OSPAR CONVENTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT OF THE NORTH-EAST ATLANTIC

GUIDANCE ON DEVELOPING AN ECOLOGICALLY COHERENT NETWORK OF OSPAR MARINE PROTECTED AREAS

(Reference number 2006-3)

Introduction

1.   The OSPAR Commission in 2003 adopted recommendation 2003/3 which has the purpose to establish the OSPAR Network of Marine Protected Areas (MPAs) and to ensure that by 2010 it is an ecologically coherent network of well-managed marine protected areas. The recommendation was supported by two sets of guidelines on: (i) identification and selection of MPAs in the OSPAR maritime area (*Reference number 2003-17*), and (ii) management of MPAs in the OSPAR maritime area (*Reference number 2003-18*).

2.   MPAs forms part of the wider work OSPAR has initiated under Annex V of the Convention. Work undertaken by Contracting Parties in response to Recommendation 2003/3 is part of the wider programme of measures under Annex V, all of which aim to protect and conserve the ecosystems and the biological diversity of the maritime area, and to restore, where practicable, marine areas which have been adversely affected (OSPAR, 1998). Therefore, the OSPAR network of MPAs should be seen in the context of, and work in partnership with, other measures to achieve this aim.

3.   This document is intended as guidance to Contracting Parties and aims to set out principles to assist in interpreting the concept of an ecologically coherent network in the context of a network of OSPAR MPAs in the OSPAR maritime area. The guidance is not intended to be binding on Contracting Parties. It is provided in support of the Recommendation 2003/3 on a network of OSPAR MPAs to give further information which Contracting Parties may wish to take into account when undertaking the selection of sites to be contributed to the OSPAR MPA network and considering the network as a whole. Key guiding principles discussed by MASH 2004 and endorsed at BDC 2005 are highlighted in bold. Some minor modifications have been made to these as part of the refining of this guidance for MASH 2005. The guidance may be further developed and updated over time in the light of experience and further developments.

Network aims

4.   The OSPAR network of marine protected areas is to be established to support the sustainable use, protection, and conservation of marine biological diversity and ecosystems in partnership with other measures under Annex V of the Convention. The OSPAR Guidelines for the Identification and Selection of MPAs in the OSPAR Maritime Area (*Reference number:2003-17*) set out that components of the network "will, individually and collectively, aim to:

  a. protect, conserve and restore species, habitats and ecological processes which are adversely affected as a result of human activities;

  b. prevent degradation of and damage to species, habitats and ecological processes, following the precautionary principle;

  c. protect and conserve areas that best represent the range of species, habitats and ecological processes in the OSPAR area.".

5.   A network is characterised by a coherence in purpose and by the connections between its constituent parts. Networks can also be designed to be resilient to changing conditions. The following points can be identified as contributing to coherence:

5.1 A network's constituent parts should firstly be identified on the basis of criteria which aim to support the purpose of the network.

5.2 The development of an ecologically coherent network of MPAs should take account of the relationships and interactions between marine species and their environment both in the establishment of its purpose and in the criteria by which the constituent elements are identified.

5.3 A functioning ecologically coherent network of MPAs should interact with, and support, the wider environment as well as other MPAs although this is dependent on appropriate management to support good ecosystem health and function within and outside the MPAs.

6.   In the specific case of the OSPAR network of the MPAs, the OSPAR Guidelines for the Identification and Selection of Marine Protected Areas state "The OSPAR network should take into account the linkages between marine ecosystems and the dependence of some species and habitats on processes that occur outside the MPA concerned. [....] The OSPAR network should form an ecologically coherent network of well-managed MPAs. This is particularly important for highly mobile species, such as certain birds, mammals and fish, to safeguard the critical stages and areas of their life cycle (such as breeding, nursery and feeding areas)" (*Reference number 2003-17*).   The recommendation adopted by OSPAR Commission in 2003 requires the establishment of this network by 2010.

7.   OSPAR has defined clear aims for the OSPAR MPA network (above and in Table 1) and has defined ecological criteria/considerations to be applied as a first stage in the identification of OSPAR MPAs to achieve the aims (*Reference number 2003-17*).   The relationships of these criteria with the aims of the network are presented in Table 1. Components of the network are likely to contribute to more than one aim of the network. The components of the OSPAR MPA network should individually, and in total, help to protect, conserve and restore relevant features of the OSPAR maritime area which are, or may be, adversely affected as a result of human activities and prevent their degradation. In view of the dynamic nature of the OSPAR marine area, the network needs to be adaptive to changing requirements and capable of being used in a flexible way as part of a toolkit for achieving the wider objectives of Annex V in manner that is consistent with the principles of sustainable development. The network of MPAs should contribute (along with other mechanisms, e.g. spatial planning, work undertaken by EIHA and other non-MPA measures) to the over-arching objective of the OSPAR Commission to protect and conserve the ecosystems and the biological diversity of the maritime area as adopted in Annex V of the Convention. The second stage practical criteria/considerations will have a modifying effect on the site identification process but it is anticipated that this will not compromise the ecological coherence of the network.

Table 1: Correlation between the OSPAR ecological criteria/considerations and the aims of the OSPAR Network (Reference number 2003-17 Appendix 3). Numbers refer to those assigned to criteria in agreement 2003-17, Appendix 1.

Aims of the OSPAR Network	Protect, conserve and restore species, habitats and ecological processes which are adversely affected as a result of human activities	Prevent degradation of and damage to species, habitats and ecological processes following the precautionary principle	Protect and conserve areas which best represent the range of species, habitats and ecological processes in the maritime area
Ecological criteria	(1) High priority habitats and species which meet the Texel-Faial criteria of 'Decline'	(1) High priority habitats and species which meet the Texel-Faial criteria of 'high probability of a significant decline' (2) Important habitats and species which meet the other Texel-Faial criteria (global importance, local (species)/regional (habitats) importance, rarity, sensitivity, keystone species, ecological significance) (6) Sensitivity	(3) Ecological significance (4) High natural biological diversity (of species within a habitat and of habitats in an area) (5) Representativity, including the biogeographic regions (7) Naturalness

Guidance on developing an ecologically coherent network of OSPAR MPAs

Features

8.   A feature is the specific aspect(s) of interest (i.e. its biodiversity or ecological character) for which a site is designated. MPAs are not necessarily an appropriate method for protection for all features of the OSPAR maritime area and alternative measures developed as a result of the adoption of Annex V of the Convention may provide a better method to achieve their conservation. However, where MPAs are appropriate, either as the sole protection measure or as part of a range of measures to conserve a species, habitat or ecological process, aims (a) to (c) should underpin the MPA selection process. Individual MPAs may contribute to these specific aims to varying extents. Habitats and species on the 'Initial OSPAR list of threatened and/or declining species and habitats' (Initial OSPAR List, *Reference number 2004-6*) for which MPAs may be considered to be an appropriate management tool, could be features of OSPAR MPAs which meet aim (a). Some of the sites for these species and habitats may also contribute to meeting aims (b) and (c). The extent to which these other aims will be met would depend on the precise implementation strategies of Contracting Parties e.g. how they implement the precautionary principle in a proportionate manner in taking forward aim (b) and how they select areas that best represent the range of species, habitats and ecological processes to meet aim (c).

Principle 1: Selection of sites for OSPAR network aims (a) and (b) may include some areas that are selected to best represent the range of species, habitats and ecological processes for aim (c).

Principle 2: Identification of OSPAR MPAs for OSPAR network aim (c) should contribute substantially to the requirements for identification of sites to meet aims (a) and (b).

Principle 3: Meeting OSPAR network aim (a) should be at least in part addressed by identifying OSPAR MPAs for those species and habitats on the Initial OSPAR list for which MPAs are an appropriate measure.

Feature types

9.   The third aim (c) of the OSPAR network requires OSPAR MPAs to be selected to best represent the range of species, habitats and ecological processes in the OSPAR maritime area. Contracting Parties could interpret the meaning of "best represent" in a number of ways but may wish to consider the following when examining what constitutes the range of features in the OSPAR area:

     a.   <u>Habitats</u>: These consist of both benthic and pelagic habitats.

     b.   <u>Species</u>: Marine species can be divided into those which are wide-ranging and highly mobile, e.g. cetaceans, some seabirds and many fish, those which are sessile or have low mobility in their adult phase, e.g. plants and many invertebrates, and planktonic fauna and flora. MPAs may have a limited application or benefit to some species due to their life history, e.g. highly mobile and/or dispersed species. Where MPAs are an appropriate measure for a wide-ranging species it is likely that it may only be appropriate for a part of the species' life history.

     c.   <u>Ecological processes</u>: These link the physical and biological environment and, in some cases, result in a strong biological response in a confined geographical area which could be appropriate for MPA selection.

Proportions

10.   Determining approximately what proportion of each type of feature should be included in the MPA network has important implications for representation, replication and assessing the network as a whole. It is recommended that this is done by Contracting Parties on a feature by feature basis given the diversity of marine habitats and species found in the OSPAR area. Proportionate responses by Contracting Parties on this basis are more likely to achieve conservation benefit than adherence to arbitrary target proportions When Contracting Parties are considering the appropriate proportion of their features (where MPAs are an appropriate measure) to contribute to the network they may wish to recall the following commitments and recommendations which have been made by other international bodies and the guidelines associated with them although, it is acknowledged that not all of them apply to every Contracting Party.

11.   The Seventh Conference of Parties of the Convention on Biological Diversity decided that "a network needs to include….a sufficient area of the coastal and marine environment to be effective and ecologically viable" (CBD, 2004a). The 2010 biodiversity target focal area "Protect the components of biodiversity" includes the target of "At least 10% of each of the world's ecological regions effectively conserved." (CBD, 2004b). The 5th IUCN World Parks Congress recommends "to establish…representative networks of marine and coastal protected areas…that amount to at least 20-30% of each habitat" (IUCN, 2003). Contracting Parties that are members of the European Union will be familiar with guidance from the European Commission that suggests between 20 and 60% of the national extent or population of an EU Habitats Directive Annex I habitat[1] or Annex II species should be included within a Member State's contribution to Natura 2000, with a proportional response within this range to be taken by Member States according to the rarity of each habitat or species (Habitats Committee, 1997) and bearing in mind the provisions of Article 4 of the Directive for aquatic species. However, it is also recognised by the European Commission in its current draft guidance on implementing the Habitats and Birds Directives in the marine environment, that these figures were not developed with specific reference to the marine environment, and that they are not targets for national contribution towards the Natura network.[2] The context of these commitments and recommendations should be borne in mind.

12.   The overall proportion of the OSPAR maritime area to be protected should be guided by that which is necessary to achieve the aims of the OSPAR MPA network. The extent of a particular area that needs protection will be determined by Contracting Parties' assessment of the quality and amount of habitat or

---

[1] Annex I habitats are natural habitat types which are (i) are in danger of disappearance in their natural range, or (ii) have a small natural range following their regression or by reason of their intrinsically restricted area, or (iii) present outstanding examples of typical characteristics of one or more of the five following biogeographical regions: Alpine, Atlantic, Continental, Macaronesian and Mediterranean (EEC, 1992).
[2] This text is based on the draft European Commission guidelines (version 41 of September 2005). These guidelines are under development and their content is subject to review.

number and geographical range of species, the current health of the living resources, the efficacy of other management tools being applied to the surrounding marine environment and the rarity of the species/habitat to be protected. Therefore, Contracting Parties may wish to take an incremental approach (small proportion for some habitats/species and larger for others) to determine what proportion of features should be included based upon these aspects. In the particular case of the establishment of the OSPAR MPA network, features which contribute to aims (a) and (b) of the network are of higher priority due to being in decline, at risk of decline or particularly sensitive and may benefit from a higher proportion being contained within MPAs in the network compared to other features bearing in mind the guidance in paragraph 10 on assessment on a feature by feature basis. This includes features on the Initial OSPAR List of threatened and/or declining species and habitats where MPAs may be an appropriate conservation mechanism. Therefore the following principle is presented:

Principle 4: The OSPAR MPA network must include features meeting aims (a), (b) and (c). For features meeting aims (a) or (b), a larger proportion of the total extent of the habitat/species population or ecological process may be included within the network.

13.   Specific proportions of features which Contracting Parties may wish to consider are presented in Annex I. These are based on discussions at the ICG on MPAs held in April 2005 and demonstrate some potential options on the practical application of this principle by Contracting Parties. Contracting Parties may wish to consider proportions on the basis of their national resource or of the total resource in each biogeographic region or the OSPAR area as a whole. Where Contracting Parties share biogeographic regions, it may be appropriate to coordinate the identification of MPAs between them

Representativity

14.   To support the sustainable use, protection and conservation of marine biological diversity and ecosystems in the OSPAR area, areas which best represent the range of species, habitats and ecological processes present within the OSPAR area (for which MPAs are a suitable measure) should be considered for inclusion within the OSPAR MPA network. This principle of representativity is embodied in aim (c) of the OSPAR MPA network. The approaches by which Contracting Parties identify areas which best represent the range of features in the OSPAR area may vary but could include considerations of geographic variation and variation in habitat types. The following sections present approaches by which these could be considered along with guiding principles for the network. Where biological data are available, these should be used to their fullest to select sites that best represent habitats, species and ecological processes. When detailed biological survey data are not available, existing biological data should be used in conjunction with the other approaches, to ensure that biological representativity is likely to be achieved.

Biogeographic representation

15.   A well accepted approach for planning a representative marine protected areas suite or network is to subdivide the area of marine environment under consideration into relatively homogeneous geographic units displaying similarity among a number of oceanographic and biological elements (biogeographic areas) and, to represent each unit by at least one marine protected area (Mondor, 1997). Dinter (2001) has identified a number of biogeographically-determined regions within the OSPAR Maritime area using primarily the factors of temperature, depth and currents and has validated these with biological data. Individual Contracting Parties have, to varying extents developed finer scale subdivisions within their waters and these subdivisions could be used at a national level to aid in the practical application of biogeographic representation. However, because such subdivisions have not been developed consistently across the OSPAR maritime area, Contracting Parties may prefer to use the biogeographic regions developed by Dinter whilst accepting that more appropriate subdivisions of the whole OSPAR maritime area may become available in the future. Where Contracting Parties share biogeographic regions, it may be appropriate for them to coordinate the identification of MPAs within the biogeographic region.

Principle 5: The network should reflect biogeographic variation across the OSPAR maritime area by selecting the sites for the range of features within each biogeographic area.

Principle 6: The biogeographic regions proposed by Dinter (2001) should form the initial framework for incorporating biogeographic variation within the network. Finer scale subdivisions may be developed to aid in practical application of OSPAR MPA selection criteria.

Characterisation of the marine environment

16. Representation of the range of marine habitats (and ecological processes), as required by aim (c), requires a consideration of the characterisation or classification of these features either at the OSPAR-area scale or at the scale being considered by each Contracting Party (e.g. their EEZ). The use of a standard classification system is preferable to ensure consistency of approach between Parties.

17. BDC in 2004 agreed that the EUNIS habitat classification scheme (Davies *et al*, 2004) would be a working habitat classification system for characterising the OSPAR maritime area (BDC 04/14/1-E). It is therefore appropriate that it forms the main system for characterising the marine environment for the purposes of establishing the OSPAR MPA network. As a hierarchical classification it can be used at various levels of detail. However, it is clear that the level of classification possible will vary widely across the OSPAR maritime area due to the level of data held by Contracting Parties. Where possible, classification of the marine environment to EUNIS level 3 would be preferable (to reasonably reflect the variation in biological character of the habitats in the OSPAR area), but it is acknowledged that classification only to EUNIS level 2 is inevitable in some sea areas. Where only level 2 can be applied, classification of the environment to a higher level of the EUNIS classification could happen progressively as Contracting Parties' knowledge of the marine environment increases over time.

Principle 7: The EUNIS habitat classification scheme should be used to characterise habitats throughout the OSPAR maritime area to assist the implementation of aim (c), particularly through Contracting Parties' assessment of representativity of the range of such features.

Connectivity

18. Connectivity between different MPAs enables the mutual support of MPAs within the network and will contribute to providing ecological coherence in a network through the consideration of ecological connections between marine areas. The principle of connectivity includes:

   a. the extent to which populations in different parts of a species range are linked by the exchange of larvae, recruits, juveniles, or adults (Palumbi, 2003);

   b. ecosystem linkages such as flow of non-living organic matter; and

   c. dependence of one habitat type on another for structural integrity (Roberts *et al*, 2003).

19. Individuals and non-organic matter will also be exchanged across the boundaries between MPAs and the wider environment and help to maintain the wider biodiversity and ecosystem functioning and contribute to the delivery of sustainable use objectives for the OSPAR area. The degree to which this occurs will depend on the species' mobility, physical processes such as currents and eddies, and the size and management of the site.

20. The OSPAR MPA network aims to conserve a wide range of species which have a diverse range of mobility at different life-history stages. The network should have regard to the different aspects of connectivity but not be focussed on one element or one species to the detriment of others. Habitat linkages and species movements can inform decision-making for the location of sites where information is available but, it should be accepted that in most cases connections between sites would emerge over time, especially for species whose ecology is poorly understood. The interchange between an MPA and the wider environment means that the health of species will be dependent on the health of the seas as a whole, with connectivity between OSPAR MPAs assisting in the maintenance of the populations of some species. Special consideration of connectivity should be given to those species on the Initial List for which dispersal patterns are known and for which OSPAR MPAs are an appropriate conservation measure.

In the absence of dispersal data, connectivity may be approximated by ensuring the MPA network is well distributed in space, reflecting the scale of its location. For example, the nearshore is generally dominated by finer scale processes than the offshore, and therefore MPAs in offshore regions may be larger and further apart than those in nearshore areas. Furthermore, connectivity may be better understood using models taking

into consideration physical parameters such as geographic or topographic constraints (e.g. headlands and sills), linkages (e.g. narrows, islands), flows (e.g., currents, eddies, and upwellings/downwellings) and migration routes.

Principle 8: The design of a network of marine protected areas needs to recognise aspects of connectivity and, where possible, place protected sites where they may have maximum benefit as measured against the objectives of the network.

Principle 9: Detailed connectivity issues should be considered only for those species where a specific path between identified places is known (e.g. critical areas of a life cycle).

Principle 10: Lack of knowledge with regard to connectivity in the marine environment should not prevent the development of the OSPAR MPA network.

Resilience

21.   "Resilience is the ability of an ecosystem to recover from disturbances within a reasonable timeframe. Components of resilient MPA networks include effective management; risk spreading through the inclusion of replicates of representative habitats; full protection of refugia that can serve as reliable sources of seed for replenishment; and connectivity to link these refugia with vulnerable areas within the network" (IUCN, 2003).   Aspects of resilience related to management are to be addressed elsewhere and connectivity is addressed above. Replication and the related issue of site size are addressed below in relation to developing the OSPAR MPA network. The inclusion of principles relating to resilience within the MPA network does not discount the contribution of other measures Contracting Parties undertake as part of their work under Annex V of the Convention to conserve the OSPAR maritime area. These measures will also contribute to resilience of the network.

Replication

22.   Replication refers to the duplication of features in separate marine protected areas within a given biogeographic area. Replication of features is undertaken to:

   a.   spread risk against damaging events and long term change affecting individual MPAs.

   b.   ensure that natural variation in the feature is covered (either at a genetic level within species or within habitat types).

   c.   allow the establishment of scientific reference areas.

   d.   increase the number of connections between sites and enhance connectivity in the network.

23.   Ensuring that natural variation in features is covered within the network is particularly relevant to protected areas for habitat features where representation has been determined using a classification at a fairly coarse scale (e.g. EUNIS level 3). It also supports the conservation of genetic variation within species by selecting different populations; this is likely to be particularly important for species which are declining in numbers.

24.   Due to the size of the OSPAR maritime area and the limited amount of information held on habitat types, the marine environment is likely to be classified at a coarser scale than has typically been used in MPA selection exercises where replication has been taken into account. When applied at a very coarse scale, replication will only include gross variation in habitat types. The efficacy of replication is therefore best where detailed knowledge of features is available. However, when detailed knowledge is not available, existing data should still be used to determine replication for those features for which there are data. Areas for which there are limited data may still be considered using modelling based on the known distribution of features elsewhere. Where data are coarse with a larger margin of error, areas identified are likely to be larger than had better data been available

Principle 11: Replication of habitats, species and ecological processes in separate OSPAR MPAs in each biogeographic area is desirable where it is possible.

Size of site

25.   The size of a protected area influences the degree to which conditions in the wider environment affect the features of the protected area and the proportion of individuals which flow between the protected area and the adjacent environment, compared to those which are wholly retained within the MPA. Edge effects (loss of organisms to the wider environment (spillover) or incursion of harmful activities across the boundary) are reduced as the size of the protected areas increases (Roberts *et al*, 2003) thus contributing to an increase in resilience in the network although wider management measures to complement MPAs are another potential means of increasing resilience and reducing detrimental spill-over effects . OSPAR MPAs will only contribute to the protection and conservation as well as the sustainable use of biodiversity if management measures are taken which are consistent with the conservation requirements of the features in the site. The size of a site should also be sufficient to maintain the integrity of the feature for which it is being selected.

26.   For wide-ranging mobile species, the protection of specific areas at critical life-history stages (as indicated by the criterion "Ecological significance") may help to define geographically distinct areas. It is important to note that MPAs for wide-ranging species may need to be substantially larger than sites for benthic features since they may be tied to oceanographic features/processes. However, an MPA should be small enough to be recognised as a site and be of a size appropriate to the management required.

Principle 12: The appropriate size of a site should be determined by the purpose of the site and be sufficiently large to maintain the integrity of the feature for which it is selected.

Management

27.   To conserve biodiversity, the selection of marine protected areas should occur within an effective programme of ecosystem management covering the entire marine ecosystem and the land areas that affect it (Kelleher, 1999). This recognises the mutually supportive role that both marine protected areas and wider ecosystem management have in protecting and conserving biodiversity and in supporting its sustainable use. As stated in the OSPAR Guidelines for the Management of Marine Protected Areas (*Reference number 2003-18*), appropriate management will be essential to help achieve the objectives of the OSPAR MPA Network. This is likely to lead to a variety of management measures for OSPAR MPAs which will allow the sustainable use of the OSPAR maritime area including, where appropriate, features in the OSPAR MPA network. However, it should be noted that the nature and level of human activity allowed within an MPA may affect the degree to which the features within the MPA can support biodiversity and contribute to the properties of the network. Sites which are managed to achieve objectives for the conservation of the site features should, along with other management measures, take into consideration the ecological requirements of the features and therefore, enable the site to contribute to supporting the wider ecosystem function of the OSPAR maritime area. If a feature is a species, for example, ecosystem based management could include consideration of the integrity of its habitat and associated prey. Likewise, if a feature is a habitat, the integrity of its associated biota should also be considered.

Principle 13: OSPAR MPAs should be managed to ensure the protection of the features for which they were selected and to support the functioning of an ecologically coherent network.

References

BDC 04/14/1-E. Summary Record. Meeting of the Biodiversity Committee, Bruges 16-20 February 2004.

Convention on Biological Diversity (CBD) (2004a) Decisions from the seventh meeting of the Conference of the Parties, Kuala Lumpur, Malaysia. Decision VII/5 Marine and coastal biological diversity, paragraph 24. http://www.biodiv.org/decisions/default.aspx?m=COP-07&id=7742&lg=0

Convention on Biological Diversity (CBD) (2004b) Decisions from the seventh meeting of the Conference of the Parties, Kuala Lumpur, Malaysia. Decision VII/30 Strategic Plan: Future evaluation of progress, Annex II. http://www.biodiv.org/decisions/default.aspx?m=COP-07&id=7767&lg=0

Davies CE, Moss D & Hill MO (2004) EUNIS Habitat Classification Revised 2004. Report to the European Topic Centre on Nature Protection and Biodiversity, European Environment Agency. October 2004. 307pp

Dinter WP (2001) Biogeography of the OSPAR Maritime Area. Bundesamt for Naturschutz, Bonn, Germany. 167 pp.

EEC (1992) Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. Official Journal L206 (22.7.1992), 7-50. http://europa.eu.int/eur-lex/en/lif/dat/1992/en_392L0043.html

Habitats Committee (1997) Criteria for assessing national lists of pSCI at biogeographical level. Report by the Habitats Committee, Hab 97/2, 26.9.97.

ICG on MPAs (2005) Summary Record. Meeting of the Inter-sessional Consultative Group on Marine Protected Areas, Isle of Vilm, Germany 4-8 April 2005. OSPAR Commission.

IUCN (2003) Recommendation 5.22, 5th IUCN World Parks Congress, Durban, South Africa (8-17th September, 2003).

Kelleher G (1999) Guidelines for marine protected areas. Best Practice Protected Area Guidelines Series 3. IUCN, Gland, Switzerland and Cambridge, UK. 107 pp.

Mondor C (1997) Alternative reserve designs for marine protected area systems. In: Crosby MP, Geenen K, Laffoley D, Mondor C and O'Sullivan G. Proceedings of the Second International Symposium and Workshop on Marine and Coastal Protected Areas: Integrating Science and Management, NOAA, Silver Spring, MD pages 67-80.

Initial OSPAR list of threatened and/or declining species and habitats. (Reference number 2004-6).

Guidelines for the identification and selection of marine protected areas in the OSPAR maritime area. (Reference number 2003-17)

Guidelines for the management of marine protected areas in the OSPAR maritime area. (Reference number 2003-18)

Palumbi SR (2003) Population genetics, demographic connectivity, and the design of marine reserves. Ecological Applications 13: S146-S158.

Roberts CM, Andelman S, Branch G, Bustamante RH, Castilla JC, Dugan J, Halpern BS, Lafferty KD, Leslie H, Lubchenco J, McArdle D, Possingham HP, Ruckelshaus M and Warner RR (2003) Ecological criteria for evaluating candidate sites for marine reserves. Ecological Applications 13: S199-S214.

Annex I: Operational guidance on the development of an ecologically coherent network of OSPAR MPAs

Introduction

1.   The guidance to Contracting Parties for the development of the OSPAR network of MPAs provides a framework of principles and issues for consideration when Contracting Parties identify sites to submit to OSPAR. However, when considering some of the principles, more detailed information may be helpful to give practical ideas for the identification and assessment processes. This detailed information could be added to over time or modified in the light of further discussion and developments within the forum of marine protection in the OSPAR area, depending on needs identified by Contracting Parties.

Proportions of features

Principle 4: OSPAR MPA network must include features meeting aims (a), (b) and (c). For features meeting aims (a) or (b), a larger proportion of the total extent of the habitat/species population or ecological process may be included within the network.

2.   The ICG on MPAs held in April 2005 discussed potential target figures for Contracting Parties when considering what proportion of the total extent of a habitat or species population may be included within the OSPAR MPA network.   These are summarised below and demonstrate some potential options on the practical application of this principle by Contracting Parties.

- Where MPAs are an appropriate measure for threatened and/or declining habitats or species, Contracting Parties may wish to aim to include up to 60% of the total extent (of a habitat) or population (of a species) with 20% regarded as a suitable minimum threshold. These figures are based on the European Commission's guidance for terrestrial habitats to be included within the Natura 2000 MPA network. However, it is also recognised by the European Commission in its current draft guidance (Sept 2005) on implementing the Habitats and Birds Directives in the marine environment, that these figures were not developed with specific reference to the marine environment, and that they are not targets for national contribution towards the Natura network. Until there is greater clarification, these figures should be kept under review in terms of their relevance to the development of the OSPAR network of MPAs.

- For features which contribute to aim (c) of the network, the overall proportion included in the network may be lower, to reflect the reduced threat associated with them. Contracting Parties may wish to aim to include 20% of the total extent of each EUNIS level 3 habitat or species population (where considered appropriate) with at least 10% included within the network

These proportions could be applied by Contracting Parties on a regional basis according to biogeographic regions (Dinter, 2001) to encourage a good geographic spread of MPAs. Where Contracting Parties share biogeographic regions, it would be preferable if they cooperated when identifying areas.

3.   The proportion of a habitat or population of a species that is appropriate to include within the OSPAR MPA network could be assessed according to the following factors:

- The appropriateness of site based protection for the species or habitat;
- Its degree of decline in extent and quality (habitat) or population size and distribution (species);
- The degree of naturalness of species and habitat types as a result of a lack of human induced disturbance or degradation;
- The degree to which it is under threat from ongoing and future activities;
- Its natural sensitivity (i.e. its ability to recover from damage); and
- Its rarity within the OSPAR maritime area.

Where these factors, alone or collectively, indicate that protection within MPAs is particularly important to ensure the long-term protection of the habitat or species, a higher proportion of the habitat or species should be included within the MPA network. Where protection within an MPA is considered less critical for the long-term protection of the habitat or species, the proportion can be lower.

4.   Contracting Parties may also wish to consider whether the proportion is of the current resource or of a historical quantity of the resource. This may be of particular relevance where there has been a substantial loss in habitat coverage or a species population.