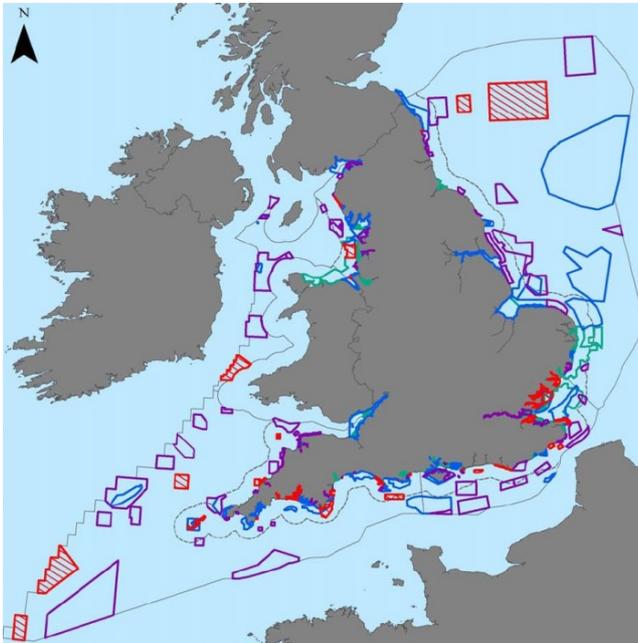


## Selection of Marine Conservation Zones



Marine Conservation Zones may contribute to the protection and recovery of the marine environment. This POSTnote examines the process and approach used to select and designate zones, and difficulties in identifying and managing suitable areas.

### Background

Human activities such as fishing and aggregate extraction have caused significant damage to marine habitats and species.<sup>1</sup> Marine Protected Areas (MPAs) have been introduced in an attempt to protect the marine environment, alongside other management strategies such as controls on fishing. MPAs are clearly defined geographical spaces, identified through legal or other effective means, and are dedicated to achieving the long-term conservation of nature.<sup>2</sup> The Government has committed to developing a UK-wide well-managed and ecologically coherent network of MPAs,<sup>3</sup> which includes more than 25% of English seas by 2016.<sup>4</sup> This will meet international commitments, for example the Convention on Biological Diversity, and contribute to achieving Good Environmental status as required by the Marine Strategy Framework Directive.

### An Ecologically Coherent Network of MPAs

An effective ecologically coherent MPA network will provide benefits to the UK, for example, through recreational and tourism value.<sup>5,6</sup> International guidance on ecological coherence is provided by the Convention for the Protection

### Overview

- The objective of Marine Protected Areas (MPAs) is to contribute to the protection of marine biodiversity, sustaining and enhancing the benefits the marine environment provides.
- Marine Conservation Zones (MCZs) are a type of MPA, but differ from other UK MPAs in that they consider social and economic impacts during the selection and designation of sites.
- The evidence required for the initial selection of potential MCZ sites differs from that required for final site designation.
- Some stakeholders perceive that the focus of MCZs has shifted away from the resilience of marine ecosystems and towards managing isolated components of ecosystems such as individual species.
- The enforcement of MCZs will require stakeholder support, but this has been reduced by uncertainty over which activities will be restricted in each MCZ.

of the marine Environment of the North-East Atlantic (OSPAR) Commission. Based on this, the Government identified seven design principles for achieving the UK ecologically coherent network of MPAs:<sup>7</sup>

1. MPAs should represent the range of 'features' (which can be either habitats or species) in the UK marine area.
2. Multiple examples of each feature should be protected over a wide area.
3. The network should incorporate self-sustaining sites.
4. The network should be large enough to enable the long-term protection and/or recovery of features.
5. Linkages among MPAs should be maximised to ensure protection of species at different stages in their life cycles.
6. Damaging activities should be restricted within MPAs where necessary to provide protection to features.
7. Network design should be based on the best information currently available.

There are already MPAs designated under European legislation in non-devolved UK waters (these are marked in grey on the map on the front page; also see Box 1 for responsible authorities). Special Areas of Conservation protect specific marine habitats and/or species (marked in

**Box 1. Responsible Authorities**

Defra is responsible for the MCZ process for non-devolved UK waters. These are comprised of English inshore waters (inside 12 nautical miles) and offshore waters adjacent to England and Wales (to 200 nautical miles or the agreed administrative boundary with neighbouring countries).<sup>8</sup>

The Government is advised on marine nature conservation by Natural England within 12 nautical miles and the Joint Nature Conservation Committee beyond 12 nautical miles. Together these government advisory bodies comprise the Statutory Nature Conservation Bodies (SNCBs), and they developed the regional project process. They will provide conservation advice to regulators and may be directed to conduct necessary environmental monitoring.<sup>9</sup>

The two bodies responsible for regulating MCZs are the Inshore Fisheries and Conservation Authorities (IFCAs) within six nautical miles and the Marine Management Organisation (MMO) beyond six nautical miles.

blue on the map), and marine parts of Special Protected Areas protect birds (marked in green); together these cover 12.8% of non-devolved UK waters.<sup>10</sup>

*Marine Conservation Zones (MCZs)*

MCZs are a type of MPA but differ from other MPAs designated in the UK in that social and economic impacts may be considered during the selection and designation of sites. The 2009 Marine and Coastal Access Act requires MCZs to form a network with other UK MPAs, which contributes to the conservation of the UK marine environment.<sup>9</sup> The habitats and species protected by the network must represent the range present in the UK marine area, and reflect the fact that the conservation of a feature may require the designation of more than one site.<sup>9</sup> The devolved administrations are running independent projects not examined here.

It was originally intended that MCZs would be designated by the end of 2012.<sup>11</sup> In 2011, MCZs were recommended in 127 locations (these are marked in purple and red on the map on the front page),<sup>12</sup> covering 15.3% of UK non-devolved waters.<sup>10</sup> Defra published a public consultation document at the end of 2012 which identified 31 MCZs currently being considered for designation in 2013 (marked in red on the map); these cover 4.5% of non-devolved UK waters.<sup>13</sup>

There is no clear timetable for the designation of future tranches, or the establishment of the ecologically coherent network.<sup>14</sup> Industrial and conservation organisations have called jointly for the completion of the ecologically coherent network of UK MPAs as soon as possible.<sup>15</sup> The House of Commons Science and Technology Committee recommended publication of a clear timetable for future tranches to reduce uncertainty amongst stakeholders.<sup>14</sup>

**Stakeholder Engagement**

Four regional projects were formed in 2009 to provide recommendations for MCZ locations and boundaries. The regional projects comprised organisations and individuals representing the interests of over a million stakeholders across marine sectors including fishing, marine renewable energy, conservation, and government advisory bodies.<sup>14</sup> They were provided with social, economic, and ecological

data, along with Ecological Network Guidance<sup>5</sup> explaining how to design an ecologically coherent network of MPAs within their project areas (Figure 1). The regional projects were advised by a Science Advisory Panel (SAP) of independent expert marine scientists, although their advice was not always used by the regional projects.<sup>16</sup> However, the regional projects' recommendations were predominantly in line with the Ecological Network Guidance.<sup>12</sup>

A minority of stakeholders felt their views were not reflected in the MCZ identification process.<sup>12,17</sup> Regulation of commercial fishing vessels of other member states beyond six nautical miles requires referral of proposals to the EU under the Common Fisheries Policy. EU stakeholders were not directly involved in all regional stakeholder groups, and some EU fishing organisations oppose some offshore sites.<sup>17</sup> There is a risk that EU fishing organisations may lodge objections to fisheries measures proposed for MCZs in which they have an interest.<sup>18</sup>

**Beyond the Regional Projects**

Stakeholder participation ended with the submission of recommendations.<sup>17</sup> Some stakeholders feel that engagement following the regional projects has been ad-hoc and unequal, and without clarity or transparency, and subsequently have become disengaged from the process.<sup>17</sup> This removed incentives for cross-sector compromise, and incentivised each sector to protect its own interests.<sup>17</sup>

**Perceived Shift in Designation Approach**

The Marine and Coastal Access Act requires the designation order for each MCZ to state the conservation objectives for the MCZ.<sup>9</sup> Conservation objectives were initially required to identify human activities which would need to be managed to achieve the conservation of the features.<sup>19</sup> This is consistent with the Government objective for an 'ecosystem approach'.<sup>20</sup> An ecosystem approach is "a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way"<sup>21</sup> (POSTnote 377). It requires managing human activities to reduce impacts on ecosystems.

However, guidance issued by the government advisory bodies in 2011 required a conservation objective for every

**Figure 1. MCZ Designation Process**

Timeline of the framework developed to designate MCZs; arrows indicate flows of information. Adapted from a figure produced by the JNCC.<sup>22</sup>



feature within an MCZ.<sup>23</sup> Some stakeholders perceived that the requirement for conservation objectives for every feature rather than the whole MCZ changed the focus of MCZs from protecting the integrity of ecosystems to protecting individual features within sites.<sup>17</sup>

Conservation objectives aim to ensure that features achieve “favourable condition”.<sup>8</sup> Respondents to the public consultation raised concerns over the legal definition of “favourable condition” which is “at least as favourable as... in the prevailing... conditions”.<sup>24</sup> Prevailing conditions are those that predominate in the UK marine environment and may include negative impacts of human activity.<sup>24</sup> If features (habitat or species) in prevailing conditions are degraded, the obligation for conservation of features in MCZs may be reduced.<sup>24</sup> The Science Advisory Panel also noted that conservation objectives include the caveat “subject to natural change”, and questioned what such changes comprise and how they are to be determined.<sup>16</sup>

### Ecological Evidence Available

Defra defines evidence as “reliable and accurate information that Defra can use to support sound decisions in developing, implementing and evaluating policy”.<sup>25</sup> But detailed habitat maps only existed for approximately 10% of the UK continental shelf in 2010,<sup>26</sup> and detailed biological survey information is concentrated around the shoreline.<sup>17</sup> Data gaps are filled by broad scale predictive habitat models based on “best available data”, but confidence in predictions is low for large areas.<sup>27</sup> Independent academic analysis suggested that it is infeasible to gather sufficient evidence to designate an ecologically coherent MPA network on the basis of individual component features.<sup>17</sup>

Although Defra commissioned £5.5 million of additional surveys and desk studies, the Government has acknowledged that the MCZ evidence gathering process is limited financially.<sup>28</sup> In 2010, costs of direct mapping of the rest of the UK’s regional seas at scales relevant to marine habitats were estimated at £210 million over 7 years.<sup>26</sup> Consequently, Defra’s “effectiveness within conservation is always likely to be limited by lack of data”.<sup>29</sup> Evidence for the majority of features proposed for MCZs remains insufficient to meet the threshold for designation set by Defra (Box 2).

### Increase in Evidence Requirements

At the outset of the MCZ process the Government committed to making decisions on site designation and regulation based on the “best available evidence”,<sup>3</sup> and stated that “lack of full scientific certainty should not be a reason for postponing proportionate decisions on site selection”.<sup>30</sup> The guidance given to the regional groups incorporated scientific methods for dealing with data gaps and uncertainty, and stakeholders therefore interpreted “best available evidence” as the requirement for the designation of MCZs.<sup>5,17</sup>

The Science Advisory Panel noted that selection of MCZ sites “relied greatly on socio-economic considerations with biodiversity often of secondary consideration”.<sup>16</sup> Subsequently, some sites with little ecological data were

#### Box 2. Suitability for Designation

The RSPB has suggested that sites of highest conservation value were not considered by the regional projects in the initial selection of sites, which were focused on the social and economic impacts of MCZs. However, Defra’s first test of the suitability of sites for designation assessed the ecological importance of each site.<sup>31</sup> Defra required at least moderate evidence for both the existence and size of the feature, and a reasonably certain conservation objective, for consideration of a feature in the first tranche.<sup>31</sup> These criteria were first published in March 2013.<sup>31</sup> The government advisory bodies reported:

- high or moderate confidence in the existence of 56% of 1199 features proposed
- high or moderate confidence in the size of 38% of 1199 features proposed<sup>32</sup>
- “reasonably certain” conservation objectives for 84% of the features in the 82 MCZs Defra identified as good candidates for designation.<sup>33</sup>

More evidence for features is expected to become available over time.

#### Social and Economic Cost Consideration

Government advisory bodies reported that regional projects’ recommendations represented a balance between the ecological requirements of the network and minimising impact on social and economic interests.<sup>12</sup> Although Defra acknowledges that MCZ designation would be likely to incur net economic benefits long-term,<sup>34</sup> it has delayed sites with high unknown costs.<sup>31</sup> However, the economic evidence used by Defra to assess the impact of MCZ designation was deemed incomplete by an independent academic analysis.<sup>35</sup> Gaps in the evidence base included:

- uncertainty over the way MCZs would be managed, resulting in assumptions about how activities would be restricted
- a lack of an integrated ecosystem approach because marine sectors were examined independently
- the absence of the costs incurred by not establishing the network
- no quantitative evaluation of the benefits from designation.<sup>35</sup>

The designation of MCZs has been estimated to provide annual benefits ranging from £0.75 billion to £1.65 billion, depending on the proportion of UK seas included in MCZs (14-20%), and the proportion of the area covered by MCZs that is highly protected (10-30%).<sup>36</sup> Analysis of the economic evidence also highlighted that the 20 year planning horizon used in the impact assessment emphasised short-term costs over long-term benefits.<sup>37</sup>

23 of the 58 MCZs at high risk of damage have sufficient evidence for at least one feature and have been included in the first tranche.<sup>31</sup> Defra has decided not to designate three MCZs where conservation advantages “do not justify the socio-economic costs”.<sup>8</sup> All other sites excluded from the first tranche require “further consideration” ahead of potential inclusion in a later tranche.<sup>31</sup>

recommended. However, guidance issued by the government advisory bodies in 2011 indicated that whilst site recommendations would be based on “best available” data, designation would require higher levels of evidence.<sup>17,38</sup> Some stakeholders perceive this as increasing the evidence requirements for designation of MCZs, and the Commons S&T Committee concluded that the Government “appears to have moved the goalposts” for evidence requirements during the selection process.<sup>14</sup>

Although the Government highlighted the importance of robust evidence in meeting any legal challenge to MCZ designation or management,<sup>39</sup> the Commons S&T Committee consider that the Government should adhere to the standard of best information currently available.<sup>14</sup>

## Management of MCZs

Some existing activities, such as fishing, may need to be controlled within MCZs if there is evidence that the activity damages a designated feature (habitat or species).<sup>8</sup> However, stakeholders were asked to select MCZ sites without knowing how the management of MCZs would impact any activities taking place within them.<sup>17</sup> Specific restrictions of activities within each MCZ will not be determined by regulators (Box 1) until after the sites are designated.<sup>8</sup> The designation order will specify that a feature should be 'maintained' or 'recovered' but what this means for management of activities is unclear.<sup>15</sup> Uncertainty over likely restrictions on activities reduced stakeholder support.<sup>17</sup> Given the regulatory authorities' limited enforcement resources, co-operation from sea-users will be critical to the future success of MCZs.

The Commons S&T Committee concluded that the "absence of a substantive discussion on likely management measures perpetuates uncertainty, undermines local support for [MCZs] and creates room for scare-mongering".<sup>14</sup> The Committee recommended that the Government produce a clear statement on how management measures will be decided and tailored to MCZs, with a clear timetable indicating when these will be discussed.<sup>14</sup> There are no plans to reconstitute regional stakeholder groups, but the MMO and IFCA (Box 1) will engage stakeholders to develop management measures after sites are designated.<sup>8</sup>

## Managing Uncertainty

The Science Advisory Panel identified deficiencies and uncertainties in the evidence-base for MCZs, and highlighted that larger areas should be protected to ensure ecological coherence.<sup>16</sup> They also recommended that conservation objectives should be to mitigate damaging practices within MCZs even where it is not possible to define feature condition.<sup>16</sup> Industrial and conservation organisations have also urged a risk-based precautionary approach.<sup>15</sup> In a precautionary approach preventative measures may be required if risks to the marine environment from an activity are uncertain.<sup>20,40</sup> However, different interpretations of acceptable levels of risk may lead to management measures being contested.

Defra required moderate evidence for the size of a feature for consideration in the first tranche (Box 2).<sup>31</sup> However, the government advisory bodies stated that low confidence should not necessarily prevent designation, particularly if there is confidence in the presence of a feature.<sup>12</sup> They suggested that the size and condition of a feature may be more accurately determined after an MCZ is designated, to support the development of management measures.<sup>12</sup> They also highlighted that delays in designation are likely to have negative consequences for features.<sup>12</sup>

## Measuring Success

The government advisory bodies identified 'reference conditions' as the most scientifically robust benchmark to measure progress toward current conservation objectives for features.<sup>5</sup> Reference conditions reveal the state of features without direct human pressures and can be

demonstrated by Reference Areas: highly protected MCZs where extractive and depositional activities, such as dredging or dumping, would not be permitted.<sup>5</sup> Potentially damaging or disturbing activities, such as trawling, may also be restricted.<sup>5</sup> The Science Advisory Panel identified the importance of Reference Areas in providing "sound scientific benchmarks for the future evidence based management of the MPA network", and stated that monitoring of features in Reference Areas to describe "their natural variability should be a priority initially".<sup>16</sup> Reference Areas amount to less than 2% of the total area of recommended MCZs.<sup>10</sup>

Reference Areas were identified late in the regional project process, limiting stakeholder engagement in the rationale for requiring them, and limiting development of the supporting evidence base.<sup>12</sup> Consequently, regional projects failed to identify a complete set of viable Reference Areas.<sup>12,16</sup> The Science Advisory Panel and the government advisory bodies recommended a review of the approach to Reference Areas,<sup>12,16</sup> which Defra intends to begin in 2013.

## An Ecologically Coherent Regional MPA Network

The Science Advisory Panel concluded that "if the recommended network of MCZs is implemented in full, ecological coherence can be achieved".<sup>16</sup> The government advisory bodies advised that regional project recommendations represent "good progress towards the achievement of an ecologically coherent network..." but that "the degree to which the network design principles have been achieved will ultimately depend on the final suite of recommended MCZs put forward for designation".<sup>12</sup>

Defra has stated that future MCZ designations should be assessed based on the contribution to an ecologically coherent MPA network across larger regions than the national administrative areas.<sup>9</sup> The EU Marine Strategy Framework Directive identifies two biologically distinct regions that UK seas contribute to: the Greater North Sea and Celtic Seas. UK administrations are working to agree an approach to link MPA programmes in the UK, and Defra is contributing to international development of methods for a wider regional network.<sup>41</sup>

## Future of the MPA Network

The Secretary of State must report every 6 years from 2012 on the degree to which MCZs and the MPA network are achieving objectives, stating steps that may be necessary for success.<sup>5,9</sup> The Marine and Coastal Access Act allows MCZ designating orders to be reviewed, amended or revoked,<sup>9</sup> and the Government intends to keep MCZs under review, making alterations to boundaries, conservation objectives or management where supported by evidence.<sup>3</sup> This will incorporate new data on features (habitats or species) and on the effect of pressures,<sup>11</sup> and allows for changes required to meet new laws and policies.<sup>5</sup> Defra will also keep the ecological coherence of the network under review, which may give rise to additional designation or de-designation of MCZs.<sup>5</sup>

## Endnotes

For references, please see:

[http://www.parliament.uk/documents/POST/postpn437\\_Selection-of-Marine-Conservation-Zonesreferences.pdf](http://www.parliament.uk/documents/POST/postpn437_Selection-of-Marine-Conservation-Zonesreferences.pdf)