

# Science Advisory Panel Response to the Balanced Seas 3rd iteration Report

## 1. Overview

- 1.1. The Report is clear, comprehensive and well-written with very professional presentation of the data, excellent maps and additional information for the draft Marine Conservation Zones (dMCZs) and Broad Areas of Interest (BAI). The careful consideration of our comments made after the 2nd iteration presentations is acknowledged and appreciated. It is helpful to see the comments of stakeholders. We share their view that progress is still dependent upon actions to be taken outside the projects and section 4 of this response contains our requests for action by Defra and the Statutory Nature Conservation Bodies (SNCBs).
- 1.2. The network of 19 dMCZs and 6 BAIs is still in draft form. There are no agreed and finalised MCZs or Reference Areas. The whole network is still provisional and subject to change. It is emphasised that Regional Stakeholder Group (RSG) support is conditional.
- 1.3. Despite being at a late stage in the planning process, Balanced Seas are trying to incorporate new data sets. The most important of these is the English Channel Synthesis Study, a high-quality EUNIS-classified habitat map spanning more than half of the project area and forming the last in the series of Regional Environmental Characterisation (REC) studies undertaken by the Marine Aggregate Levy Sustainability Fund. The REC data represent a much more refined analysis of rock- and sediment-based habitat types than previous REC maps have provided and are therefore likely to significantly alter the mapped distribution of existing broad-scale habitats.
- 1.4. Throughout, it has been made clear that Regional Stakeholder Group (RSG) support would not be achieved without an understanding of the implied management measures required to achieve the conservation objectives for the individual sites. During the 3<sup>rd</sup> iteration, Balanced Seas have captured and managed stakeholder expectations in relation to the measures necessary in a site, which it calls 'management statements'. However these statements, developed for 5 dMCZs, are informed assumptions. If they are incorrect, support for individual dMCZs is likely to change, which may lead to modification of the proposed network. This uncertainty and the existence of BAIs, which have yet to be agreed at any level of detail, prevents us from reaching a conclusion on the extent to which the ENG requirements are likely to be met. Although not a matter for us, impact assessments remain uncertain too. These uncertainties must be removed by the time the final draft recommendations are submitted at the beginning of June. Specific action to reduce these uncertainties is recommended in paragraph 4.2.
- 1.5. Subject to the removal of stakeholder caveats on support for the individual sites, the identified network of dMCZs goes some way to meeting the design principles for Representativity, Replication, Adequacy, Viability and Connectivity but there is more to do. Further comments are provided in section 2. Potentially useful work has gone into identifying Reference Areas, but as noted above this has yet to result in the identification of possible sites. This is a contentious, but important requirement of the ENG which needs to be fulfilled. We offer advice on selecting Reference Areas in Annex 2.
- 1.6. We are concerned that the emerging, provisional network appears to be being constructed above all to avoid (largely un-quantified<sup>1</sup>) socio-economic costs whilst meeting the minimum ENG targets. The intent should be to maximise ecological benefits, guided by the seven ENG design principles and the occurrence of Areas of Additional Ecological Importance, whilst minimising **quantified** socio-economic costs. We appreciate the difficulty of carrying out the required task for the busy eastern Channel but the primary purpose of MCZs is to conserve habitats and species that are representative and important

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<sup>1</sup> i.e. Before an Impact Assessment is prepared

indicators of ecological health; minimum protection of unproductive areas of the seabed will not accomplish that.

## 2. Detailed comments

- 2.1. The **Representativity** target is largely met by the combination of existing MPAs, dMCZs and BAIs; all the appropriate Broad-Scale Habitat (BSH) and Habitat Features of Conservation Importance (FOCI) that are in the region are included. We are very pleased to see the efforts that have been made to accommodate regional biogeography, in the placing of dMCZ in both the Channel and Southern North Sea biogeographic zones.
- 2.2. BSH are sufficiently well **Replicated** but further work is needed on the Habitat FOCI. We note the valid exceptions to the replication targets for low mobility species FOCI (Figure 5). The single site for Fragile Sponge and Anthozoan communities (Fig 4) does not agree with the site descriptions, where such communities are mentioned at BAI 14 p77 and dMCZ 28 (i.e. n = 2).
- 2.3. A number of BSH and Habitat FOCI still do not meet **Adequacy** targets. It is appreciated that a revision of the sea bed maps (paragraph 1.3) may alter the figures. Various types of rock-based BSH are just meeting or are below the minimum requirements. The identification of a range for the adequate proportion of BSH to be protected reflects the uncertainty in specifying this quantity. By choosing to meet the minimum target only, Balanced Seas is taking a risk that the area protected will be inadequate in practice. This is not good practice. We accept the explanation contained in Table 6 for the adequacy of BSH that have no proportion targets.
- 2.4. A significant number of the dMCZ designated for BSH are below the threshold for **Viability** as specified in Section 4.5.3. of the ENG. Having a few large offshore sites does not compensate for smaller, non-viable inshore sites. The size ranges in the ENG (average between 10 – 20 km) should apply both inshore and offshore. They are set to allow for MCZ to have an appreciable ecological footprint. Given the dispersed nature of marine habitats and communities, such size ranges have been set to allow for the protection of the broad range of species and systems for which BSH are surrogates. Both the ENG and further guidance make these points. The ENG criteria cannot be applied selectively – replication, adequacy and viability are all interconnected components in producing an ecologically coherent network. All these criteria must be met. In our previous advice, we agreed that in “exceptional circumstances” a MCZ or Reference Area could be below the size specified in guideline 9. However, exceptional means exactly that. Quite a number of sites are too small to meet ENG viability requirements.
- 2.5. **Connectivity** has been demonstrated for 40 km and 80 km distances by broad-scale habitat, EUNIS level 2. However, we advise that small sites that do not meet the viability criteria cannot be used to build connectivity. Small sites, evenly spaced, should not fill connectivity gaps.
- 2.6. **Levels of protection** are beginning to be included in the dMCZ site reports. However, we note with concern the frequent statements that support by RSG members is dependent on their sector’s activities not being affected in any way. As noted in paragraph 1.6 the RSG is charged with delivering an ecologically-coherent network meeting the requirements of the ENG.
- 2.7. **Best Available Evidence:** There is good evidence of using local knowledge and additional data sets, and noting regional ‘Other features’ for protection. These data help ‘make the case’ in terms of importance for biodiversity conservation. All the Regional Projects need to ensure that the data sets used in this way are robust and can be substantiated with survey data, photographs etc. We have provided advice on this previously.
- 2.8. There are significant benefits in making the case for a dMCZ and for informing the development of management objectives in identifying what are described as “other

features” for protection in the ENG. These are especially species that are present in a dMCZ, are not listed as FOCI but are rare, scarce, in decline or threatened with decline. Such species should be listed in site assessment documents. Some of those “other features” may justify conservation objectives but, for species, objectives that encompass a range of different taxa should be possible.

- 2.9. Balanced Seas clearly understand that **Areas of Additional Ecological Importance (AAEI)** are important areas for the key life cycle stages of species (e.g. spawning/nursery grounds and areas of high productivity, identified by the presence of foraging birds for example’. They also accept that such areas require particular attention in the selection of draft MCZs in order to maintain ecosystem processes and services. However, the necessary protection of these features is not fully understood by the stakeholder group. The SAP has recently provided advice, verified by the SNCBs, on this matter, which is reproduced at Annex 1. These AAEI should be used to prioritise sites and adjust boundaries to ensure that the ecological performance of the network of sites is maximised. So called ‘water column protection’, pioneered by Finding Sanctuary, provided a useful conceptual rationale for delivering ecological benefits away from the benthos. However, such benefits can only be realised in practice by following the procedure outlined in Annex 1. In fact, in dMCZ 16 Kingsmere, Balanced Seas has an excellent example of a dMCZ with conservation objectives to maintain nursery/spawning grounds there, and corresponding management measures. However the site will have to be designated for the seabed habitats that sustain those grounds not their ecological functions. Clause 117 of the Marine and Coastal Access Act is very clear the MCZs can be designated only for marine flora or fauna, marine habitats or types of marine habitat and features of geological or geomorphological interest. There is no scope to designate for a ‘water column feature’ and the term should now be dropped.
- 2.10. Some residual inaccuracies in the Gap Analysis are reported by Balanced Seas. Means of working around these are suggested but the deficiency requires correction – see paragraph 4.3.
- 2.11. The Gap Analysis of existing Marine Protected Area (MPA) designations shows that for some BSH and habitat and species FOCI, existing MPA contribute substantially to the representation, replication and adequacy targets. Clarification of the management regimes should be sought from the SNCBs to understand the levels of protection in place or planned.
- 2.12. We are pleased to see that the Environment Agency is now engaged with Balanced Seas in discussing MCZ within the context of existing Environment Agency targets and welcome their offer to advise on the protection of smelt and eels.
- 2.13. We note the comments made in section 1.6 of the Balanced Seas Report regarding Reference Areas but are puzzled by the described reaction to the recent SNCB guidance. It is our understanding that all features present (BSH and/or FOCI) will be designated within a reference area but, in all cases, the conservation objectives will be to achieve reference condition for them, requiring all extraction, deposition or human-derived disturbance to be removed, wherever feasible, within the boundaries of reference areas. In other words, the management measures will be the same for all Reference Areas, irrespective of their designations.
- 2.14. Response to **Specific queries** addressed to the SAP
  - 2.14.1. We have been unable to find any verifiable records of *Phymatolithon calcareum* – Common Maerl in the region and believe that Balanced Seas is justified in not recommending a potential MCZ for this FOCI target.
  - 2.14.2. Mud Habitats in deep water – we can only advise use of Best Available Evidence, giving greatest weight to verifiable data.
  - 2.14.3. Advice by Balanced Seas is sought on replicates for Peacock’s tail (*Padina pavonica*): Whilst Bembridge is a rich area for this species, having two sites close together risks

of potential loss or damage to both as a result of one or more damaging events/impacts, i.e. they are not replicates. We therefore recommend that sites with greater separation are sought. There are two other sites on the Isle of Wight that have populations of *Padina pavonica*: Hannover Point, east of Freshwater Bay and Colwell. There are sites to the west of the Isle of Wight (including Kimmeridge, Weymouth, Osmington, Sidmouth) where *Padina pavonica* has been recorded and we recommend a dialogue with Finding Sanctuary to determine the way forward for replication for these southern populations of this FOCI species.

- 2.15. **Site level reports** are very well presented. Additional information in the form of minimum and maximum dimensions of a site is needed, to help demonstrate that ENG viability guidelines are met. See also paragraph 4.1.
- 2.15.1. **dMCZ 11.1, 11.2, 11.3 Dover.** Do these sites meet viability requirements? Does the western boundary include all the Lower Greensand at Copt Point Folkestone? Clearly this is a difficult area, but if the high quality of the ecology of these sites requires these locations to be MCZs, then the discussion has to be over management measures, not designation.
- 2.15.2. **BAI no 14.** This is not the only site of Fragile Sponge and Anthozoan communities. See also dMCZ28
- 2.15.3. **dMCZ 13.1 Beachy Head East,** Re: Management statement. Given that intertidal sediments are listed as ENG features, it is difficult to accept that bait digging does not affect them and should be allowed to continue at “current high level(s)” This site is also noted as heavily fished with static gears, but no restrictions on this activity are envisaged if the site became a MCZ. Surely deployment and removal of static gears damages seabed features such as littoral chalk communities and peat and clay exposures and subtidal biogenic reefs? These appear to be unrealistic assumptions for the management measures.
- 2.15.4. **dMCZ 13.2 Beachy Head West,** The assumption that there will be no restriction on extractive activities on this site appears unrealistic. Biotopes have been done for the shores from Brighton to Beachy Head (Tittley pers. com. to Juliet Brodie). It appears that these have been incorporated but it would help to obtain confirmation and if not for these to be included. This area is also where there are extensions of the eastern limits of species [e.g. *Caulacanthus ustulatus* (alien), *Pterosiphonia pennata*, *Gelidium spinosa*].
- 2.15.5. **Norris to Ryde.** It is not clear how ferry activity would be threatened by a MCZ, unless the ferries are in such shallow water as to impact seagrass beds and subtidal mud.
- 2.15.6. **dMCZ 26 Hythe Bay.** The areas within the dMCZ identified as areas of trawling restriction (p122) seem impractical. If trawling is to be permitted within the MCZ a more straightforward ‘shape’ is required to describe this. Complex shapes become unmanageable, and the ENG guidance makes this point.
- 2.15.7. It is noted that Harwich is not included in the network. Given that it is the only rocky shore in Essex (London Clay ashfall band) and is a notable site for seaweeds, it would be useful to have reasons for this decision.

### 3. Actions required by Balanced Seas

- 3.1. The detailed comments in section 2.14 and 2.15 raise issues that require consideration.
- 3.2. The SAP expects **all of the guidelines of the ENG to be fulfilled completely** by the draft final recommendations. Where specific requirements cannot be met, for example because of a lack of replicates in the region, this will need to be explained.

- 3.3. Balanced Seas are asked to review their use of AAEl in the light of the advice given in Annex 1, noting that this endorsed by the SNCBs and that de facto dMCZ 16 appears to be responding effectively if not precisely to that advice.
- 3.4. There are a number of comments by stakeholders in the Report which encourage re-evaluation of the network following receipt of the new data sources such as the National Biodiversity Data layers, useful for identifying AAEl, and that mentioned in paragraph 1.3. We endorse this suggestion.
- 3.5. Balanced Seas are asked to review their selection of Reference Areas in the light of advice in Annex 2. Note that the designation of such Areas will be for all features (BSH or FOCI) within the area and in all cases the conservation objective will be to achieve reference condition for the feature(s), requiring all extraction, deposition or human-derived disturbance to be removed, wherever feasible, within the boundaries of Reference Areas. In other words, the management measures will be the same for all Reference Areas, irrespective of their designation,
- 3.6. Although the period of active data collection has been concluded all Regional Projects should capture supplementary information wherever it is available. The stricture on using Best Available Evidence continues to apply.
- 3.7. Little or no progress has been made in fulfilling the guidelines relating to geological and geomorphological features of interest in the Balanced Seas region. There are 9 Coastal Geological Coastal Review sites and 2 geological/geomorphological sites in the project area that could have protection from MCZs. This should be considered and contained in the draft final recommendations if appropriate.

#### **4. Actions sought of Defra and the SNCBs**

- 4.1. The Regional Projects have clearly made progress towards using a more common terminology and graphics but, for the final reports, we expect a fully agreed common terminology and layout for reports and associated material recalling that information will be in the public domain. The SNCBs are asked to ensure that this is achieved.
- 4.2. A concerted effort must be made by the SNCBs and probably the Marine Management Organisation and other relevant authorities to validate or otherwise the assumptions being made by stakeholders concerning the activities (including co-locations) that will be permitted in the various p/dMCZs in order to achieve the stated conservation objectives. The results of this work must be available before the Regional Project final draft recommendations are prepared.
- 4.3. Doubts continue to be expressed about the role of the Gap Analysis. In particular, it is still not clear what habitats and species are actually protected within existing MPAs, which is essential information for Regional Projects to come to a view on how much of a given feature should be protected outside the existing MPA network. SNCB views are sought and should be made available widely.
- 4.4. All regional projects are benefitting from MPAs designated in response to European legislation which, with SSSIs, RAMSAR sites and MCZs, will contribute to an ecologically coherent network. The SAP assumes that management regimes will be put in place in all cases to ensure that all types of MPAs will achieve the conservation objectives implied by their inclusion in the overall UK ecologically coherent network.
- 4.5. To assess the network of MPAs and MCZs recommended by the Regional Projects it would be helpful for us to have access to Marxan outputs based on best available data on broadscale habitats and FOCI, constrained by the requirements of the ENG. To examine influences on the choices that have been made by the Regional Projects we request, if possible, that the Marxan results compare 1) inclusion vs. exclusion of existing MPAs, 2) inclusion vs. exclusion of Areas of Additional Ecological Importance, and 3) inclusion vs.

exclusion of data on socio-economic costs. We understand that the latter will not be possible if data on the spatial distribution of those costs are unavailable and that Impact Assessments may not be available when we need to provide our advice to Defra. Nevertheless, it may be possible to use surrogates to help explain differences between the recommended and Marxan-derived networks in our advice. Given that the requested Marxan runs will require time and specialist expertise we suggest that such work should be done under contract and ask Defra to consider providing the funds for this.

**SAP advice on the use of Areas of Additional Ecological Importance (AAEI)**

**in the design of an ecologically coherent network of Marine Protected Areas.**

1. It is not the role of the Science Advisory Panel to determine policy but we are required to advise the Regional Projects, and ultimately Ministers, on the extent to which Regional Project network proposals are consistent with guidance as expressed in the Ecological Network Guidance (ENG) and supplementary advice provided by the Statutory Nature Conservation Bodies (SNCBs) and accepted by Defra. The primary purpose of this note is to offer our advice with regard to the use of AAEI because it seems to us that available guidance on AAEI is not being followed adequately or consistently.
2. AAEI are a particularly important concept in the design of the Marine Protected Area (MPA) network because alongside the numerical ENG Guidelines that inform that process, stakeholders are required to resolve two parallel prioritisation processes. These are the maximisation of ecological benefit and the minimisation of socio-economic cost. There are tools to assist these decisions, such as Marxan, but they require adequate data on the benefit and cost and ultimately resolution will depend upon informed human judgement. It does not help that AAEI data have only just begun to be available in a coherent form<sup>2</sup> and quantitative socio-economic data are still highly uncertain. Cost avoidance has understandably been at the forefront of the industry stakeholders' minds since the outset. Hopefully this has been counterbalanced by strong arguments provided by conservation stakeholders to maximise ecological benefits. Careful interpretation of available data and the Guidelines concerning AAEI are essential if sound judgements are to be reached.
3. The SAP has consistently advocated early application of Guidelines 20 and 21 in the selection of Marine Conservation Zones (MCZs) within a network of MPAs as described in section 5.2, amplified by Annex 2, of the ENG. As required by that guidance, AAEI are to be used to **rank or prioritise** MCZs required to 'protect'<sup>3</sup> an appropriate area, number and distribution of replicates of identified Broad Scale Habitats (BSH) and Features of Conservation Importance (FOCI), in line with the seven design principles in the ENG. Note that paragraph 5.2.4 explicitly precludes the designation of MCZs simply on the basis of AAEI.

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<sup>2</sup> E.g. the data layer developed by The Wildlife Trusts in autumn 2010 which identifies areas of additional ecological importance and the datasets provided by MB102, which map benthic biodiversity for both species and biotopes.

<sup>3</sup> As defined in section 4.7 of the ENG

4. The species and habitat FOCI that can be used to identify areas for designation are not limited to those listed in the ENG and the SAP has also consistently encouraged the Regional Projects to protect additional habitats and species of local or regional interest. It is clear that any MCZ chosen for a locally or regionally important species must be justified on the basis that an area subject to enforceable management measures is an appropriate way to deliver identified conservation benefits. Box 1 in Annex 2 of the ENG describes a process that was undertaken to assess which mobile FOCI fall into that category. This resulted in the identification of the three mobile species listed in the ENG. That was definitive in one sense but again the list is not formally closed. The Guidelines and accompanying text do encourage selection of areas suitable for key lifecycle stages of all species not just those listed as FOCI in the ENG.

## 5. Current SAP advice in interpreting the ENG

- 5.1. *Where there are options for the location of MCZs that fulfil the seven design principles of the ENG for BSH or FOCI, priority should be given to those that are located in areas of additional ecological importance. MCZs chosen in this way should be designated for the relevant BSH or FOCI and should have conservation objectives to maintain the designated feature in a way that supports the AAEL.*
- 5.2. The process described in 5.1 is attempting to protect important ecosystem functions that lead to high productivity, biodiversity and sustainable populations solely by protecting benthic features. The efficacy of such protection is difficult to assess, except where the benthos is closely involved in the function, as when it supports spawning and nurseries. Here the conservation objective could be to maintain the substrata in a form which makes them suitable for these functions. Where the guidelines for the design principles are met in full by other MCZs in the network, the conservation objective should be to protect the relevant habitat at least during key seasons (connected to spawning and nursery activities). If a confounding activity/ pressure can have a lasting effect on the habitat the management measures necessary to achieve the conservation objective should apply at all times.
- 5.3. Sustained high productivity in an area suggests that ecosystem processes are working well there even if the details are obscure. In this case, by way of an example, the conservation objective for an area of subtidal sand supporting a rich and diverse fishery might be to maintain the population of prey such as sandeels.
- 5.4. It is important to recognise that the identification of AAEL on the grounds that they are used preferentially by predators such as seabirds and basking sharks<sup>4</sup>, are useful as a means of identifying areas of high prey density<sup>5</sup>, and hence ecological productivity, but they do not justify protection of the predator species there.

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See also the 'Supplementary Advice to the Ecological Network Guidance on Cetaceans' provided by the SNCBs which makes relevant but more general points about the (non) use of MCZs for the protection of cetaceans.

<sup>5</sup> The SAP's advice in the response to the 1<sup>st</sup> iteration proposals to use fishing effort data in an analogous manner was ruled in admissible under the terms by which such data were provided by the industry



## Reference Areas

The SAP is concerned that progress toward identifying Reference Areas has been slow and patchy across the Regional Projects. It is also concerned that the processes used to identify candidate Reference Areas to date have tended towards choice of small and marginal areas of little perceived value to stakeholders, and therefore possibly containing poor examples of the habitats to be protected. This approach may lead to the selection of Reference Areas that are sub-optimal from the perspective of their core objective. This is, and we quote from the Draft Guidance on Reference Areas:

“Reference Areas provide a key opportunity to demonstrate the unimpacted state of a broad range of marine features, in the context of prevailing environmental conditions. For Reference Areas to be an effective control against which it is possible to assess the effects of pressure, the human activities within them need to be managed so that impacts are minimised at the site. Definitions also cover activities that occur outside of the Reference Area, but which may impact upon the feature(s) within. This means that they will be areas where all extractive, depositional and/or disturbing and damaging activities are excluded.”

The SNCBs have confirmed<sup>6</sup> that:

- 1) Reference Areas will be designated for one or more specific broad-scale habitats and FOCI.
- 2) Each will be given a conservation objective to reach reference condition.
- 3) In order to allow broad-scale habitats and FOCI **to achieve reference condition, all extraction, deposition or human-derived disturbance would be removed, wherever feasible<sup>7</sup>, within the boundaries of reference areas.**

The SNCB Guidance document<sup>8</sup> for regional MCZ Projects elaborates activities that are considered to be extractive, depositional, or induce unacceptable levels of disturbance.

In order to achieve these aims, it is important that Reference Areas are chosen to be representative of the different broadscale habitats and FOCI present within each region. They should not be poor examples that are selected because they are places that nobody values. We ask Regional Projects to keep in mind the following points in coming to decisions about the size and location of Reference Areas.

- 1) Reference Areas should conform to the Viability criterion for MPAs in the Ecological Network Guidance so as to be large enough to sustain viable examples of their component habitats or FOCI over the long term. This means that Reference Areas chosen to represent a broad-scale

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<sup>6</sup> “Interim note on reference areas: key principles” March 2011

<sup>7</sup> ‘Wherever feasible’ is included in this context as recognition that there may be some circumstances where it is simply not practicable to prevent absolutely all human-derived impact, such as diffuse pollution, in a reference area.

<sup>8</sup> [http://www.naturalengland.org.uk/Images/MCZ-regional-guidance\\_tcm6-23451.pdf](http://www.naturalengland.org.uk/Images/MCZ-regional-guidance_tcm6-23451.pdf)

habitat should generally have a minimum diameter of 5km, and the average size should be between 10 and 20 km in diameter, to match that of MCZs receiving lower levels of protection. Reference Areas smaller than this, with a minimum dimension of 1 to 5 km, may still be valuable in a network but such choices should be exceptional and based on a robust scientific case.

- 2) Reference Areas chosen primarily for FOCI should conform to the guidance in Table 7 of the ENG. Where the FOCI to be protected are quite small in area (perhaps as small as 100m across) and do not occur or only occur as poor examples elsewhere in a Region, and where they do not occur with other more extensive examples of habitats and FOCI, a protected area may be small, provided that area can still be easily identified by users of the sea, and where edge effects are likely to be minimal. In these cases, broad-scale habitats overlapping with FOCI and occurring within the reference area will require a conservation objective to meet reference condition even if the size of the reference area will fall below the minimum viability criteria. However, a viable reference area (i.e. > 5km in minimum dimension) for each such broad-scale habitat will need to be identified elsewhere. Examples of where smaller reference areas may be appropriate include offshore reefs or islets, or intertidal features. The ENG provides general guidance on the selection of MCZ buffer zones/safety margins (section 6.3 and Annex 11). However we believe that precautionary principle should be applied to small Reference Areas that are likely to have limited resilience. Accordingly we suggest that boundaries should be preferably 500m away from the feature and never less than 100m, except for those parts of a protected area bounded by land.
- 3) In view of their particular role in furthering scientific understanding of human effects on marine habitats and species, places with existing survey and monitoring data might be favoured over places with little data.
- 4) Following from Point 3, such places might well lie within existing marine protected areas, such as Special Areas of Conservation. Given that extensive areas of certain habitats lie within SACs, Regional Projects should look closely at options for siting Reference Areas within them.
- 5) Regional projects might also consider accessibility of sites in reaching decisions. Reference Areas need to be sufficiently accessible for scientific research and monitoring. However, it may be impossible for places that are too easily accessed and intensively used to recover to an unimpacted state. Such places would therefore fail to fulfil the core function of Reference Areas.
- 6) Ideally the quality of the features within Reference Areas at designation should be broadly comparable to the quality in other Marine Conservation Zones. However, attention is drawn to section 6.2 of the ENG and the particular role of Reference Areas as benchmarks, suffering minimal disturbance, against which ecosystem change in other locations can be assessed through scientific study. The SAP therefore suggests that, where possible, Reference Areas should be areas where disturbance of the relevant broad-scale habitat or FOCI together with the 'other features' for protection is believed to have been minimal in the past or where recovery is likely if damaging activities are prohibited.
- 7) Reference Areas should, apart from being typical of the habitat being protected and, where possible, hosting FOCI species, include species that may provide an indication of quality or of change in the biotopes present. Such species are likely to be those that are known or likely to be sensitive to particular pressures/activities or are ecological engineers.

- 8) While areas with wrecks may have gained some de facto protection from exploitation in the past, if Reference Areas are to be established around wrecks they should be sufficiently large to include areas of habitat that are representative of conditions outside the wreck.