



SNCBs' MCZ Advice Project – Assessing the contribution of existing sites to the network (Technical Protocol H)

Version control

Build status:

Version	Date	Author	Reason/Comments
4.0	22 Dec 11	Eddy Mayhew, Jenny Oates, Jen Ashworth	Final version following review and sign off.
3.0	20 Dec 11	Eddy Mayhew, Jenny Oates, Jen Ashworth	Incorporating additional comments from the external review.
2.1	14 Dec 11	Jenny Oates	Incorporating comments from MPA Technical Group, SAP, stakeholders, and IERG.
2.0	14 Nov 11	Eddy Mayhew	Signed off version for review
1.6	11 Nov 11	Eddy Mayhew	Incorporating comments from Directors review
1.5	2 Nov 11	Eddy Mayhew, Jen Ashworth, Jenny Oates	Incorporating comments from internal review and formatting
1.4	28 Oct 11	Eddy Mayhew	Alterations to provide clarity in response to MPA Technical Group comments
1.3	3 Oct 11	Eddy Mayhew	Updated following comments from internal reviewers
1.2	28 Sept 11	Eddy Mayhew, Jen Ashworth, Jenny Oates, Beth Stoker	Incorporation of comments from JNCC and Natural England contributors
1.1	9 Sept 11	Jenny Oates, Jen Ashworth	Released to MCZ Project Board for sign off before review by Defra

Distribution list:

Copy	Version	Issue Date	Issued To
Electronic	4.0	06 Jan 12	Natural England and JNCC staff involved in the MCZ Advice and made publically available on website.
Electronic	3.0	20 Dec 11	J Marsden and J Hawkrigde for sign off
Electronic	2.0	14 Nov 11	Defra, Defra marine Arms Length Bodies,

			Independent Expert Review Panel, stakeholders
Electronic	1.6	11 Nov 11	MCZ Advice lead authors
Electronic	1.5	2 Nov 11	James Marsden and Jon Davies for sign off
Electronic	1.4	28 Oct 11	JNCC and Natural England internal review
Electronic	1.3	3 Oct 11	Submitted to MPA Technical Group for comment
Electronic	1.2	28 Sept 11	JNCC and Natural England internal review
Electronic	1.1	9 Sept 11	MCZ Project Board

Owner of the protocol: Eddy Mayhew Edward.mayhew@naturalengland.org.uk

Part 1: About this protocol

Within the MCZ Project area the existing designations which will contribute to the UK MPA network are Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Sites of Special Scientific Interest (SSSIs) and Ramsar sites. Where these designated sites protect marine features (through their conservation objectives) which are equivalent to broad-scale habitats or Features of Conservation Importance (FOCI), they will contribute towards the network design principles of representativity, replication, adequacy and connectivity as described in the Ecological Network Guidance¹.

What does this protocol cover?

This protocol describes the method that has been used as part of the MCZ process and will be used in the future to assess the contribution of existing designated sites in the MCZ Project area to the network design principles of representativity, replication and adequacy.

Who is this protocol for?

This protocol applies to everyone in Natural England and JNCC who is directly engaged in the production of the SNCBs' MCZ advice.

Part 2: The protocol

This protocol describes the process required to collate existing evidence to provide an assessment of the contribution of existing MPAs (existing protected sites with measures in place to protect either broad-scale habitats or FOCI) to the ecological coherence of the MPA network in the MCZ project area. Only those existing protected sites (SACs, SPAs, SSSIs and Ramsar sites) which directly protect features (through them being listed as designated features and have conservation objectives) which are equivalent to either broad-scale habitats or FOCI were included in the analysis. A Gap Analysis Tool² is used to assess the contribution of these existing sites towards meeting the Ecological Network Guidance guidelines around representativity, replication and adequacy.

Best available evidence in the form of biophysical mapping data and protected site boundary data are used in this analysis. Up to date information on protected sites is taken from the regulation 33 packages (inshore SACs & SPAs), Site Assessment Documents (SADs) and draft conservation objectives and advice on operations for Natura 2000 sites, and Natural England's ENSIS database (for SSSIs).

¹Natural England and the Joint Nature Conservation Committee (2010). The Marine Conservation Zone Project: Ecological Network Guidance. Sheffield and Peterborough, UK http://www.naturalengland.org.uk/Images/100608_ENG_v10_tcm6-17607.pdf

² Young, J. et al. (2011) Development of a GIS tool to support MPA network design. IN DRAFT. JNCC Report No.XXX

The methods presented here were used to assess the contribution of existing MPAs during the MCZ identification process. This information was used by the regional MCZ projects to determine which broad-scale habitats and FOCI were already protected within existing MPAs and which ones were not sufficiently protected within the existing MPA network and would therefore require protection from MCZs. We will use the method in our SNCB advice to inform our assessment of the recommended MCZs.

1. Method

a. Translation of protected features into broad-scale habitats and FOCI

To assess the contribution of existing MPAs towards the network design principles described in the Ecological Network Guidance, we must first develop a data set which lists all of the existing MPAs and the features they protect. The contribution of existing MPAs to the network is determined on a feature-by-feature basis, using the broad-scale habitats and features of conservation importance (FOCI) listed in the Ecological Network Guidance.

Since existing MPAs do not necessarily have designated features (e.g. EC Habitats Directive Annex I habitats) described in equivalent terms to either broad-scale habitats or FOCI, the designated features of each existing site need to be translated into equivalent broad-scale habitats or FOCI, where possible. This is achieved by referring to the tables in Annex 3 of the Ecological Network Guidance, and also the tables produced by JNCC³ which map out, according to underlying biotopes, which of the designated features are equivalent to which of the broad-scale habitats and/or FOCI (if at all).

For example, the Chesil and the Fleet SAC has conservation objectives to protect the lagoon feature of the site with subtidal coarse sediment (gravel, cobbles, and pebbles) communities listed against the definitions of favourable condition. For this analysis, the description of the protected feature broadly equates to the broad-scale habitat 'subtidal coarse sediment' (A5.1). The relevant row of the data table for this feature in this site would therefore be:

Feature_Type	Feature_Code	Feature_Name	Designation_type	Designation_ID	Designation_name
BS Habitat	A5.1	Subtidal coarse sediment	SAC	UK0017076	Chesil and the Fleet

b. Assessing levels of protection

Having developed the data set, features within existing MPAs which are equivalent to broad-scale habitats or FOCI should be assigned to categories depending on the level of protection afforded to them. The categories are:

- **Fully protected** - Feature is present within the site, and has a conservation objective or is a notified feature
- **Unprotected** - Feature is present with no conservation objectives

Only those features considered to be 'fully protected' in designated sites are considered to contribute towards meeting the network design principles of representativity, replication and adequacy as they are afforded long-term protection⁴. Some features may receive incidental protection through the protection of other designated features. Although these features may currently make some contribution to the network

³ http://jncc.defra.gov.uk/pdf/EUNIS_Correlation_2007-11_20101206.pdf

⁴ It is not the intention of this assessment to review the management measures currently in place for features within existing MPAs.
E Mayhew

design principles, if the site management regime changes any incidental protection of non-designated features may be removed. For this reason, the features which receive incidental protection should not be considered in the analysis as contributing towards the network design principles because this would introduce a large degree of uncertainty and margin for error in the assessment of the contribution of existing sites.

We recognise that features considered 'fully protected' may in fact be inadequately protected if appropriate management regimes are not in place or not working. However, achieving appropriate protection is within the control of the regulatory authorities through amendments to management regimes rather than seeking additional designations to compensate for reduced protection. Therefore, MCZs should not be identified to compensate for inadequate protection of designated features within existing MPAs.

c. Spatial analysis

Using the Gap Analysis Tool, spatial data, alongside the list of existing protected sites and protected broad-scale habitats and FOCl, should be used to calculate the contribution of existing protected sites towards replication, representativity and adequacy guidelines in the MCZ Project area. These spatial data need to include the location and extent of broad-scale habitats and FOCl and the boundaries of protected sites with fully protected features identified through the second part of the analysis described above.

To support the mapping of broad-scale habitats and FOCl, best available⁵ national evidence must be used. This should include, as a minimum:

- Broad-scale habitats
 - A combined broad-scale habitat map derived from UKSeaMap 2010, seabed survey habitat maps collated by the MESH Project, intertidal habitat maps⁶ and data collected through the MALSf Regional Environmental Characterisation (REC) surveys⁷.
- Habitats of conservation importance
 - Data mapped under Defra led contract⁶
- Species of conservation importance
 - Data mapped under Defra led contract⁶

2. Summarised steps for assessing the contribution of existing designated sites in the MCZ Project area to the network design principles of replication, representativity and adequacy.

- a. Collate list of protected sites which have a marine component;
- b. List the features protected through the conservation objectives of those Marine Protected Areas in the MCZ Project Area, using the regulation 33/5 documents and Site Assessment Documents for Natura 2000 sites, and SSSI notifications;
- c. Translate protected features in designated sites to appropriate broad-scale habitats and/or FOCl;
- d. List the broad-scale habitats and FOCl that are protected by existing sites, through protection of equivalent features;
- e. Assemble current spatial data for protected site boundaries;
- f. Assemble current feature location and extent data for broad-scale habitats and FOCl throughout the MCZ Project area;

⁵ Available at the time of the analysis.

⁶ Defra (2010) Accessing and developing the required biophysical datasets and data layers for Marine Protected Areas network planning and wider marine spatial planning purposes (Contract reference number: MB0102).

⁷ Available from <http://www.cefas.defra.gov.uk/alsf.aspx>

- g. Using the existing sites boundary data, the maps of broad-scale habitats and FOCI, and the tables listing the broad-scale habitats and FOCI which are protected through existing sites, use the Gap Analysis Tool to calculate the contribution of existing sites towards the networks design principles of replication, representativity and adequacy.

3. Outputs of the analysis

There are two outputs from this work:

- 1) The list of designated sites that have a marine component (1st stage of the analysis). This will show all designated sites in the MCZ Project area which have a marine component and indicate all the features that they protect, regardless of whether they are equivalent to broad-scale habitats or FOCI.
NB: Because this first stage output will refer to a range of feature classifications (e.g. Annex 1 and 2 features, notified SSSI features and geological features), it will not show the contribution of existing designated sites to the network design principles of replication, representativity or adequacy.
- 2) The contribution of existing sites in the MCZ Project area to the replication, representativity and adequacy guidelines listed in the Ecological Network Guidance. The results will show, for each regional MCZ project area, and for each broad-scale habitat and FOCI;
 - a. whether the guideline has been met;
 - b. whether the guideline has nearly been met;
 - c. whether the total extent of a broad-scale habitat within a regional MCZ project area is less than 5km² based on the mapped evidence used; and
 - d. whether the feature is not known to occur in the regional MCZ project area, based on the available evidence.

These outputs will be provided individually against each of the replication, representativity and adequacy principles. It is important to note that the output of 1) will indicate all existing designated sites in the MCZ Project area which have a marine component, while the outputs of 2) will be a subset of these sites, showing those existing sites that contribute towards the network design principles.

4. Caveats to the analysis, risk and mitigation steps

There are inherent limitations to these analyses and some assumptions are necessary. Some of these considerations are:

- a. **Identifying broad-scale habitats and FOCI within protected sites.** The equivalence of EC Habitats Directive Annex I habitats to broad-scale habitats is not always clear. Annex I habitats are typically very broad, encompassing many different habitat sub-types and sub-features, and in general, are broader than the definitions of the broad-scale habitats. Similar issues are also true for notified features within SSSIs. As such there is not always a clear relationship between similar habitats and we often need to make a detailed assessment on a site-by-site basis. A degree of caution should therefore be used when interpreting the results at a detailed level. We consider that SACs only protect a FOCI or broad-scale habitat if that FOCI or broad-scale habitat is considered to be protected by the conservation objectives for the Annex I habitat (i.e. if the broad-scale habitat or FOCI is part of the Annex I feature, is a sub-feature, or a characteristic species). To help to quality-assure this analysis, the tables produced by JNCC³ were used to cross-reference the Annex 1 or SSSI-notified feature against potential equivalent broad-scale habitats or FOCI. SNCB regional staff familiar with the site-specific features provided input to the process to develop the tables so that the information on broad-scale habitats and FOCI protected through existing sites is as accurate as possible.

- b. **Feature protection in existing sites.** In many cases it is difficult to determine whether the equivalent feature is actually fully protected in an existing site (i.e. is present and has a conservation objective assigned to it). This is a result of the intent of the existing designation. For example, an SPA set up with the intent of protecting feeding bird populations in an intertidal area may have a conservation objective to maintain the intertidal mud feature. If the purpose of this conservation objective is to protect the mud solely for its physical structure (for example as roosting structures) then this may not necessarily result in full protection of 'intertidal mud' and its biological structure and functioning. To resolve this, refer to the favourable condition table of the Conservation Advice (regulation 33/5) document for each site. This table describes our understanding of favourable condition of the feature. Use the tables to determine whether the biological attributes of these features are also directly protected through the conservation objective(s). SNCB regional staff should review these assessments to quality assure them.

There are some difficulties in assessing whether features are afforded full protection (in the context of the network design principles), because the existing designations are underpinned by differing legislation and policy drivers. This can make the translation of designated feature to broad-scale habitats or FOCI more difficult.

There will therefore remain some uncertainty over elements of the analysis. To ensure that the best possible information is used, the previously-collated table of which broad-scale habitats and FOCI are protected within which existing sites, should be extensively quality-assured amongst SNCB regional staff who are familiar with the designated sites listed.

- c. **Information on features and spatial data.** The mapped information in the national datasets for features of conservation importance does not fully account for local or regional records. In addition, the combined broad-scale habitat map is based in many areas on modelled data from UKSeaMap 2010. As with any modelled data there are uncertainties, and any calculations derived from these data will have an associated degree of uncertainty.
- d. **Issues of scale of protected features and mapping.** For the broad-scale habitats it should be assumed that, where the feature has been listed as 'Fully protected', it will be protected throughout the MPA where it occurs. However, this assumption does not hold true for SACs designated for Annex I sandbanks which are slightly covered by sea water all the time. For these SACs the seabed and benthic communities between the sandbanks are not directly afforded protection. The extent of the Annex I sandbank habitat within SACs has often not been accurately mapped in digital form. As such it is necessary to assume that all subtidal sand within the SAC boundary is protected. For several SACs the extent of Annex I sandbank has been accurately mapped and used in place of the SAC boundaries to determine the contribution towards the network design principles of representativity, replication and adequacy. These SACs are: Haisborough, Hammond and Winterton candidate SAC (cSAC); Inner Dowsing, Race Bank and North Ridge cSAC; and Margate and Long Sands cSAC.

For Pisces Reef pSAC and Croker Carbonate Slabs pSAC the extent of Annex I Reef has been accurately mapped within the SAC boundaries. As such, the boundary for the extent of Annex I Reef within these SACs has been used in place of the SAC boundaries to determine the contribution towards the network design principles of representativity, replication and adequacy.

As well as the limitations identified above, the following assumptions should be used when assessing the contribution of existing MPAs towards the network design principles of representativity, replication and adequacy:

- a. Ramsar sites are underpinned by the designation of SSSIs, and so there is no requirement to consider their contribution separately. Both the Ramsar site and underpinning SSSI would afford protection to the same features so only the contribution of SSSIs should be considered in the analysis.
- b. Draft conservation objectives for candidate, possible and draft SACs can be used to determine those features which are afforded protection. Although draft conservation objectives may change before they are finalised, but we do not anticipate these changes to be substantial for benthic species.
- c. The boundaries for draft SACs and possible SACs can be used. These boundaries may change following formal public consultation if new evidence or information becomes available. Any such changes could have an effect on the quantity of the feature used in the analysis although it is thought unlikely a change will have a significant impact on the overall results.
- d. The Regional Environmental Characterisation (REC) data is incorporated into this assessment. However, because of the high resolution of these data you will need to do some translation of the spatial mapping information back to broad-scale habitats. Translation tables are needed to link the REC data with broad-scale habitats.

Due to the limitations and assumptions detailed here the results will only provide an indication of the contribution of existing MPAs towards the Ecological Network Guidance principles.

Annex 1: Implementing and communicating the protocol

The lead author from JNCC and Natural England will be responsible for ensuring the protocol is implemented. They will ensure that all internal contributors to section 4 of the MCZ advice will have a copy of the protocol and understand the requirements.

Defra's Marine Biodiversity team, Chief Scientific Advisor, Defra Arms Length Bodies, the Independent External Review Group, and wider stakeholders were invited to review the draft protocol and provide comments to Natural England and JNCC. Natural England and JNCC have considered all the comments received and updated the protocol accordingly. Comments received, and the draft and final protocols will be accessible on JNCC and Natural England's website.

Annex 2: Monitoring and review

Lead authors will monitor assessments and draft advice from section leads to ensure the protocol is followed. An independent expert review panel will assess whether the draft advice package is consistent with the protocol.

This protocol is currently time limited for the duration of the SNCBs' advice on MCZ recommendations. The MCZ Project Board may commission a review of the protocol in the light of any changes to timetables or policies.

Annex 3: Related documents

List of all of the MCZ advice protocols:

- A. Strategic protocol – The Principles Underpinning Our Statutory Nature Conservation Body Advice On Marine Conservation Zone Designation;
- B. Quality control, assurance and peer review;
- C. Document style and language;
- D. Audit trail – version control and record keeping;
- E. Assessing the scientific confidence of the presence and extent of features in recommended Marine Conservation Zones;
- F. Assessing the scientific confidence of feature condition;
- G. Assessing Marine Conservation Zones most at risk;
- H. Assessing the contribution of existing sites to the network.