductive strategy	Trophic level	Density Dependance	Total Productivity (average)	Availability	Encounterability	Selectivity	Post-capture mortality	Total (multiplicative)	PSA Score	Catch (%)	Weighting	Weighted Total	Weighted PSA Score	MSC PSA-derived score	Risk Category Name	MSC scoring guidepost	Consequence Score (CA)	Final MSC score (per scoring element)
1	First		Pecten maximus	King scallop	Invertebrate	Baie de St Brieuc: dredge UoA	1	2	1			1	1	2	1.33	3	3	2	3	2.33	2.68	4	0.57	1.53	2.52	84	Low	≥80	80	82
1			Pecten maximus	King scallop	Invertebrate	Baie de Saint Brieuc: dive	1	2	1			1	1	2	1.33	3	3	1	3	1.65	2.12	1	0.14	0.30	2.52					
1			Pecten maximus	King scallop	Invertebrate	Baie de Saint Brieuc: recreational	1	2	1			1	1	2	1.33	3	3	1	3	1.65	2.12	1	0.14	0.30	2.52					
1			Pecten maximus	King scallop	Invertebrate	Baie de Saint Brieuc: trawl	1	2	1			1	1	2	1.33	3	3	2	3	2.33	2.68	1	0.14	0.38	2.52					

10.10 Harmonised fishery assessments

The Baie de Saint-Brieuc scallop fishery does not overlap with other fishery certified or suspended or under assessment.

10.11 Objection Procedure – delete if not applicable

To be added at Public Certification Report stage

The CAB shall include in the report all written decisions arising from the Objection Procedure.

Reference(s): MSC Disputes Process v1.0, FCP v2.2 Annex PD Objection Procedure

10.12 Project RESPECT

Quelle importance pour la pêche ?

Les bancs de maërl offrent une multitude d'anfractuosités où les espèces aiment se cacher, se protéger, se nourrir. Une grande variété de coquillages exploitée par la pêche profite de ce milieu : la praire, la palourde rose, la coquille Saint-Jacques , le pétoncle... Les poissons tels que le rouget, le lieu jaune, le bar et la dorade l'apprécient également lors de leur phase juvénile.

ZOOM SUR...

La coquille Saint-Jacques

Son abondance et sa croissance peuvent être favorisées par la présence des bancs de maërl , qui jouent un rôle fonctionnel pour cette espèce. L'habitat de maërl peut donc soutenir localement les stocks.

Avec le soutien financier de :
l'Europe s'engage en France avec le FEAMP
UNION EUROPÉENNE
FRANCE FILIÈRE PÊCHE

RESPECT est porté par les Comités des pêches bretons :

RESPECT
La pêche bretonne s'engage

www.respect-peches-durables.org
Pour voir nos vidéos, des contenus plus détaillés, des cartes et des liens vers d'autres sites...

L'impact humain

Le maërl est un habitat fragile.

Les activités de pêche peuvent casser les brins de maërl et les recouvrir de sédiments. L'algue, privée de photosynthèse, meurt.

Sur un banc de maërl en mauvais état, la biodiversité associée est réduite.

Ce que dit la réglementation

La pêche à la drague est interdite sur certains secteurs de maërl sur les sites suivants :

- Belle-Île en Mer
- Île de Groix
- Les Glénan
- Trévignon
- Rade de Brest
- Baie de Morlaix
- Île Tomé

⚠ D'autres secteurs pourraient être concernés prochainement. Soyez attentifs aux évolutions réglementaires.

Adapter les pratiques

→ Être vigilant à la présence et la localisation des bancs de maërl, et privilégier la pêche dans les zones sableuses.

→ Privilégier la mise en œuvre et l'ancrage des engins de pêche dormants, et en particulier les filets, dans les zones sableuses plutôt que dans les bancs de maërl.

Parole de pêcheur

« Dans les zones protégées Natura 2000, il faut faire attention à l'environnement. À Belle-Île, on a établi une carte très précise du banc de maërl grâce au programme DECIDER. On sait où est le maërl vivant pour le protéger et ne pas aller dessus avec nos dragues. ***C'est important de respecter les zones de fermeture à la drague, il y a plein de juvéniles de poissons et de coquillages qui y grandissent, c'est bon pour la pêche ensuite (...).*** *Le maërl, quand ça s'emmaille dans les filets, c'est compliqué. On évite toujours d'aller dans ces zones-là quand il y a un peu de houle. »*

Thierry Jacob
Patron du Bugale ar Mor à Séné
(canot polyvalent : casiers, filet, drague)


Ponte de nudibranche.
Jusqu'à
900 espèces d'invertébrés et 150 espèces d'algues
peuvent vivre dans ou sur le maërl !

10.13 Template information and copyright

This document was drafted using the 'MSC Reporting Template v1.2'. Note amendments have been made to formatting in order to comply with Global Trust's corporate identity; however, content and structure follow that of the original template.

Template version control

Version	Date of publication	Description of amendment
1.0	17 December 2018	Date of first release
1.1	29 March 2019	Minor document changes for usability
1.2	25 March 2020	Release alongside Fisheries Certification Process v2.2

A controlled document list of MSC program documents is available on the MSC website (www.msc.org).

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