

## Science Advisory Panel Response to the ISCZ 3rd iteration Report

### 1. Overview

- 1.1. The Report is clear and well-written. There are significant improvements in data availability, use and presentation in comparison with the 2<sup>nd</sup> iteration report and the account of work done is helpful. In the final report, the maps should be co-located with the text which refers to them, rather than at the end of the document. The interactive map requires some attention to improve its usability. The careful consideration of our comments made after the 2<sup>nd</sup> iteration presentations is acknowledged and appreciated.
- 1.2. Ten potential sites (a mixture of possible Marine Conservation Zones (pMCZs) and Broad Areas of Interest (BAI)) have been identified in this 3<sup>rd</sup> iteration. Whilst this does not represent an increase in the quantity of sites put forward since the 2<sup>nd</sup> iteration, all but one site has been subject to boundary changes. Such changes have enabled the capture of greater ecological value; better performance against the criteria set out in the Ecological Network and increased levels of stakeholder support.
- 1.3. Only a putative attempt has been made to identify Reference Areas and only with the representatives of the stakeholder group that have ecological expert knowledge. Thus there remains no consensus on the Reference Areas and this has been delayed until the next round of meetings. However, it is good that ISCZ have begun the process from a purely ecological point of view before subjecting these to wider scrutiny.
- 1.4. The ISCZ have used the PRISM and PISA database tools developed by Net Gain to assist in the identification of conservation objectives. This is helpful as it provides a degree of comparability between the approaches taken in at least two of the regional projects. The conservation objectives still need to be agreed by the stakeholder group. Vulnerability assessments, management measures and the corresponding Impact Assessment remain to be completed for the pMCZs and Reference Areas.
- 1.5. We note that other Regional Projects have made assumptions about management measures which have yet to be verified. ISCZ will have to go through a similar process to propose management measures – it is the responsibility of Management Authorities such as the Marine Management Organisation (MMO) and Inshore Fisheries Conservation Authorities (IFCAs) to set such measures. We also note that the implications remain too uncertain for the renewables and oil/gas sectors to assess the feasibility/desirability of co-location on a site by site basis. The BAI retained in the centre of pMCZ2 and the avoidance of a windfarm at the northern end of pMCZ3 are manifestations of this. We believe that minimisation of such uncertainties is essential before the draft final recommendations are made and seek a specific action for this purpose in paragraph 4.2.
- 1.6. We note that existing/planned Marine Protected Areas (MPAs) make a substantial contribution to the emerging ISCZ network. However, there is concern that management regimes to provide adequate protection are not yet in place and enforced throughout such sites, although the features of interest are protected in principle, as confirmed by the Gap Analysis. This is not a matter to be resolved by ISCZ or stakeholders but an assumption is made in paragraph 4.4 that management of MCZs and existing and planned MPAs will be brought to the same level.
- 1.7. The identified network of pMCZs and BAI appears to meet the design principles for Representativity, Replication and Adequacy for almost all BSH and FOCI, although we will need to look at this again when the draft final recommendations are made available; it will not be lost on ISCZ and stakeholders that conversion of the BAI into MCZs will be crucial in this regard. The tabulations and accompanying narratives that enable this judgement are

well presented. It is helpful that there is good replication for features which are more common throughout the area and hence that contribute most to ecological services.

- 1.8. We comment on the Viability of three small pMCZs in 2.3. A specific action on Connectivity is requested in 2.9.

## 2. Detailed comments

- 2.1. It is encouraging to note the new use of focus groups to concentrate on specific issues. This should allow detailed and in depth consideration of available information and assessment of arguments on their merits. If it might be helpful, the results of the focus meeting on BAI1 (scheduled for the week of 4<sup>th</sup> April) can be forwarded to the SAP for consideration – page 18 of the Report refers.
- 2.2. It is also encouraging to see that the ISCZ are now integrating emerging information from surrounding administrations to produce a sensible and coherent case. This is highlighted by the consideration of horse mussel beds in relation to the Isle of Man. It is worth noting that these features may also be given additional protection in Welsh waters. Nevertheless, it would be ecologically beneficial if ISCZ could work hard to increase this particular FOCI.
- 2.3. pMCZs 10, 13 and 14 are not viable for the broad-scale habitats (BSH) that they contain and are to be designated for their FOCI only. This is acceptable.
- 2.4. On the issue of highly mobile FOCI, the ISCZ have done the best job possible at present without further input. Speaking to the Environment Agency<sup>1</sup> is critical to identify which estuaries are important for eel and smelt. It may also be worthwhile speaking to experts at Bangor University who have undertaken some research with the Environment Agency on smelt.
- 2.5. It is gratifying to note the description of the way that ISCZ have used Areas of Additional Ecological Importance (AAEI) in their selection of broad-scale habitats. However, because they have not yet used the information to finalise conservation objectives, attention is drawn to Annex 1 which describes this use of AAEI. Clause 117 of the Marine and Coastal Access Act is very clear that MCZs can be designated for marine flora or fauna, marine habitats or types of marine habitat, and features of geological or geomorphological interest. Designation of a MCZ site for cetaceans<sup>2</sup> or birds is not advised because protection is achieved by other means. Sites can have conservation objectives to protect habitats that contribute to its role as an AAEI, e.g. as a nursery/spawning area or a source of prey.
- 2.6. In this connection, spawning and nursery grounds have been considered in a sensible manner given the vague nature of the data. However, this is certainly a subject where expert stakeholder input would be extremely valuable.
- 2.7. Pelagic fronts have been considered after recalculating the data from MB102. However, it is not clear how or what was recalculated and it is difficult to understand how the shapes on the chart relate to the area where the fronts form. Furthermore, a front may be very seasonal, but important ecologically and hence may not be apparent for the majority of the year. A clearer explanation of what was done and the significance of the lines in chart 5 is required. It would perhaps be helpful to see this map alongside the relevant figure from MB102.
- 2.8. In the final report, it will be necessary to include a narrative that links the value of each of the MCZs to the conservation measures in the adjacent waters under the jurisdiction of Ireland, the devolved administrations and Isle of Man. This can be done given the existing network of Special Areas of Conservation, Special Protected Areas etc. that exist in those areas. Naturally it would be even better if the developing conservation proposals in the

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<sup>1</sup> See for example “The European Eel *Anguilla Anguilla* (L.) and Marine Conservation Zones” contact Steve Colclough - Senior Technical Advisor, Marine Fisheries, Environment Agency. - 02083104817

<sup>2</sup> “Natural England & JNCC supplementary advice to regional MCZ projects on cetaceans” – February 2011,

adjacent areas could be considered as well. However we appreciate that this may be beyond the capability of the ISCZ project. JNCC may be able assist in this process, nevertheless.

- 2.9. ISCZ provided a table of the distances between pMCZs and (subsequently) of the distances between habitat FOCI. Neither of these demonstrates that the guidelines for **Connectivity** between MPAs have been met. The guidelines are set out in section 4.6 of the ENG and require consideration of species-specific dispersal distances, where known, or a demonstration that the distances between MPAs of similar habitats<sup>3</sup> is no more than 40 – 80 km. Although of secondary importance ISCZ are asked to fulfil this requirement properly, as one essential part of 3.3, but also with particular reference to intertidal habitats, EUNIS Level 1 and 2. Hard rock substrata are unusual in a stretch of coastline that is largely comprised of sedimentary environments. Connectivity between pMCZs, such as those enclosing St Bees Head and Hilbre, and the Walney Island SAC are important for connectivity in relation to algae and hard-substratum dependent fauna. Accordingly, a demonstration is required that the requirement is met for the sites offered in the draft final recommendations. A similar request in our response to the 2<sup>nd</sup> iteration went unanswered.

## 2.10. Specific Sites

- 2.10.1. **BAI1** is an ecologically interesting and diverse area, but clearly has much socio-economic interest too. St Bees Head is important because it is one of the few areas of intertidal rock in the area, cf pMCZ 14 and request at 2.9. The narrow area along the shoreline is entirely appropriate for the inshore features. The offshore area as presented may not be the best shape. The extension into the subtidal mud appears to be located very close to the ports of Workington and Whitehaven. This position may cause problems if vessels are utilising the area closest to their home port in times of severe weather. In addition, this area appears to encompass the extreme northerly finger of the mud patch and may not provide the greatest benefit as an MCZ. A more southerly positioned area might better disperse the larval of Norway lobster throughout the region and actually enhance the fishery in the long term through the benefits derived from the higher biomass of adults that would develop in the MCZ
- 2.10.2. **pMCZ 2** is an important site (two subcomponents) that are co-located with some static infra-structure, currently described as a BAI because co-location has not been agreed. The sediment types in this area provide important ecosystem services and the static structures have acted to effectively exclude fishing activity from some of the proposed site. As such its location represents a potential win-win for industry and conservation. It is important that careful consideration is given to the conservation objectives as they will have a direct bearing on the potential management measures imposed. The requirement for on-going monitoring in these areas means that they will be data rich and of high value from this perspective.
- 2.10.3. There is a critical opening statement that: '**pMCZ 3** is located approximately 25 km northwest of Anglesey (Map 28) in the portion of the ISCZ project area that straddles the north Welsh territorial waters and Republic of Ireland waters. The site allows for easy linkage with MPAs in Welsh and Irish waters, if this is deemed to be beneficial to their respective MPA planning.' In the final report it would be very helpful to have some support from the relevant authorities in the adjacent waters that benefits are indeed perceived. The argument for the placement of the areas down the central Irish Sea needs clear linkage to the emerging areas that are likely to be protected in the adjacent waters. It is our understanding that the focus of highly protected areas in Wales is likely to be confined to existing MPAs that are within 6 nautical miles.

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<sup>3</sup> Similar habitat for connectivity purposes is considered to be EUNIS level 2 habitats

Therefore, as the report states, the ISCZ zones will be important because they may be the sole offshore MCZs in the Irish Sea and will hopefully have some connectivity with nearby inshore sites in the adjacent areas.

The commentary on issue of co-location with renewables and the implication for these industries could lead to greater consensus and added ecological value by extending the area to include areas of geological interest. This area has some unique geological features that are likely to fall within the round 3 windfarm sites and, if pMCZ3 is not extended, an opportunity to benefit from the protection provided by such a windfarm development will be lost. Our request in paragraph 4.2 is related directly to these opportunities.

- 2.10.4. The boundary of **pMCZ 4** has been altered to abut the two adjacent devolved areas. It is good that the previous advice was integrated in this way. It would be sensible for the group to continue to liaise with Countryside Council for Wales and Welsh Assembly Government. Given the uncertainty regarding the horse mussel data for **pMCZ 4b** the ISCZ should consider carefully whether they make this species or feature a conservation objective for the area.
- 2.10.5. **pMCZ 5**. The same considerations apply as for pMCZ4. Given the fishing interests that occur in this area the selection of a references site will need careful assessment. Again, it would be wise to consider the prudence of specifying a recovery target for *Modiolus* if the information does not have high confidence.
- 2.10.6. **pMCZ 6 & 7** are important, as it is not clear that the adjacent administrations will decide to abut conservation zones in their waters. Thus, these sites may represent the only offshore MCZ in this region of the Irish Sea and will be important for the issue of connectivity. The inclusion of the sublittoral mud BSH is essential in this area. The concerns of the stakeholders are noted; however it is difficult to see how a feature can be maintained of which the target species is a key component. *Nephrops* is a key bioturbating organism in this habitat and its removal will alter considerably the ecosystem function that is performed. As mentioned in paragraph 2.8.1, there needs to be a better understanding of the potential long-term benefit of enhancing the fishery through some protection of a limited portion of the seabed. The latter is particularly relevant for a relatively sedentary species such as *Nephrops*, especially given the nature of larval retention in the area.
- 2.10.7. **pMCZ 10** is a small, but a useful contribution for the purpose of including some relevant FOCI.
- 2.10.8. It is very clear why **pMCZ 13** has been selected. However, it is not clear why there is a reluctance to extend the site further offshore, which would further increase the ecological value of the area. No reason is given why this option was not considered and some justification for this decision is required. Otherwise there is a danger that a useful and ecologically valuable opportunity will have been missed.
- 2.10.9. Again there are clear reasons for the selection of **pMCZ 14**; this archipelago is important for rocky intertidal communities along a stretch of coast with very little rock. A useful extension seaward would help to encompass areas of high benthic production (AAEI) in the shallow (7-13 m deep) zone of the subtidal region in this area. This area of seabed supports a high biomass of bivalve molluscs that perform important ecosystem functions, including food for diving sea ducks.

### 3. Actions required by ISCZ

- 3.1. The detailed comments in section 2.4 to 2.9 raise issues that require consideration; those in 2.1 to 2.3 are advisory.

- 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. ISZ 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 one or more specific features (BSH or FOCI) but 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.
- 3.4. 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. The appointment of an ecologist to assist with data interpretation and quality assurance, where necessary, is a positive and welcome step.
- 3.5. There is one Geological Coastal Review site (Walney Island) and four geological/geomorphological sites in the project area that could be protected by MCZs. A summary paragraph explaining the protection that exists or is recommended for these sites is sought in the draft final recommendations, to complement entries in the individual site descriptions.

#### **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>4</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>5</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.
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

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<sup>4</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>5</sup> As defined in section 4.7 of the ENG

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>6</sup>, are useful as a means of identifying areas of high prey density<sup>7</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>7</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>8</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>9</sup>, within the boundaries of reference areas.**

The SNCB Guidance document<sup>10</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 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

<sup>8</sup> “Interim note on reference areas: key principles” March 2011

<sup>9</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>10</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)

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.