

# The process of describing Ecologically and Biologically Significant Marine Areas (EBSAs)

The tenth Conference of Parties to the Convention on Biological Diversity (CBD COP10) requested a series of regional workshops to facilitate the description of ecologically or biologically significant marine areas (EBSAs; paragraph 36, decision X/29). The CBD regional workshops have been very successful in bringing together intergovernmental specialists designated by Parties to the CBD with international science experts, serving to inform both and providing the opportunity to build future collaborations on EBSAs and other pressing environmental issues. GOBI and its Partners have had the privilege of contributing expertise and attending all the EBSA workshops to date, providing technical support in the form of data identification, collation and GIS mapping.

In this issue of the GOBI newsletter we invited participating experts in the first three CBD workshops to reflect on their experience. These workshops were the North-East Atlantic, Western South Pacific and Wider Caribbean and Western Mid-Atlantic. We also include an article on progress towards the description of EBSAs and the designation of MPAs in the Mediterranean. The final article shows how Birdlife International is able to use its data to feed into the EBSA process.



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## Upcoming events 2012

**7-11 May 2012:** BBNJ - Ad Hoc Open-ended Informal Working Group of the UN to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (biodiversity). New York, USA.

**20-22 June 2012:** Rio +20 Earth Summit 2012. Rio de Janeiro.

**9-13 July 2012:** FAO Committee on Fisheries (COFI) 30<sup>th</sup> Session. Rome, Italy.

**30 July-3 August, 2012:** CBD Southern Indian Ocean workshop to facilitate the description of EBSAs (Mauritius, in collaboration with FAO)

**27-31 August 2012:** CBD Eastern Tropical and Temperate Pacific workshop to facilitate the description of EBSAs (Galapagos, Ecuador, in collaboration with CPPS)

**6-15 September 2012:** IUCN World Conservation Congress. Several GOBI-relevant sessions scheduled (TBC). Jeju, Korea.

**8-19 October 2012:** CBD COP XI: Eleventh meeting of the Conference of the Parties to the Convention on Biological Diversity. Hyderabad, India.

**TBA 2012:** CBD North Pacific workshop to facilitate the description of EBSAs (Russia)

# North-East Atlantic EBSA Workshop: Hyerres, 8-9 September 2011

*Overview by David Johnson, Executive Secretary OSPAR Commission, Workshop Co-Chair*

The North-East Atlantic Regional EBSA Workshop was jointly convened by the OSPAR Commission (OSPAR), the North-East Atlantic Fisheries Commission (NEAFC) and CBD Secretariat. Terms of Reference for the Workshop, agreed by Contracting Parties to OSPAR and NEAFC, directed the Workshop to confine its considerations to the OSPAR Maritime Area in areas beyond EEZs (200nm). A Steering Group established to organise the Workshop invited proposals from the scientific community for areas of the North-East Atlantic that scientists' believed would meet one or more of the EBSA criteria. These 'area-based' proposals were considered the most efficient way to bring together evidence of ecological or biological significance. As part of detailed pre-Workshop planning and preparation substantial background information was drawn together, providing an opportunity for participants to exchange information in advance using an online file sharing system.



*Bluefin tuna. Image courtesy NOAA/Marine Photobank.*

Twenty-six scientists attended the Workshop itself, invited on the basis of their marine biodiversity and biogeography expertise. In the spirit of capacity building, a number of observers from neighbouring Conventions were also invited. Finally facilitation was organised, including prototype data visualisation by GRID Arundal, whereby available datasets were brought together in GIS format to support expert judgement needed to evaluate data, establish linkages between data sources and determine where lack of data created scientific uncertainty.

## Data

The geographic overlap between the OSPAR Maritime Area and the NEAFC Regulatory Area is considered a distinct advantage for the North-East Atlantic Region. Both organisations draw on advice from the International Council for the Exploration of the Sea (ICES). For the North-East Atlantic EBSA Workshop fisheries management data was therefore combined with data from scientific cruises and deep-sea science projects investigating benthic and pelagic species and habitats. Biogeographic understanding of ecosystem functioning was also considered to be complementary as were background documents and arguments advanced previously by OSPAR to designate the first network of High Seas MPAs in 2010 and by NEAFC to establish extensive bottom-fishing closures on the basis of identification of VMEs in 2009 (the latter are currently agreed until 2015 and subject to review). Despite these advantages the Workshop was also mindful that in general, even in an ocean where ecological and biological research has been carried out over many decades, much is still unknown.

## Results

In June 2011, in advance of the Regional Workshop the Contracting Parties of OSPAR agreed that, given the commonality between the OSPAR MPA selection criteria and the EBSA criteria agreed by CBD COP10, the six OSPAR High Seas MPAs should be forwarded to the CBD as candidate EBSAs. The Workshop reviewed 18 proposals and consolidated these into 10 candidate EBSA proposals (this terminology was used by the Workshop to make it clear that the Workshop had taken forward proposals submitted by individual scientists fully appreciating that the Workshop itself cannot determine EBSAs: they must be nominated by Parties and endorsed by CBD). Thus, for the North-East Atlantic, three different types of relevant areas have now been identified:

i) The six OSPAR High Seas MPAs (Josephine Seamount, Altair Seamount, Antialtair Seamount, a section of the Mid-Atlantic Ridge North of the Azores, Charlie-Gibbs South, and the Milne Seamount Cluster), whose selection criteria are consistent with the EBSA criteria, will be nominated by OSPAR for consideration by CBD. The first

of these (Josephine Seamount) was entered as the first candidate EBSA to the CBD Repository in February 2012;

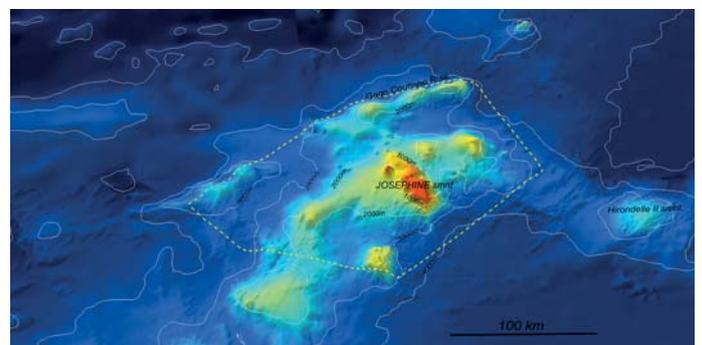
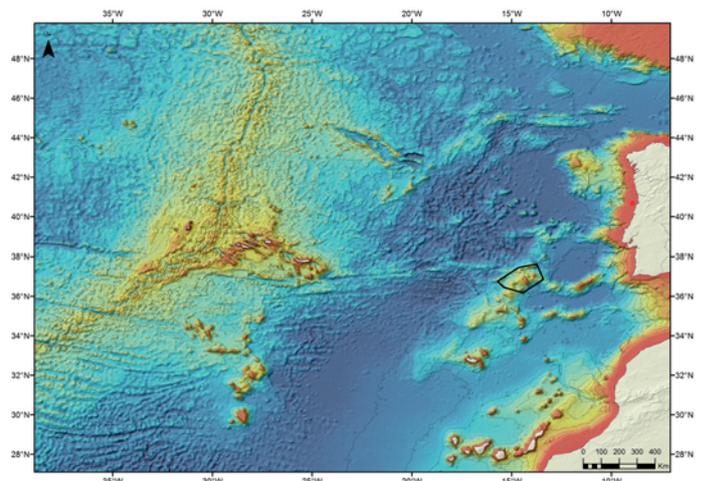
ii) Six 'large' candidate EBSAs, as determined by the Regional Workshop (Reykjanes Ridge south of Iceland EEZ; Charlie-Gibbs Fracture Zone and Sub-Polar Frontal Zone of the Mid-Atlantic Ridge; Mid-Atlantic Ridge north of the Azores; Hatton and Rockall Banks and the Hatton-Rockall Basin; Arctic Front-Greenland/Norwegian Sea, and Arctic ice habitat - multiyear ice/seasonal ice/marginal ice zone), several incorporating both OSPAR MPAs and NEAFC fisheries closures, are subject to further consideration by both OSPAR and NEAFC;

iii) Four 'smaller' candidate EBSAs, as determined by the Regional Workshop, informed specifically by seabird data (around Pedro Nunes and Hugo de Lacerda Seamounts – IBA MA04; NE Azores-Biscay Rise – IBA MA03; Evlanov Seamount Region, and north-west of Azores EEZ), are also subject to further consideration by both OSPAR and NEAFC.

### Conclusions and Lessons Learned

The North-East Atlantic Regional EBSA Workshop represents a strong scientific collaboration between those with responsibility for marine biodiversity conservation (including critical input from NGOs). As a region-specific interpretation of the mandate agreed by CBD COP10 Decision X/29 it is an excellent first step but remains a work in progress and is not complete. Much data was compiled in advance but given the size and remoteness of the areas concerned there are still substantial gaps and uncertainties. In many cases more science is needed. Proxy evidence (similar sites or modelling) can be useful but 'ground truthing' (e.g. video using ROVs) is needed to confirm both the presence and health of biological communities.

The Workshop identified some very large areas within which existing and/or future nested measures may be considered. EBSAs are not MPAs but in the NE Atlantic at least there is a strong argument that they should logically include MPAs. Taking an Ecosystem Approach to these larger areas, within which one or more of the EBSA criteria are met, merits precautionary considerations vis a vis human exploitation (e.g. EIAs). For other smaller areas that were identified, using very specific data (e.g. selected seabird species tracking data), consideration of more precise management measures (e.g. the reduction of seabird bycatch by long-line fishing) may be appropriate. In all cases the areas concerned are unlikely to score 'high' against all EBSA criteria. Differentiation relates strongly to the size of area, the specific nature of what is being considered as significant, and the quality and availability of data available.



*Location map (top) and bathymetric image of the Josephine Seamount and MPA. Image courtesy ImagDOP/U.Azores.*

In presenting the candidate EBSA proposals, polygons with straight line boundaries were preferred by the Workshop participants on the basis that depth contours would give a false sense of precision. However, more consideration is needed concerning how best to delineate areas identified (natural features versus polygons to be monitored). There are also a range of outstanding issues needing further scientific debate (e.g. connectivity and representative coverage). Many of the proposed North-East Atlantic candidate EBSAs are associated with seamount complexes and the identification of EBSAs has implications for future research (i.e. where should effort/investment focus - ground truthing versus unsurveyed areas).

Finally, this is a complex process that cannot be concluded in a one-off exercise. It is an important first step but there is a need for further scrutiny. A 'fast track' peer review of the North-East Atlantic Workshop by ICES commented on the process and highlighted some differences in interpretation of the CBD Decision but did not look in detail at the proforma nominations and selection criteria for the 10 proposed candidate EBSAs. This further work does not necessarily require a second round of Workshops and may be an exercise that GOBI can facilitate.

# Conservation on the High Seas: Potential EBSAs for the Western South Pacific

*Nic Bax, CSIRO, Hobart, Australia*

The first regional workshop, convened by the CBD Secretariat pursuant to decision X/29, to identify potential ecologically and biologically significant marine areas (EBSAs) was held November 22-25 in Fiji. The focus was the Western South Pacific region.

In 1992, the UN Convention on Biological Diversity (CBD) formalised aspirations for conservation and sustainable use of biodiversity including equitable sharing of benefits from the use of genetic resources. Sadly, while coastal states have undertaken to deliver on this responsibility within national waters, sustainable use of living resources in the high seas has been challenging, due to various threats including unsustainable fishing, and remains a major concern for the international community. In 2002, an aspirational target was set to establish marine protected areas, including representative networks by 2012. In 2008, the Conference of the Parties to the CBD adopted 7 scientific criteria to identify EBSAs to enhance conservation and management measures.

Experts from 13 member nations and 9 international organisations including GOBI attended the meeting hosted by the Secretariat of the Pacific Regional Environment Programme (SPREP) and co-chaired by Joeli Veitayaki (Fiji) and Ian Cresswell (Australia). Australia's Commonwealth Science Industry Research Organisation (CSIRO) was funded by its government to support the SCBD and SPREP by accessing and providing 57 regional datasets for the workshop. Important physical data included physical oceanography (CSIRO) and seafloor geology (Geosciences Australia). While biological data were harder to access, the meeting did use predicted distributions of cold water coral communities (Census of Marine Life and the Marine Conservation Institute), seabird breeding and foraging areas (BirdLife International), fisheries data (Secretariat of the Pacific Community) and species diversity (OBIS). Detailed cetacean data were simply not available for this part of the Pacific (apart from good expert knowledge and historical whaling data), while large pelagic predator data were inaccessible.

Data were made available on a local GIS server and as large wall maps. Final EBSA boundaries were refined in the GIS with the help of two GIS experts. Maps of all the regional data were made available to participants online

with a permanent repository at the Australian Oceans Data Network. The cost of downloading these data sets was thought prohibitive for many of the small island states, and the data have since been provided on flash drives including a publically available GIS program.



*Workshop participants examine data at the workshop.*

Workshop participants described 26 potential EBSAs in marine areas >100m deep, both within and outside of national jurisdiction; 2 additional areas were identified as requiring further consideration. A qualitative value was assigned to 84% of the criteria across all areas meeting EBSA criteria; the remainder were scored "don't know". Each of the 7 EBSA criteria was ranked as highly relevant for between 8 and 14 of the areas described. Each area met between 0 and 7 highly relevant EBSA criteria (mode 2). Workshop results will be submitted to SBSTTA 16 in April 2012. The final workshop report (*Report of the Western South Pacific Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas, UNEP/CBD/SBSTTA/16/INF/6*) is available at <http://www.cbd.int/doc/meetings/sbstta/sbstta-16/information/sbstta-16-inf-06-en.pdf>

The workshop identified the need for a second CBD workshop in this region to complete a systematic approach to describing EBSAs. There is an urgent need to facilitate capacity building in developing countries; the workshop provided a successful first step in bringing together marine experts of this region to form partnerships and networks that will contribute to international efforts toward enhancing marine management and conservation.

# Wider Caribbean and Western Mid-Atlantic EBSA Workshop, Recife, Brazil

*Monica Brick Peres and Paula Moraes Pereira*

*Aquatic Biodiversity and Fisheries Resources Department, Ministry of the Environment, Brazil*

The Wider Caribbean and Western Mid-Atlantic EBSA Workshop was held in Brazil, hosted by the Government of Brazil with financial support from the European Union and the Government of Brazil, in collaboration with the Secretariat of the Caribbean Environment Programme (CEP). The CBD Secretariat invited Parties and other Governments, as well as competent organizations and regional initiatives to facilitate the description of ecologically or biologically significant marine areas (EBSAs) in the Caribbean and Western Mid-Atlantic through the application of EBSA criteria. Experts from 25 countries and 15 organizations attended the Workshop.

## Data

The data used included biological data such as distribution of coral reefs, sea grasses and mangroves; historical whale captures; catches on commercial pelagic species; turtle tagging and nesting data; OBIS data (all species, mammals, turtles, shallow species, deep species and IUCN Red List species); predictions of deep sea corals; and Important Bird Areas. Physical data included distribution of seamounts; vents and seeps; bathymetry (GEBCO); distribution of large submarine canyons; total sediment thickness of the world's oceans and marginal seas; global seascapes; physical ocean climatologies.

## Results

The workshop participants agreed on descriptions of 22 areas meeting EBSA criteria, which are provided in the *Report of the Wider Caribbean and Western Mid-Atlantic Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas (UNEP/CBD/SBSTTA/16/INF/7)*, available online at <http://www.cbd.int/doc/meetings/sbstta/sbstta-16/information/sbstta-16-inf-07-en.pdf>. The sixteenth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA 16), which makes recommendations to the Conference of the Parties to the Convention on Biological Diversity, will be considering these descriptions, which are available, along with the reports of EBSA workshops in other regions.

## Conclusions and Lessons Learned

Some conclusions of the workshop on gaps and needs for further elaboration in describing areas meeting EBSAs criteria include:

For the western and eastern Caribbean subregion, the following scientific gaps were considered as priorities for more research and information gathering: (i) deep-sea biology and oceanography in the Eastern Caribbean, including deep-sea corals; (ii) further biological and oceanographic connectivity studies for better understanding of larval recruitment and dispersal; (iii) targeted research on key large species and their routes and habitats such as sharks and marine mammals; (iv) how habitats contribute to the different life stages of different taxa, in particular migratory species (for example mating, feeding and flying routes); and (v) to further study remote areas, such as the Rosalinda Bank, remote atolls in the Seaflower Marine Protected Area and the Cayman Trench.



*Abrolhos National Park. Image courtesy Bernadete Barbosa.*

It was noted that this workshop provided the first attempt to describe areas meeting EBSA criteria based on the available information. Participants recognized that there could be additional scientific approaches for describing areas meeting EBSA criteria, for example based on grouping those areas with the greatest rarity or most unique features.

For the southern Caribbean and Brazil region, further scientific information on species diversity is needed in some areas, as well as information on species ecology, abundance, seasonality and life habit. Other gaps include hydrodynamics and geomorphological information for some areas, with some areas generally understudied. It was noted that in some areas, there were not enough marine scientists (see also capacity gaps). Regarding deep-water biota, understanding is generally poor (e.g. diversity patterns, community structure and distribution of deep fauna) and less comprehensive than that of the overlaying pelagic system. Increasing sampling effort on the ridge and fracture zone habitats is critical to ensure a better description of the area for EBSA description. There is a major lack of information in the southern Caribbean on the continental break and deep sea.

Connectivity is poorly understood, and since it influences many of the ecosystems discussed, it is important to acquire information about ecological connectivity at different levels (e.g., oceanographic, genetic). This will allow better description of the boundaries of the areas

meeting EBSA criteria or suggest new areas that could meet EBSA criteria.

Multi-national scientific collaboration and scientific capacity, including sampling platforms and technology, for deep water research in the Atlantic have greatly improved during the development of the Census of Marine Life field projects. Today most of these research initiatives are still active but limited by the lack of funding opportunities.

To address the issue of regional under-capacity, training at regional level should be promoted in the areas of deep-sea oceanographic exploration, open-sea biology oceanographic and geographic data analysis methods and tools. Further expertise is required in taxonomy, which has been a particular constraint in deep-water diversity studies. Capacity to sample the deep sea (e.g., research vessels, modern sampling equipment) and to apply new technological approaches, such as genetic and tracking studies is needed. The group encouraged the promotion, use and development of open and free data analysis tools.

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## Progress towards the creation of a network of MPAs in the Mediterranean

*Giuseppe Notarbartolo-di-Sciara, Tethys Research Institute, Italy*  
*Tundi Agardy, Sound Seas, USA*

In 2009, by request from the Contracting Parties to the Barcelona Convention, UNEP's Mediterranean Action Plan, in cooperation with the European Commission, started a process for identifying sites to construct an ecologically representative network of SPAMIs (Specially Protected Areas of Mediterranean Importance) in the Mediterranean open seas (UNEP-MAP-RAC/SPA, 2010). The process followed a three-stage hierarchical planning approach.

In the first stage, at the widest regional scale, the Mediterranean was subdivided into eight sub-regions having some ecological homogeneity: 1. Alborán Sea; 2. Western Mediterranean; 3. Tyrrhenian Sea; 4. Adriatic Sea; 5. Tunisian Plateau/Gulf of Sidra; 6. Ionian Sea; 7. Aegean Sea; 8. Levantine Sea. Sub-regions were also delimited in a way which could allow them, if lumped together (respectively, 1+2+3, 4, 5+6, and 7+8), to roughly correspond to the four subregions designated by the European Marine Strategy



*Protecting critical habitat can support the conservation of the Mediterranean population of short-beaked common dolphins, classified as Endangered in IUCN's Red List (photo courtesy Tethys/Elena Politi).*

Framework Directive, as well as the working subregions of the regional sea by the Mediterranean Action Plan.

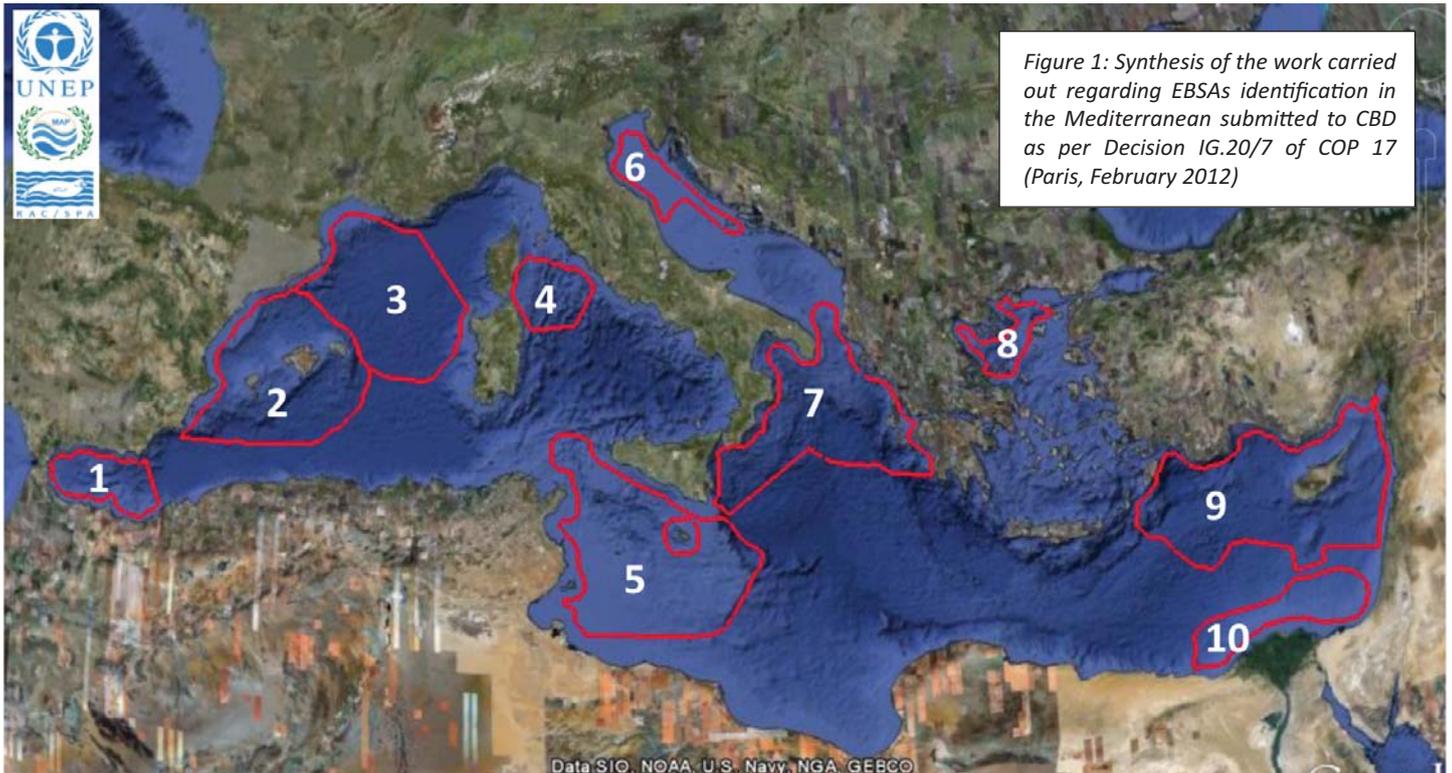


Figure 1: Synthesis of the work carried out regarding EBSAs identification in the Mediterranean submitted to CBD as per Decision IG.20/7 of COP 17 (Paris, February 2012)

1 – Alboran Sea; 2 – Balearic Islands area; 3 – Gulf of Lions area; 4 – Tyrrhenian Sea; 5 – Tunisian Plateau; 6 - Adriatic Sea; 7 - Ionian Sea; 8 – Aegean Sea; 9 - Levantine Sea; 10 - Nile Delta sea area. The Pelagos Sanctuary, between the areas 3 and 4, even though it meets the EBSA criteria, is not listed because it is already protected as SPAMI under the provisions of the SPA/BD Protocol.

The second stage involved the identification within each of the 8 sub-regions of Ecologically or Biologically Significant Areas (EBSAs). The process used the opinion of experts, performed by inventorying knowledge in the relevant fields of marine science (marine geology, oceanography, remote sensing, and ecology of selected species), in order to identify EBSAs on the basis of the appropriate 7 CBD criteria (uniqueness or rarity; special importance for life history stages of species; importance for threatened, endangered or declining species and/or habitat; vulnerability, fragility, sensitivity, or slow recovery; biological productivity; biological diversity; and naturalness). Experts received a questionnaire and were asked to draw freehand polygons in Google Earth images, with a short description of the relevance of each polygon to the exercise.

The EBSAs were determined through old-fashioned cartography, looking at maximum overlap among the 86 thematic polygons received. Finally, the process was endorsed by the Contracting Parties to the Barcelona Convention during their last meeting in February 2012 (Fig. 1).

The third stage, yet to be implemented, will consist of the development of an ecologically representative network of MPAs, and will involve: a) the identification of sites within the EBSAs derived in the previous step, which will constitute the building blocks of the MPA network (on the basis of representativity, replication, adequacy, connectivity, protection, and best available evidence), and b) addressing the socio-economic, legal, administrative and political aspects that are necessary for the formal establishment of such MPAs.

### References

UNEP-MAP-RAC/SPA. 2010. *Overview of scientific findings and criteria relevant to identifying SPAMIs in the Mediterranean open seas, including the deep sea*. Notarbartolo di Sciara, G. and Agardy, T. Ed. RAC/SPA, Tunis. 71 p.

UNEP-MAP-RAC/SPA. 2011. *State of progress of the MedMPAnet project and the project for establishing SPAMIs in open seas, including the deep sea*. Document UNEP(DEPI)/MED WG. 359/Inf.5, 10th Meeting of the Focal Points for SPAs, Marseilles, France, 17-20 May 2011. 18 p.

# Seabird data as a tool for describing Ecologically or Biologically Significant Marine Areas

*Ben Lascelles, BirdLife international Global Seabird Programme*

In 2008, the Convention on Biological Diversity (CBD) 9th Conference of the Parties approved a set of criteria for identifying Ecologically or Biologically Significant Areas (EBSAs), a crucial step in protecting marine habitats and biodiversity. A series of regional workshops began in 2011 to describe areas that meet these EBSA criteria. Seabird data are especially useful in such conservation planning exercises.



*Wandering Albatross. Image courtesy Ben Lascelles.*

For the past three decades, BirdLife International has compiled and analysed seabird data to identify Important Bird Areas (IBAs). This process is under way in marine ecosystems and is explained in BirdLife's Marine IBA Toolkit - a summary of the experiences from 40 countries in the BirdLife Partnership. In response to the CBD Secretariat's call for information relevant to EBSA workshops, BirdLife has been compiling all available seabird data in order to propose lists of IBAs for consideration, which has proven to be a vital contribution to describing EBSAs. The IBA process is effective for the following reasons:

- ▶ **Toolkit uses a rigorous approach:** The toolkit is an exacting, data-driven, globally applicable framework that could be adapted for many other taxa in addition to birds.
- ▶ **Data are widely available:** Seabirds are readily observed, identified, and surveyed. As a result, bird

data are often the most abundant or even the only data that are available for some open-ocean ecosystems.

- ▶ **Birds are indicators of diversity and productivity:** The presence of diverse and abundant seabirds is a strong indicator of the presence of other taxa, such as the seabirds' prey and other top predators that compete for them. In addition, birds tend to congregate in highly productive areas and habitats, such as around islands, seamounts, and upwellings (Lascelles et al., 2012). Diversity and productivity are among CBD's seven criteria for describing EBSAs.
- ▶ **Toolkit focuses on threatened species:** The EBSA and IBA criteria both identify priority areas for the conservation of unique, rare, and vulnerable species.
- ▶ **Migration indicates connectivity:** Many seabirds are highly migratory and therefore will benefit from EBSAs that encompass a sequence of healthy ecosystems along migration routes. Seabird tracking data can be used to assess connectivity between sites.
- ▶ **Seabirds are widely represented across ecosystems:** The global distribution of seabirds makes them very useful for identifying networks of areas that cover a variety of marine ecosystems, as the EBSA guidelines call for.



*Manx Shearwater. Photo courtesy Russell Wynn.*

## Steps in the Marine IBA Process

The Marine IBA toolkit follows six steps for defining a set of consistent and comparable sites that meet the IBA criteria. These sites can be used to describe areas meeting the EBSA criteria.

### Step 1: Identify Priority Species

Species may be considered for priority status on the basis of the following:

- Threatened species, such as those on the IUCN's Red List at [www.birdlife.org/datazone/species](http://www.birdlife.org/datazone/species)
- Species listed as priorities in conservation agreements (e.g., EU Birds Directive, Agreement on the Conservation of Albatrosses and Petrels, Convention on Migratory Species)

### Step 2: Gather Data

Data gathering is usually focused on a combination of four major sources:

- At-sea surveys such as those freely available through:
  - Ocean Biogeographic Information System (OBIS): [www.iobis.org](http://www.iobis.org)
  - Royal Navy Birdwatching Society: [www.rnbws.org.uk](http://www.rnbws.org.uk)
  - Australian Antarctic Division: <http://data.aad.gov.au/>
  - North Pacific Pelagic Seabird Database (NPPSD): <http://alaska.usgs.gov/science/biology/nppsd>
- Satellite tracking such as that held in:
  - Tagging of Pacific Predators (TOPP): <http://topp.org/> BirdLife managed Global Procellariiform Tracking
  - Database: [www.seabirdtracking.org](http://www.seabirdtracking.org)
- Land-based counts of breeding populations or migratory seabirds
- Literature reviews and expert opinions.

### Step 3: Determine primary & supplementary data layers

The process should identify the highest quality data possible as the primary support for candidate IBAs, with other data as a supplement. Sources of data include large tracking datasets, systematic at-sea survey data, and land-based counts collected over multiple years. Supplementary data include small tracking datasets, bycatch data, at-sea distribution data from fishing boats or ad-hoc surveys, and habitat suitability models.

### Step 4: Identify candidate IBAs

Candidate IBAs are identified using multiple data layers. The strongest case for an IBA can be made when two primary data layers overlap to indicate a specific area, and the next strongest is when one primary layer and one supplementary layer overlap. A case can sometimes be made for an IBA based only on a single, high-quality primary layer, such as a large satellite tracking dataset.

### Step 5: Apply IBA criteria to candidate sites

To qualify as an IBA, a candidate site must be known or thought to regularly hold a threshold number of birds. Thresholds are determined using criteria from the IUCN, among other criteria. For seabirds, a site may qualify as an IBA if it regularly holds:

- a significant number of a species categorized by the IUCN Red List as critically endangered, endangered, or vulnerable.
- at least one percent of a biogeographic population of a congregatory waterbird species.
- at least one percent of the global population of a congregatory seabird.
- at least 20,000 waterbirds or 10,000 pairs of seabirds of one or more species.
- significant numbers of a migratory species at bottleneck sites.

### Step 6: Define boundaries

Extensive experience from defining IBAs in the terrestrial environment suggests that an IBA should be:

- different in character, habitat, or ornithological importance from surrounding areas;
- a Protected Area, with or without buffer zones, or an area that can be managed in some way for conservation; and
- an area which provides the requirements of the trigger species (i.e. those for which the site qualifies) while present, alone or in combination with networks of other sites.

## References

*BirdLife International (2010) Marine Important Bird Areas toolkit: standardised techniques for identifying priority sites for the conservation of seabirds at sea. BirdLife International, Cambridge UK. Version 1.2: February 2011. [www.birdlife.org/eu/pdfs/Marinetoolkitnew.pdf](http://www.birdlife.org/eu/pdfs/Marinetoolkitnew.pdf)*

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*Lascelles, B.G., Langham, G.M., Ronconi R.A., and Reid J.B. (2012) From hotspots to site protection: Identifying Marine Protected Areas for seabirds around the globe. Biological Conservation <http://dx.doi.org/10.1016/j.biocon.2011.12.008>*

## About GOBI

The Global Ocean Biodiversity Initiative is an international partnership advancing the scientific basis for conserving biological diversity in the deep seas and open oceans. It aims to help countries, as well as regional and global organisations, to use and develop data, tools, and methodologies to identify ecologically significant areas in the oceans, with an initial focus on areas beyond national jurisdiction.

For more information, please visit [www.gobi-org](http://www.gobi-org)

