Scientific advice on offshore Marine Conservation Zones proposed for designation in 2019

November 2018

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Executive summary

This report details JNCC's updated scientific advice for 13 offshore proposed Marine Conservation Zones (MCZs) and additional features for two designated MCZs being considered by Defra for designation in a third tranche of MCZs in 2019. This report has been produced following the Defra-led public consultation on a third tranche of MCZs, which was held between the 8th June and 20th July 2018. In line with the approach adopted for our post-consultation advice for Tranche Two, JNCC followed a stepwise decision tree process to identify where new data resulted in a need for revised advice on a proposed feature. Updated assessments considered new biophysical and activities data made available since JNCC's 2016/17 pre-consultation advice.

In total, JNCC reviewed evidence on 42 features within the 13 offshore proposed MCZs and five additional features in two existing MCZs for this post-consultation advice. Of the confidence scores allocated for feature presence and extent, there has been one decrease in confidence of feature presence from **High** to **Moderate** (The Canyons MCZ feature Sea-pen and burrowing megafuana communities habitat Feature of Conservation Interest (FOCI)), one increase in confidence of feature extent from **Low** to **Moderate** (East of Haig Fras MCZ feature Sea-pen and burrowing megafuana communities habitat FOCI) and two increases in confidence of feature extent from **Moderate** to **High** (West of Copeland proposed MCZ features Subtidal coarse sediment and Subtidal sand). Overall, JNCC conclude **High** confidence in the presence of 40 features and **Moderate** confidence in presence of seven features. JNCC conclude **High** confidence in extent for 25 features, **Moderate** confidence in extent for 15 features and **Low** confidence in the extent of five features.

JNCC also reviewed the General Management Approach for all 47 features for this post-consultation advice. Following the availability of updated activities and biophysical data the General Management Approach for three of the features were changed from a **Recover** to a **Maintain** objective (South of Celtic Deep proposed MCZ feature Moderate energy circalittoral rock, South Rigg proposed MCZ feature Subtidal mixed sediment and West of Copeland proposed MCZ feature Subtidal sand) and one feature was changed from a **Maintain** to a **Recover** objective (South Rigg proposed MCZ feature Subtidal coarse sediment). JNCC conclude that **Recover** objectives be assigned to 40 of the features and **Maintain** objectives assigned to seven of the features under consideration.

Data sufficiency has increased for one feature where previously conservation benefits supported its designation, where now the data provided further support for the designation of the feature (East of Haig Fras MCZ feature Sea-pen and burrowing megafauna communities habitat FOCI). This change is the result of an increase in our confidence in the features extent within the site. JNCC's views on data sufficiency remain the same as our pre-consultation advice for all other features. JNCC

conclude that available scientific data supports the designation of 40 features. For six features JNCC recommends that they be designated on conservation grounds. Following our sufficiency assessment protocols, one feature (Subtidal mud in North-East Haig Fras) is not supported by 'sufficient' scientific data for the extent of the feature or to be designated for conservation benefits, however JNCC believe that this should be further considered because it is at high risk of damage and there are sufficient evidence to support the presence of the feature in the site.

Table of Contents

1 Introduction

In July 2012, the Joint Nature Conservation Committee (JNCC) and Natural England submitted their advice on recommended Marine Conservation Zones (rMCZs) to Defra. These rMCZs had been identified by a wide range of stakeholders engaged via four Regional MCZ Projects[1]. Stakeholders identified rMCZs using guidance drafted by JNCC and Natural England, whilst also considering socio-economic factors. Defra designated the first tranche[2] of Marine Conservation Zones (MCZs) in November 2013 which consisted of 27 sites, six of which lie in the offshore environment. A second tranche[3] of 23 MCZs were designated in January 2016, eight of which lie in the offshore environment. Further features were added to 10 existing MCZs, four of these cases located in offshore waters.

In 2016 Defra stated that they planned to designate a third and final tranche of MCZs to complete the Secretary of State waters' contribution to the ecologically coherent network of Marine Protected Areas (MPAs) in the North East Atlantic[4]. In summer 2016, JNCC undertook an analysis[5] of the existing MPA network to identify what would be required in a Third Tranche of MCZs to effectively complete the network in Secretary of State waters. The analysis identified those remaining rMCZs considered necessary to fill gaps in the network. Defra also requested that JNCC and Natural England identify new site options to fill any remaining gaps[6].

Between 2016 and 2017, JNCC and Natural England provided pre-consultation scientific advice[7] on those remaining rMCZs from the Regional MCZ Projects, and new site options necessary to complete the network alongside proposals from third-parties for highly mobile species (marine mammals, birds, elasmobranchs and fish). JNCC advised on those sites which are either found wholly in the offshore environment (beyond 12 nautical miles) or that span the inshore-offshore boundary jointly with Natural England. JNCC's advice on the remaining regional MCZ project recommendations for consideration in tranche three was submitted to Defra in November 2016. The

[1] The Marine Conservation Zone Project. Available at: http://jncc.defra.gov.uk/page-2409
[2] Tranche One MCZ advice. Available at: http://jncc.defra.gov.uk/page-6460
[3] Tranche Two MCZ advice. Available at: http://jncc.defra.gov.uk/page-6658
[4] Defra Marine Conservation Zone update January 2016: Available at: https://www.gov.uk/government/publications/marine-conservation-zones-january-2016-update
[5] Assessing progress towards an ecologically coherent MPA network in Secretary of State waters in 2016. Available at: http://jncc.defra.gov.uk/pdf/JNCC_NetworkProgressInSoSWaters2016_Results_Final.pdf
[6] Identifying potential site options to help complete the MPA network in the waters around England. Available at: http://jncc.defra.gov.uk/pdf/Identifying_options_MPA_network_Final.pdf
[7] Overview of JNCC's scientific advice on possible offshore Marine Conservation Zones around England considered for consultation in 2018. Available at: http://jncc.defra.gov.uk/pdf/JNCC_MCZT3OverviewReport_v2.0.pdf

advice on new site options and third party highly mobile species proposals was submitted in February 2017.

The public consultation on 41 proposed MCZs and 12 existing MCZs for which additional features are being considered ran from 8th June to 20th July 2018. This included 15 of the site options that JNCC provided pre-consultation advice on. Defra asked JNCC to review its earlier pre-consultation scientific advice and provide updated advice where necessary in light of new information to inform decisions around designation after the consultation. This latest review is necessary in order to consider any new data that may have become available for the regional MCZ recommendations since November 2016 and the new sites options since February 2017. These new data include information submitted to Defra through the Tranche Three public consultation, and subsequently shared with JNCC. The assessments presented in this report were completed between April and August 2018 and encompass all new data JNCC are aware of. Where no update to the 2016/17 pre-consultation advice was required, JNCC's view has not changed and so we refer to the results provided in JNCC's pre-consultation advice. JNCC recommends that these reports are read alongside each other.

This report details JNCC's site assessments and scientific advice for the final suite of offshore proposed MCZs and proposed additional features to designated MCZs considered for designation in Tranche Three by Defra in 2019. This includes 7 proposed MCZs recommended by the regional projects; one proposed MCZ put forward by Northern Irish fishermen; five further features for possible designation in two existing offshore MCZs; four new site options and an alternative proposal to one of the original regional project rMCZs, made by the French fishing industry. These offshore sites, which are the focus of this report, are presented in Figure 1 and discussed in Section 2.

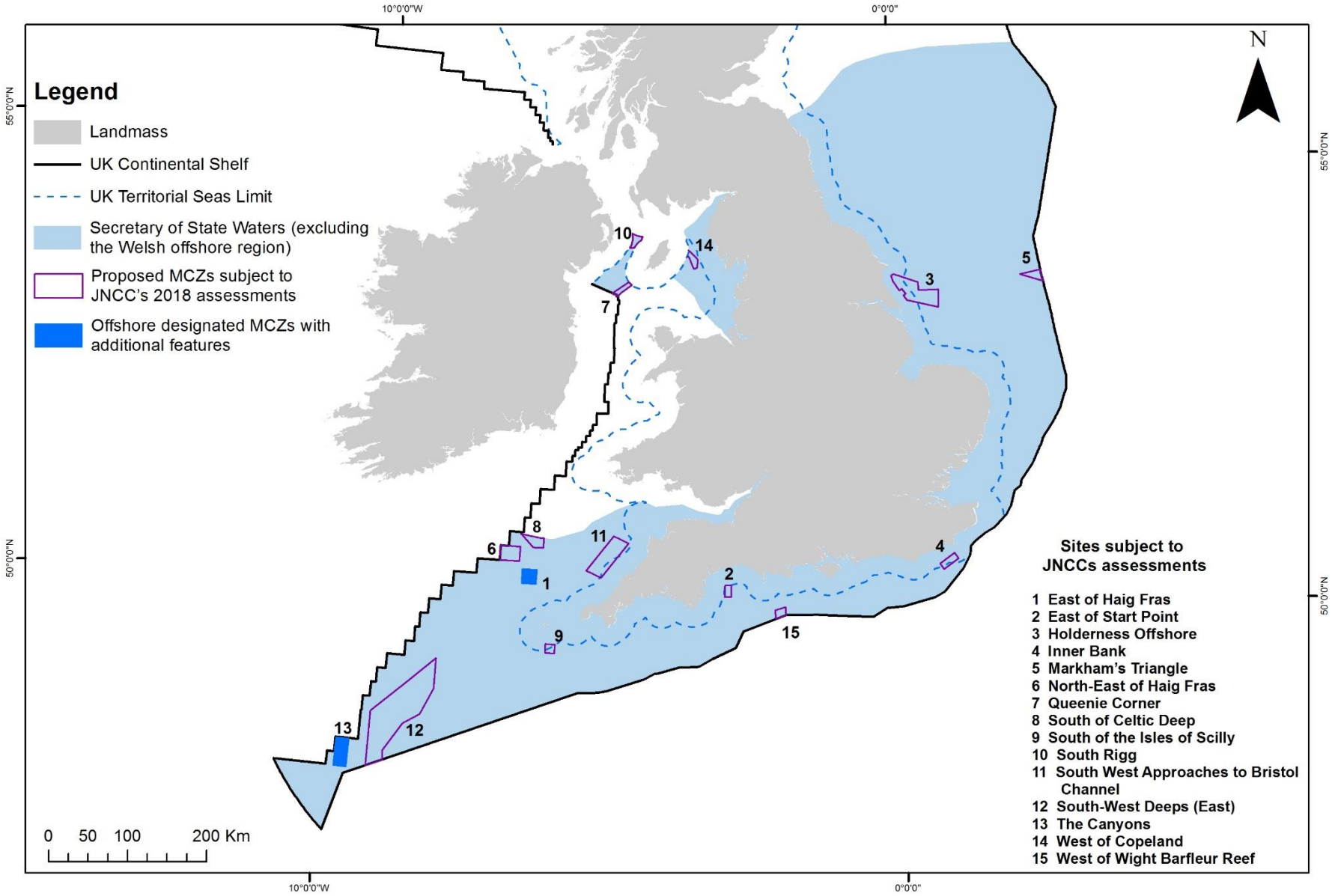

Figure 1: The offshore proposed MCZs and designated MCZs under consideration for additional features

2 Summary of assessments

JNCC assessed 42 features within the following 13 offshore proposed MCZs in 2018:

- East of Start Point;
- Holderness Offshore;
- Inner Bank;
- Markham's Triangle;
- North East Haig Fras;
- Queenie Corner;
- South of Celtic Deep;
- South of the Isles of Scilly;
- South Rigg;
- South West Approaches to Bristol Channel;
- South-West Deeps (East);
- West of Copeland; and,
- West of Wight Barfleur.

Furthermore, five additional features were considered for two designated MCZs:

- East of Haig Fras MCZ; and,
- The Canyons MCZ.

Table 1 summarises the outcomes of JNCC's 2018 Tranche Three feature assessments using evidence available up to July 2018. Where the score has changed from JNCC's 2016/17 assessments in light of new data, the 2018 score is in **bold** and the 2016/17 score is shown in *blue italic text.* This table is only a summary and should be read in conjunction with the individual site assessments presented in Section 4.

Table 1: Site assessment summary results table from JNCC's 2018 assessments of features in Tranche Three.
Where results have changed since JNCC's pre-consultation advice, these scores are in **bold** font with the previous score in *blue italic text.*

Site Name	Ecological Network Guidance (ENG) feature	Confidence in feature presence	Confidence in feature extent /distribution[8]	General Management Approach advised	Outcome of data sufficiency and additional conservation / ecological considerations assessment
East of Haig Fras MCZ (additional features)	High energy circalittoral rock	High	Moderate	Recover	Data support designation of feature
	Sea-pen and burrowing megafauna communities	High	**Moderate** *(Low)*	Recover	**Data support designation of feature** *(Conservation benefits support priority feature designation)*
	Fan mussel *(Atrina fragilis)*	High	Moderate	Recover	Data support designation of feature
East of Start Point proposed MCZ	Subtidal sand	High	High	Recover	Data support designation of feature
Holderness Offshore proposed MCZ	Subtidal coarse sediment	High	Moderate	Recover	Data support designation of feature
	Subtidal sand	High	Moderate	Recover	Data support designation of feature
	Subtidal mixed sediments	High	Moderate	Recover	Data support designation of feature
	Ocean quahog (*Arctica islandica*)	Moderate	Low	Recover	Conservation benefits support priority feature designation
	North Sea glacial tunnel valleys (Inner Silver Pit)	High	High	Maintain	Data support designation of feature
Inner Bank proposed MCZ	Subtidal coarse sediment	High	High	Recover	Data support designation of feature
	Subtidal sand	High	High	Recover	Data support designation of feature
	Subtidal mixed sediments	High	High	Recover	Data support designation of feature

[8] Distribution relates only to species FOCI whereas extent is applied to broad-scale habitats, geological/geomorphological features and habitat FOCI.

Site Name	Ecological Network Guidance (ENG) feature	Confidence in feature presence	Confidence in feature extent /distribution[8]	General Management Approach advised	Outcome of data sufficiency and additional conservation / ecological considerations assessment
Markham's Triangle proposed MCZ	Subtidal coarse sediment	High	High	Recover	Data support designation of feature
	Subtidal sand	High	High	Recover	Data support designation of feature
	Subtidal mud	High	High	Recover	Data support designation of feature
	Subtidal mixed sediments	High	High	Recover	Data support designation of feature
North East Haig Fras proposed MCZ	Subtidal coarse sediment	Moderate	Low	Recover	Conservation benefits support priority feature designation
	Subtidal sand	High	Low	Recover	Conservation benefits support priority feature designation
	Subtidal mud	High	Low	Recover	Feature should be further considered – JNCC advise that the feature should be designated as there is sufficient evidence that it occurs within the site and would ensure most features found in the site are designated.
Queenie Corner proposed MCZ	Sea-pen and burrowing megafauna communities	High	High	Recover	Data support designation of feature
	Subtidal mud	High	High	Recover	Data support designation of feature
South of Celtic Deep proposed MCZ	Moderate energy circalittoral rock	High	Low	**Maintain** *(Recover)*	Data support designation of feature
	Subtidal coarse sediment	High	Low	Recover	Data support designation of feature
	Subtidal sand	High	Low	Recover	Data support designation of feature
	Subtidal mixed sediments	High	Low	Recover	Data support designation of feature
South of the Isles of Scilly proposed MCZ	Subtidal sand	High	High	Recover	Data support designation of feature
	Subtidal coarse sediment/Subtidal mixed sediments	High	High	Recover	Data support designation of feature
	Fan mussel *(Atrina fragilis)*	Moderate	Low	Recover	Conservation benefits support priority feature designation
South Rigg proposed MCZ	Moderate energy circalittoral rock	Moderate	Moderate	Maintain	Data support designation of feature
	Subtidal sand	High	High	Recover	Data support designation of feature
	Subtidal mud	High	High	Recover	Data support designation of feature

Site Name	Ecological Network Guidance (ENG) feature	Confidence in feature presence	Confidence in feature extent /distribution[8]	General Management Approach advised	Outcome of data sufficiency and additional conservation / ecological considerations assessment
	Subtidal mixed sediments	High	Moderate	**Maintain** *(Recover)*	Data support designation of feature
	Sea-pen and burrowing megafauna communities	High	High	Recover	Data support designation of feature
	Subtidal coarse sediment	High	High	**Recover** *(Maintain)*	Data support designation of feature
South West Approaches to Bristol Channel proposed MCZ	Subtidal coarse sediment	High	Moderate	Recover	Data support designation of feature
	Subtidal sand	Moderate	Moderate	Recover	Data support designation of feature
South-West Deeps (East) proposed MCZ	Subtidal coarse sediment	High	High	Recover	Data support designation of feature
	Subtidal sand	High	High	Recover	Data support designation of feature
	Deep-sea bed	High	High	Recover	Data support designation of feature
	Celtic sea relict sandbanks	High	High	Maintain	Data support designation of feature
The Canyons MCZ (additional features)	Sea-pen and burrowing megafauna communities	**Moderate** *(High)*	Low	Maintain	Conservation benefits support priority feature designation
	Coral gardens	Moderate	Low	Recover	Conservation benefits support priority feature designation
West of Copeland proposed MCZ	Subtidal coarse sediment	High	**High** *(Moderate)*	Recover	Data support designation of feature
	Subtidal sand	High	**High** *(Moderate)*	**Maintain** *(Recover)*	Data support designation of feature
	Subtidal mixed sediments	High	High	Recover	Data support designation of feature
West of Wight Barfleur proposed MCZ	Subtidal coarse sediment	High	High	Recover	Data support designation of feature
	Subtidal mixed sediments	High	Moderate	Recover	Data support designation of feature

JNCC assessed 47 features within the 13 offshore proposed MCZs and two existing offshore MCZs. We have **High** confidence in the presence of 40 features and **Moderate** confidence for 6 features. We have **High** confidence in extent of 25 features, **Moderate** confidence in 15 features and **Low** confidence in the extent of 7 features. Since JNCC's 2016/17 pre-consultation advice, there have been four instances where confidence in the presence or extent of features has been amended due to new biophysical data becoming available or due to a change in our understanding of the data. The confidence in presence of one feature was decreased from **High** to **Moderate** and the confidence in extent of three features was increased, one from **Low** to **Moderate** and two from **Moderate** to **High**. There are 20 instances where confidence in feature presence is higher than confidence in feature extent and 27 instances where confidence in feature presence is the same as feature extent.

JNCC reviewed the proposed General Management Approach (GMA) for all 47 features. We concluded that 40 features require a **Recover** objective, and another 7 features require a **Maintain** objective. This has changed for four features since 2016/17 pre-consultation advice. Three features have been changed from a **Recover** to **Maintain** objective and one feature has been changed from a **Maintain** to **Recover** objective

Data sufficiency has increased for one feature where previously conservation benefits supported its designation, but now the data supports the designation of the feature. This change is due to an increase in confidence in the features extent within the site. JNCC's views on data sufficiency remains the same as the pre-consultation advice for all other features. Overall, JNCC conclude that data supports the designation of 40 features, and for six features, while they do not meet the data sufficiency benchmarks, they are of high conservation interest and will contribute to finalising the MPA network. Following our sufficiency assessment protocols, one feature (Subtidal mud in North-East Haig Fras) is not supported by 'sufficient' scientific data for the extent of the feature, or to be designated for conservation benefits, however JNCC believe that this should be further considered because it is at high risk of damage and there are sufficient evidence to support the presence of the feature in the site.

3 Methods

3.1 Assessment of new data

Further to the assessments undertaken in JNCC's pre-consultation scientific advice[2], this report provides JNCC's updated scientific advice to Defra on offshore proposed MCZs, and additional features in two designated MCZs, which are being put forward for designation in 2019. The scope of the current advice depended on whether any new data became available – either biophysical or on human activities – that would change our previously submitted scientific advice for a site/feature. As the pre-consultation advice was provided at different times for the different type of MCZ site options under consideration for Tranche Three, the timescales for when data were considered 'new' varies between sites. JNCC's advice on the remaining regional MCZ project recommendations for consideration in tranche three was submitted to Defra in November 2016 and so 'new data' for these sites is anything that has become available since November 2016. The advice on new site options was submitted in February 2017 and for the four sites that were developed as new sites options presented in this report, 'new data' consist of any data that has become available since February 2017. Where new data became available (see Table 2), the requirement to revise advice depended upon its type and/or location. Please note that because South West Deeps (East) proposed MCZ had been significantly modified since JNCC's pre-consultation advice a full new set of assessments were undertaken for this site and none of the datasets relevant to that site are listed in Table 2.

Although EUSeaMap 2016 was a new dataset, it is based on the same biophysical data as UKSeaMap 2016 and, as UKSeaMap 2016 is based on a UK waters scale, it is more applicable to the assessments undertaken on MCZs presented in this report. As such, although a new dataset, it was discounted early on in preference of UKSeaMap which was viewed as more suitable.

JNCC developed a 'decision-tree process as part of our post-consultation scientific advice on Tranche Two MCZs[9] to determine the nature of any likely revision to JNCC's existing advice if new data became available. For consistency, we used the same approach for our Tranche Three post-consultation advice to avoid unnecessary revisions to JNCC's pre-consultation advice whilst ensuring that decisions remained scientifically robust and consistent (see Annex 1). Note that for each site/feature, both branches of the decision tree were followed to ensure the scientific advice

[9] JNCC (2015). Scientific advice on offshore Marine Conservation Zones proposed for designation in 2015/16. Version 4.0, July 2015, JNCC, UK. Available at: http://jncc.defra.gov.uk/PDF/MCZT2PostConsultationAdvice_v4.pdf

was provided where required. This decision tree was not applied to South West Deeps (East) for the reasons outlined above and instead a full set of new assessments were undertaken.

Table 2: New evidence available for feature assessments in 2018

New Data
EUSeaMap 2016[10]
UKSeaMap 2016[11]
Defra MCZ consultation 2018 public responses[12]
CEND0915 JNCC/Cefas monitoring survey[13]
Oceana 2016 North Sea Expedition[14]
2018 Marine Recorder snapshot[15]
2018 BGS seabed sediment Particle Size Analysis (PSA) data[16]
AFBI NI Habitat Map[17]
AFBI & Marine Institute Nephrops Stock Assessment 2014, 2016, 2017[18]
CODEMAP2015 survey of The Canyons MCZ[19]
Walney Extension wind farm survey data[20]

3.2 Assessment methodologies

Where the decision-tree process outlined in Annex 1 has identified that revisions to JNCC's 2018 advice may be required for a feature, JNCC has followed the assessment processes undertaken for the 2016/17 pre-consultation advice to either provide new advice on new features, or to update the advice previously given. JNCC has undertaken revised assessments only where a need was identified through the decision-tree process and the assessment results (where applicable) are

[10] 2016 EMODnet broad-scale seabed habitat map for Europe. Available at www.emodnet-seabedhabitats.eu
[11] UKSeaMap 2016 has been generated by JNCC as a product of the EMODnet seabed habitats maps refined to a UK scale. More information and downloads available at http://jncc.defra.gov.uk/ukseamap
[12] JNCC reviewed data provided in consultation responses that were shared with us by Defra
[13] 2015 JNCC/Cefas monitoring survey of East of Haig Fras MCZ. East of Haig Fras Marine Conservation Zone (MCZ) Monitoring report 2018 (Contract ref MB0129, in press)
[14] 2016 data collected by Oceana on the North Sea Expedition. Data not available to download.
[15] JNCC Marine Recorder snapshot. Available at: http://jncc.defra.gov.uk/page-1599 [version 24th May 2018]
[16] British Geological Society PSA data downloaded from http://mapapps2.bgs.ac.uk/geoindex_offshore/home.html in July 2018 and translated to EUNIS habitat classification using the Cefas folk translation spreadsheet.
[17] Preliminary habitat map by Agri-Food and Biosciences Institute Seafish for Queenie Corner proposed MCZ
[18] New data available as part of the Irish Marine Institute and AFBI (FU15) Nephrops Stock Assessment survey from 2014, 2016 & 2017. Report available at: https://oar.marine.ie/handle/10793/59
[19] Data collected as part of a joint NOC, JNCC and Cefas survey, as part of the CODEMAP2015 expedition. Data analysis was QA'd by a NOC researcher after initial analysis by a PhD student.
[20] 2011 data collected by Centre for Marine and Coastal Studies Ltd (CMACS) for Walney Extension wind farm on behalf of Ørsted (fomally DONG Energy). Data sourced from the Natural England evidence base with permission granted for it to be used by JNCC for these purposes.

provided in the site-specific sections below. In cases where confidence scores for feature presence and extent changed, the data sufficiency assessment was also revisited because the assessment of data sufficiency is based in part on the assessment of confidence in feature presence and extent. Similarly, where the assessment of feature condition changed the understanding of the features' vulnerability, the risk assessment would also need to be revisited to see if a change in advice is required.

It was agreed with Defra that for the purposes of this post-consultation advice there was no need to undertake assessments of confidence in feature condition (unless new direct evidence of feature condition had become available through monitoring surveys). This was because the confidence score is always set to low when the assessments are based on a vulnerability assessment. Similarly, it was agreed that there was no requirement for the site level part of the data sufficiency assessment because all sites had been selected for consultation based on the contribution they could make to finalising the MPA network in Secretary of State waters[21].

As South West Deeps (East) proposed MCZ had been significantly modified since JNCC's pre-consultation advice a full new set of assessments were undertaken for this site.

A summary of the assessment methodologies is provided below, with the full methodology detailed in Section 5 of the 2014 advice[22]. The details of any site specific assessments are provided within Section 4.

3.2.1 Confidence in feature presence and extent

Confidence assessments for the presence and extent of the proposed features were completed in line with the criteria outlined in Technical Protocol E[23], and the supporting guidance on its application[24].

[21] Assessing progress towards an ecologically coherent MPA network in Secretary of State Waters in 2016: Results http://jncc.defra.gov.uk/pdf/JNCC_NetworkProgressInSoSWaters2016_Results_Final.pdf
[22] Scientific advice on possible offshore Marine Conservation Zones considered for consultation in 2015 (JNCC 2014) Available at: http://jncc.defra.gov.uk/PDF/140627_final_JNCCT2preconsultation_MCZAdvice_2014_V5_0.pdf
[23] MCZ Technical Protocol E. Available at: http://jncc.defra.gov.uk/pdf/120111_SNCB%20MCZ%20Advice_Protocol_Feature%20Evidence%20V5.0.pdf
[24] Guidance on aspects of the practical application of the Technical Protocol E for MPA work. Available at: http://jncc.defra.gov.uk/pdf/181113%20Protocol%20E%20supplementary%20guidance.pdf

3.2.2 Confidence in feature condition

Confidence in a feature's condition was assessed in line with MCZ Technical Protocol F[25]. The protocol outlines different approaches, depending on whether the feature's condition was assessed using direct evidence, or by way of the vulnerability assessment process.

3.2.3 Advice on the General Management Approach required to achieve conservation objectives

Updated advice on a feature's General Management Approach (GMA) was only required for a small number of the features. The GMA for a given feature sets out whether it is considered to be in unfavourable condition and needs to be recovered (Recover GMA) or is in favourable condition and needs to be maintained (Maintain GMA). This is based on the outcomes of a vulnerability assessment. The existing vulnerability assessments for features were reviewed in light of new VMS fisheries data from 2014-16[26], and updated where required. Vulnerability in the context of vulnerability assessments refers to the combination of a feature's sensitivity to a pressure and the exposure to that pressure and is described in MCZ Technical Protocol F.

3.2.4 Feature risk

Feature risk was assessed following the methodology set out within the annex to the paper '*MCZ Levels of Evidence - Advice on when data supports a feature/site for designation from a scientific, evidence-based perspective - addendum November 2016*[27]. For each site, two risk scores are advised for each feature that consider the current and future risk for each feature. Risk has been categorised as High, Moderate, or Low depending on how sensitive a feature is to pressures. There are a number of caveats associated with this assessment as set out in the methodology.

[25] MCZ Technical Protocol F – Assessing scientific confidence of feature condition. Available at: http://jncc.defra.gov.uk/pdf/120106_SNCBs%20MCZ%20Advice%20protocol%20F_confidence%20in%20feature%20condition_v5%200_FINAL.pdf

[26] Vessel monitoring system (VMS) identity, position, speed, and heading data from vessels fishing in offshore waters are transmitted to the Marine Management Organisation of the UK Department of Environment, Food and Rural Affairs. For this analysis, we used all available VMS records for vessels active in the areas under consideration for the period 2009-2016.

[27] JNCC and Natural England, MCZ Levels of Evidence - Advice on when data supports a feature/site for designation from a scientific, evidence-based perspective - addendum November 2016, November 2016. Available at: http://jncc.defra.gov.uk/page-5999

3.2.5 Advice on when data support a feature/site for designation from a scientific, evidence-based perspective

The process for establishing 'data sufficiency' or scientific justification for designation of a feature or site is outlined in '*MCZ Levels of Evidence - Advice on when data supports a feature/site for designation from a scientific, evidence-based perspective - addendum November 2016*'[27]. As explained above, for this present advice, where data sufficiency needed to be revisited only the first feature based assessment was undertaken. For the assessment, JNCC first determines whether a feature has enough data to support its designation, using outputs of the application of Technical Protocol E and it's supplementary guidance. Where there are inadequate data to support confidence in feature presence or extent, additional conservation/ecological considerations that may support priority designation of the feature are considered. This additional consideration uses expert judgement[28] taking into account new data and any changes in our knowledge of the sites since JNCC's 2016/17 advice. The assessment considers risk, and whether a precautionary approach should be taken to protect the feature. For instances where a change in extent of features in a site would have significantly impacted the contribution a site can make to the MPA network, additional information has been provided on the area of habitat the site can provide.

3.2.6 Quality assurance process

When compiling our advice, JNCC endeavour to comply with the Government Chief Scientific Adviser's guidelines for preparing scientific advice[29], and the recommendations of the Graham-Bryce report[30] that reviewed the evidence process for selecting marine Special Areas of Conservation (SACs). JNCC has also applied its own internal Evidence Quality Assurance (EQA) Policy[31] to ensure our advice is scientifically robust.

The JNCC MCZ Evidence Quality Assurance (EQA) Group reviewed the assessment process, and applied judgement where required to ensure that our assessments in the degree of confidence in the presence and extent of features were consistent and appropriate, using a clearly described rationale. The EQA group consisted of evidence specialists from within JNCC, representatives from Natural England and the Marine Management Organisation (MMO) and an independent observer.

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[28] Barnard, S and Boyes, S.J. (2013) Review of Case Studies and Recommendations for the Inclusion of Expert Judgement in Marine Biodiversity Status Assessments. JNCC Report 490. Available at: http://jncc.defra.gov.uk/page-6513

[29] Guidelines for preparing scientific advice. Available at: http://www.bis.gov.uk/go-science/science-in-government/strategy-and-guidance

[30] Graham-Bryce Report. Available at: https://www.gov.uk/government/publications/independent-review-of-the-evidence-process-for-selecting-marine-special-areas-of-conservation

[31] JNCC Evidence Quality Policy. Available at: http://jncc.defra.gov.uk/page-6675

No significant concerns were raised by the EQA group and the assessments and key decisions were signed off once the group were satisfied that all technical protocols had been followed.

Overall, we are content that our advice is a quality-assured product, and is fit for purpose to assist Defra to make decisions on the designation of MCZs. Our advice has been quality assured through our internal systems, and reviewed and signed-off by our independent non-executive MPA Sub-Group.

Detailed information on the QA procedures followed in the production of this advice can be found in Annex 2.

4 Site Assessments

4.1 East of Haig Fras MCZ

East of Haig Fras MCZ was designated in 2013 for broad-scale habitats Moderate energy circalittoral rock, Subtidal coarse sediment/Subtidal mixed sediments habitat mosaic and Subtidal sand. In 2016, the broad-scale habitat Subtidal mud was added as a designated feature of the site.

In 2013, an MB0120 survey provided evidence for the presence of the broad-scale habitat High energy circalittoral rock within the site. Following on from this, the 2015 CEND0915 JNCC/Cefas monitoring survey of the site also gathered data for the presence of the species feature of conservation importance (FOCI) Fan Mussel (*Atrina fragilis*) and the habitat FOCI Sea-pen and burrowing megafauna communities. In 2016, JNCC provided pre-consultation advice to Defra on these features and as a result Defra consulted upon the potential designation of **High energy circalittoral rock, Fan Mussel (*Atrina fragilis*)** and **Sea-pen and burrowing megafauna communities** within this site during summer 2018**.**

4.1.1 Assessment of new data

JNCC assessed the requirement for revisions to its 2016/17 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 3, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 3 is highlighted in yellow.

Table 3: Outcomes of decision-tree process for new features in East of Haig Fras MCZ

Feature	New data available?	Decision tree outcome	Revised advice needed?
High energy circalittoral rock	Yes (activities)	**Branch 1 – Outcome A** No new advice required **Branch 2 – Outcome D** No new advice likely required however check whether any new feature extent data.	No. No new biophysical data available for this feature. Updated VMS data (2014-16) are consistent with the level of exposure presented in the 2009-2013 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Fan mussel (*Atrina fragilis*)	Yes (activities)	**Branch 1 – Outcome A** No new advice required **Branch 2 – Outcome D** No new advice likely required however check	No. No new biophysical data available for this feature. Updated VMS data (2014-16) are consistent with levels of exposure presented in 2009-2013 for bottom-contact gears coincident with

		whether any new feature extent data.	the feature. Therefore, no revised advice is required on the previously advised GMA.
Sea-pen and burrowing megafauna communities	Yes (activities & biophysical)	**Branch 1 - Outcome B** Advice likely required for feature **Branch 2 - Outcome D** No new advice likely required however check whether any new feature extent data.	Yes. The new biophysical data improves our understanding of the extent of the feature, resulting in an increase in our confidence in the extent of the feature from low to moderate. Updated VMS data (2014-16) are consistent with the level of exposure presented in the 2009-2013 VMS data for bottom-contacting gears coincident with the feature. Despite the change in extent of the feature, the existing GMA is still appropriate.

Since JNCC's 2016 advice, new biophysical data have become available for the Sea-pen and burrowing megafauna communities feature in the site. These data were obtained through an updated analysis of video tows from the 2015 CEND0915 JNCC/Cefas monitoring survey (see Table 2) of the site using a methodology developed by JNCC. In 2016 JNCC developed a methodology to analyse the video tows for the presence of Sea-pen and burrowing megafauna communities to inform our pre-consultation advice. An updated protocol for analysing the video tows for the presence of this feature was developed in early 2018 and a more complete analysis of the 2015 monitoring survey data was undertaken to improve our understanding of the feature extent within the site.

The reanalysis resulted in a significant increase in the number of records for the feature from 8 to 179, supporting an improved understanding of the extent of the Sea-pen and burrowing megafauna communities feature. Following the JNCC MCZ decision-tree process (see Annex I), new advice is required (see Section 4.1.2 below).

No new data were available to support the presence and extent of High energy circalittoral rock and Fan mussel and therefore no new advice is required. JNCC's advice on feature presence and extent remains the same with **High** confidence in presence of both features and **Moderate** confidence in the extent of both. Therefore, JNCC concludes that the data still support the designation of both of these features within this site.

JNCC received updated fisheries VMS data for fishing activity over 2014-2016. These data identify a continued low to moderate exposure of the seabed to the pressures associated with benthic trawling, as advised previously. Consequently, High energy circalittoral rock, Fan mussel (*Atrina fragilis*), and Sea-pen and burrowing megafauna communities have been assessed as not requiring any revised advice related to their condition due to their continued exposure to pressures to which the features are sensitive. On this basis, JNCC reiterates its previous advice that a **Recover** GMA is appropriate for all three features.

JNCC's advice therefore also remains the same in relation to feature risk (current and future) for all three features as stated within our pre-consultation advice.

4.1.2 Assessment of Feature Presence and Extent

A summary of the updated assessments in feature presence and feature extent is presented below in Table 4 (see Section 3.2.1 for the approach).

Table 4: East of Haig Fras MCZ Evidence Assessment Summary

Feature	Evidence Assessment Results			
	Confidence in presence	Rationale for confidence in feature presence	Confidence in extent	Rationale for confidence in feature extent
Sea-pen and burrowing megafauna communities	**High** (High)*	No change since previous advice	**Moderate** (Low)*	Reanalysis of video transects using the new method has provided further habitat points and identified a broader spread of the habitat throughout the site, improving our confidence in the understanding of the feature extent.

*The blue text represents the previous assessment score

Reanalysis of video transects from the 2015 CEND0915 JNCC/Cefas monitoring survey using the new method has provided further evidence of the feature and identified a broader spread of the habitat throughout the site. This has improved our understanding of feature extent within the site. However, while our knowledge of the extent of the habitat FOCI has greatly improved, there are still areas of the site where video tows were not gathered during the survey, including a section of mud in the west of the site. Consequently, our confidence in the feature extent has increased from Low to **Moderate** only.

4.1.3 Advice on the scientific basis to support feature/site designation

A summary of the updated assessments on whether features have appropriate data to support their designation is presented below in Table 5 (see Section 3.2.5 for the approach).

Table 5: East of Haig Fras MCZ feature data sufficiency assessment and additional conservation / ecological considerations

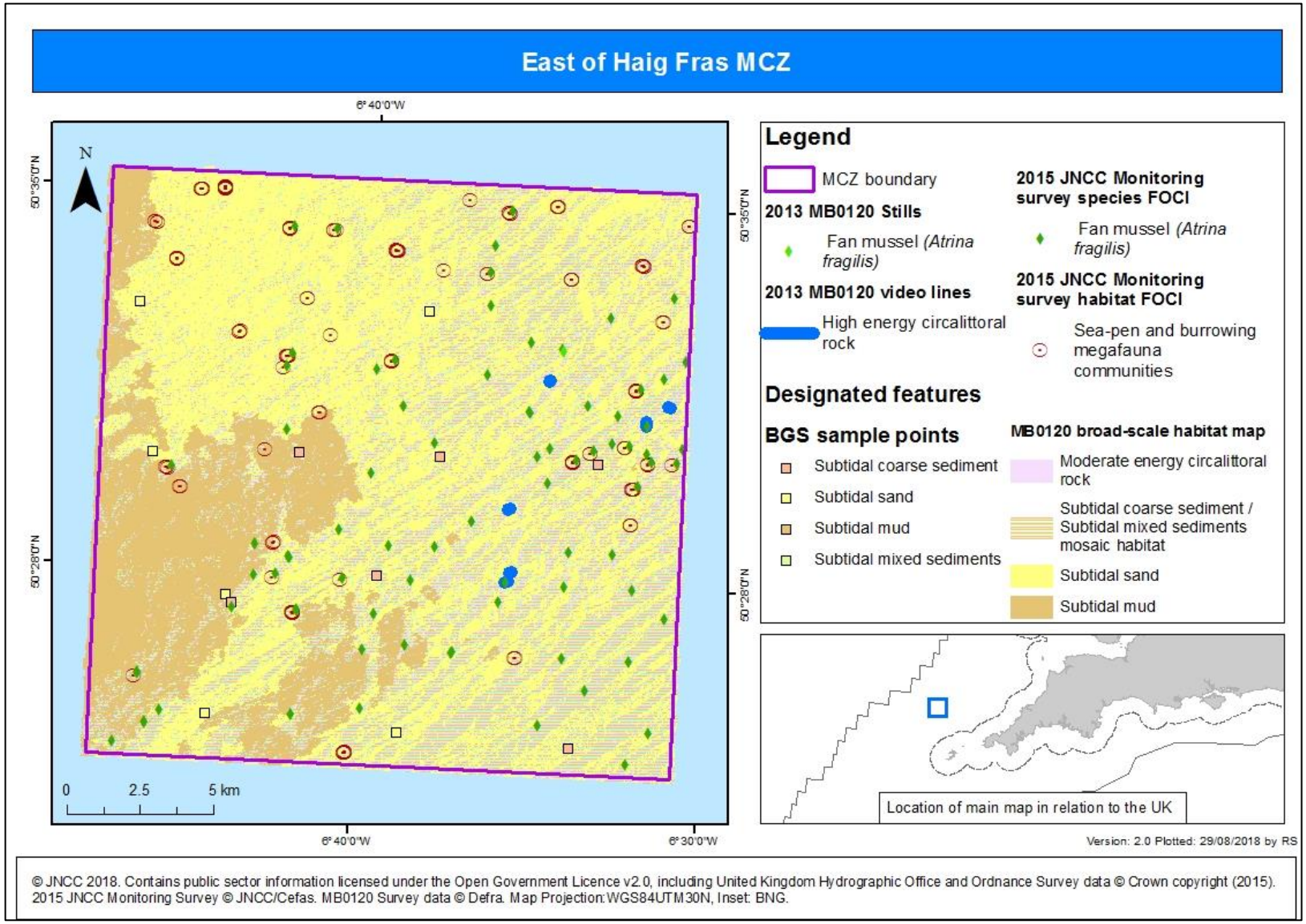
Feature	Q1a. Confidence score of at least moderate for feature presence?	Q1b. Is 1a based only on parent habitat being present?	Q1c. Confidence score of at least moderate for extent / distribution?	Outcome from Question 1 assessment
Sea-pen and burrowing megafauna communities	Yes	No	Yes	**Data support designation of feature** (Conservation benefits support priority feature designation)*

*The blue text represents the previous assessment score

JNCC's advice on whether High energy circalittoral rock and Fan mussel (*Atrina fragilis*) have appropriate data to support their designation has not changed since our pre-consultation advice and our advice remains that the data still support the designation of both of these features within this site.

4.1.4 Site feature map

Figure 2: Distribution of the broad-scale habitats and Features of Conservation Importance in East of Haig Fras MCZ



4.2 East of Start Point proposed MCZ

East of Start Point was recommended to Defra as a possible new site option to address remaining gaps in the MPA network. In 2017 JNCC provided pre-consultation advice on the site and in 2018 Defra consulted upon this site for possible designation for the broad-scale habitat **Subtidal sand.**

4.2.1 Assessment of new data

JNCC assessed the requirement for revisions to its 2016/17 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 6, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 6 is highlighted in yellow.

Table 6: Outcomes of decision-tree process for features in East of Start Point proposed MCZ

Feature	New data available?	Decision tree outcome	Revised advice needed?
Subtidal sand	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data	No. The new biophysical data available for this feature from UKSeaMap 2016 do not change our understanding of the feature's presence or extent. Updated VMS data (2016) are consistent with the level of exposure presented in the 2009-15 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.

Since JNCC's 2017 advice, new biophysical data have become available for the Subtidal sand feature in the site. The biophysical data is provided by the new 2016 version of UKSeaMap broadscale predictive habitat maps, however this new data shows no change in the extent of the feature within the site compared to that used in our pre-consultation assessments. As our understanding of the presence and extent of the features within this site has not changed revised advice is not required and JNCC's confidence remains **High** in both presence and extent for Subtidal sand. JNCC therefore concludes that the data still support the designation of all four features within this site.

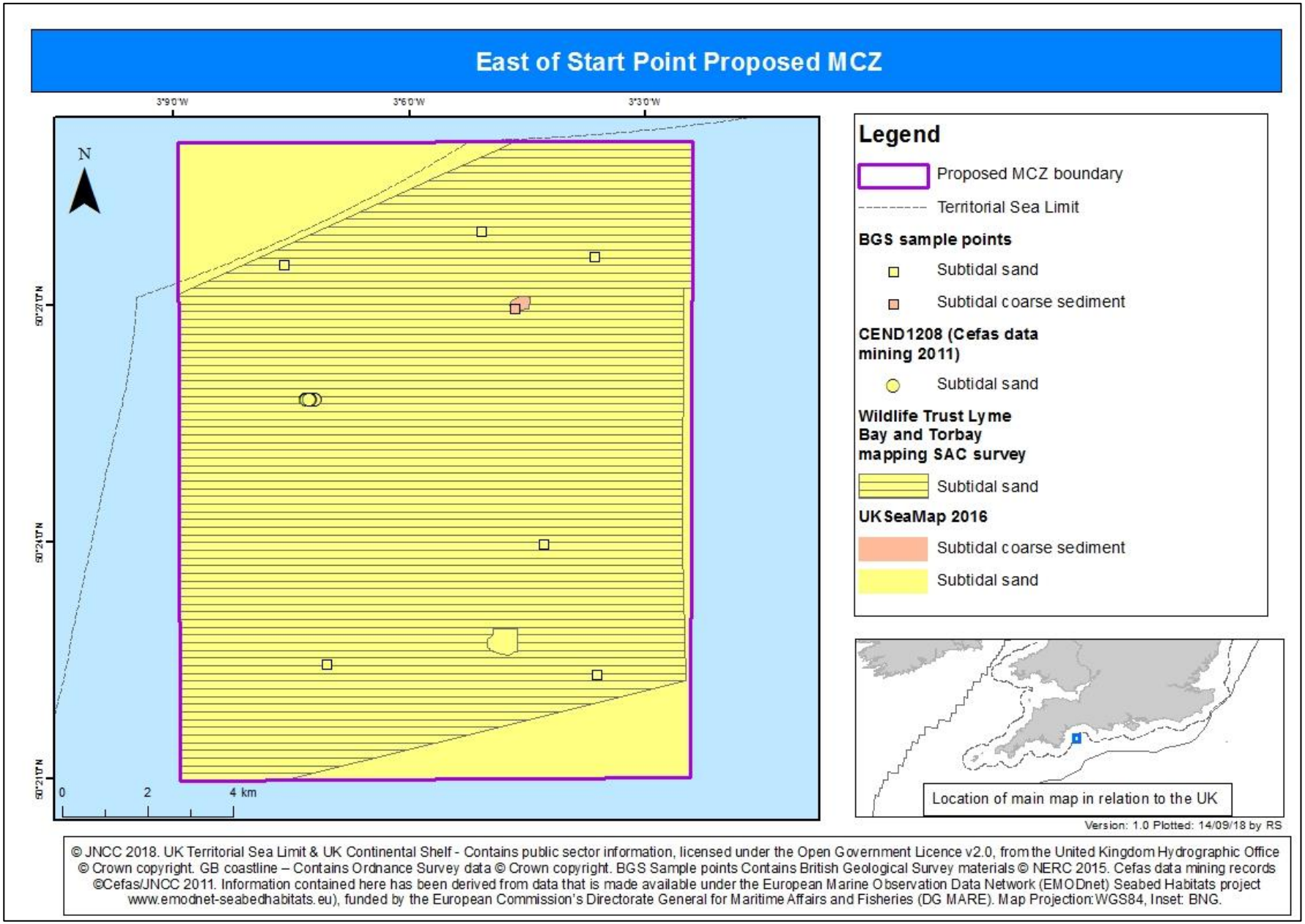
JNCC received updated fisheries VMS data for fishing activity in 2016. These data identify a continued moderate to high exposure of the seabed to the pressures associated with benthic

trawling, as advised previously. Consequently, the Subtidal sand feature has been assessed as not requiring any revised advice related to its condition due to its continued exposure to pressures to which the feature is sensitive. On this basis, JNCC reiterates its previous advice that a **Recover** GMA is appropriate for the feature.

JNCC's advice also remains the same in relation to feature risk (current and future) stated within our pre-consultation advice.

4.2.2 Site feature map

Figure 3: Distribution of the broad-scale habitats in East of Start Point proposed MCZ



4.3 Holderness Offshore proposed MCZ

Holderness Offshore proposed MCZ was originally recommended for designation in 2011 by the Net Gain regional MCZ project[32] for the broad-scale habitats Subtidal coarse sediment and Subtidal mixed sediments. Additional data have been gathered since the original recommendation through surveys and data mining contracts, resulting in several additional broad-scale habitats, and habitat and species features of conservation importance (FOCI) being identified. In 2016, JNCC provided pre-consultation advice to Defra on this site and as a result Defra consulted upon the potential designation of this site for **Subtidal coarse sediment, Subtidal sand** and **Subtidal mixed sediments**; the species FOCI **Ocean quahog (*Arctica islandica*)** and the geomorphological feature of interest – **North Sea Glacial Tunnel Valleys (Inner Silver Pit)** during the summer of 2018.

4.3.1 Assessment of new data

JNCC assessed the requirement for revisions to its 2016/17 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 7, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 7 is highlighted in yellow.

Table 7: Outcomes of decision-tree process for features in Holderness Offshore proposed MCZ

Feature	New data available?	Decision tree outcome	Revised advice needed?
Subtidal coarse sediment	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No new advice likely required however check whether any new feature extent data.	No. The new biophysical data available for this feature from UKSeaMap 2016 and Marine Recorder do not change our understanding of the feature's presence or extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Subtidal sand	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice	No. The new biophysical data available for this feature from UKSeaMap 2016 do not change our understanding of the feature's presence or extent. Updated VMS data (2014-2016) are consistent with the level of exposure

[32] Net Gain Regional MCZ project Final recommendations. Available at: http://webarchive.nationalarchives.gov.uk/20120502152857/http://www.netgainmcz.org/index.php

		Branch 2 – Outcome D No new advice likely required however check whether any new feature extent data.	presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Subtidal mixed sediments	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No new advice likely required however check whether any new feature extent data.	No. The new biophysical data available for this feature from UKSeaMap 2016 do not change our understanding of the feature's presence or extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Ocean quahog (*Arctica islandica*)	Yes (activities)	**Branch 1 – Outcome A** No new advice required **Branch 2 – Outcome D** No new advice likely required however check whether any new feature extent data.	No. There are no new biophysical data so there is no change to our understanding of the feature's presence or extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
North Sea glacial tunnel valleys (Inner Silver Pit)	No	**Branch 1 – Outcome A** No new advice required **Branch 2 – Outcome F** Consider whether new feature condition advice required	No. There are no new biophysical data so there is no change to our understanding of the feature's presence or extent. The GMA is set to Maintain as geomorphological features are not considered sensitive to pressures associated with human activities occurring. Please note that the geological feature is overlain with sedimentary habitats which may have a different GMA recommended due to the sensitivies of the biological communities associated with it and levels of exposure to existing activities coincident with the feature. In such instances the recover GMA should be observed.

Since JNCC's 2016 advice there have been no new data to support understanding of the presence or extent of the geomorphological feature of interest North Sea glacial tunnel valleys (Inner Silver Pit). From the consultation, two additional records for Ocean quahog were provided from the Oceana 2016 North Sea Expedition survey (see Table 2). However, in order to increase confidence in the presence of the feature there would need to be another two points <6years old. Therefore, our advice for both features has not changed and JNCC continues to advise **Moderate** confidence in the presence and **Low** confidence in the extent for Ocean quahog; and **High** confidence in both presence and extent for the North Sea glacial tunnel valleys (Inner Silver Pit).

New biophysical data have become available from the updated 2016 version of UKSeaMap that result in a minor change in the mapped extent of Subtidal coarse sediment, Subtidal sand and Subtidal mixed sediments in the site. New biophysical data from Seasearch dive surveys from Marine Recorder (see Table 2) have also become available for Subtidal coarse sediment and Subtidal mixed sediments but these data do not change our understanding of features' presence

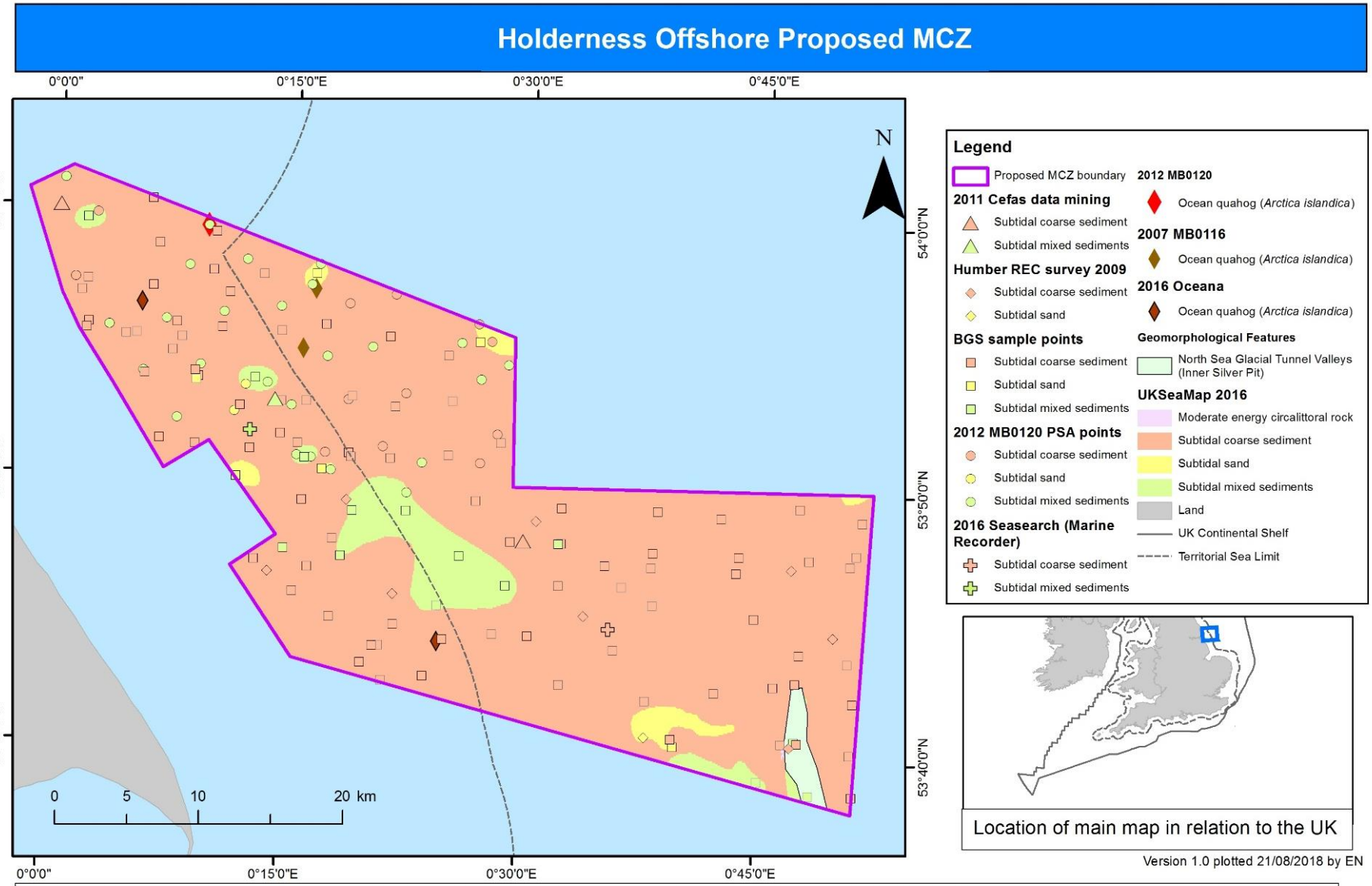
and extent within the site. As a result, confidence in presence remains **High** and in extent remains **Moderate** for Subtidal coarse sediment, Subtidal sand and Subtidal mixed sediments.

JNCC received updated fisheries VMS data for fishing activity between 2014 and 2016. Consistent with the 2009-13 VMS data used for the pre-consultation advice, these data identify that Subtidal coarse sediment, Subtidal mixed sediments, Subtidal sand and Ocean quahog are under high or moderate exposure to some pressures associated with benthic trawling and therefore moderately or highly vulnerable to associated pressures. Therefore, a **Recover** GMA is therefore advised for these features which remains the same as the 2016 advice. JNCC advises a default Maintain GMA for all geological and geomorphological features because they are typically large-scale, the processes that created them are no longer operating, and they are subject to natural decline in conservation value owing to erosion and burial, outside of any anthropogenic activity. Therefore, we advise a **Maintain** GMA for the North Sea glacial tunnel valleys (Inner Silver Pit). JNCC's advice remains the same in relation to feature risk (current and future) as stated within our pre-consultation advice. Please note that the geological feature is overlain with sedimentary habitats. We e may recommend different GMAs for sedimentary habitats to reflect the sensitivies of the biological communities associated with and levels of exposure to existing activities coincident with the feature. In such instances the recover GMA should be observed.

JNCC concludes that the data still support the designation of Subtidal coarse sediment, Subtidal sand, Subtidal mixed sediments and the North Sea glacial tunnel valleys; and that conservation benefits support the designation of Ocean quahog within the site.

4.3.2 Site feature map

Figure 4: Distribution of the broad-scale habitats and features of conservation importance in Holderness Offshore proposed MCZ



4.4 Inner Bank proposed MCZ

Inner Bank was recommended as an MCZ by the Balanced Seas regional MCZ project[33] in 2011 for the broad-scale habitats Moderate energy infralittoral rock, Moderate energy circalittoral rock, Subtidal coarse sediment and Subtidal sand and the habitat feature of conservation importance (FOCI) Native oyster beds and species FOCI Native oyster (*Ostrea edulis)*. In 2016 JNCC provided pre-consultation advice to Defra on this site and as a result Defra consulted upon the potential designation of this site for the broad-scale habitats **Subtidal coarse sediment, Subtidal sand** and **Subtidal mixed sediments**.

4.4.1 Assessment of new data

JNCC assessed the requirement for revisions to its 2016/17 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 8, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 8 is highlighted in yellow.

Table 8: Outcomes of decision-tree process for features in Inner Bank proposed MCZ

Feature	New data available?	Decision tree outcome	Revised advice needed?
Subtidal coarse sediment	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data	No. The new biophysical data available for this feature does not change our understanding of the feature's presence or extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Subtidal sand	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data	No. The new biophysical data available for this feature does not change our understanding of the feature's presence or extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice

[33] Balanced Seas Regional MCZ Project final report. Available at: http://publications.naturalengland.org.uk/publication/1463173

			is required on the previously advised GMA.
Subtidal mixed sediments	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data	No. The new biophysical data available for this feature does not change our understanding of the feature's presence or extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.

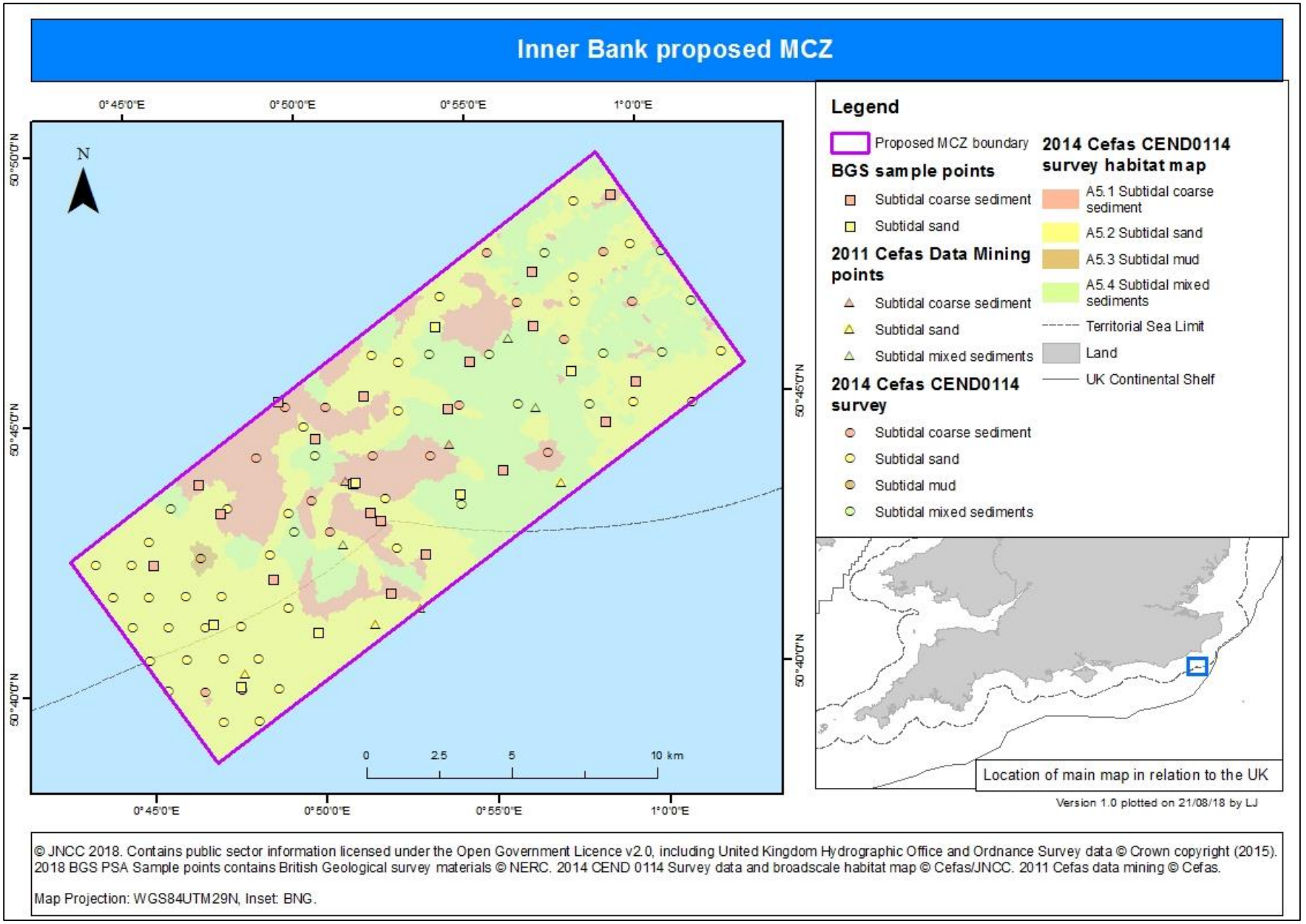
Since JNCC's 2016 advice, an updated version of UKSeaMap predictive broad-scale habitat map provided new biophysical data for Subtidal coarse sediment and Subtidal sand. However, this map does not change our understanding of the presence and extent of these features within the site as a habitat map from survey already exists for the site that was used in our pre-consultation assessments. This habitat map was deemed a more suitable product for assessing feature presence and extent within this site. Additional data points were also provided from Marine Recorder in 2018 (see Table 2) for Subtidal coarse sediment, Subtidal sand and Subtidal mixed sediments, but these data represent seabed imagery and are not considered suitable in isolation to verify the presence of sedimentary features. Revised advice is therefore not required and JNCC's confidence in both presence and extent remains **High** for Subtidal coarse sediment, Subtidal sand and Subtidal mixed sediments. JNCC therefore concludes that the data still support the designation of all three features within the site.

JNCC received updated fisheries VMS data for fishing activity between 2014 and 2016. These data identify a continued high exposure of the seabed to the pressures associated with benthic trawling, as advised previously. Consequently, Subtidal coarse sediment, Subtidal sand and Subtidal mixed sediments have been assessed as not requiring any revised advice related to their condition due to their continued exposure to pressures to which the features are sensitive. On this basis, JNCC reiterated its previous advice that a **Recover** GMA is appropriate for all features.

JNCC's advice remains the same in relation to feature risk (current and future) as stated within our pre-consultation advice.

4.4.2 Site feature map

Figure 5: Distribution of broad-scale habitats in Inner Bank proposed MCZ



4.5 Markham's Triangle proposed MCZ

Markham's Triangle proposed MCZ was recommended by the Net Gain regional MCZ project for the broad-scale habitats Subtidal coarse sediment and Subtidal sand. Additional data were gathered within this site as part of an MB0120 survey in 2012. The survey collected grabs, video tows and camera stills, and full coverage acoustic data. Two further broad-scale habitat features were identified within the site as a result: Subtidal mud and Subtidal mixed sediments. The ground-truth data from the survey data were used to produce a full coverage habitat map of Markham's Triangle proposed MCZ.

In 2016 JNCC provided pre-consultation advice to Defra on this site and as a result Defra consulted upon the potential designation of this site for **Subtidal coarse sediment**, **Subtidal sand**, **Subtidal mud** and **Subtidal mixed sediments** during the summer of 2018**.**

4.5.1 Assessment of new data

JNCC assessed the requirement for revisions to its 2016/17 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 9, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 9 is highlighted in yellow.

Table 9: Outcomes of decision-tree process for features in Markham's Triangle proposed MCZ.

Feature	New data available?	Decision tree outcome	Revised advice needed?
Subtidal coarse sediment	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data.	No. The new biophysical data available for this feature does not change our understanding of the features presence or extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Subtidal sand	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D**	No. The new biophysical data available for this feature does not change our understanding of the features presence or extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.

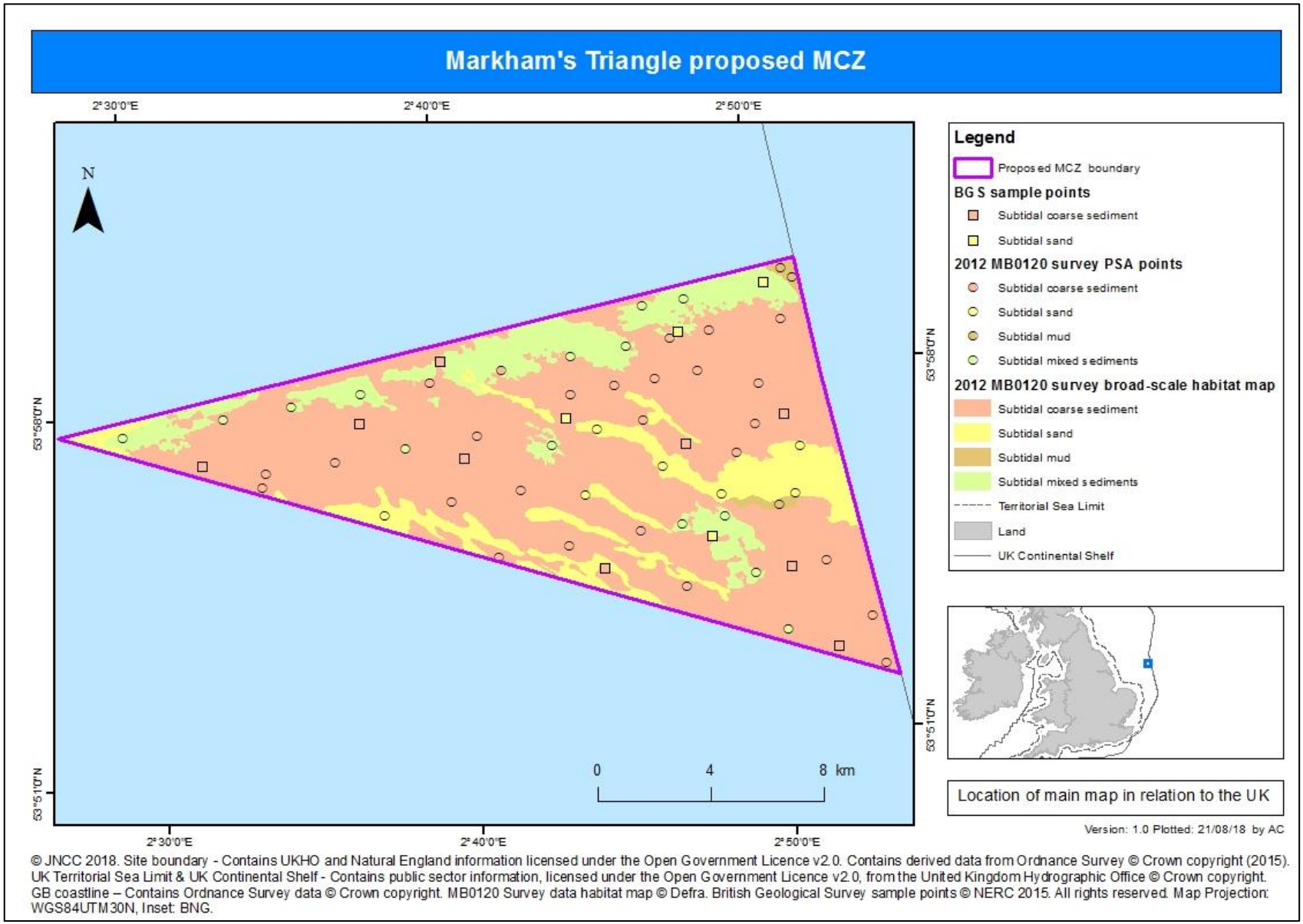
		No new advice likely required however check whether there are any new feature extent data.	
Subtidal mud	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data.	No. The new biophysical data available for this feature does not change our understanding of the features presence or extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Subtidal mixed sediments	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data.	No. The new biophysical data available for this feature does not change our understanding of the features presence or extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.

Since JNCC's 2016 advice, new biophysical data have become available for all four features in the site from the 2016 version of UKSeaMap. These were however not used to inform our advice because a habitat map from survey already exists for the site that was used in our pre-consultation assessments. This habitat map was deemed a more suitable product for assessing feature presence and extent within this site. As our understanding of the presence and extent of the features within this site has not changed, revised advice is not required. JNCC's confidence remains **High** in both presence and extent of Subtidal coarse sediment, Subtidal sand, Subtidal mud and Subtidal mixed sediments within the site. JNCC therefore concludes that the data still support the designation of all four features within the site.

JNCC received updated fisheries VMS data for fishing activity from 2014 - 2016. These data identify a continued moderate to high exposure of the seabed to the pressures associated with benthic trawling, as advised previously. All features remain moderately and/or highly vulnerable to one or more pressures associated with benthic trawling. Consequently, the **Recover** GMAs advised for Subtidal coarse sediment, Subtidal sand, Subtidal mud and Subtidal mixed sediments features remain unchanged from previous advice. JNCC's advice remains the same in relation to feature risk (current and future) as stated within our pre-consultation advice.

4.5.2 Site feature map

Figure 6: Distribution of broad-scale habitats in Markham's Triangle proposed MCZ



4.6 North-East of Haig Fras proposed MCZ

North-East of Haig Fras MCZ was recommended as an MCZ by the Finding Sanctuary regional MCZ project in 2011[34] for the broad-scale habitats Subtidal coarse sediment, Subtidal sand, Subtidal mud, and Subtidal mixed sediments. In 2016 JNCC provided pre-consultation advice on the features found within North-East of Haig Fras proposed MCZ as part of the package of offshore sites being considered for designation by Defra in Tranche Three. Subsequently Defra consulted upon the potential designation of this site for **Subtidal coarse sediment**, **Subtidal sand** and **Subtidal mud** during summer 2018.

4.6.1 Assessment of new data

JNCC assessed the requirement for revisions to its 2016 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 10, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 10 is highlighted in yellow.

Table 10: Outcomes of decision-tree process for features in North-East of Haig Fras proposed MCZ

Feature	New data available?	Decision tree outcome	Revised advice needed?
Subtidal coarse sediment	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No revised advice likely required however check whether there are any new feature extent data.	No. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2016 advice on the feature's extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Subtidal sand	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No revised advice likely required however check	No. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2016 advice on the feature's extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with

[34] Finding Sanctuary Regional MCZ project report available at: http://publications.naturalengland.org.uk/publication/1561560

		whether there are any new feature extent data.	the feature. Therefore, no revised advice is required on the previously advised GMA.
Subtidal mud	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No revised advice likely required however check whether there are any new feature extent data.	No. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2016 advice on the feature's extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.

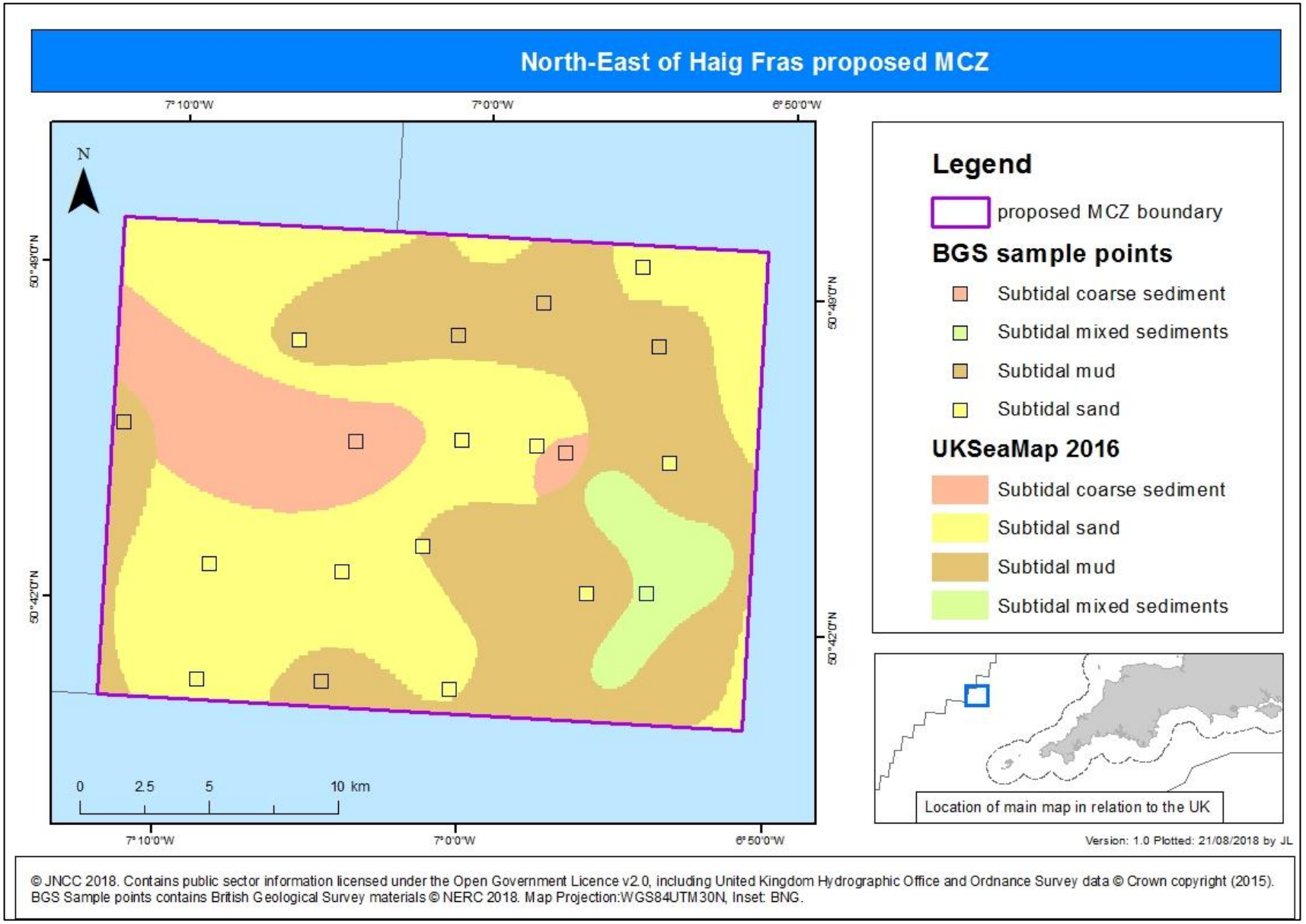
Since JNCC's 2016 advice, new biophysical data have become available for Subtidal coarse sediment, Subtidal sand, and Subtidal mud. These new data do not change our understanding of the presence and extent of these features within the site. These data consisted of the 2016 updated version of the UKSeaMap broad-scale predictive habitat map. Revised advice is therefore not required and JNCC's confidence in presence and extent for Subtidal coarse sediment remains **Moderate** for presence, and **Low** for extent. JNCC's confidence in presence and extent for Subtidal sand and Subtidal mud habitats remains **High** for presence, and **Low** for extent.

JNCC received updated fisheries VMS data for fishing activity in 2014-2016. These data identify a continued moderate exposure of Subtidal coarse sediment and high exposure of Subtidal sand and Subtidal mud to the pressures associated with benthic trawling, as advised previously. Consequently, Subtidal coarse sediment, Subtidal sand and Subtidal mud have been assessed as not requiring any revised advice related to their condition, due to their continued exposure to pressures to which the features are sensitive. On this basis, JNCC reiterates its previous advice that a **Recover** GMA is appropriate for each of these features. JNCC's advice remains the same in relation to feature risk (current and future) as stated within our pre-consultation advice.

JNCC's advice remains the same in that conservation benefits support the designation of Subtidal coarse sediment and Subtidal sand; and that Subtidal mud should be further considered because there is sufficient evidence that it occurs within the site and would ensure that most features found in the site are designated.

4.6.2 Site feature map

Figure 7: Distribution of broad-scale habitats in North-East of Haig Fras proposed MCZ



4.7 Queenie Corner proposed MCZ

Queenie Corner is an area proposed by Northern Irish fishermen[35] for the designation of the broad-scale habitat Subtidal mud and Sea-pen and burrowing megafauna communities habitat feature of conservation importance (FOCI) in the Irish Sea. In 2016 JNCC provided pre-consultation advice on the features found within Queenie Corner proposed MCZ as part of the package of offshore sites being considered for designation by Defra in Tranche Three. In 2018 Defra consulted upon the designation of this site for **Subtidal mud** and **Sea-pen and burrowing megafauna communities**.

4.7.3 Assessment of new data

JNCC assessed the requirement for revisions to its 2016 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 11, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 11 is highlighted in yellow.

Table 11: Outcomes of decision-tree process for features in Queenie Corner proposed MCZ

Feature	New data available?	Decision tree outcome	Revised advice needed?
Subtidal mud	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data	No. Additional ground-truthing data and a habitat map from survey for the site were provided by AFBI NI. Although the habitat map presents an increase in extent (with Subtidal mud covering the entirety of the site), there is no change in our confidence in the feature presence and extent which remains High. Updated VMS data (2014-16) are consistent with the level of exposure presented in 2009 - 13 VMS data coincident with the feature. The change in feature extent does not change exposure to abrasion/penetration pressures. Therefore, no revised advice is required on the previously advised GMA.
Sea-pen and burrowing megafauna communities	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No new advice likely required however check	No. Additional ground-truthing data received from AFBI NI. The additional data further support our existing understanding of feature presence and extent which is considered to be widespread throughout the site and so modified advice is not required. Confidence in feature presence and extent remains High. Updated VMS data (2014-16) are consistent with the level of exposure presented in 2009 -

[35] AFBI/SeaFish report (2015). Available at: http://www.seafish.org/media/Publications/Seafish_2015_Alternative_MCZs_in_Irish_Seafinal.pdf

		whether there are any new feature extent data	13 VMS data coincident with the feature. No change in exposure to abrasion/penetration pressures. Therefore, no revised advice is required on the previously advised GMA.

Since JNCC's 2016 advice on this site, new biophysical data have become available to support the presence and extent of Subtidal mud and Sea-pen and burrowing megafauna communities. Additional ground-truthing data was received from AFBI NI regarding Sea-pen and burrowing megafauna communities (see Table 2). These data included *Nephrops norvegicus* burrow densities from annual (between 2003 and 2017) summer underwater video surveys, undertaken by AFBI NI and the Marine Institute. This has increased the number of sample points where a burrow density of >0.2m^2 (the threshold considered to demonstrate the presence of Sea-pen and burrowing megafauna communities[36]) from 35 to 42. The additional data further support our understanding of feature presence and extent which is considered to be widespread throughout the site. JNCC's confidence remains **High** in presence and **High** in extent and therefore revised advice is not required.

A habitat map from survey was provided by AFBI NI (see Table 2), interpreted from multibeam data and ground-truthing data that maps Subtidal mud across the entirety of the site. As the habitat FOCI Sea-pen and burrowing megafauna communities is contained within Subtidal mud the burrow density records discussed above also serve as additional ground-truth records for the broad-scale habitat Subtidal mud parent feature**.** The additional data further support our understanding of feature presence and extent which is considered to be widespread throughout the site. JNCC's confidence remains **High** in presence and **High** in extent and therefore revised advice is not required. JNCC therefore concludes that the data still support the designation of both features within the site.

JNCC received updated fisheries VMS data for fishing activity between 2014 and 2016. These data identify a continued high exposure of the seabed to the pressures associated with benthic trawling, as advised previously. Consequently, Subtidal mud and Sea-pen and burrowing megafauna communities have been assessed as not requiring any revised advice related to their condition due to their continued exposure to pressures to which the features are sensitive. On this basis, JNCC reiterated its previous advice that a **Recover** GMA is appropriate for both features.

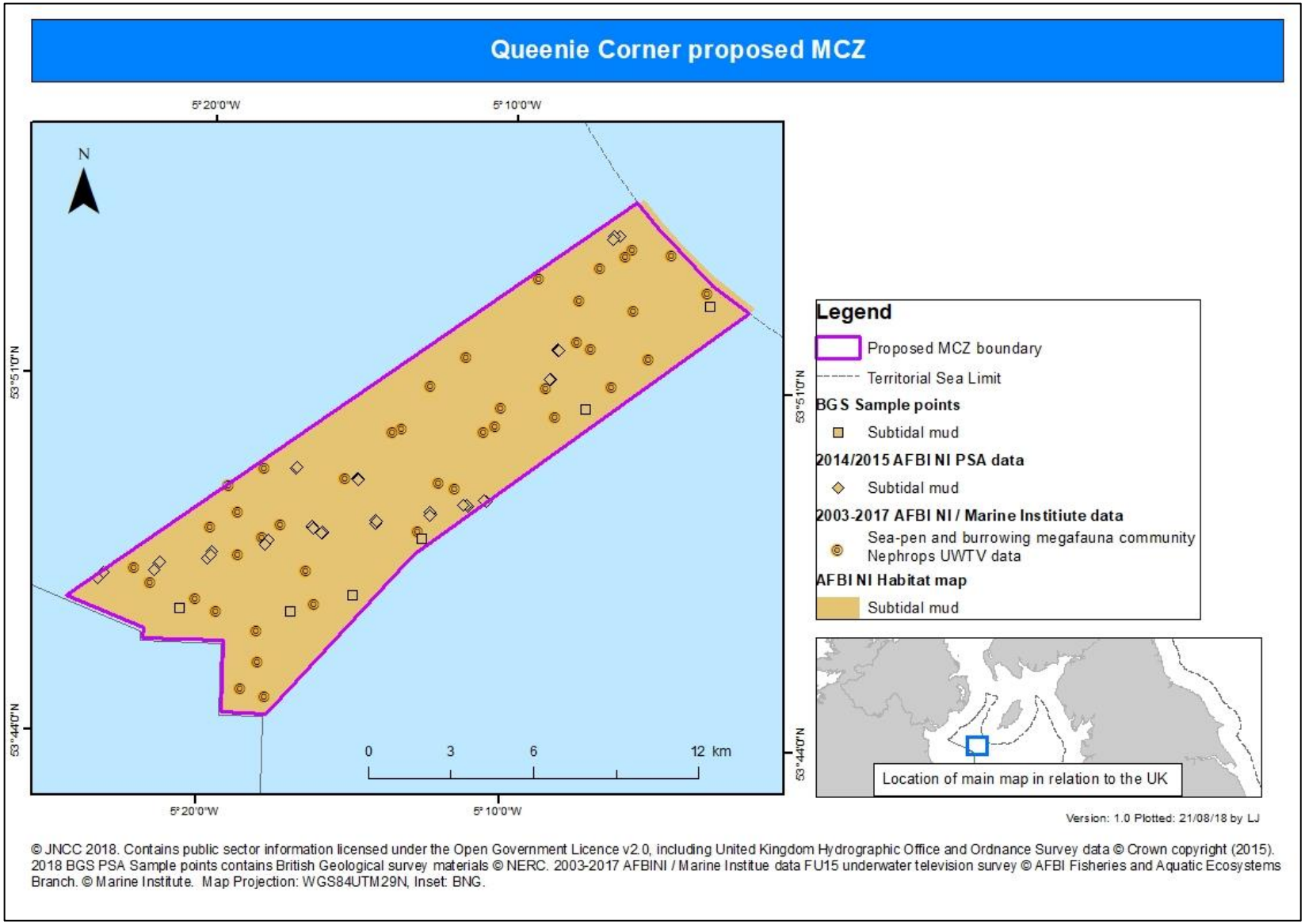
[36] For further information on classifying Sea-pen and burrowing megafauna communities from *Nephrops* stock surveys see Section 5.1 of the JNCC's 2014 advice – see Scientific advice on possible offshore Marine Conservation Zones considered for consultation in 2015, available at: http://jncc.defra.gov.uk/PDF/140627_final_JNCCT2preconsultation_MCZAdvice_2014_V5_0.pdf

JNCC's advice remains the same in relation to feature risk (current and future) as stated within our pre-consultation advice.

As JNCC's understanding of the extent of Subtidal mud and Subtidal sand in this site has changed, the proportion of these features that this site can contribute to the MPA network in the Secretary of State waters may also change. This is because the change in extent of the feature within the site also results in a change in the overall extent of these features in the region. This site can now contribute 3.6% of Subtidal mud to the MPA network in the Secretary of State waters part of the Irish sea region. This is the same contribution as previously stated in JNCC's pre-consultation advice. The no change result is due to the change in extent being relatively small in comparison to the area of the feature in the wider Secretary of State waters part of the Irish sea region.

4.7.4 Site feature map

Figure 8: Distribution of broad-scale habitats and Features of Conservation Importance in Queenie Corner proposed MCZ



4.8 South Rigg proposed MCZ

South Rigg was originally recommended as an MCZ by the Irish Sea Conservation Zone regional MCZ project[37] for the broad-scale habitats Low energy circalittoral rock, Subtidal sand and Subtidal mud, the habitat features of conservation importance (FOCI) Mud habitats in deep water and Sea-pen and burrowing megafauna communities, and the species FOCI Ocean quahog (*Arctica islandica*).

JNCC's provided advice on this site as part of Tranche two in 2014[38] but the site was not progressed. In 2016 JNCC provided pre-consultation advice and as a result Defra consulted on the possible designation of the site in 2018 for the broad-scale habitats **Moderate energy circalittoral rock**, **Subtidal coarse sediment**, **Subtidal sand**, **Subtidal mud**, **Subtidal mixed sediments**, and habitat FOCI **Sea-pen and burrowing megafauna communities**.

4.8.1 Assessment of new data

JNCC assessed the requirement for revisions to its 2016/17 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 12, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 12 is highlighted in yellow.

Table 12: Outcomes of decision-tree process for features in South Rigg proposed MCZ

Feature	New data available?	Decision tree outcome	Revised advice needed?
Moderate energy circalittoral rock	Yes (activities)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome F** Consider whether new feature condition advice required.	No. There were no new biophysical data that changed our view of this features presence or extent. A review of updated fisheries data (VMS Ping data, 2014-2016) indicated no revised GMA is required.
Subtidal coarse sediment	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome F**	Yes. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2016 advice on the feature's presence and extent.

[37] Irish Sea Conservation Zones regional MCZ project report. Available at: http://webarchive.nationalarchives.gov.uk/20120502154706/http:/www.irishseaconservation.org.uk/

[38] JNCC, 2014. Scientific advice on possible offshore Marine Conservation Zones considered for consultation in 2015. Version 5.0, June 2014, JNCC, UK. Available at: http://jncc.defra.gov.uk/PDF/140627_final_JNCCT2preconsultation_MCZAdvice_2014_V5_0.pdf

		Consider whether new feature condition advice required.	A review of updated fisheries data (VMS Ping data and VMS aggregated data, 2014-2016) indicated fishing effort with demersal gears occurring over the feature and therefore new advice on the GMA is required.
Subtidal sand	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No revised advice likely required however check whether there are any new feature extent data.	No. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2016 advice on the feature's presence and extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Subtidal mud	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No revised advice likely required however check whether there are any new feature extent data.	No. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2016 advice on the feature's presence and extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Subtidal mixed sediments	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No revised advice likely required however check whether there are any new feature extent data.	Yes. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2016 advice on the feature's presence and extent. A review of updated fisheries data (VMS Ping data, 2014-2016) indicated demersal gears avoided areas mapped as mixed sediments within the site. Therefore, new advice on the GMA is required.
Sea-pen and burrowing megafauna communities	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No revised advice likely required however check whether there are any new feature extent data.	No. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2016 advice on the feature's presence and extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.

Since JNCC's 2016 advice new biophysical data have become available for Moderate energy circalittoral rock, Subtidal coarse sediment, Subtidal sand, Subtidal mud, Subtidal mixed sediments, and Sea-pen and burrowing megafauna communities. These data do not change our understanding of the presence and extent of these features within the site. These data consisted of an updated

2016 version of UKSeaMap predictive broadscale habitat map, and an updated version of the AFBI nephrops stock assessment surveys in region FU15 (see Table 2). Revised advice is therefore not required and JNCC's confidence in presence and extent remains **Moderate** for presence and **Moderate** for extent for Moderate energy circalittoral rock, **High** for presence and **Moderate** for extent for Subtidal coarse sediment and Subtidal mixed sediments, and **High** for presence and **High** for extent for Subtidal sand, Subtidal mud and Sea-pen and burrowing megafauna communities[39]. JNCC therefore concludes that the data still support the designation of all five features within the site.

JNCC received updated fisheries VMS data for fishing activity in 2014-2016. These data identify a continued high exposure of Subtidal sand, Subtidal mud and Sea-pen and burrowing megafauna communities to the pressures associated with benthic trawling, as advised previously. Consequently, Subtidal sand, Subtidal mud and Sea-pen and burrowing megafauna communities have been assessed as not requiring any revised advice related to their condition due to their continued exposure to pressures to which the features are sensitive. On this basis, JNCC reiterates its previous advice that a **Recover** GMA is appropriate for each of these features.

The evidence from updated fisheries VMS data for fishing activity in 2014-2016 indicates the levels of benthic trawling effort over Moderate energy circalittoral rock and Subtidal mixed sediments are very low, such that these features are not considered moderately or highly vulnerable to any associated pressures. Pre-consultation assessment of previous VMS data indicated Subtidal coarse sediment was not exposed to pressures associated with benthic trawling, however updated VMS ping data (2009-2016) shows this feature faces low exposure to pressures associated with benthic trawling. Previous VMS data indicated Subtidal mixed sediments was exposed to pressures associated with benthic trawling in the pre-consultation assessment, however the more accurate updated VMS ping data (2009-2016) changes our understanding of the exposure of Subtidal mixed sediments and Subtidal coarse sediment to pressures associated with benthic trawling. New feature condition advice is therefore required for Subtidal mixed sediments and Subtidal coarse sediment.

[39] Please note that although the extent of mud and sand in this site has not changed, a change in our understanding in the extent of mud and sand in Queenie Corner has meant that our understanding of the area of these features in the wider region has changed. As a result, the proportion of these features that this site can contribute could have also potentially changed and so JNCC looked into this to recalculate the areas of habitats within this site. This site can now contribute 1.7% of Subtidal sand and 1.8% of Subtidal mud to the MPA network in the Secretary of State waters part of the Irish sea region. This is a 0.1% increase in Subtidal sand but no change in Subtidal mud.

Note JNCC reiterates its previous advice for **Moderate energy circalittoral rock** which is that a **Maintain** GMA is still appropriate. Revised advice is not required for this feature.

4.8.2 Advice on the General Management Approach for MCZ features

A summary of JNCC's assessment of the proposed General Management Approach (GMA) is presented below in Table 13 (see Section 3.2.3 for the approach).

Table 13: Summary of JNCC's conservation advice for features in South Rigg proposed MCZ

Feature	General Management Approach advised (MCZ Conservation Objective Guidance[40])	Rationale for conservation advice
Subtidal coarse sediment	**Recover** (Maintain)*	Aggregated VMS data (2009-2016) indicate that demersal trawling occurs throughout the site. The VMS ping data (2009-2016) was also assessed to provide more detail on the fishing effort over this feature. These Ping data indicate effort has increased in 2016 compared to the period 2009-2015, and the feature is considered vulnerable to pressures associated with demersal trawling. A recover GMS is advised.
Subtidal mixed sediments	**Maintain** (Recover)*	Aggregated VMS data (2009-2016) indicate that demersal trawling occurs throughout the site. However, the more accurate Ping data indicates the demersal fishing effort over this feature is very low, such that the feature is not considered vulnerable to any associated pressures. A maintain GMA is advised.

*The blue text represents the previous assessment score

JNCC advises a **Recover** GMA for Subtidal coarse sediment because this feature is moderately or highly vulnerable to pressures associated with demersal trawling. Updated fisheries data (aggregated VMS data from 2009-2016) and analysis of VMS Ping data (2009-2016), which shows vessel position, indicated fishing effort has increased in 2016 to low levels of exposure, compared to the period 2009-2015 when the feature was not thought to be moderately or highly vulnerable to any pressures associated with fishing activities.

JNCC advises a **Maintain** GMA for Subtidal mixed sediments because updated fisheries data (aggregated VMS data from 2009-2016) and analysis of the associated VMS Ping data (2009-2016), indicates that fishing effort over this feature is very low such that the feature is not considered vulnerable to any associated pressures.

In line with MCZ Technical Protocol F, confidence in feature condition is low as it is derived from vulnerability assessments and none of the other criteria set out in Protocol F have been satisfied.

4.8.3 Feature Risk

Section 3.2.4 provides information on the data used and methodology followed for the assessment of feature risk set out in Table 14 below.

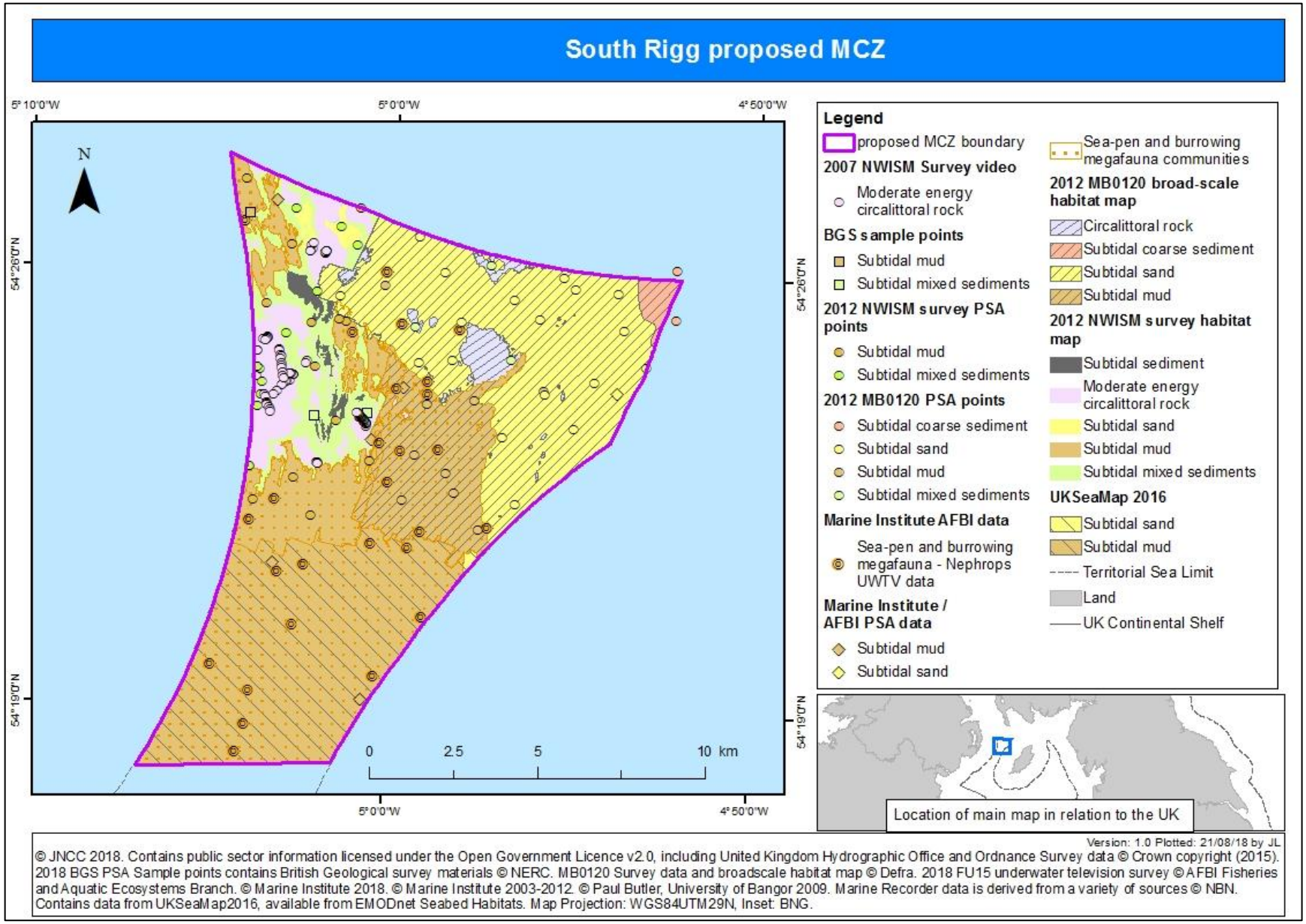
Table 14: South Rigg proposed MCZ feature risk assessment

Feature	Current risk	Future risk
Subtidal coarse sediment	**Moderate** (Moderate)** Feature is **moderately vulnerable** to one/more pressures associated with benthic trawling.	**Moderate** (Moderate)* Feature is **moderately sensitive** (with moderate/high confidence) to one/more pressures; or Feature is **highly sensitive** (with low confidence) to physical loss (to land or freshwater habitat), surface abrasion: damage to seabed surface features and physical removal (extraction of substratum).
Subtidal mixed sediments	**None** (High)* Feature is **not vulnerable** to any pressures.	**Moderate** (Moderate)* Feature is **moderately sensitive** (with moderate/high confidence) to one/more pressures; or Feature is **highly sensitive** (with low confidence) to physical change (to another seabed type), physical loss (to land or freshwater habitat), penetration and/or disturbance of the substrate below the surface of the seabed, shallow abrasion/penetration: damage to seabed surface and penetration, physical removal (extraction of substratum), introduction of microbial pathogens, introduction or spread of non-indigenous species and removal of non-target species.

*The blue text represents the previous assessment score
**Pre-consultation advice stated that this was previously moderate risk however this was inaccurate; the risk should have been 'none'

4.8.4 Site feature map

Figure 9: Distribution of broad-scale habitats and Features of Conservation Importance in South Rigg proposed MCZ



4.9 South Celtic Deep proposed MCZ

South of Celtic Deep proposed MCZ was recommended by the Finding Sanctuary regional MCZ project for the broad-scale habitats Subtidal coarse sediment, Subtidal Sand and Subtidal mixed sediments.

Further data acquired during an MB0120 survey in February 2012 found evidence of the broad-scale habitat Moderate energy circalittoral rock within the site. In 2013, a Gardline Geosurvey collected multibeam and backscatter data in the proposed MCZ, which was used in conjunction with the ground-truth data collected in 2012 to create a full coverage habitat map from survey.

In 2016 JNCC provided pre-consultation advice to Defra on this site and as a result Defra consulted upon the potential designation of this site for the broad-scale habitats **Moderate energy circalittoral rock, Subtidal coarse sediment**, **Subtidal sand** and **Subtidal mixed sediments** during the summer 2018**.**

4.9.1 Assessment of new data

JNCC assessed the requirement for revisions to its 2016/17 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 15, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 15 is highlighted in yellow.

Table 15: Outcomes of decision-tree process for features in South of Celtic Deep proposed MCZ.

Feature	New data available?	Decision tree outcome	Revised advice needed?
Moderate energy circalittoral rock	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data.	Yes. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2016 advice on the feature's presence and extent. A review of updated fisheries data (VMS Ping data and VMS aggregated data, 2014-2016) indicated fishing effort with demersal gears occurring over the feature and therefore new advice on the GMA is required.

Subtidal coarse sediments	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data.	No. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2016 advice on the feature's presence and extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Subtidal sand	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data.	No. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2016 advice on the feature's presence and extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Subtidal mixed sediments	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data.	No. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2016 advice on the feature's presence and extent. Updated VMS data (2014-2016) are consistent with the level of exposure presented in the 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.

Since JNCC's 2016 advice, new biophysical data have become available for all four features in the site from the updated 2016 version of UKSeaMap predictive broadscale habitat map. These data were however not used to inform our advice because a habitat map from survey already exists for the site that was used in our pre-consultation assessments. This habitat map was deemed a more suitable product for assessing feature presence and extent within this site. As our understanding of the presence and extent of the features within this site has not changed, revised advice is not required. JNCC's confidence therefore remains **High** in both presence and extent of Subtidal coarse sediment, Subtidal sand and Subtidal mixed sediments within the site. Confidence remains **High** in the presence of and **Moderate** in the extent of Moderate energy circalittoral rock. JNCC therefore concludes that the data still support the designation of all four features within the site.

JNCC received updated fisheries VMS data for fishing activity from 2014 to 2016. These data identify a continued moderate exposure of the seabed to the pressures associated with benthic trawling to Subtidal coarse sediment, Subtidal sand, and Subtidal mixed sediments features. Consequently, those features have been assessed as not requiring any revised advice related to

their condition due to their continued exposure to pressures to which the features are sensitive. On this basis, JNCC reiterates its previous advice that a **Recover** GMA is appropriate for the above features. A closer look at VMS Ping data (2014-2016) indicated that levels of fishing activity over the extent of Moderate energy circalittoral rock had changed and so revised advice is required.

4.9.2 Advice on the General Management Approach for MCZ features

A summary of JNCC's assessment of the proposed General Management Approach (GMA) is presented below in Table 16 (see Section 3.2.3 for the approach).

Table 16: Summary of JNCC's conservation advice for features in South of Celtic Deep proposed MCZ

Feature	General Management Approach advised (MCZ Conservation Objective Guidance[41])	Rationale for conservation advice
Moderate energy circalittoral rock	**Maintain** (Recover)*	VMS Ping data were assessed to provide more detail on the fishing effort over this feature. These Ping data indicate that there is no fishing effort over the feature and so JNCC propose a GMA of **Maintain**.

*The blue text represents the previous assessment score

A closer look at VMS Ping data showed that there is no fishing effort over the Moderate energy circalittoral rock feature, which is contrary to what was indicated by coarser gridded VMS data which informed JNCC's previous pre-consultation advice. Therefore, JNCC proposes a change in GMA from **Recover** to **Maintain** for this feature.

4.9.3 Feature Risk

Section 3.2.4 provides information on the data used and methodology followed for the assessment of feature risk set out in Table 17 below.

Table 17: South of Celtic Deep proposed MCZ Feature Risk Assessment

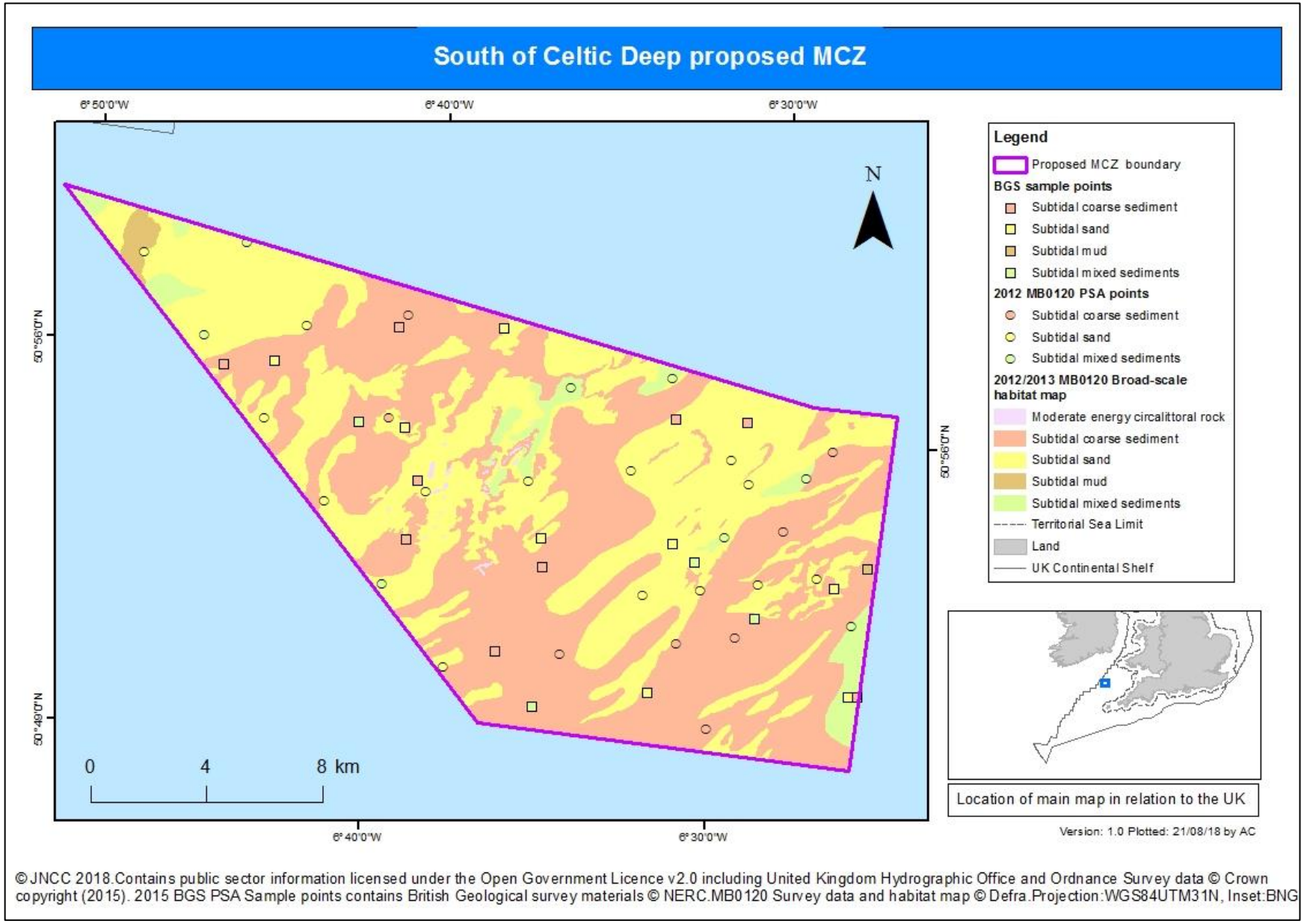
Feature	Current risk	Future risk
Moderate circalittoral rock	**Low** (High)* Feature has **Low vulnerability** to all associated pressures.	**High** Feature is **highly sensitive** (with moderate/high confidence) to the removal of non-target species.

*The blue text represents the previous assessment score

The downgrade in current risk for Moderate energy circalittoral rock was brought about by a better understanding of fishing effort. VMS Ping data show that benthic trawling is not occurring over the feature contrary to what was previously thought in our pre-consultation advice based on gridded VMS. JNCC's advice remains the same as presented in our pre-consultation advice in relation to feature risk for Subtidal coarse sediment, Subtidal sand and Subtidal mixed sediments in the site.

4.9.4 Site feature map

Figure 10: Distribution of broad-scale habitats in South of Celtic Deep proposed MCZ



4.10 South of the Isles of Scilly proposed MCZ

South of the Isles of Scilly proposed MCZ was recommended as an MCZ by the Finding Sanctuary regional MCZ project in 2011 for the broad-scale habitats Subtidal coarse sediment and Subtidal sand. In 2016 JNCC provided pre-consultation advice to Defra on this site and in 2018 Defra consulted upon the potential designation of this site for the broad-scale habitats **Subtidal sand**, **Subtidal coarse sediment/Subtidal mixed sediments mosaic habitat**, and the species feature of conservation importance **Fan mussel (*Atrina fragilis*)**.

4.10.1 Assessment of new data

JNCC assessed the requirement for revisions to its 2016/17 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 18, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 18 is highlighted in yellow.

Table 18: Outcomes of decision-tree process for features in South of the Isles of Scilly proposed MCZ

Feature	New data available?	Decision tree outcome	Revised advice needed?
Subtidal sand	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data	No. New biophysical data were available but these did not change the understanding of the presence and extent of this habitat and therefore no updated advice is required. New VMS data (2014-2016) are consistent with the level of exposure presented in previous VMS data coincident with the feature and as feature extent has not changed no revised advice is required on the previously advised GMA.
Subtidal coarse sediment/Subtidal mixed sediments mosaic habitat	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No new advice likely required however check whether any new feature extent data	No. New biophysical data were available but these did not change the understanding of the presence and extent of this habitat and therefore no updated advice is required. New VMS data (2014-2016) are consistent with the level of exposure presented in previous VMS data coincident with the feature and as feature extent has not changed no revised advice is required on the previously advised GMA

Fan mussel (*Atrina fragilis*)	Yes (activities)	**Branch 1 – Outcome A** No new advice required **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data	No. No new biophysical data were available. New VMS data (2014-2016) are consistent with the level of exposure presented in previous VMS data coincident with the feature and as our understanding of feature extent hadn't changed no revised advice is required on the previously advised GMA. .

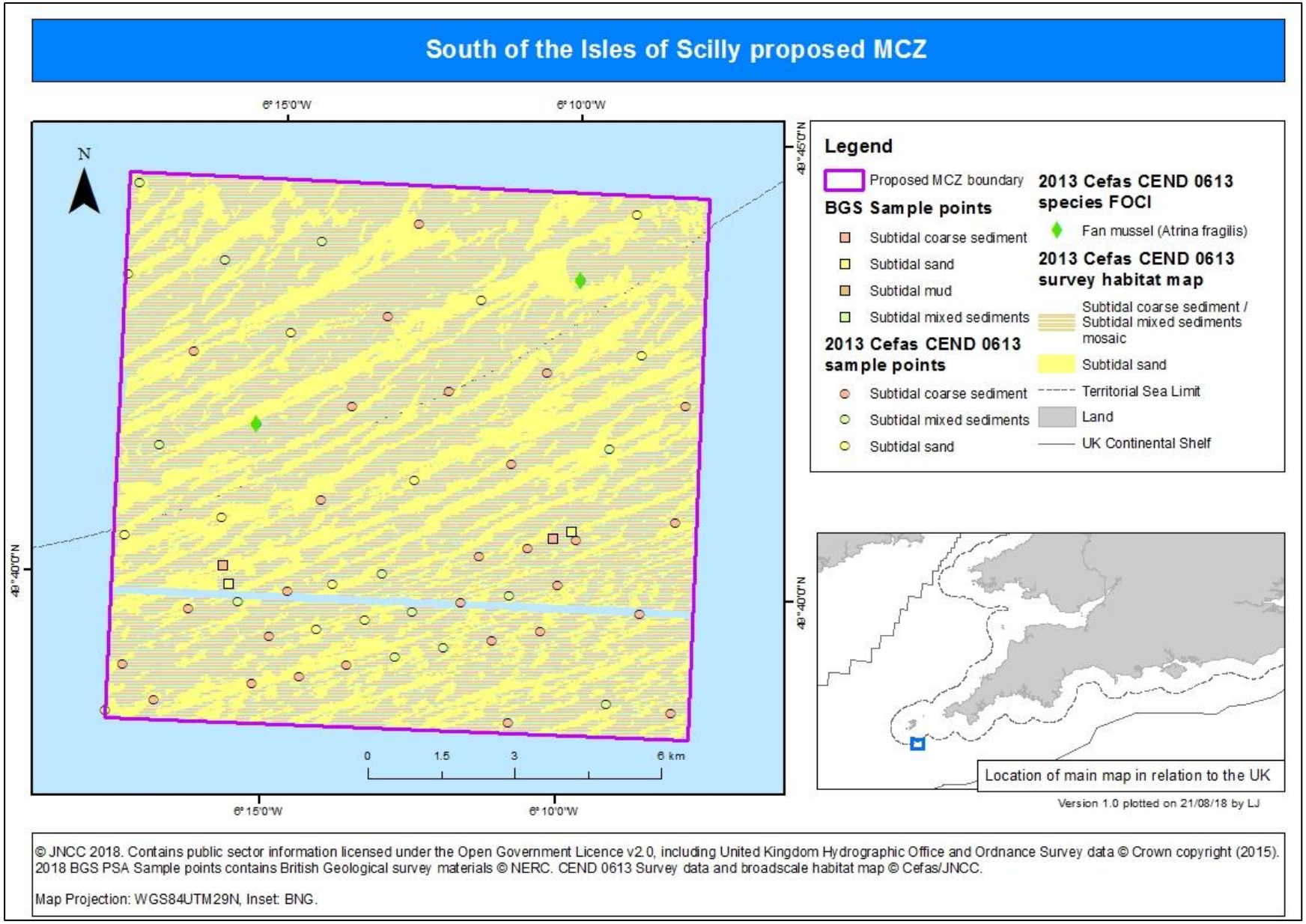
Since JNCC's 2016 advice, an updated 2016 version of UKSeaMap predictive broadscale habitat map provided new biophysical data for Subtidal sand and the Subtidal coarse sediment/Subtidal mixed sediments mosaic habitat, but these do not change our understanding of the presence and extent of these features within the site. Revised advice is therefore not required for these features and JNCC's confidence for Subtidal sand and Subtidal coarse sediment/Subtidal mixed sediments mosaic habitat remains **High** for presence and **High** for extent. No new data were available for the species FOCI Fan mussel (*Atrina fragilis*) and so JNCC's confidence in feature presence remains **Moderate** and feature extent remains **Low**. JNCC therefore concludes that the data still support the designation of all three features within the site.

JNCC received updated fisheries VMS data for fishing activity between 2014 and 2016. These data identify a continued high exposure of the seabed to the pressures associated with benthic trawling, as advised previously. Consequently, Subtidal sand, Subtidal coarse sediment/Subtidal mixed sediments mosaic habitat and the species FOCI Fan mussel (*Atrina fragilis*) have been assessed as not requiring any revised advice related to their condition due to their continued exposure to pressures to which the features are sensitive. On this basis, JNCC reiterated its previous advice that a **Recover** GMA is appropriate for all features.

JNCC's advice remains the same in relation to feature risk (current and future) as stated within our pre-consultation advice.

4.10.2 Site feature map

Figure 11: Distribution of broad-scale habitats and Features of Conservation Importance in South of the Isles of Scilly proposed MCZ



4.11 South West Approaches to Bristol Channel proposed MCZ

South West Approaches to Bristol Channel was recommended to Defra as a possible new site option to address remaining gaps in the MPA network. In 2017 JNCC provided pre-consultation advice on the site and in 2018 Defra consulted upon this site for possible designation for broad-scale habitats **Subtidal coarse sediment, Subtidal sand**.

4.11.1 Assessment of new data

JNCC assessed the requirement for revisions to its 2016/17 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 19, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 19 is highlighted in yellow.

Table 19: Outcomes of decision-tree process for features in South West Approaches to Bristol Channel proposed MCZ

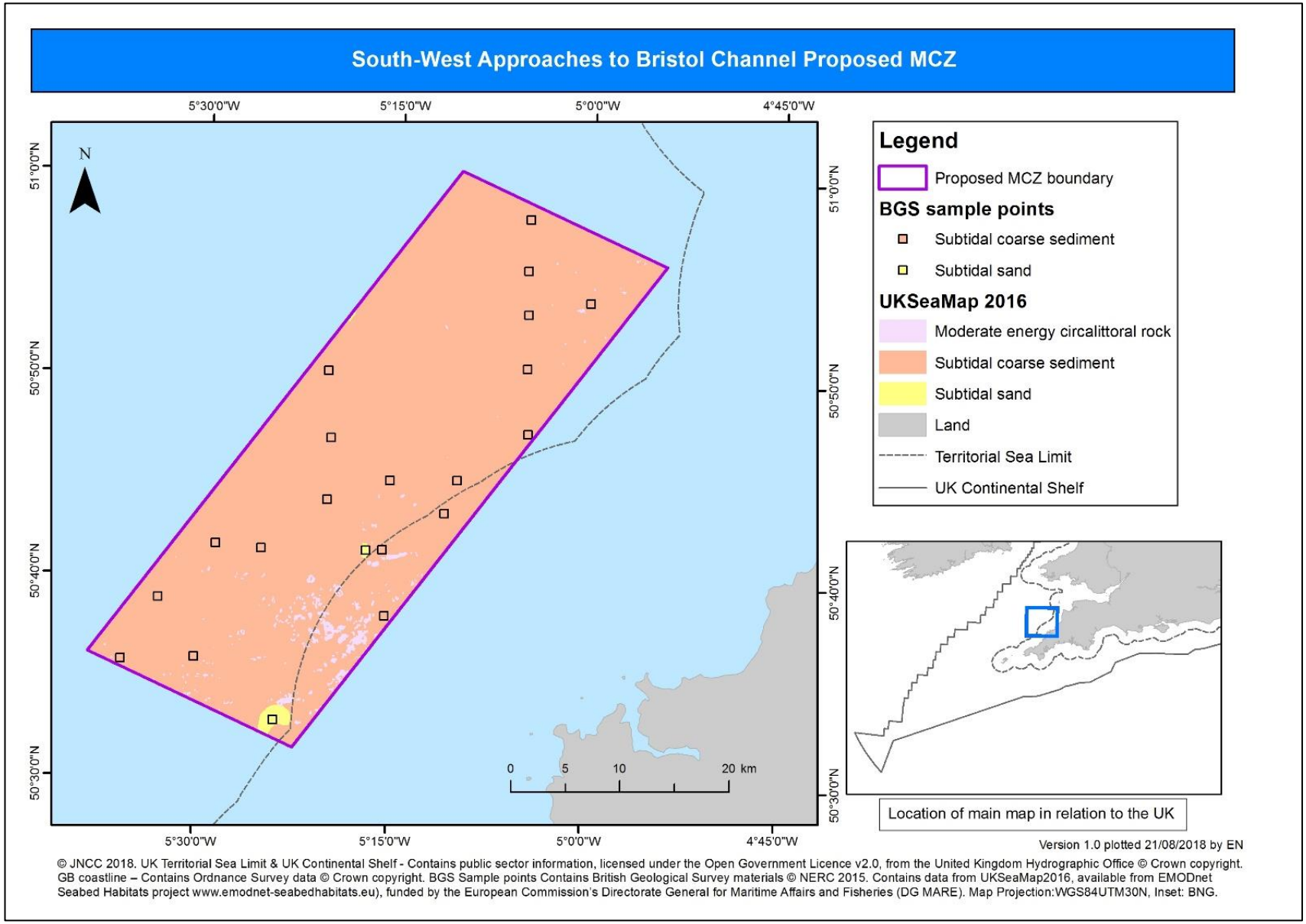
Feature	New data available?	Decision tree outcome	Revised advice needed?
Subtidal coarse sediment	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data.	No. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2017 advice on the feature's extent. New VMS data for 2016 are consistent with the level of exposure presented in 2009-15 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Subtidal sand	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data.	No. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2017 advice on the feature's extent. New VMS data for 2016 are consistent with the level of exposure presented in 2009-15 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.

Since JNCC's 2017 advice new biophysical data have become available from the updated 2016 version of UKSeaMap predictive broadscale habitat map. This map shows the same mapped extent of features and does not change understanding of the presence and extent of the features within this site; Subtidal coarse sediment and Subtidal sand. Therefore, revised advice is not required. JNCC reiterates **High** and **Moderate** confidence in presence and extent respectively for Subtidal coarse sediment and **Moderate** confidence in both presence and extent for Subtidal sand. JNCC therefore concludes that the data still support the designation of both features within the site.

JNCC received updated fisheries VMS data for fishing activity in 2016. These data indicate that both Subtidal coarse sediment and Subtidal sand continue to be highly vulnerable to some pressures associated with benthic trawling, as advised previously and revised advice is not required. JNCC therefore reiterates its previous advice that a **Recover** GMA is appropriate for both of these features. JNCC's advice remains the same in relation to feature risk (current and future) as stated within our pre-consultation advice.

4.11.2 Site feature map

Figure 12: Distribution of broad-scale habitats in South-West Approaches to Bristol Channel proposed MCZ



4.12 South-West Deeps (East) proposed MCZ

South-West Deeps (East) proposed MCZ was recommended by the Finding Sanctuary regional MCZ project for the broad-scale habitats Subtidal coarse sediment, Subtidal sand, Deep-sea bed and the Celtic Sea Relict Sandbanks geomorphological feature of conservation importance (FOCI).

In 2016, JNCC provided pre-consultation advice to Defra on this site however in following on from this, the French fishing industry proposed a boundary amendment. Defra requested that JNCC explore this proposal and delineate a revised boundary based on the French fishing industry proposal. In 2018 Defra consulted upon this alternative site boundary being designated for **Subtidal coarse sediment, Subtidal sand, Deep-sea bed** and the Celtic Sea Relict Sandbanks geomorphological (FOCI). As pre-consultation advice was not provided on this modified boundary the decision tree process was not used and this is the first full assessment for this site.

South-West Deeps (East) proposed MCZ has not been the focus of a targeted survey under the MB0120 project but has been subject to other data collection exercises. Broad scale habitat data for the site is available from the 2018 BGS seabed sediment PSA dataset (see Table 2), and this site is covered by UKSeamap 2016 predictive broad-scale habitat map. Furthermore, a habitat map from survey, created for the South West Deeps (west) designated MCZ, partially overlaps with the northern extent of the proposed MCZ, which sits adjacent to the designated site. This habitat map from survey covers <0.5% of the area of the South West Deeps (East) proposed MCZ but no ground-truth records from the survey are located within this area. The Deep-sea bed feature is defined by the 200m depth contour which is well defined by the Astrium bathymetry. The information supporting the **Celtic Sea Relict Sandbanks** geomorphological (FOCI) was delivered from the Defra R&D Data Collection Programme for recommended Marine Conservation Zones MB010242.

4.12.1 Assessment of Feature Presence and Extent

A summary of the assessments in feature presence and feature extent is presented below in Table 20 (see Section 3.2.1 for the approach).

[42] Defra R&D Data Collection Programme for recommended Marine Conservation Zones MB0102. Available at: http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=16368&FromSearch=Y&Publisher=1&SearchText=MB0102&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description

Table 20: South-West Deeps (East) Proposed MCZ Evidence Assessment Summary.

Feature	Evidence Assessment Results			
	Confidence in presence	**Rationale for confidence in Feature presence**	**Confidence in extent**	**Rationale for confidence in Feature extent**
Subtidal coarse sediment	**High**	There are 36 ground-truthing records from BGS PSA data that confirm the presence of the feature within the site	**High**	Ground-truth data are well distributed throughout the site. There is a high degree of agreement between the broadscale predictive habitat map and the ground-truthing data leading to high confidence in the predicted extent of the feature.
Subtidal sand	**High**	There are 125 ground-truthing records from BGS PSA data that confirm the presence of the feature within the site.	**High**	Ground-truth data are well distributed throughout the site. There is a high degree of agreement between the broadscale predictive habitat map and the ground truthing data leading to high confidence in the predicted extent of the feature.
Deep sea bed	**High**	Confidence in the location of the 200m depth contour is High, therefore confidence on the presence of the Deep-sea bed is High.	**High**	Confidence in the location of the 200m depth contour is High, therefore confidence on the extent of the Deep-sea bed is High. Whilst the Astrium DEM data in the vicinity of the feature is not survey derived, inaccuracies in the data should be mitigated by the steep change in gradient around 200m depth and confidence in extent of the feature should not be affected.
Celtic sea relict sandbanks	**High**	Confidence in feature presence is a direct parallel to confidence in the morphology of the geomorphological-feature. Confidence in the maps of the Celtic Sea Relict Sandbanks feature in the site is High.	**High**	Confidence in feature presence is a direct parallel to confidence in the morphology of the geomorphological-feature. Confidence in the maps of the Celtic Sea Relict Sandbanks feature in the site is High.

Despite there not being a habitat map from a dedicated survey for the site, available ground-truth data are well distributed across the extent of the features mapped within UKSeaMap 2016. JNCC

have **High** confidence in the extent of the Subtidal coarse sediment, Subtidal sand, Deep-sea bed and Celtic Sea Relict Sandbanks within this site.

4.12.2 Advice on the General Management Approach for MCZ features

A summary of JNCC's assessments of confidence in feature condition and the General Management Approach (GMA) proposed are presented below in Table 21 (see Section 3.2.3 for the approach).

Table 21: Summary of JNCC's conservation advice for features in South-West Deeps (East) proposed MCZ.

Feature	**Confidence in Feature condition** (MCZ Technical Protocol F)	**General Management Approach advised** (MCZ Conservation Objective Guidance)	**Rationale for conservation advice**
Subtidal coarse sediment	Low	**Recover**	Aggregated VMS data (2009-2016) indicate benthic trawling occurs across the site exposing this feature to low-moderate levels of associated pressures. The feature is considered highly sensitive to these pressures; due to the level of activity a Recover GMA is advised
Subtidal sand	Low	**Recover**	Aggregated VMS data (2009-2016) indicate benthic trawling occurs across the site exposing this feature to low-moderate levels of associated pressures. The feature is considered highly sensitive to these pressures; due to the level of activity a Recover GMA is advised
Deep sea bed	Low	**Recover**	VMS 2009-2016 data shows demersal trawling and fishing with hook lines occur over deep-sea feature with moderate to high levels. The feature is considered highly sensitive to these pressures; due to the level of activity a Recover GMA is advised
Celtic sea relict sandbanks	N/A	**Maintain**	We advise a maintain GMA as this feature is not considered sensitive to pressures associated with human activities occurring.

VMS 2009-2016 aggregated data indicate demersal trawling occurring throughout the site with low to moderate levels effort over Subtidal coarse sediment and Subtidal Sand. The level of effort undertaken by other types of fishing activity occurring over these features is minimal. The data show demersal trawling and fishing with hook lines occurring over the Deep-sea feature with medium to high effort levels.

Activity information indicates there are 18 wrecks located across the site, and inactive sub-surface and surface infrastructure associated with oil and gas exploration are also present, including wells. In combination, this infrastructure exposes Subtidal coarse sediment and Subtidal sand to associated pressures such as physical change in seabed type. JNCC advises a **Recover** GMA for Subtidal coarse sediment, Subtidal sand and Deep-sea bed within the site because they are considered moderately and/or highly vulnerable to one or more pressures associated with benthic trawling.

JNCC advises a default **Maintain** GMA for all geological and geomorphological features because they are typically large-scale, the processes that created them are no longer operating, and they are subject to natural decline in conservation value owing to erosion and burial, outside of any anthropogenic activity. Therefore, we advise a maintain GMA for the Celtic sea relict sandbanks feature.

Technical Protocol F[25] states that confidence defaults to low for any feature condition established indirectly through the vulnerability assessment approach unless further criteria are satisfied. JNCC therefore has **Low** confidence in the condition of the features in this site.

4.12.3 Feature Risk

Section 3.2.4 provides information on the data used and methodology followed for the assessment of feature risk set out in Table 22 below.

Table 22: South-West Deeps (East) proposed MCZ feature risk assessment.

Site (code)	Feature	Current risk	Future risk
South-West Deeps East proposed MCZ (FS03)	**Subtidal coarse sediment**	**High** Feature is **highly sensitive** (with moderate/high confidence) to one/more pressures.	**Moderate** Feature is **moderately sensitive** (with moderate/high confidence) to one/more pressures; or Feature is **highly sensitive** (with low confidence) to one/more pressures.
	Subtidal sand	**High** Feature is **highly sensitive** (with moderate/high confidence) to one/more pressures.	**High** Feature is **highly sensitive** (with moderate/high confidence) to one/more pressures.
	Deep sea bed	**Moderate** Feature is **moderately sensitive** (with moderate/high confidence) to one/more pressures; or	**Moderate** Feature is **moderately sensitive** (with moderate/high confidence) to one/more pressures; or Feature is **highly sensitive** (with low confidence) to one/more pressures.

	Celtic Sea Relict Sandbanks	**Not assessed** – Geological/Geomorphological Feature

4.12.4 Advice on the scientific basis to support feature/site designation

JNCC considered the 'data sufficiency' or scientific justification for designation of a feature as described in Section 3.2.5.

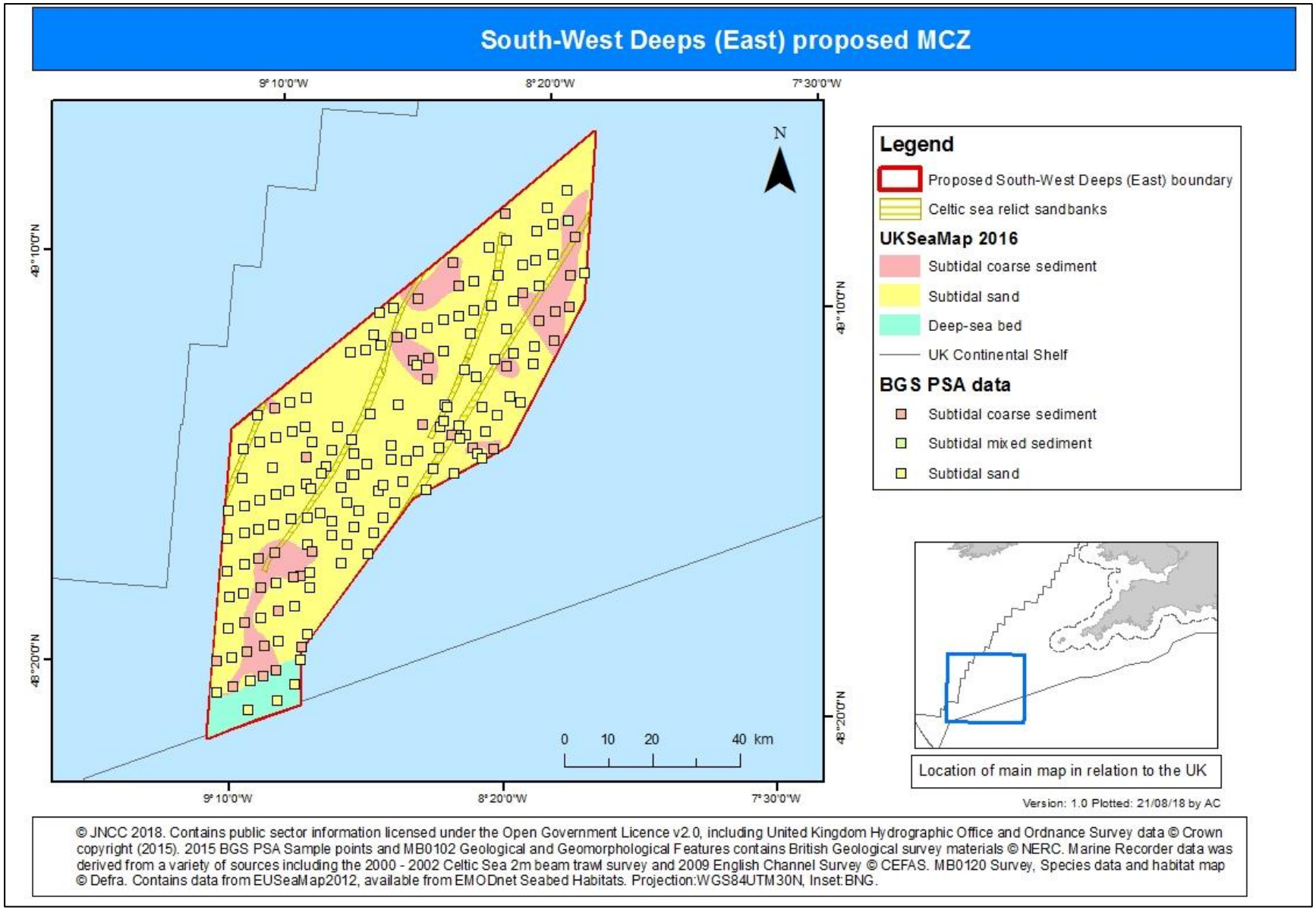
Table 23: South-West Deeps (East) proposed MCZ feature data sufficiency assessment.

Feature	Q1a. Confidence score of at least moderate for feature presence?	Q1b. Is 1a based only on parent habitat being present?	Q1c. Confidence score of at least moderate for extent / distribution?	Outcome from Question 1 assessment
Subtidal coarse sediment	Yes	No	Yes	**Data support designation of feature**
Subtidal sand	Yes	No	Yes	**Data support designation of feature**
Deep-sea bed	Yes	No	Yes	**Data support designation of feature**
Celtic sea relict sandbanks	Yes (High confidence)	No	Yes (High confidence)	**Data support designation of feature**

This site would contribute three features to the MPA network in the Western Channel region where there are currently existing shortfalls; Subtidal coarse sediment, Subtidal sand and Deep-sea bed. This site would provide 1.8% of Subtidal coarse sediment, 11.9% of Subtidal sand and 3.1% of Deep-sea bed.

4.12.5 Site feature map

Figure 13: Distribution of broad-scale habitats and Features of Conservation Importance and geological feature in South-West Deeps (East) proposed MCZ.



4.13 The Canyons MCZ

The Canyons MCZ is located in the Western Channel and Celtic Sea region and was designated in 2013 for the broad-scale habitat **Deep-sea bed** and the habitat feature of conservation importance (FOCI) **Cold-water coral reefs**. Since designation, new survey data suggests the presence of two additional habitat FOCI; **Coral gardens** and **Sea-pen and burrowing megafauna communities**. In 2016 JNCC provided pre-consultation advice to Defra on these features and as a result Defra consulted upon the potential designation of these two features in 2018.

4.13.1 Assessment of new data

JNCC assessed the requirement for revisions to its 2016/17 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 24, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 24 is highlighted in yellow.

Table 24: Outcomes of decision-tree process for features in The Canyons MCZ

Feature	New data available?	Decision tree outcome	Revised advice needed?
Sea-pen and burrowing megafauna communities	Yes (activities & changes in interpretation of biophysical)	**Branch 1 – Outcome B** Advice likely required for feature **Branch 2 – Outcome F** Consider whether new feature condition advice required	Yes. Expert judgement has been used to decrease confidence in the feature presence to keep consistent with an approach adopted for the Coral gardens feature within JNCC's pre-consultation advice. This related to QA issues with the dataset analysis. New VMS data (2014-2016) are consistent with the level of exposure presented in 2009-13 VMS data for bottom-contacting gears coincident with the feature. Therefore, no revised advice is required on the previously advised GMA.
Coral gardens	Yes (activities)	**Branch 1 – Outcome A** No new advice required **Branch 2 – Outcome D** No new advice likely required however check whether any new feature extent data	No. Although a reinterpretation of the dataset since JNCC's pre-consultation advice has slightly modified the understanding of the feature extent within the site, there are no new data available to change JNCC's understanding of the presence and extent of this feature within the site. New VMS data (2014-2016) were available for the site but previous advice on GMA was based on direct evidence of damage to the feature. Therefore, no revised advice is required on the previously advised GMA.

Since JNCC's 2016 advice on this site there have been no new data that have become available to provide further biophysical evidence to support the features Coral gardens and Sea-pen and burrowing megafauna communities. There has however been a review of existing information and reinterpretation of the existing data.

The issues identified in JNCC's pre-consultation advice, regarding a lack of sufficient quality assurance of the survey data used to support the presence of Coral Gardens, remains. Prior to the provision of JNCC's pre-consultation advice an initial QA was undertaken which found inconsistencies with the original analysis. Although the presence of this feature had been verified, it was concluded that a further QA of the data was required. As a result, expert judgement was used in our pre-consultation advice to downgrade the confidence score in the presence of Coral gardens from High to Moderate. Unfortunately, the further QA of this dataset had not been completed in time to inform our post-consultation advice on this feature and will not be completed until early 2019.

Both the original analysis and the initial QA found multiple records of both features within the site, but taking a precautionary approach only the cases that agreed with each other have been used to inform this advice. Consequently, there has been a reduction in the number of records supporting our advice on the presence and extent of the features.

The number of records of Coral gardens has reduced from thirteen to eight and although these revised numbers of records would still support a High confidence score in presence following Protocol E, expert judgement has been applied as discussed above to maintain the score as Moderate (as per our pre-consultation advice) due to the pending QA of the datasets.

The initial QA of the same dataset from survey also found discrepancies with the records identified as Sea-pen and burrowing megafauna communities from the original analysis. Following the approach outlined above where only the cases that agreed with each other have been used to inform this advice, the number of records of Sea-pen and burrowing megafauna communities has reduced from seven to five. Although these revised numbers of records would still support a High confidence score in presence following Protocol E, expert judgement has again been used to keep the approach consistent with that adopted for the Coral gardens feature. As such, the same level of caution that was applied to the Coral gardens feature in our pre-consultation advice has been applied to the Sea-pen and burrowing megafauna communities feature, with the confidence in presence of Sea-pen and burrowing megafauna communities being downgraded from High to **Moderate**.

All the records for the features are in a very small area of the site and therefore the small change in the number of records makes very little difference to what we know about the distribution of these features within the site and so confidence in extent remains **Low**. JNCC concludes that conservation benefits still support the designation of Coral gardens within the site. An updated sufficiency assessment on the scientific basis to support feature/site designation has been undertaken for the Sea-pen and burrowing megafauna communities feature due to the change in presence score from High to Moderate (Table 26).

JNCC received updated fisheries VMS data for fishing activity between 2014 and 2016. These data identify a continued low exposure of the seabed to the pressures associated with benthic trawling, as advised previously. However, previous survey data have found direct evidence of damage to the Coral gardens feature which informed the pre-consultation advice of a Recover GMA. Consequently, both features have been assessed as not requiring any revised advice related to their condition due to no change in the levels of vulnerability. On this basis, JNCC reiterates its previous advice that a **Recover** GMA is appropriate for Coral gardens and **Maintain** GMA for Sea-pen and burrowing megafauna communities.

JNCC's advice remains the same in relation to feature risk (current and future) as stated within our pre-consultation advice.

4.13.2 Assessment of Feature Presence and Extent

A summary of the updated assessments in feature presence and feature extent is presented below in Table 25 (see Section 3.2.1 for the approach).

Table 25: The Canyons MCZ Evidence Assessment Summary

Feature	Evidence Assessment Results			
	Confidence in presence	Rationale for confidence in feature presence	Confidence in extent	Rationale for confidence in feature extent
Coral gardens	**Moderate**	Expert judgement was used to decrease confidence in the feature presence due to issues with the dataset at the 8th JNCC EQA Group meeting in August 2016. This is due to discrepancies between the analysis and QA of the dataset used to underpin the advice for the features being considered for designation. When considering positive records for the feature which occurred in both the	**Low**	Confidence in feature extent remains low due to the feature data points occurring within a small area of the site.

		original analysis and the QA, the number of records reduces from 11 to 8 video tows. Although this number would still support High confidence in feature presence, expert judgement was applied to decrease this to Moderate.		
Sea-pen and burrowing megafauna communities	**Moderate** (*High*)*	Expert judgement has been used to decrease confidence in the feature presence due to issues with the dataset to align with the approach agreed for coral gardens at the 8th JNCC EQA Group meeting in August 2016. This is due to discrepancies between the analysis and QA of the dataset used to underpin the advice for the features being considered for designation. When considering positive records for the feature which occurred in both the original analysis and the QA, the number of records reduces from 7 to 5 video tows. Although this number would still support High confidence in feature presence,	**Low** (*Low*)*	Confidence in feature extent remains low due to the feature data points occurring within a small area of the site.

*The blue text represents the previous assessment score

4.13.3 Advice on the scientific basis to support feature/site designation

A summary of the updated assessments in whether each feature have appropriate data to support their designation is presented below in Table 26 (see Section 3.2.5 for the approach).

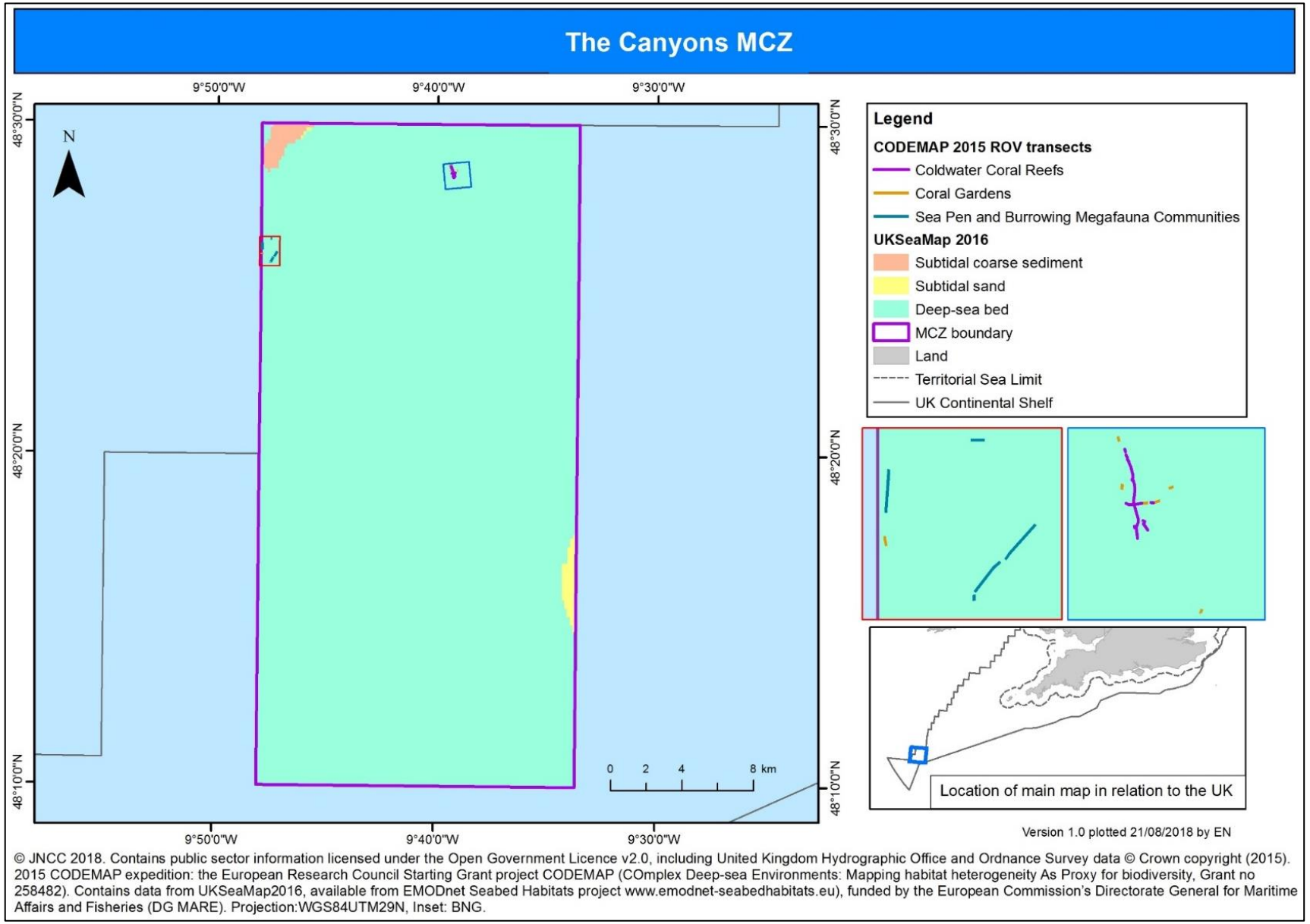
Table 26: The Canyons MCZ feature data sufficiency assessment and additional conservation / ecological considerations

Feature	Q1a. Confidence score of at least moderate for feature presence?	Q1b. Is 1a based only on parent habitat being present?	Q1c. Confidence score of at least moderate for extent / distribution ?	Outcome from Question 1 assessment	Q2a: Does the feature fill a 'gap' in the network AND have confidence score of at least moderate for feature presence?	Q2b: Is the feature at high risk of damage ?	Outcome from Question 2 assessment
Sea-pen and burrowing megafauna communities	**Yes** (Moderate confidence)	**No**	**No** (Low confidence)	**Move to Question 2 of the feature assessment**	**Yes –** this species is not adequately replicated within the region	**Yes** (Future risk)	**Conservation benefits support priority feature designation** (Conservation benefits support priority feature designation)*

*The blue text represents the previous assessment score

4.13.4 Site feature map

Figure 14: Distribution of broad-scale habitats and features of conservation importance in The Canyons MCZ



4.14 West of Copeland proposed MCZ

West of Copeland proposed MCZ was recommended to Defra as a possible new site option to address remaining gaps in the MPA network. In 2017 JNCC provided pre-consultation advice on the site and in 2018 Defra consulted upon this site for possible designation for broad-scale habitats **Subtidal coarse sediment, Subtidal sand** and **Subtidal mixed sediments.**

4.14.1 Assessment of new data

JNCC assessed the requirement for revisions to its 2016/17 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 27, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 27 is highlighted in yellow.

Table 27: Outcomes of decision-tree process for features in West of Copeland proposed MCZ

Feature	New data available?	Decision tree outcome	Revised advice needed?
Subtidal coarse sediment	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data.	Yes. The new biophysical data available for this feature and improved understanding of the existing data improves confidence in our understanding of the feature extent from medium to high. Updated VMS data (2016) show a reduced pressure for bottom-contacting gears coincident with the feature, however the pressure experienced by the feature is still high enough to trigger a recover objective. Therefore, no revised advice is required on the previously advised GMA.
Subtidal sand	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice. **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data.	Yes. The new biophysical data available for this feature and improved understanding of the existing data improves confidence in our understanding of feature extent from medium to high. Updated VMS data (2016) show a reduced pressure for bottom-contacting gears coincident with the feature. Reanalysis of the VMS data used in the pre-consultation advice shows that the fishing activity should not have triggered a recover objective. Therefore, a change from recover to maintain GMA is advised.

Subtidal mixed sediments	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No new advice likely required however check whether there are any new feature extent data.	No. The new biophysical data available for this feature does not change our understanding of the features presence or extent. Updated VMS data (2016) show a reduced pressure for bottom-contacting gears coincident with the feature, however the pressure experienced by the feature is still high enough to trigger a recover objective. Therefore, no revised advice is required on the previously advised GMA.

Since JNCC's 2017 advice on this site, new data has become available in the form of Walney Extension wind farm survey data, providing further biophysical evidence to support the mapped extent of Subtidal sand (seven PSA data points) and Subtidal coarse sediment (three PSA data points). Updated biophysical data is also provided by the updated 2016 version of UKSeaMap predictive broad-scale habitat maps, however this map was not used in our assessments because a higher resolution modelled habitat map already exists for the site. Where previously expert judgement had been used to downgrade confidence in the extent of Subtidal coarse sediment and Subtidal sand, an improved understanding of the modelled habitat map provides updated evidence of the extent of the features within the site. Following the JNCC MCZ decision-tree process (see Annex I), new advice is required (see Section 14.4.2 below).

New data were also available to support the presence and extent of Subtidal mixed sediments from the updated 2016 version of UKSeaMap predictive broad-scale habitat map, but this map did not change our understanding of feature presence of extent within the site and therefore no new advice is required. JNCC concludes that the data still support the designation of Subtidal mixed sediments within this site.

JNCC received updated VMS data for fishing activity in 2016. These data identify a reduction in exposure of the seabed to the pressures associated with benthic trawling. Consequently, Subtidal sand has been assessed as requiring revised advice related to its condition due to lower exposure to pressures than was previously assessed. The level of fishing activity still results in a moderate vulnerability for Subtidal coarse sediment and Subtidal mixed sediments, while the highest vulnerability for Subtidal sand is low. On this basis JNCC continues to advise a **Recover** GMA for Subtidal coarse sediment and Subtidal mixed sediments. However, for Subtidal sand, revised advice is required. JNCC's advises a change in GMA from recover to **Maintain** (see Section 4.14.3 below).

4.14.2 Assessment of Feature Presence and Extent

A summary of the updated assessments in feature presence and feature extent is presented below in Table 28 (see Section 3.2.1 for the approach).

Table 28: West of Copeland proposed MCZ Evidence Assessment Summary

Feature	Evidence Assessment Results			
	Confidence in presence	Rationale for confidence in feature presence	Confidence in extent	Rationale for confidence in feature extent
Subtidal coarse sediment	**High** (High)*	No change since previous advice	**High** (Moderate)*	Improved understanding of existing habitat map and availability of new data from Walney Extension wind farm survey has improved our understanding of the extent of the feature throughout the site. Three new data points, with a total of 18 over a greater spread of the mapped feature. In light of this, JNCC advise high confidence in the feature.
Subtidal sand	**High** (High)*	No change since previous advice	**High** (Moderate)*	Improved understanding of existing habitat map and availability of new data from Walney Extension wind farm survey has improved our understanding of the extent of the feature throughout the site. Seven new data points, with a total of 51 covering a greater spread of the mapped feature. In light of this, JNCC advise high confidence in the feature

*The blue text represents the previous assessment score

During the 2017 EQA meeting on JNCC's pre-consultation advice it was decided through expert judgement that the confidence in Subtidal coarse sediment and Subtidal sand be downgraded to moderate due to a lack of understanding of the origin of the modelled habitat map. After further investigation, we now understand that PSA data points from the East of Isle of Man Sandbank survey undertaken in 2004-2006 by AFBI and JNCC and the PSA data points from Walney Extension wind farm survey (see Table 2) were used to inform the habitat map modelled by Envision, giving us a greater confidence in the mapped extent of the features. The availability of new data from Walney Extension wind farm survey has also improved the confidence in our understanding of the extent of Subtidal coarse sediment and Subtidal sand within West of Copeland proposed MCZ. The Walney Extension wind farm survey provides further PSA data points in the south of the site, where previously there was only evidence from the Envision modelled habitat map, giving us greater confidence in the mapped extent of the features in the site. As such, JNCC advise that confidence in extent for both Subtidal coarse sediment and Subtidal sand is increased from Moderate to **High**.

4.14.3 Advice on the General Management Approach for proposed MCZ features

A summary of JNCC's assessment of the proposed General Management Approach (GMA) is presented below in Table 29 (see Section 3.2.3 for the approach).

Table 29: Summary of JNCC's conservation advice for features in West of Copeland proposed MCZ

Feature	**General Management Approach advised** (MCZ Conservation Objective Guidance)	**Rationale for conservation advice**
Subtidal sand	**Maintain** (Recover*)	Updated fisheries information and an improved understanding of the level of fishing activity within the site has resulted in a change in advice for the for Subtidal sand. A re-analysis of the 2009-2015 VMS data used during the pre-consultation analysis shows that the pressure from fishing activity was not high enough to trigger a recover GMA for subtidal sand. The updated 2016 VMS data show that the feature continues to have low exposure and not moderate or high vulnerability to any fishing pressures. This results in a low vulnerability triggering a maintain objective.

*The blue text represents the previous assessment score

4.14.4 Feature Risk

Section 3.2.4 provides information on the data used and methodology followed for the assessment of feature risk set out in Table 30 below.

Table 30: West of Copeland proposed MCZ feature risk assessment

Feature	**Current risk**	**Future risk**
Subtidal Sand	**Low** (High)* Feature has **Low vulnerability** to all associated pressures.	**High** Feature is **highly sensitive** (with moderate/high confidence) to physical removal (extraction of substratum).

*The blue text represents the previous assessment score

There are no changes to JNCC's advice on the current or future risk of damage to Subtidal coarse sediment or Subtidal mixed sediments and our previous advice on these features remains the same.

4.14.5 Advice on the scientific basis to support feature/site designation

A summary of the updated assessments in whether each feature have appropriate data to support their designation is presented below in Table 31 (see Section 3.2.5 for the approach).

Table 31: West of Copeland proposed MCZ feature data sufficiency assessment and additional conservation / ecological considerations

Feature	Q1a. Confidence score of at least moderate for feature presence?	Q1b. Is 1a based only on parent habitat being present?	Q1c. Confidence score of at least moderate for extent / distribution?	Outcome from Question 1 assessment
Subtidal coarse sediment	**Yes** (High confidence)	No	**Yes** (High confidence)	**Data support designation of feature** (Data support designation of feature)*.
Subtidal sand	**Yes** (High confidence)	No	**Yes** (High confidence)	**Data support designation of feature** (Data support designation of feature)*.

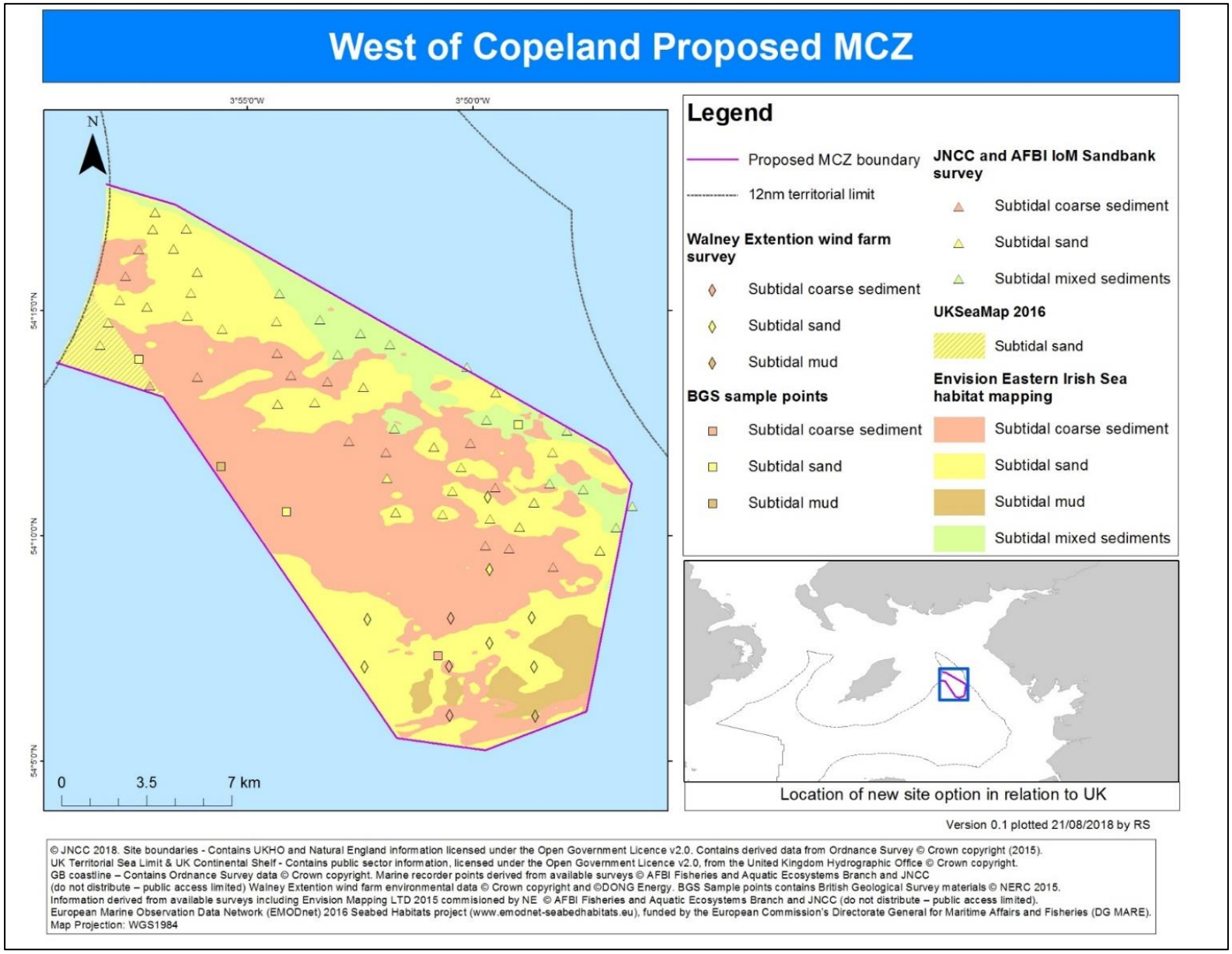
*The blue text represents the previous assessment score

Although we have increased confidence in the extent of Subtidal coarse sediment and Subtidal sand in the site, JNCC's advice on whether there are data to support its designation has not changed since our pre-consultation advice and our advice remains that the data still support the designation of both of these features within this site. JNCC's advice on whether Subtidal mixed sediments have appropriate data to support its designation has not changed since our pre-consultation advice and our advice remains that the data still support the designation of the features within this site.

While the extent of sand in this site has not significantly changed, a change in our understanding in the extent of sand in Queenie Corner has meant that our understanding of the area of this feature in the wider region has changed. As a result the proportion of this feature that this site can contribute could have also potentially changed and so JNCC looked into this to recalculate the areas of the habitat within this site. This site can now contribute 2.4% of Subtidal sand to the MPA network in the Secretary of State waters part of the Irish sea region which is the same as previously presented in JNCC's pre-consultation advice.

4.14.6 Site feature map

Figure 15: Distribution of broad-scale habitats in West of Copeland proposed MCZ



4.15 West of Wight Barfleur proposed MCZ

West of Wight Barfleur proposed MCZ was recommended to Defra as a possible new site option to address remaining gaps in the MPA network. In 2017 JNCC provided pre-consultation advice on the broad-scale habitats **Subtidal coarse sediment**, and **Subtidal mixed sediments** found within the proposed MCZ and in 2018 Defra consulted upon this site and features for possible designation in Tranche Three.

4.15.1 Assessment of new data

JNCC assessed the requirement for revisions to its 2016/17 advice in light of any new data available for the MCZ. The assessment followed the JNCC MCZ decision-tree process (see Annex I). The outcomes of the assessment are provided in Table 32, whereby the letters provided under the first and second branches relate to the outcome of applying the decision tree process. Where the application of the decision tree identified that new advice is required for the feature the 'Revised advice needed' cell in Table 32 is highlighted in yellow.

Table 32: Outcomes of decision-tree process for features in West of Wight Barfleur proposed MCZ

Feature	New data available?	Decision tree outcome	Revised advice needed?
Subtidal coarse sediment	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No revised advice likely required however check whether there are any new feature extent data	No. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2017 advice on the feature's extent. New VMS data for 2016 broadly agrees with the number of hours presented in 2009-15 VMS data for bottom-contact gears coincident with the feature. Therefore, no revised GMA is required.
Subtidal mixed sediments	Yes (activities & biophysical)	**Branch 1 – Outcome C** Consider whether any changes may trigger change to GMA. If so, provide revised feature condition advice **Branch 2 – Outcome D** No revised advice likely required however check whether there are any new feature extent data	No. New biophysical data were available but these did not change the known extent of this habitat and therefore no change is needed to JNCC's 2017 advice on the feature's extent. New VMS data for 2016 broadly agrees with the number of hours presented in 2009-15 VMS data for bottom-contact gears coincident with the feature. Therefore, no revised GMA is required.

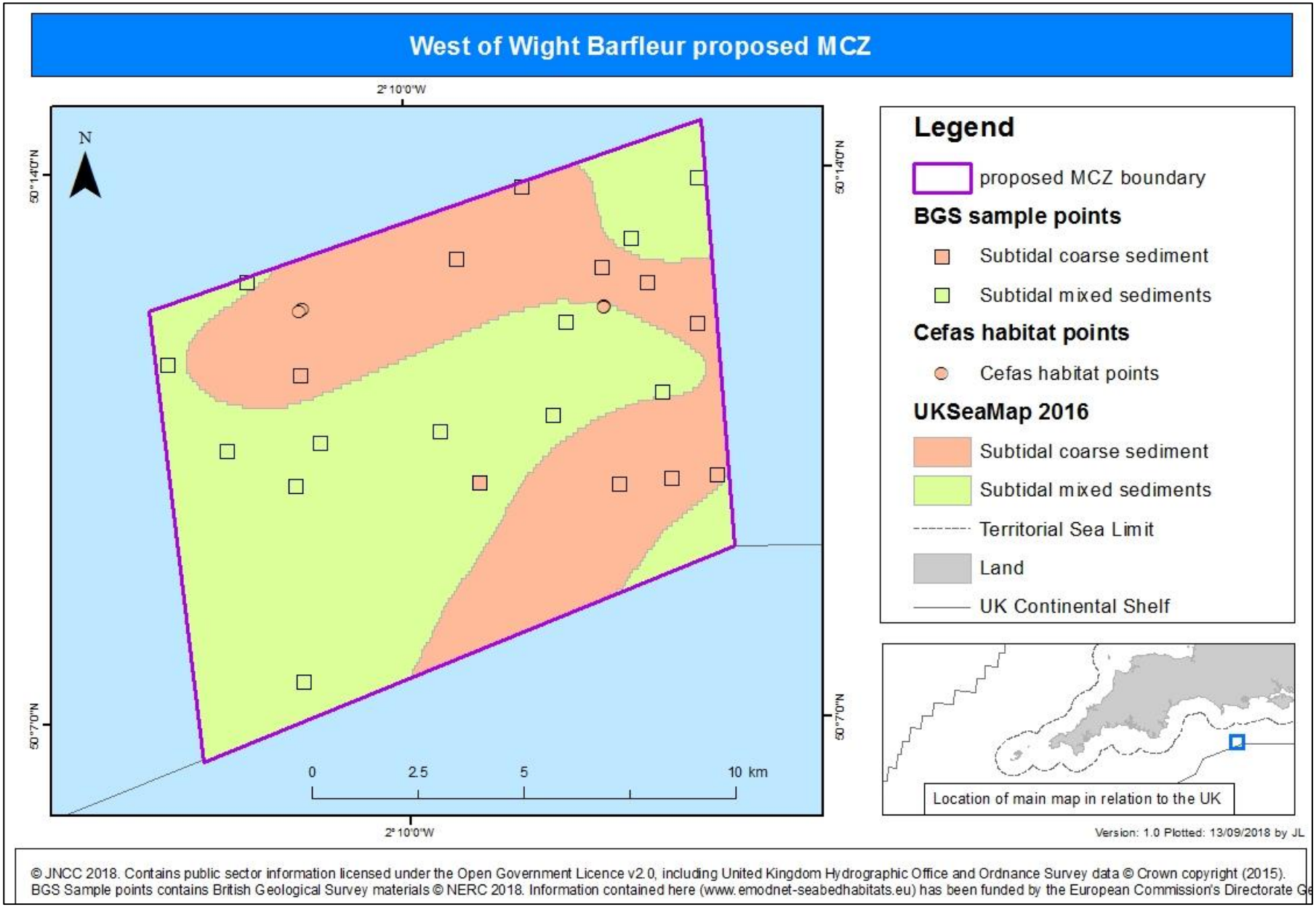
Since JNCC's 2017 advice, new biophysical data have become available for Subtidal coarse sediment and Subtidal mixed sediments these data do not change our understanding of the

presence and extent of these features within the site. These data consisted of an updated version of UKSeaMap predictive broadscale habitat map. Revised advice is therefore not required and JNCC's confidence in presence and extent for Subtidal coarse sediment remains **High** for presence, and **High** for extent. JNCC's confidence in presence and extent for Subtidal mixed sediments remains **High** for presence, and **Moderate** for extent. JNCC therefore concludes that the data still support the designation of both features within the site.

JNCC received updated fisheries VMS data for fishing activity in 2016. These data identify a continued moderate exposure of Subtidal coarse sediment and Subtidal mixed sediments to the pressures associated with benthic trawling, as advised previously. Consequently, Subtidal coarse sediment, and Subtidal mixed sediments have been assessed as not requiring any revised advice related to their condition, due to their continued exposure to pressures to which the features are sensitive. On this basis, JNCC reiterates its previous advice that a **Recover** GMA is appropriate for both of these features. JNCC's advice remains the same in relation to feature risk (current and future) as stated within our pre-consultation advice.

4.15.2 Site feature map

Figure 16: Distribution of broad-scale habitats in West of Wight Barfleur proposed MCZ



Annex 1: Decision tree process and outcomes

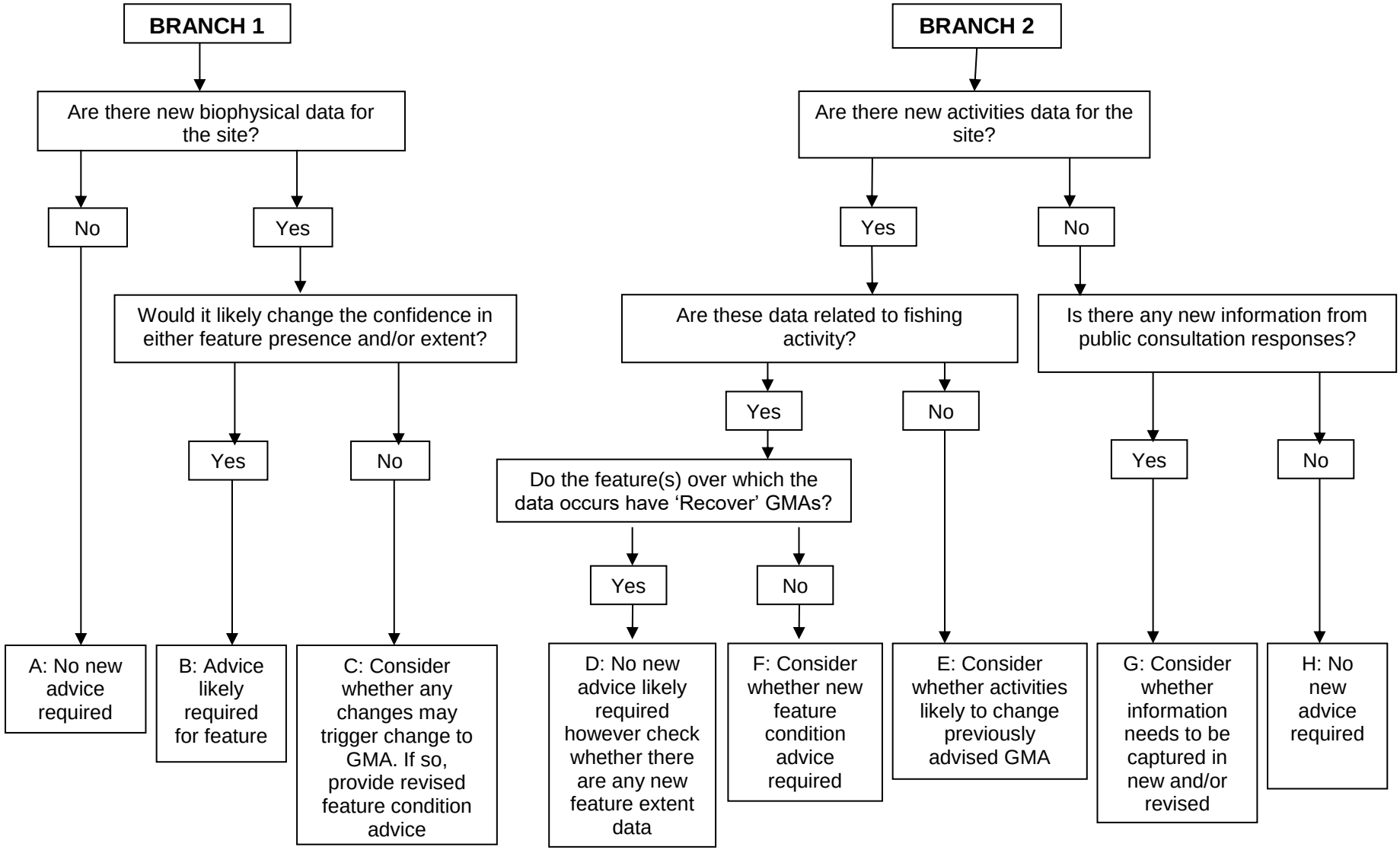


Figure 17: MCZ Tranche Three post-consultation advice decision tree.

Explanation of MCZ decision tree outcomes

The decision tree requires expert judgement to be applied to any new information, where previously JNCC would have analysed such information through the established MCZ Protocols. Any use of expert judgement made through this decision tree should be reviewed in line with the JNCC Evidence Quality Assurance policy; in most cases this was through the JNCC MCZ Evidence Quality Assurance Group. Outcomes from the application of the decision tree may mean that revised confidence assessment scores through application of the MCZ Protocols may not be necessary. The following paragraphs explain the different outcomes and give examples of how new information may lead to each outcome.

Outcome A:

No new advice is required for a site or feature as there are no new biophysical data and available data will have been considered in JNCC's tranche three pre-consultation advice.

Outcome B:

New biophysical data exist that may change previous advice on our confidence in feature presence and extent (as judged in answering the question leading to this outcome). Revised advice on both feature presence/extent and feature condition may be required depending on the nature of the new data. For example, data that decreases confidence in feature presence may mean no assessment of feature condition can now be carried out (i.e. a change to 'No confidence' in feature presence). Alternatively, a new habitat map may suggest a potential change in our confidence of feature extent but may not require a complete examination of the confidence in feature condition if the new spatial configuration continues to interact with data on human activities. Consequently, there would not be any change to the previously advised GMA.

Outcome C:

New biophysical data exist, but these data are judged not to change the confidence in feature presence or extent. For example, data that changes the spatial configuration of a habitat may still have the same confidence in feature extent as previously advised and therefore require no new advice. However, akin to the example provided in Outcome B, that change in spatial configuration may not change the previously advised GMA and thus not require any new advice on confidence in feature condition.

Outcome D:

A feature had previously been assigned a 'Recover' GMA due to its vulnerability to pressures to which it was exposed. New fisheries data may either provide further evidence to indicate that feature is still exposed to a pressure, or may indicate a change in fishing activities that reduce

exposure levels to a pressure. Assuming the feature was assigned a 'Recover' GMA based on being exposed to pressures caused by fishing activities, then the new fisheries data are unlikely to have any impact on the previously assigned 'Recover' GMA. Further evidence to support bottom-contacting fishing activity in the site would continue to support the 'Recover' GMA. Evidence suggesting a reduction in current fishing activity compared with past fishing data would possibly indicate a change in the incident pressure, it is likely the feature would still need to 'Recover' to favourable condition based on its previous exposure to damaging activities; many features have a 'recoverability' that extends over periods >5 years[43]. Therefore in both instances, no new assessment of feature condition would be required. New advice may still be required where the feature extent changed because the known fishing activity (past and current) no longer occurred over the feature. Therefore any application of Outcome D requires a further check on the corresponding outcome from Branch 1 before confirming that no additional advice is required on the GMA.

Where the 'Recover' GMA was a consequence of non-fishing derived pressures to which the feature was exposed, the change in fishing activity may still cause a change in GMA if our knowledge of other activities has changed within the site. This would need to be considered on a case-by-case basis depending on the type of change in fishing activity (i.e. increase/decrease, change in gear type use over feature, etc) and whether the existing activities are still ongoing. It is anticipated that in most cases, a 'Recover' GMA was assigned due to a feature's exposure to bottom-contacting fishing gears and as such, the case-by-case approach will not be necessary. This needs to be factored against the outcome determined from Branch 1 as mentioned in the previous paragraph.

Outcome E:

New data on human activities have been gathered in a site that may change previous interpretations of whether features are exposed to a pressure. A case-by-case approach should be applied depending on the type of change in activity (i.e. increase/decrease, new consented activity, where activity occurs, etc.) and whether the existing activities within the site remain ongoing. It is anticipated that in most cases, a 'Recover' GMA has been previously advised due to a feature's exposure to bottom-contacting fishing gears and as such the case-by-case approach will probably not be necessary.

[43] MarLIN defined 'Recoverability' as 'the ability of a habitat, community or individual (or individual colony) of species to redress damage sustained as a result of an external factor' - see http://www.marlin.ac.uk/recoverabilityranking.php

Outcome F:

New fishing data have been gathered in a site where a feature has previously been assigned a 'Maintain' GMA. These data may change or improve our understanding of the fishing activity occurring over a feature and change our previous assessment of the feature's exposure to a pressure. Therefore a new assessment in the confidence of feature condition is probably required, although a common-sense approach should be applied here where new data are unlikely to change the previously advised 'Maintain' GMA (i.e. expert judgement used if new data are a very minor change to previous information, or potentially do not occur over the feature etc.).

Outcome G:

New information has been provided for a feature or site through the public consultation. New information refers to qualitative, contextual text provided by a stakeholder within a public consultation response, where said text provides no spatially specific information i.e. any information more specific than referring to the site as a whole. Such information needs to be considered and may provide contextual information about the biophysical data supporting a feature or site, or about the human activities occurring on the site. This new information may result in the need to revisit previous advice for a feature. However as no new data are provided, the information may either provide useful context, but not require any changes to the advice, or may provide reference to data that could change our advice but were not available or may not be useable. In these instances, JNCC will consider the relevant information presented in consultation responses and judge whether it would require previous advice to be amended.

Outcome H:

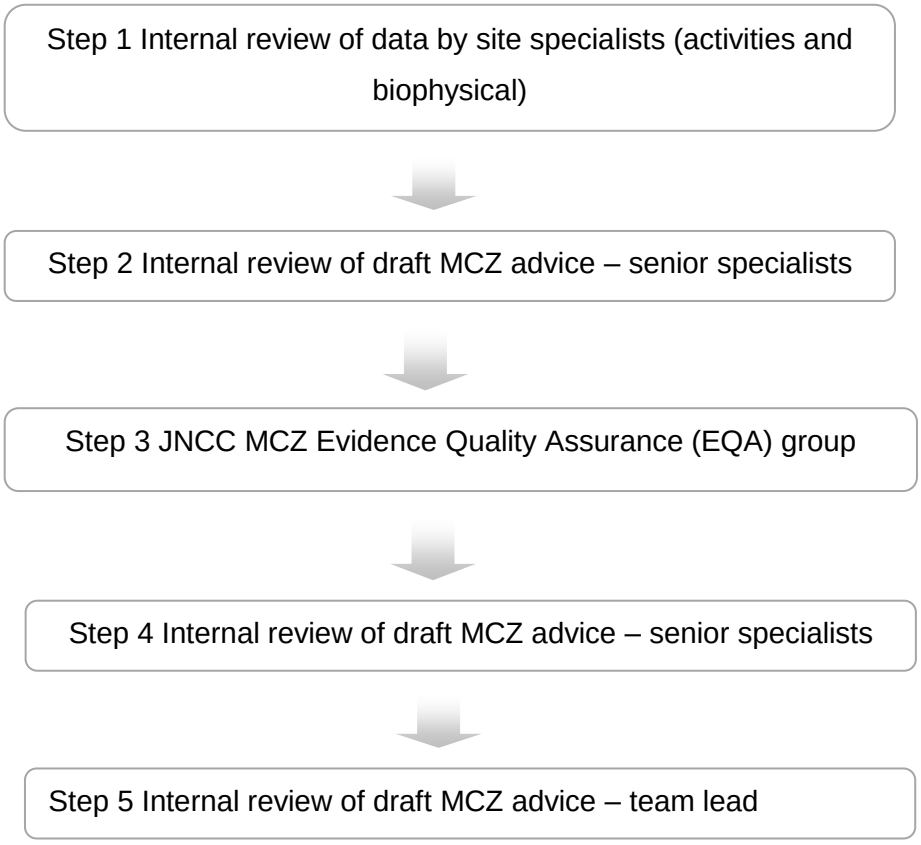
No new advice is required for the feature or site as there are no new data or contextual information provided through the public consultation. Therefore JNCC's tranche three pre-consultation advice for that feature or site remains up to date.

Annex 2: Statement on JNCC's Quality Assurance procedures undertaken for the 2018 post-consultation MCZ advice

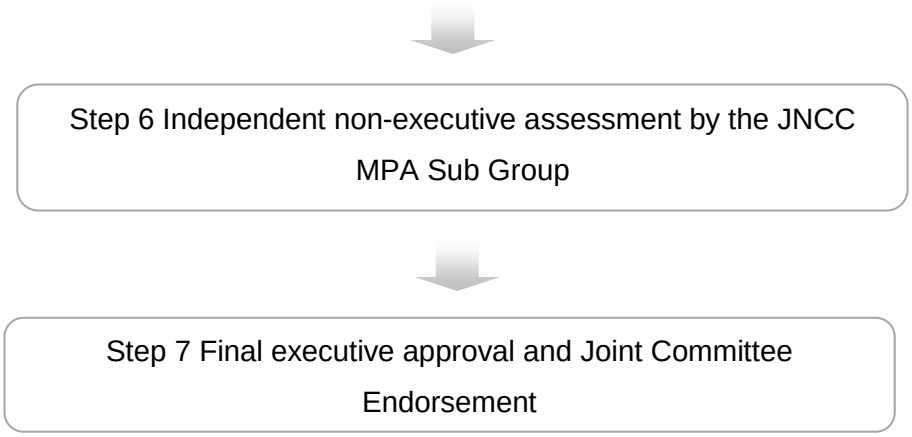
This Annex provides a summary of the quality assurance (QA) processes applied to JNCC's 2018 advice on proposed MCZs to ensure its scientific advice is robust and in accordance with both JNCC's internal Evidence QA policy and the Government Chief Scientific Adviser's guidelines for preparing scientific advice[2929], and the recommendations of the Graham-Bryce report[44] that reviewed the evidence process for selecting marine Special Areas of Conservation (SACs).

Figure 18 outlines the steps in the process adopted by JNCC. It should be noted that each step in the QA process relies on the previous step having been undertaken in a robust manner in order to ensure that no systematic issues are replicated through the advice.

Figure 18: The QA process for JNCC's 2018 post-consultation advice on potential offshore MCZs



[44] Graham-Bryce Report. Available at: https://www.gov.uk/government/publications/independent-review-of-the-evidence-process-for-selecting-marine-special-areas-of-conservation



Step 1 Internal review of new data by site specialists (activities and biophysical)

Any biophysical or activities datasets that became available since our pre-consultation advice concerning the proposed MCZs were considered by the MCZ team who conducted an in depth review whilst undertaking the assessments contained within this advice. Any issues with the data were flagged with JNCC's Marine Evidence & Monitoring Team and resolved with the data providers where possible. Where issues were not resolved, these limitations to the data were logged and incorporated into our advice. Similarly, data supplied to JNCC as part of its data collection program were reviewed by the Marine Evidence & Monitoring Team, who undertake quality assurance of the data, paying particular attention to the associated metadata and its geospatial coordinates to check they provide sufficient information and are accurate.

Any new data submitted through the public consultation on Tranche Three MCZs were initially considered by Defra, and data relevant to offshore proposed MCZs were shared with JNCC. Data received from Defra were reviewed internally by JNCC for their suitability. Anecdotal evidence received through the public consultation was considered, but rejected if no data were provided to support their views or where more robust data exist.

Step 2 Internal review of draft assessments – senior specialists

The draft assessments undertaken by the MCZ team were reviewed by senior specialists with expertise in the relevant topics. This included reviews of the decisions on whether updated advice was likely required following the decision tree process and any assessments against the assessement protocols on feature presence, extent and condition, and any use of expert judgement.

Step 3 JNCC MCZ Evidence Quality Assurance (EQA) Group

The EQA group reviewed the biophysical data available for each feature and concluded on the appropriateness of the use of those data and the confidence scores assigned in draft by the MCZ team for the feature presence and extent assessments. This review considered the evidence available against Protocol E to support the score for that feature[45]. Where necessary, any expert judgement applied was agreed through the members of the Group. Key decisions and conclusions are recorded within the minutes of the EQA group meeting. No significant concerns were raised by the EQA group and the key decisions and conclusions were signed off.

Step 4 Internal review of draft MCZ advice – senior specialists

The draft advice was prepared by the MCZ team and reviewed by senior specialists. The specialists review focused predominantly on the detailed site narratives to ensure they accurately reflected the assessments and outcomes of the EQA group meeting.

Step 5 Internal review of draft MCZ advice – team lead

The draft advice package, incorporating comments and changes made by senior staff, was reviewed by JNCC's MPA lead. This review did not consider the underlying data used to form this advice, instead it focussed on the results and explanations together with checking the application of protocols and guidance and earlier QA steps.

Step 6: Independent non-executive assessment

The advice was then shared with the Joint Committee's MPA Sub Group (an independent non-executive group) for their review of the QA steps applied through the process to derive the advice, offering challenge to any conclusions that do not appear to be appropriately justified. The MPA Sub Group also generally reviewed whether the work was broadly fit for purpose. The group provides independent scientific advice and scrutiny to JNCC, and comprises of specialists drawn from wider academic, public and private sector communities. Their review did not consider the data underpinning the advice.

Any comments received from the Group were logged together with subsequent actions to ensure a full audit of changes was available.

Step 7: Executive approval and Joint Committee endorsement

[45] MCZ Technical Protocol E. Available at: http://jncc.defra.gov.uk/pdf/120111_SNCB%20MCZ%20Advice_Protocol_Feature%20Evidence%20V5.0.pdf

The final advice was reviewed by JNCC's MPA lead to check the actions implemented following steps 5 and 6 and the overall advice then signed off by the responsible Director on behalf of JNCC's Executive Leadership Team. Any changes that were made during this sign off process were recorded in the comments log.

The MPA Sub Group Chair recommended the final results to the JNCC Joint Committee. The Chair of the Joint Committee reviewed the recommendation and endorsed the advice as of sufficient quality to be sent to Defra.