Approach for the assessment of the regional Marine Conservation Zone project recommendations against the Ecological Network Guidance

Version control

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1. Background

The Joint Nature Conservation Committee (JNCC) and Natural England developed the Ecological Network Guidance (ENG) (Natural England & JNCC, 2010) based on the Defra network design principles, to guide regional projects on the identification and recommendation of Marine Conservation Zones (MCZs). The network design principles for an ecologically coherent network, as listed in the Ministerial Statement 2010 (pre election) and Defra Guidance Note 1 (Defra, 2010) (current Government), are: representativity, replication, viability, adequacy, connectivity, range of protection, and the use best available evidence. These principles are based on OSPAR guidance (OSPAR, 2006).

Government has asked JNCC and Natural England to analyse, describe and provide advice on the regional MCZ project recommendations, explicitly to:

- Provide a statement(s) on the extent to which the regional MCZ project recommendations are endorsed;
- Offer any advice on the proposed recommendations, including any potential additional options;
- Give a response to the Science Advisory Panel (SAP) assessment of the final regional MCZ project recommendations, focussed on any feedback that has not been addressed by the regional MCZ projects; and,
- Offer any additional advice on the regional MCZ project recommendations JNCC and Natural England wish to provide Government.

The present document explains the proposed approach for developing the analysis of regional project recommendations which will be part of section 4 in JNCC and Natural England's advice on Marine Conservation Zone recommendations. Section 4.1 covers JNCC and Natural England's advice on the proposed site recommendations including any potential options, an assessment against ENG guidelines (including reference areas), and relevant discussion on shortfalls and redundancies.

JNCC and Natural England developed protocols that set out the standards against which we will produce our advice. Please note that the Protocol for Section 4.1 of the MCZ advice is the Ecological Network Guidance (Natural England & JNCC, 2010). This current document provides the approach to be followed when producing our advice on the regional MCZ project recommendations, in particular in relation to the guidelines set out in the ENG.

2. Overview of the approach

The regional MCZ project recommendations contain a vast amount of information at site and regional network level that will be evaluated to provide Defra with appropriate advice to support the Minister's decision on MCZ designation. The present document proposes the content and format for the development of section 4.1 of the JNCC and Natural England advice. It describes the approach for assessing the

regional MCZ project recommendations individually and across the regional MCZ project areas, specifically in relation to the guidelines and principles provided in the ENG and any additional advice we might wish to provide to support the Ministerial decision. In reviewing the regional MCZ project recommendations, we need to assess the ecological importance of both the features and sites, and highlight the ecological advantages each recommended MCZ (rMCZ) could offer in terms of its contribution to an ecologically coherent network as defined by the ENG.

It is important to emphasise that the development of our advice should not duplicate the recommendations submitted by the regional MCZ projects. Rather it will focus on the recommendations' ability, when combined with the contributions of existing Marine Protected Areas (MPAs) (Natural England & JNCC 2012b), to meet the guidelines set in the ENG at both regional MCZ project and Defra marine area (Figure 1). The advice will also highlight any issues with, or gaps in, the recommendations and propose any actions if relevant.

As stated in Protocol A: 'The Principles Underpinning Our Statutory Nature Conservation Body Advice on Marine Conservation Zone Designation' (Natural England and JNCC 2012a), we need to ensure that the conclusion and justifications in our advice have been drawn using best available evidence, using a consistent and transparent approach. The protocol further states that:

- **Evidence** used is of a quality and relevance appropriate to give advice or decisions[1];
- **Analysis** carried out is appropriate to the evidence available and the issue under consideration;
- **Conclusions** are drawn which clearly relate to the evidence and analysis; and,
- **Uncertainty** arising due to the nature of the evidence and analysis is clearly identified and explained.

Following detailed discussions, JNCC and Natural England staff concluded that the most straightforward approach to assess and present the information was to use a criteria-based approach with supporting narrative. It will allow a site- by- site analysis with aggregation up to a network level. The assessment of regional MCZ project recommendations should be considered not only at the regional MCZ project area, but in the context of the whole MCZ Project area and a wider biogeographic scale (Charting Progress 2 regional seas) or in UK waters. The analysis of the advice will be based on individual features proposed for designation packaged at a site level.

The advice will be delivered into two parts:

1. A document containing a narrative with an overview of the regional MCZ project recommendations describing the degree to which the regional MCZ project recommendations satisfy the guidelines in the ENG and our views on the network. This will also highlight any gaps or shortfalls in achieving

[1] Recognising that one of Defra's MPA network design principles is the use of the best available evidence.

these guidelines, and an overall assessment of the recommended reference areas. This will form section 4.1 of the MCZ advice.

2. An annex (which will be Annex 5 in the JNCC and Natural England MCZ Advice document) providing site specific assessment tables containing feature and site information in relation to the ENG guidelines at a regional MCZ project area level as well as in the context of a wider scale (MCZ Project level and regional sea), with our views on individual features/sites, together with any additional information we may wish to provide (see Appendix 3 for an example of the site assessment table to be used).

Although the assessment is for all regional MCZ project recommendations as a whole, Natural England will be responsible for the analysis of inshore sites, and JNCC for those offshore. The distribution of work between JNCC and Natural England for those rMCZs crossing the territorial waters boundary at 12nm (known as 'joint sites') is shown in Table 1. The narrative should be short and concise, aiming at a couple of pages per site (including tables), although some complex sites may require a longer narrative. The information from section 4.1 will also be used to inform the development of other sections of our advice and will link to relevant sections of the Impact Assessment, in particular to the reports presenting the ecological impacts of designation.

Table 1 Lead organisation for joint recommended Marine Conservation Zones

Site name (regional MCZ project)	**Site code**	**Regional MCZ project area**	**Lead organisation**
Cape Bank	rMCZ FS 36	Finding Sanctuary	Natural England
East Meridian	rMCZ BS 29	Balanced Seas	JNCC
East Meridian – Eastern side	rMCZ BS 29.2	Balanced Seas	JNCC
Farnes East	rMCZ NG 14	Net Gain	JNCC
Holderness Offshore	rMCZ NG 9	Net Gain	JNCC
Inner Bank	rMCZ BS 31	Balanced Seas	JNCC
Kentish Knock East	rMCZ BS 30	Balanced Seas	Natural England
Mud Hole	rMCZ ISCZ 1	Irish Sea Conservation Zones	JNCC
Offshore Overfalls	rMCZ BS 17	Balanced Seas	JNCC
Orford Inshore	rMCZ BS 1b	Balanced Seas	Natural England
South Dorset	rMCZ FS 16	Finding Sanctuary	Natural England
South of the Isles of Scilly	rMCZ FS 13	Finding Sanctuary	JNCC
Wash Approach	rMCZ NG 4	Net Gain	JNCC
West of Walney proposed co-location	rMCZ ISCZ 2	Irish Sea Conservation Zones	Natural England

3. Approach for the assessment of MCZ recommendations at regional project level and wider scale

There are many considerations that could be taken into account when providing our advice on site recommendations. In order to support the Ministerial decision making process and ensure the clarity of our decisions, we need to use the most appropriate approach for evaluating and presenting the information that will provide a synthesis of the advantages of each rMCZ and reference area.

Our advice will offer a view on the ecological importance of the features, in particular with relation to:

- the inherent quality of the feature(s) at site level, e.g. Feature A contains a variety of rare and highly sensitive biotopes;
- the contribution of the feature towards ENG guidelines at regional project level, e.g. Feature B provides a greater contribution in site X towards the adequacy guidelines than in any other site within the regional project area; and,
- the contribution of the feature towards ENG guidelines at the whole MCZ project area, and/or bio-geographical considerations at regional sea level (see ENG), e.g. Feature C in site Y is the only example within the English Channel waters.

The narrative for each site will capture and explain the relevant considerations for the features at site, regional project and wider scale (Table 2). Although there will be overlaps between the three considerations above, some criteria from the ENG will be more relevant to different geographic scales. For example the connectivity criterion is more appropriately considered at a wider network level. Our joint advice should relate directly to the appropriate ENG guideline, and be discussed in the narrative containing our views on the site. See Appendix 1 with the full list of network design principles as set out in Defra's Guidance Note 1 (Defra, 2010) and the ENG (Natural England & JNCC, The Marine Conservation Zone Project: Ecological Network Guidance., 2010).

Table 2. Network design principles that could be used for the feature assessment at regional MCZ project level, whole MCZ project area and Regional Seas level,

Scale	Principles
Regional MCZ project area	Representativity, Replication, Adequacy, Viability and Connectivity
Whole MCZ Project area	Representativity, Replication, Adequacy and Connectivity
Charting Progress 2 regions	Representativity and Replication

The Charting Progress 2 regions (Figure 1) should be used for the assessment at a wider biogeographic scale instead of the JNCC draft regional seas (as previously stated in the ENG). An assessment at the bio-geographic scale has been used previously in assessing our progress towards meeting the obligations of

the Habitats Directive (assessing features of Special Areas of Conservation (SACs)) and to report the state of seas (e.g. Charting Progress 2). Please note that the current assessment will provide only an indication of where the consideration of representativity and replication principles at bio-geographical level could add additional value to the features recommended by the MCZ. This will not be a full assessment of the network design principles at bio-geographical level, mainly because the outputs from other countries such as Northern Ireland or Scotland will not be available in time to be considered.

To provide a clear and transparent analysis of the evidence used to support our advice, the information will be summarised as follows:

- A simplified table listing features for designation and site considerations will be included in the site report with a simple tick, cross or short text to represent how the features within the site meets the ENG criteria; and,
- A short narrative will explain the ecological benefits of the site/feature as highlighted in the table and any other comments we would like to make, including implications of not designating a site, and links with gaps or shortfalls in meeting ENG guidelines. It should also include any instances where we do not support a recommended feature, or an entire site.

During the assessment of the regional MCZ project recommendations against the ENG criteria, the information contained within the tables and narrative should be cross-checked with the regional MCZ project reports, in particular the site Selection Assessment Documents (SADs), and where relevant, notes addressing site specific comments made by the Science Advisory Panel (SAP), although any overarching issues or suggestions for a way forward to address the SAP recommendations should be contained within section 4.3 of our advice 'JNCC and Natural England response to the Science Advisory Panel assessment of the regional Marine Conservation Zone projects final recommendations' . A list of suggested materials to be used during the assessment can be found in Appendix 4.

The narrative will clearly indicate if we advise any amendments to the recommendations such as features not being taken forward for designation or changes to boundaries. In these instances a full explanation and justification will be provided.

Appendix 5 outlines the overall content of section 4.

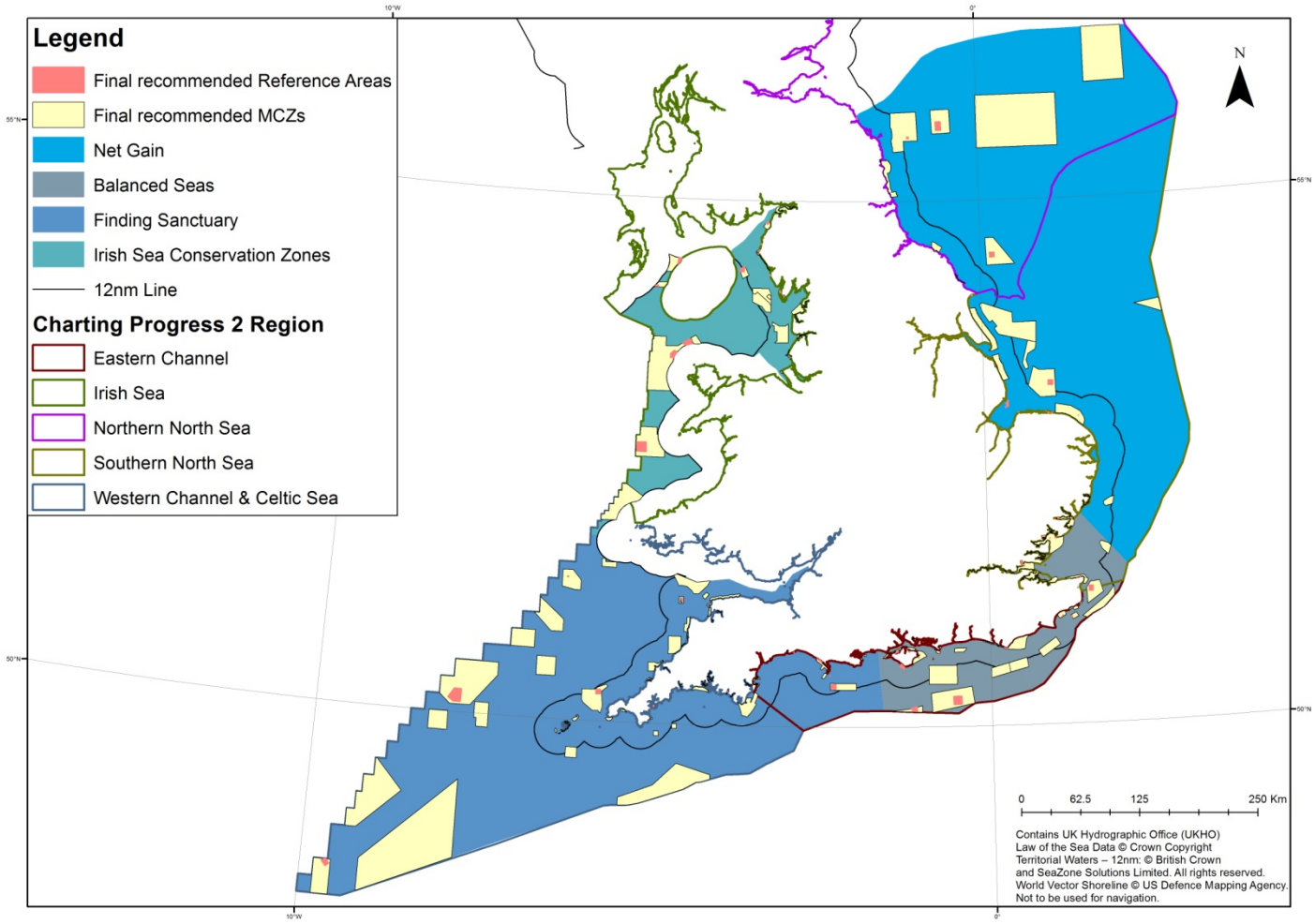

Figure 1 Map showing the regional MCZ project recommendations with the administrative boundaries for the whole Defra marine area and boundaries for the regional MCZ project areas and Charting Progress 2 regional seas.

3.1 Feature considerations

The key MPA network design principles that are relevant for a feature analysis are representativity, replication, viability and adequacy, although others could also be taken into consideration. The information provided in our advice should highlight whether or not guidelines have been met at the regional MCZ project level and whole MCZ project area or bio-geographical level. It is essential to highlight those cases where the feature is below the recommended minimum at the regional MCZ project level or whole MCZ project area.

To assess the ecological benefits or ecological importance of the feature, we will look at the information available on features within each site and the relationship or links between each feature and the regional ENG guidelines, including positive and negative considerations. Considerations that need to be taken into account are:

Ecological benefits:

- Representativity: The feature's inherent conservation value - an OSPAR rare and threatened feature;

- Replication: The feature's contribution to the regional/ MCZ Project Area ENG guideline[2] of replication, particularly if it is the only example recommended and/or available within the regional project;
- Adequacy guidelines: The feature's contribution to adequacy[3] guidelines, highlighting those cases where the feature contribution at a particular site represents more than half of the total percentage of the recommended feature.
- Quantitative considerations at regional MCZ project level: Taking into consideration the outputs from the guidelines above, highlight any relevant points in particular if associated to a gap or shortfall, for example if the current proposals are only reaching the minimum adequacy guidelines;
- Connectivity: The feature's contribution to connectivity within the network;
- Vulnerability: The presence of a 'least damaged/more natural' feature based on local knowledge or the information provided by the vulnerability assessments;
- Areas of Additional Ecological Importance: Diversity and richness of the feature (biodiversity quality); or if a feature falls within a nursery area for a species or the age structure of a species' population is known to include juveniles and adults at a particular location;
- Ecological importance at MCZ regional project level: For example if a feature is not protected within existing MPAs;
- Ecological importance at wider level: Highlight any instances where a feature has limited distribution within a Charting Progress 2 region (Figure 1), or the only recommendation for a feature within the whole MCZ project area;
- Scientific Value: Potential or existing scientific value of the feature, e.g. features already being studied by long-term monitoring programmes should be protected ;
- Geological and Geomorphological features: The scientific value of features assessed to be of primary importance to geoconservation and therefore a key factor in the rMCZ proposal, and whether there are potentially important geological features hosted within the rMCZs extent, (see Appendix 2 for further detail); and,
- Highlight any instances where removing a feature from the network will further increase an existing shortfall in meeting an ENG guideline. For instance if a regional project has not met the ENG guideline for subtidal mud, then any other rMCZ recommending this feature could be viewed as a priority. See section 4 below for further information.

This is not a fully comprehensive list; there will be cases where other considerations could be included. Please refer to the ENG and OSPAR paper for further details.

To ensure consistency of the assessment and consideration of the above benefits a suggested list of options for each heading can be found in Appendix 3.

[2] Please note that no national ENG guidelines are currently available, we should be guided by the guidelines set out in the ENG.
[3] See footnote 7

Disadvantages/ Impacts

- The area of Broad Scale Habitat (BSH) or patch Features of Conservation Importance(FOCI) within the rMCZ is too small and there are no options for extending the feature's boundary beyond the guideline threshold for viability;
- Where the rMCZ overlays an existing MPA, the rMCZ feature is already protected by that existing MPA or there might be some conflicts with a Natura designation;
- Redundancy: the feature is adequately represented across the network (by other MPAs) such that it already exceeds the ENG guidelines (above the maximum guidelines);[4]
- An rMCZ feature is not supported by our evidence review; and,
- We believe the feature has been wrongly identified at the location.[5]

If a feature has been recommended for designation within a site which is already protected by an existing MPA, then we may advise that the feature is not progressed as a feature for designation in the MCZ. Any potential issues created by an rMCZ overlapping with an existing or proposed SAC, Special Protection Area (SPA) or Sites of Special Scientific Interest (SSSI) or an MCZ having a feature recommended for designation which is not adequately represented within the SAC network should be included in the narrative. For example, a recommended reference area within a possible SAC (pSAC) or candidate SAC (cSAC) could cause potential conflict if the SAC management regime did not meet the management requirements for a reference area.

Any omissions from the site SADs submitted by the regional MCZ project should be highlighted.

3.2 Additional considerations at the site level

Viability, connectivity and boundaries are the most relevant principles to assess at the site level. Other further ecological considerations such as areas of additional ecological importance listed in the ENG, or the added value of non-ENG features should be considered where relevant.

Issues with existing boundaries or suggestions for amended boundaries would be discussed within the narrative and fully justified, particularly if there would be ecological or practical advantages of such amendments. Factors that should be considered include:

[4] Please note that there are interdependencies between all network principles, such as a site may include a feature which is over represented however this is also needed for meeting replication and connectivity guidelines

[5] Information will need to be cross-referenced with the outputs from the evidence assessment

- Cases where there are ecologically important features adjacent to or within the site which could be considered for inclusion in a site, particularly if such an addition could address a shortfall in that feature against its ENG guideline;
- Whether the recommended boundaries make ecological sense in terms of capturing small portions of habitat left outside the rMCZ. Refer to the evidence assessment (section 5.1 of our advice) to see if additional information can help in refining the site boundaries;
- Whether the recommended boundary has any potential implications for management of activities conducted in the site;
- Where there is evidence to suggest our advice on setting boundaries from the ENG has not been followed;
- The need for buffers around features to reduce the risk of damage from pressures;
- Whether there are benefits to be gained in aligning the rMCZ boundaries with existing designations; and,
- Whether there are reasons why another designation type (such as a SSSI) or modification to existing protection measures could be an alternative solution.

To aid our views we need to review the detailed information from the SADs together with the feedback from stakeholder meetings when modifications to boundaries may have been suggested but not included in the final recommendations.

It is important to note that any suggestions for boundary changes could have knock on effects for stakeholders operating within the site. Specifically, features present in the site but not recommended would have been excluded by the stakeholders on the basis of their discussions. Any proposal to add additional features to a site should review the notes from stakeholder meetings to determine whether there were material reasons to exclude that feature from the recommendations.

3.3 Considerations for the assessment at the whole MCZ project level in the context of the UK MPA policy

The narrative will discuss the results from the site/feature analysis highlighting those guidelines that have been achieved and those that show shortfalls across one or more projects, or across the whole MCZ Project area.

This section could include a brief description of any additional suggestions we might wish to propose to address any shortfalls or gaps. The outcomes from the SAP advice could be used here if relevant, for example when they have highlighted a shortfall and made a recommendation.

Please note that the assessment against the ENG guidelines will be based solely on the regional project recommendations. Consequently, it could be the case that our advice indicates the removal of a feature which could then have implications for the recommendations to achieve the network guidelines. The

narrative under the respective table needs to include an explanation as to why the decision was made and what the implications would/could be for the overall network statistics.

4. Additional considerations

4.1 Features not proposed for designation

There are cases were some features have been excluded from the recommendations due to poor confidence in the data or lack of evidence to demonstrate the feature is present at the site. A cross-reference with the evidence assessment (section 5.1 of the our advice) would show if there are new data which could confirm the presence or extent of this feature. If relevant, the narrative for the site could include a recommendation for the features to be considered for designation, even if not included in the regional MCZ recommendations. The information on features that were not put forward for recommendations can be found in the SADs and/or in the narrative of the MCZ reports. Features with good evidence could also have been excluded due to an absence of consensus from sectoral interests. In this regard it is important to note that the details of regional stakeholder group discussions in support of the scientific value of sites may not always be clear from the iterations or final reports.

Features that were not recommended but could be included for designation will need to be highlighted in the narrative including any supporting rationale. Please note that conservation objectives for such features will need to be developed and added into the conservation objectives section of our advice (Section 4.2 and 5.2).

4.2 Non ENG features proposed for designation

The ENG lists those features that should be included within the MPA network, and therefore should have been the main focus of the regional MCZ project recommendations. However, it was always recognised that stakeholders could put forward other features for protection within MCZs. The MCZ Project Board approved a paper describing how such features would be considered: ‘Process for considering features not listed in the Ecological Network Guidance for protection through MCZs’ (JNCC & Natural England 2011). Any features not listed within the ENG representativity guidelines but included within the rMCZs will be reviewed by the JNCC and Natural England in their advice. Information on non-ENG features will be part of section 4.4 of our advice.

4.3. Potential implications of not designating a feature

When assessing the ecological importance or benefits of the features and sites, it is essential that we highlight those cases where we believe the exclusion of a feature(s)/site from the network could be detrimental towards achieving the network design principles, and therefore create a risk of not achieving an ecological coherent network. Considerations will be:

- If the feature is already below the minimum guidelines set out in the ENG;
- If the exclusion of the feature will affect the adequacy and/or replication guidelines;
- If its distribution within the regional project or MCZ project area or bio-geographic region is very limited;
- If the exclusion of the site will affect the connectivity of the network; and,
- The conservation status of the feature – for example, if it has been included as a FOCI because it is on the OSPAR List of Threatened and/or Declining Species and Habitats or the UK List of Priority Species and Habitats (UK BAP).

Please note that it not always be possible to highlight all potential risks due to the current uncertainties around the decision making process for the designation of MCZs.

4.4. Review of shortfalls in the regional MCZ project network recommendations

As part of the development of the advice and the assessment of the progress towards achieving ENG guidelines, we need to indicate any instances where the regional MCZ project recommendations do not meet the minimum guidelines of the ENG, and ideally look for possible solutions whilst being careful not to undermine stakeholder support. The national overview will highlight the key gaps and shortfalls, including those for the reference areas. In addition, this section will cover any advice or observation we wish to make around the shortfalls in the recommendations for meeting the ENG guidelines for reference areas or any issues regarding the overlaps with existing MPAs. This will include:

- Flagging-up those broad-scale habitats and/or FOCI not represented within the recommended reference area proposals;
- A list of the recommended reference areas which are below the minimum size to be considered viable, and how their size could be increased to be judged viable;
- A list of recommended reference areas that are not located within either an rMCZ or an existing MPA; and,
- Features proposed for reference condition that are already protected by an existing MPA highlighting those instances where the proposals could create an issue to the agreed management of the site.

The narrative of the section should make recommendations or provide advice on how any gaps or shortfalls could be addressed, or if we believe no alternatives could be found, and thus more data or information will need to be collected to address any shortfalls.

The advice and recommendations on recommended reference areas from this section will help to inform the development of section 4.3. of the our advice, which discusses the SAP advice. In particular, this will lay out any views we might have regarding the improvements of the design of the current recommended reference areas proposals and their contributions towards the establishment of scientific benchmarks to inform management of MPAs.

5. References

Defra. *Guidance on selection and designation of Marine Conservation Zones (Note 1).* London: Department for Environment, Food and Rural Affairs and the Welsh Assembly Government, 2010. http://archive.defra.gov.uk/environment/biodiversity/marine/documents/guidance-note1.pdf

JNCC & Natural England. *Process for considering features not listed in the Ecological Network Guidance for protection through MCZs.* Marine Conservation Zone Project Board intersessional paper, Peterborough: JNCC, 2011.

Natural England and the Joint Nature Conservation Committee. *The Marine Conservation Zone Project: Ecological Network Guidance.* Sheffield and Peterborough, UK: Natural England and JNCC, 2010http://jncc.defra.gov.uk/PDF/100705_ENG_v10.pdf

Natural England & JNCC. *SNCBs' MCZ Advice Project Technical Protocol A – The principles underpinning our Statutory Nature Conservation Body advice on Marine Conservation Zone designation.* Natural England and JNCC 2012a. [http://jncc.defra.gov.uk/page-5999]

Natural England & JNCC. *SNCBs' MCZ Advice Project Technical Protocol H – Assessing the contribution of existing sites to the network.* Natural England and JNCC 2012b. [http://jncc.defra.gov.uk/page-5999]

OSPAR (2006). Guidance on developing an ecologically coherent network of OSPAR marine protected areas. (Reference number 2006-3). http://www.ospar.org/documents/DBASE/DECRECS/Agreements/06-03e_Guidance%20ecol%20coherence%20MPA%20network.doc

6. Appendices

Appendix 1 – The MPA network design principles and further considerations

The following are the Defra network design principles (Defra 2010) and their definitions as set out in the Ecological Network Guidance (Natural England & JNCC 2010):

- **Representativity** – the MPA network should represent the range of marine habitats and species through protecting all major habitat types and associated biological communities present in our marine area.
- **Replication** – all major habitats should be replicated and distributed throughout the network. The amount of replication will depend on the extent and distribution of features within seas.
- **Viability** – the MPA network should incorporate self-sustaining, geographically dispersed component sites of sufficient size to ensure species and habitats persistence through natural cycles of variation.
- **Adequacy** – the MPA network should be of adequate size to deliver its ecological objectives and ensure the ecological viability and integrity of populations, species and communities (the proportion of each feature included within the MPA network should be sufficient to enable its long-term protection and/or recovery).
- **Connectivity** – the MPA network should seek to maximise and enhance the linkages among individual MPAs using the best current science. For certain species this will mean that sites should be distributed in a manner to ensure protection at different stages in their life cycles.
- **Protection** – the MPA network is likely to include a range of protection levels. Ranging from highly protected sites or parts of sites where no extractive, depositional or other damaging activities are allowed, to areas with only minimal restrictions on activities that are needed to protect the features.
- **Best available evidence** – Network design should be based on the best information currently available. Lack of full scientific certainty should not be a reason for postponing proportionate decisions on site selection.

Further considerations (ecological and practical):

- **Areas of Additional Ecological Importance**
- **Feature Vulnerability**
- **Scientific Value**
- **MCZ Boundaries**
- **Geological and Geomorphological features of interest (see Appendix 2)**

Appendix 2- Geological features proposed for designation in rMCZs and 'hosted' geological features of potential abiotic conservation value in rMCZs

The ENG names 44 areas recommended for consideration for MCZs for geology/geomorphology in the MCZ project area, some of which may lie within existing MPAs. A large proportion of which (three quarters) are seaward extensions of terrestrial geological SSSIs. A key point here is that the 44 areas are recommended irrespective of habitat value or ecological value, but particularly because they are considered to be of sufficient value to the study of Earth sciences to warrant protection in MCZs/MPAs.

Many other rMCZs not containing any of the 44 areas cited may have features of interest to the Earth sciences, though they are not being considered at this stage for being put forward as rMCZs specifically for geology/geomorphology (referred to here as 'hosted', or 'secondary' geological features).

32 of these recommended 44 areas are in inshore waters and are shown in Figure 14 (p.123) of the ENG and Table 28 (p.124). These are largely below-low-water extensions of terrestrial SSSIs, and geological categories, broadly equivalent to ENG feature types, that are related to terrestrial Geological Conservation Review site selection categories:

1. **Pleistocene and Tertiary sediments**
2. **Coastal Geomorphology**
3. **Mass Movements** (features created from the movement under gravity of sediment or rock, e.g. a slump or slide. Mass movements occur not only as landslides, but can include submarine slope failures, potentially affecting large areas and great quantities of sediment)

Going beyond the coastal zone, and looking to areas not directly extended from coastal SSSIs, the ENG lists 12 away-from-shore localities (Figure 15, p.127 and Table 29, p.128). The ENG feature equivalent classes of geological types, (see p. 67) are:

4. **Glacial Process features** (which could be subdivided into erosion and deposition features created as a direct result of physical processes associated with ice, including meltwater erosion and deposition features)
5. **Marine Process features** (which are created directly by marine processes such as waves, tides and currents, such as mobile sand waves or mega-ripple sediment features in active energy zones and scour features. These may be relict or active marine process features
6. **Features indicating past changes in relative sea level** (these features are markers of historical sea level which has fluctuated over time (e.g. submerged valleys/rias/beaches, submerged fossil forests)
7. **Geological Process features** (these are formed by a variety of past and ongoing geological processes including vulcanism, diapirism, fluid and gas seepage from the seabed and tectonism).

To facilitate the assessment of geological and geomorphological features, the typology categories (1 to 7, above) should be used in our Annex 5 summary tables (see example in Appendix 3). **Please note** that the geological row in the Annex 5 assessment table is reserved only for those sites where a geological feature is specifically being put forward for designation.

In some cases, rMCZs contain other geological features that have not been put forward for designation but nevertheless enhance the conservation value of the rMCZs and could be important once more research has been undertaken. These are classed as 'hosted' geological features; in this case, the commentary could include any information that we might think relevant about those features.

Appendix 3 – Proposed format for the site assessment table providing an example and proposed list of standard text options for each column

For an explanation of each column heading please see 'The Guide to Annex 5 table headings' provided at the end of this example.

Site name: FS 01 The Canyons rMCZ and FS RA 01 The Canyons recommended reference area (Finding Sanctuary) (JNCC) **Table [insert].** An overview of features proposed for designation within the Canyons rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at wider scale. ✓ = ENG guideline achieved and X = ENG guideline is not being achieved. Green cells represent key considerations and any greyed out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives given in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity (1)	Replication (2)	Adequacy (3)	Viability (4)	Gaps or shortfalls in relation to ENG minimum guidelines (5)	Recommended Conservation Objective (6)	Quantitative considerations at regional MCZ project level (7)	Ecological Importance at regional MCZ level (8)	Ecological Importance at wider scale (9)
Cold water coral reef	FOCI	✓ * [1]	✓ * [1]	✓	None	Recover		**This is the only site proposed for this feature within the region. This feature is not protected within existing MPAs. This feature has limited distribution.**	**This is a BAP and OSPAR habitat. This is the only site recommended for this feature within the Western Channel and Celtic Sea Regional Sea and whole MCZ project area. This feature has limited distribution in the whole MCZ project area.**

A5.1 Subtidal coarse sediment [*3]									
A5.2 Subtidal sand [*3]									
A6 Deep-sea bed	BSH	✓[*2]	✓[*2]	✓	None	Recover	**Out of all of the rMCZ and existing MCZs this rMCZ contributes the largest area of deep-sea bed.**	**This feature is not protected within existing MPAs. This feature has limited distribution. This rMCZ one of only two examples of this habitat proposed for designation**	**This feature is not protected within existing MPAs and has limited distribution in the whole MCZ project area. This rMCZ is one of only two examples of this habitat proposed for designation within the whole MCZ project area and the Western Channel and Celtic Sea regional sea.**

Site considerations	
Connectivity	✓[*4]
Geological/ Geomorphological features of interest	None
Appropriate boundary	✓[*5]
Areas of Additional Ecological Importance	✓[*6]
Overlaps with existing MPAs	None

Table [insert].An overview of features proposed for designation within The Canyons recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representation/ Replication	Viability	Recommended Conservation Objective
Cold water coral reef	FOCI	✓	Recover to reference condition
A6 Deep-sea bed	BSH	✓	Recover to reference condition
Site considerations			
Appropriate boundary	✓* [7]		

Additional comments:

- [1] There is only one example for cold-water coral reefs in the whole MCZ project area because it has limited distribution and only occurs in the far south-west of the MCZ project area.
- [2] No replication or adequacy guidelines were set for the habitat deep-sea bed because it has a limited distribution. There are two replicates for this feature within this regional MCZ project area and this is what is required by the ENG for other broad-scale habitats.
- [3] Finding Sanctuary has put forward two features in The Canyons site in the final recommendation for which we had advised in June that a conservation objective was not appropriate. In June, we advised it would not be appropriate for either of these two features; subtidal coarse sediment and subtidal sand to be listed for designation because they were both very small slivers of the seafloor within the site boundary and so achievement of any conservation objective could not be realistically assessed. Regardless, Finding Sanctuary decided to put both forward for designation in the final recommendation. No further evidence has been provided which would indicate the June advice is no longer appropriate; we therefore reiterate our June advice here.
- [4] Connectivity is not applicable to EUNIS Level 2 broad-scale habitat deep-sea bed due to the limited distribution of these habitats in the whole MCZ project area.
- [5] The boundary of the rMCZ is in line with ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. As this site has been proposed for broad-scale habitats and FOCI it has been drawn around a discrete area of extensive broad-scale habitat and captures the FOCI allowing for a margin of protection.
- [7] The recommended reference area boundary is also in line with the ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. A margin of protection has also been provided between the cold-water coral FOCI and the recommended reference area boundary.

Suggested amendments:

- We do not support the inclusion of subtidal coarse sediment and subtidal sand as features for designation and suggest that these are not included as features for designation if this rMCZ is designated (see comment above).
- The rMCZ boundary could be extended in the north-east to incorporate the complete canyon feature. Also, some minor adjustments will be needed around the south-east margin to eliminate the patches of subtidal sand and subtidal coarse sediment depending on the evidence available.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of one FOCI and one broad-scale habitat. This site contributes the largest area of deep-sea bed out of all of the rMCZs and existing MPAs within the regional MCZ project area, the Western Channel and Celtic Sea regional sea, and for the whole MCZ project area. It also represents only one of two sites within whole MCZ project area that are recommended for the habitat deep-sea bed as feature for designation. This feature has limited distribution in the whole MCZ project area, which is not currently protected in existing MPAs in the whole MCZ project area. It also complies with the viability guidelines.
- It is also the only site within the regional MCZ project area, Western Channel and Celtic Sea region and the whole MCZ project area that would provide protection for the FOCI cold-water coral reefs, a BAP and OSPAR habitat. This feature has limited distribution in the whole MCZ project area, and is not currently protected in existing MPAs in the whole MCZ project area.
- There is good evidence for the presence of a wide range of habitats within the deep-sea bed broad-scale habitat which have been mapped by JNCC, including communities of deep-sea corals, deep circalittoral coarse sediment, deep-sea bedrock, biogenic gravel, mixed substrata, mud and sand. This site is only one of two rMCZs within the regional MCZ project area as well as the whole MCZ project area with a very large depth range (200–2000m. This range of depths creates heterogeneous seafloor topography within the site.
- [6] Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
    - The regional MCZ project recommendations state that there is a high summer seasonal front which intersects with the rMCZ and there are higher than average aggregations of cetaceans and seabirds (Lieberknecht, Hooper, et al. 2011) .
    - There are also spawning and nursery grounds for a number of fish species within the local area (Ellis, et al. 2012).
    - An analysis of the numbers and distribution of seabirds found that there are low to medium densities of lesser black-backed gull during breeding; medium densities of European storm petrel during breeding, and black-legged kittiwake during winter; medium to high densities of northern gannet during winter, Cory's shearwater during summer, and great skua during winter and breeding (Kober, et al. 2010).

Implications of the site not being designated:

- The Canyons rMCZ is particularly important in terms of its deep-sea bed and cold-water coral reefs. This area of deep-sea bed is one of only two areas proposed with this as a feature for designation in the whole MCZ project area, and it contains the largest and most significant area of this habitat which includes a large canyon feature. Although no replication and adequacy targets were set for deep-sea bed, failiure to designate this site would significantly reduce the area of this rare habitat within the recommendations.
- In addition to this, this is the only known location within the whole MCZ project area which contains live cold-water coral reefs, therefore if this site was not taken forward for designation there would be no examples of cold-water coral reefs protected.

Guide to Annex 5 table headings

(1) **Representation -** List the ENG feature category that the feature sits in, either broad-scale habitat or Feature of Conservation Importance (FOCI)

(2) **Replication –** Either a ✓ or x depending on whether the guideline fro replication has been met within the regional MCZ project area. If the lower level guideline has just been achieved, then an asterisk has been given in the table and discussed further in the narrative under the 'Additional comments' sub-heading below. In addition, if a guideline for replication has not been met because the feature has limited distribution or lack of records then this is recorded as a ✓* and discussed further in the narrative under the 'Additional comments' sub-heading below rather than listed as a gap in column 5.

(3) **Adequacy** – Either a ✓ or x depending on whether the guideline for adequacy has been met within the regional MCZ project area. If the lower level guideline has just been achieved, then an asterisk has been given in the table and discussed further in the narrative under the 'Additional comments' sub-heading below. In addition, if a guideline for adequacy has not been met because the feature has limited distribution then this is recorded as a ✓* and discussed further in the narrative under the 'Additional comments' sub-heading below rather than listed as a gap in column 5.

(4) **Viability** - Either a ✓ or x depending on whether the viability has been met in terms of the sites minimum diameter meets the requirements of the ENG for the features proposed for designation within it.. If the site is viable in size but the patch size of a feature proposed for designation is thought to be too small, then an asterisk has been given in the table and discussed further in the narrative under the 'Additional comments' sub-heading below.

(5) **Gaps and shortfalls in relation to the ENG minimum guidelines** – In this column it will be noted if a guideline has not been achieved within the regional MCZ project area.

(6) **Recommended Conservation Objective –** Either Maintain or Recover depending on what has been recommended. As stated in the text above the table if we disagree with the CO set by the regional MCZ project, then we put the text in italics

(7) **Quantitative considerations at regional MCZ project level –** This is anything that relates to representativity, replication and adequacy. Suggestions for set text options:

- Out of all of the rMCZs and existing MPAs, this site contributes the largest area of [insert BSH].
- Out of all of the rMCZs and existing MPAs, this site contributes the second largest area of [insert BSH].
- ENG adequacy guideline not met.
- This site is needed to meet the lower level guideline for this feature within the regional MCZ project area
- This BSH is currently only reaching the minimum adequacy guideline
- This feature only has the minimum amount of replicates.

(8) **Ecological Importance at regional MCZ level** – Qualitative statements in relation to the importance of the feature at the regional MCZ project level. Suggestions for set text options:

- Only site proposed for this feature within the region.
- Many records of this FOCI in this rMCZ.
- This feature is not protected within existing MPAs.
- This feature has limited distribution.
- Only a small proportion of this feature is captured in existing MPAs.
- Only a small proportion of this BSH is currently protected within existing MPAs

(9) **Ecological Importance at wider scale** – Qualitative statements in relation to the importance of the feature at either the whole MCZ project level or Charting Progress 2 regions level. Suggestions for set text options:

- This is the only site recommended for this feature within the whole MCZ project area.
- This is only one of two sites recommended for this feature within the whole MCZ project area.
- This feature has limited distribution in the whole MCZ project area.
- This feature has limited distribution in the [insert name] regional sea area.
- Out of all of the rMCZs and existing MPAs, this site contributes the largest area of [insert BSH] in the whole MCZ project area.
- Out of all of the rMCZs and existing MPAs, this site contributes the second largest area of [insert BSH] in the whole MCZ project area.
- Out of all of the rMCZs and existing MPAs, this site contributes the largest area of [insert BSH] in the [insert name] regional sea area.
- Out of all of the rMCZs and existing MPAs, this site contributes the second largest area of [insert BSH] in the [insert name] regional sea area.

Appendix 4: Resources to undertake the assessment of MCZ site recommendations

- SAP advice
- Regional MCZ Project final recommendation reports and any subsequent amendments submitted;
- Regional MCZ project knowledge transfer reports
- MCZ Board paper 'Process for considering features not listed in the Ecological Network Guidance for protection through MCZs'
- Ecological Network Guidance.
- Outputs from the IA ecological benefits contract
- GIS with recommendations and key datasets only
- Broadscale-habitat area spreadsheet and the sites features conservation objective spreadsheet
- Summary of the SNCB and regional MCZ project gap analysis
- European Seabirds At Sea (ESAS) database
- RSPB submission to Regional projects May 2011
- Ellis, J.R., Milligan, S.P., Readdy, L., Taylor, N. and Brown, M.J. 2012. Spawning and nursery grounds of selected fish species in UK waters. Sci. Ser. Tech. Rep., Cefas Lowestoft, 147: 56 pp. (technical report from Cefas related to the MB5301 project on fish spawning and nursery grounds – available on Cefas website)

For reference only:

- Ecological Network Guidance (ENG)
- Government expectations note;
- SNCB advice plan;
- Contribution of UK MPAs towards an ecologically coherent network (JNCC paper)

Appendix 5 - Proposed format for section 4.1 of JNCC and Natural England's advice

JNCC and Natural England's Advice on rMCZ recommendations

Introduction

- Introduction to the section and its aims

Methodology

- Overview of method and datasets used in the assessment, highlighting any issues and caveats, in particular with regards to the data provided to the regional MCZ projects on the contribution of existing MPAs to protecting features listed in the ENG (Natural England & JNCC 2012h).

Overview of the regional MCZ project recommendations describing the degree to which the regional MCZ project recommendations satisfy the guidelines in the ENG

Overview of the reference area recommendations

Site specific advice on feature and site rMCZ project recommendations

- This sub-section includes a table and narrative on the recommendations against the ENG criteria.