



Convention on Biological Diversity

Distr.
GENERAL

UNEP/CBD/SBSTTA/20/INF/20
1 April 2016

ENGLISH ONLY

SUBSIDIARY BODY ON SCIENTIFIC,
TECHNICAL AND TECHNOLOGICAL ADVICE

Twentieth meeting

Montreal, Canada, 25-29 April 2016

Item 4.1 of the provisional agenda*

COMPILATION OF EXPERIENCES AND LESSONS LEARNED FROM SCIENTIFIC METHODOLOGIES AND APPROACHES FOR THE DESCRIPTION OF AREAS MEETING THE EBSA CRITERIA

Note by the Executive Secretary

1. Pursuant to the request by the Conference of the Parties to the Convention on Biological Diversity in paragraph 10 of decision XII/22, the Executive Secretary developed practical options for further enhancing scientific methodologies and approaches on the description of areas meeting the EBSA criteria, as contained in annex IV to document UNEP/CBD/SBSTTA/20/3,¹ for the consideration of the Subsidiary Body at its twentieth meeting.
2. As inputs to the above-mentioned work, the Executive Secretary compiled experiences and lessons learned from scientific methodologies and approaches for the description of areas meeting the EBSA criteria by: (a) gathering views from Parties and other Governments, as contained in document UNEP/CBD/SBSTTA/20/INF/19; (b) preparing a background document, as contained in annex I to the present note, incorporating also the comments received during the peer-review of the draft document, from 17 February to 4 March 2016; and (c) organizing an expert meeting to share experiences and lessons learned from scientific methodologies and approaches for the description of areas meeting the EBSA criteria, the report of which is contained in annex II to the present note. Both the preparation of the background document and the organization of the expert meeting were undertaken with the financial support from the European Commission.

* UNEP/CBD/SBSTTA/20/1/Rev.1.

¹ Progress report on describing areas meeting the criteria for ecologically or biologically significant marine areas.

Annex I

**Compilation of experiences and lessons learned from scientific methodologies
and approaches for the description of areas meeting the EBSA criteria**

Prepared by Dr. Jake Rice

For the Secretariat of the CBD Secretariat

With financial resources from the European Commission

April 2016

I. INTRODUCTION

The Conference of the Parties to the Convention on Biological Diversity, at its tenth meeting, established a global process, based on the organization of a series of regional workshops (decision X/29, paragraph 36), for describing ecologically or biologically significant marine areas (EBSAs) through the application of scientific criteria in annex I of decision IX/20 as well as other relevant compatible and complementary nationally and intergovernmentally agreed scientific criteria.

Pursuant to decisions X/29 and XI/17, nine regional workshops on describing ecologically or biologically significant marine areas (EBSAs) were convened, by the Executive Secretary for the Western South Pacific (November 2011), the Wider Caribbean and Western Mid-Atlantic (February-March 2012), the Southern Indian Ocean (Mauritius, August 2012); Eastern Tropical and Temperate Pacific (Ecuador, August 2012); North Pacific (Russian Federation, February 2013); South-Eastern Atlantic (Namibia, April 2013); Arctic (Finland, March 2014); North-West Atlantic (Canada, March 2014); and Mediterranean (Spain, April 2014) regions. The results of these workshops were considered by the Conference of the Parties at its eleventh meeting (COP 11) and twelfth meeting (COP 12) and, pursuant to decision XI/17 and XII/22, the summary reports on the description of areas that meet the criteria for EBSAs, prepared by the Subsidiary Body at its sixteenth meeting (the first two workshops) and eighteenth meeting (the other seven workshops), were included in the EBSA repository (www.cbd.int/ebsa) and submitted to the United Nations General Assembly as well as its relevant working groups, by means of a letter from the Executive Secretary of the Convention on Biological Diversity addressed to the Secretary-General of the United Nations.²

At its twelfth meeting, the COP requested the Executive Secretary, building upon the existing scientific guidance and drawing upon the lessons learned from the above-mentioned series of regional workshops to facilitate the description of areas meeting the EBSA criteria and views gathered from Parties and other Governments, to develop practical options to further enhance scientific methodologies and approaches on the description of areas meeting the EBSA criteria, ensuring that the best available scientific and technical information and traditional knowledge of various users of marine resources, including fishers, are used and that the products are scientifically sound and up-to-date (paragraph 10 of decision XII/22).

Pursuant to this request, CBD Secretariat issued a notification on 30 September 2015 (Ref No. 2015-113) inviting Parties and other Governments to submit views and information on practical options to further enhance scientific methodologies and approaches on the description of areas meeting the EBSA criteria. The information submitted in response to this notification is compiled in document UNEP/CBD/SBSTTA/20/INF/19. Drawing upon this compilation, the present note was prepared by the Secretariat, through commissioning a consultancy with the financial support from the European Commission, in order to facilitate sharing of a wide range of experiences and issues related to the scientific preparation and assessment associated with the application of the EBSA criteria through the above-mentioned regional workshops. Based on the consolidation of lessons learned, this note also presents ways and means to further enhance scientific methodologies and approaches on the description of areas meeting the EBSA criteria in its conclusion.

The compilation of information and the preparation of this document was undertaken with the financial resources from the European Commission.

II. CONTEXT

The identification of areas meeting the scientific criteria for ecologically or biologically significant marine areas (hence “EBSA” unless there is a specific reason to give the full term) has from the outset been a process that has had to balance two considerations. These considerations are not inherently incompatible, but they do imply somewhat different emphases among the multiple priorities that all

² UNGA documents A/67/838, http://www.un.org/ga/search/view_doc.asp?symbol=A/67/838; A/69/794, <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N15/051/13/PDF/N1505113.pdf?OpenElement>

activities at the science–policy interface must navigate, if they are to be credible, legitimate and policy-relevant. The first consideration is that the EBSA process has to apply high scientific standards for objectivity and evidence-based conclusions, based on the best available scientific information and taking into account the disparity in the scientific capacity among different countries. The second consideration is that it respects the guidance from the Conference of the Parties to the Convention in its decisions, with regard to scope of activities and participation at the EBSA workshops, while adhering to the mandate of the CBD within and beyond national jurisdiction, acknowledging the priority of States (Parties) within their national jurisdictions as well as recognizing the role of the Convention in supporting the work of the General Assembly with regard to marine protected areas beyond national jurisdiction, by focusing on provision of scientific and, as appropriate, technical information and advice relating to marine biological diversity, the application of the ecosystem approach and the precautionary approach.

The present document was prepared on the same approach of balancing sound science with appropriate scope and process. Hence it is appropriate to commence with a review of the provisions of the CBD COP decisions relevant to EBSAs, so the rest of the review can be appropriately placed in the context of the expectations of Parties to the CBD. This will allow any discussion based on this document to contribute to advancing the EBSA process within the context of CBD, and to enhancing the conservation and sustainable use of biodiversity. The details of COP decisions relevant to EBSAs can be found at decisions IX/20³, X/29⁴, XI/17⁵ and XII/22⁶.

The term “EBSA” first appeared in COP decision VIII/24 (annex II, para 1), which provided the basis for the organization of the *Expert workshop on ecological criteria and biogeographic classification systems for marine areas in need of protection* (Portugal, 2-4 October 2007) that developed the set of scientific criteria for identifying ecologically or biologically significant marine areas in need of protection, in open ocean waters and deep sea habitats, as stipulated in the annex II to decision VIII/24. Subsequently, this set of criteria was adopted in decision IX/20 (para 14 and annex I). The criteria were designed for “identifying ecologically or biologically significant marine areas in need of protection”. The phrase “in need of protection” is important, because it was an explicit acknowledgement that solely on ecological and biological grounds these areas should receive greater consideration in management than adjacent areas. This issue of viewing EBSAs relative to adjacent areas was further underscored in annex II to decision IX/20, where it is highlighted that EBSAs are defined⁷ “compared to other surrounding areas or areas of similar ecological characteristics”. In paragraph 18 of decision IX/20, both EBSAs and marine protected areas (MPAs) were discussed, but the identification of EBSAs is placed as a step prior to selecting areas to contribute to a network of MPAs, and it was noted that inclusion in such networks is only one of the possible ways to offer protection: “with a view to assist the relevant processes within the General Assembly and implement conservation and management measures, including the establishment of representative networks of marine protected areas in accordance with international law.” This point was reinforced in annex III to that decision. Thus from the outset Parties to the CBD made clear that description of EBSAs was an undertaking in its own right, and that the selection of conservation and management measures to provide the “protection” was the prerogative of States and competent intergovernmental organizations, in accordance with international law, including the United Nations Convention on the Law of the Sea, as highlighted in paragraph 26 of decision X/29.

Decision X/29 deals extensively with the process of describing EBSAs and the subsequent handling of information from the processes applying the criteria. In this decision, COP has elaborated the process for

³ <https://www.cbd.int/doc/decisions/cop-09/cop-09-dec-20-en.pdf>

⁴ <https://www.cbd.int/doc/decisions/cop-10/cop-10-dec-29-en.pdf>

⁵ <https://www.cbd.int/doc/decisions/cop-11/cop-11-dec-17-en.pdf>

⁶ <https://www.cbd.int/doc/decisions/cop-12/cop-12-dec-22-en.pdf>

⁷ Ecologically and biologically significant areas are geographically or oceanographically discrete areas that provide important services to one or more species/populations of an ecosystem or to the ecosystem as a whole, compared to other surrounding areas or areas of similar ecological characteristics, or otherwise meet the criteria as identified in annex I to decision IX/20.

applying the scientific criteria for EBSAs, including some key refinements of COP guidance in decision IX/20. In particular:

- Paragraph 25 refers to areas meeting EBSA criteria as “areas and features of the marine environment that are important for conservation and sustainable use of marine and coastal biodiversity;” This shift from “protection” to “conservation and sustainable use” was done intentionally, signaling the expectations of Parties with regard to role of EBSAs in policy and management. That interpretation has persisted in subsequent decisions by the COP.
- Paragraph 26 goes on to clarify “ that areas found to meet the criteria *may* require enhanced conservation and management measures, and that this can be achieved through a *variety of means*, including marine protected areas and impact assessments” [underline added]. Hence even the call for enhanced measures was moderated to some extent, and the indication that measures other than inclusion in networks of MPAs were both expected and potentially sufficient (depending, of course, on the nature of the EBSA) was added.
- The annex to this decision, presenting an Indicative List of Activities for Operational Objective 2.4 of Programme Element 2 on Marine and Coastal Living Resources, in provision (a) reference is explicitly made to “CBD scientific criteria in annex I to decision IX/20 and other relevant compatible and complementary nationally and intergovernmentally agreed scientific criteria.” This is significant in both requiring EBSA criteria to be “compatible” and “scientific” and, if those standards are met and the bodies are acting within the geographic competencies, the products are to be considered of equal legitimacy with the outcomes of CBD initiated meetings and workshops.

In addition to the above clarifications, several additional points regarding the processes for identification of EBSAs and provision of conservation measures were made explicit in decision X/29. One was that the EBSA process was appropriate for use “both within and beyond national jurisdiction” (paragraph 25). However, it was also explicit that Parties “emphasizes that the identification of ecologically or biologically significant areas and the selection of conservation and management measures is a matter for States and competent intergovernmental organizations, in accordance with international law”, (paragraph 26). This provision has resulted in the careful separation of roles between the CBD and its regional workshops relative to the actions of Parties and other intergovernmental organizations within their respective competencies. The regional workshops can *describe* the extent to which areas meet the criteria, but even the act of *identifying*⁸ the area as an EBSA was beyond the mandate of the CBD, whose mandate was solely within the domain of the caveat “the application of the ecologically or biologically significant areas (EBSAs) criteria is a scientific and technical exercise” (paragraph 26). This clear delineation of responsibilities and competencies between the CBD process, facilitated by the CBD Secretariat, and other IGOs and Parties is repeated in other contexts in paragraphs 32, 36, 39 and 44, and the need for cooperation among IGOs, States and the CBD Secretariat stressed in paragraphs 13 (c).

Paragraph c in the annex to decision X/29 does introduce a new area of legitimate activity for the CBD in its programme of work, specifically “to identify and assess threats to biological diversity in marine areas beyond national jurisdiction, including in areas identified as likely to meet the criteria for [EBSAs]”. This was carefully worded to be clear that the CBD was encouraged to assess threats to biological diversity *in general*, including areas meeting EBSA criteria, but not to conduct threat assessments for any *specific* areas. This boundary was reinforced in COP XII, when extensive negotiations could find no consensus on a call for Parties to the CBD to include information on potential threats in relation to the information on EBSAs in the CBD repository.

Finally, in several paragraphs in decision XII/22, COP began to address the uses and actions Parties consider appropriate for areas described as meeting EBSA criteria, and for the information used in those

⁸ “Identifying” in this paragraph implies the process of “official declaration”, which is regarded as the next step to the “scientific description”.

descriptions. First, paragraph 8 calls on Parties and other Governments to “make use, as appropriate, of the scientific information regarding the description of areas meeting EBSA criteria, ... when carrying out marine spatial planning, development of representative networks of marine protected areas, taking into account annex II to decision IX/20, and application of other area-based management measures in marine and coastal areas.” This focus on EBSA-related information in spatial management and planning is consistent with the general nature of EBSAs as special areas of marine and coastal environments. This call is more generally extended to IGOs in paragraph 9, where they are called upon to use the information related to areas meeting EBSA criteria “in the implementation of their respective mandates”, with intentionally broad language to apply to IGOs with a wide range of mandates, as long as they operate within them.

Summary of the Section

This detailed review of the guidance from COP on EBSAs was undertaken to set the context for this document. It sets the focus as clearly on the experiences with collecting the information needed for application of the criteria by Parties or regional workshops, with the processes for the description of areas meeting the criteria, and the use of that information on biodiversity after the descriptions are completed, as well as potentially broader uses of the information collected before the application of the criteria.

III. OVERVIEW OF THE RESULTS OF THE FIRST NINE CBD REGIONAL WORKSHOPS TO DESCRIBE AREAS MEETING THE EBSA CRITERIA

Review of application of the EBSA criteria

A review tabulating some aspects of the application of the EBSA criteria in the first nine regional workshops was published in Bax et al. (2015). Table 3 in their paper, reproduced below, highlights some of the important findings about the use of the criteria, assessing the percentage of EBSAs rating “high” against each criterion. Aside from a lower rate of high ranking for the criterion for “naturalness”, and slightly higher rate of high ranking for the criterion for “importance for life history stages”, there is very little contrast among the use of the criteria. Given how many different ways a place may be important for some life history stage of some species, and how many ways a place can be altered sufficiently that it may not be considered to meet the naturalness criterion, neither of these results is surprising.

CBD Scientific Criterion	Average %	Min %	Max %	Insufficient data %
Uniqueness or rarity	62	40	86	1
Special importance for life history stages of species	70	54	91	8
Importance for threatened, endangered or declining, species and/or habitats	55	29	87	10
Vulnerability, fragility, sensitivity or slow recovery	51	31	82	9
Biological productivity	51	29	82	12
Biological diversity	52	34	80	12
Naturalness	31	10	64	10

Table 1. Percentage of areas ranked high against the EBSA criteria in the first nine CBD EBSA workshops. Source: Bax et al. 2015.

Bax et al. (2015) also report a number of correlations among the use of the criterion, but again none are counter-intuitive. Table 3 of their supplementary materials illustrates moderate (ranging between 0.18 and 0.41), but highly statistically significant (probabilities well below 0.001), correlation between, for example, productivity, with all the other factors except naturalness. The patterns of correlations among scores of the areas on the criteria are consistent with current thinking in ecology. There has long been an expectation of a positive but complex relationship between productivity and diversity, for example, and that an area of high productivity may be important as a foraging ground or nursery area for populations.

These correlations among the criteria scores for the areas described as meeting EBSA criteria are a fertile ground for ecological and conservation biology planning. However, they should be expected given the conscious decision at the Expert Workshop on Ecological Criteria and Biogeographic Classification Systems for Marine Areas in Need of Protection (Portugal, October 2007), hereafter referred to as the “Azores Workshop”, to accept some potential redundancy among criteria in order to ensure that areas with a variety of ecological properties but significant for biodiversity were highly likely to be captured by at least one criterion. This may be a minor difference in performance between the EBSA criteria and the FAO criteria for vulnerable marine ecosystems (VMEs). When the VME criteria were developed and adopted, the process put some emphasis on avoiding redundancy among criteria, partially accounting for the lower number and in some cases broader scope of the VME criteria (Rice et al 2014). From a CBD perspective, however, these correlations indicate that criteria are performing as expected.

One aspect of the criteria’s performance, which may be important to the future of the EBSA process in the CBD, is that the individual criteria must carry explanatory “weight” in justifying the identification of an area as significant. If an area scores “high” on multiple criteria, or even “medium” on a large number of criteria, there is a broad base for the ecological case that the area requires enhanced management and conservation. When an area scores “high” on a single criterion, the strength of the justification for considering the area significant for biodiversity, hinges on fewer considerations. This does not make the justification weaker, of course, because, for example, an area crucial for the life history of a few species will be important to their conservation and sustainable use, regardless of what other properties it may or may not have. Similarly, an area of high naturalness may be worth enhanced conservation measures in its own right, if most areas around it are highly disturbed. To examine the degree to which individual criteria carried high weight in justifying the description of an area as meeting EBSA criteria, the 203

EBSAs in the workshop reports reviewed by Bax et al.(2015) were tabulated by the number of criteria assigned a score of high. These results are presented in table 2 below.

Number of High Scores	0	1	2	3	4	5	6	7
Number of Areas	7	20	27	41	36	35	26	12

Table 2. Number of criteria rated “high” against each EBSA criterion in first nine CBD EBSA workshops. Source: Bax et al. (2015).

In only 10 per cent of the areas described as meeting EBSA criteria was only one criterion rated high. This suggests strongly that most scientific rationales for considering an area to meet EBSA criteria were based on integrated ecosystem perspectives, and not single aspects of the areas. Uniqueness (6), *life history* (6) and *diversity* (4) were the most likely criteria to be used singly, with *naturalness* and *vulnerability/fragility* being the only high-scoring criterion only twice and *importance for an endangered species* only used once. These results again suggest the criteria are being used in ecologically reasonable ways, calling attention to areas that are unique, highly diverse or important as feeding, spawning or nursery groups even if little else is known to be important there. The absence of *Productivity* and a sole high criterion may be the result of high productivity areas being important for biodiversity in many ways, and measures of productivity are rarely available in areas where information on the biodiversity using the high productivity is completely lacking.

The fact that seven areas were described as ecologically or biologically significant despite having only scores of “medium” on all criteria scored (in two of these cases there were scores of “unknown” on one or two of the criteria), is not straightforward to interpret. Taking a holistic ecological view, it may not be unreasonable to consider an area significant for biodiversity if it has some presence of many of the criteria, particularly in regions where biodiversity has been in substantial decline.

However, the fact that all these cases occurred in only two of the regions allows the possibility that the pattern reflects some difference in regional practices at the workshops, more than ecological differences among the regions. However, given how infrequently these cases occurred, the efforts of a complex follow-up may not be warranted. Bax et al. (2015) include a valuable analysis of the degree to which each regional workshop scored each criterion as low, medium or high. Their key results are duplicated in Figure 1 below.

Clearly there are differences among the regional workshops in how frequently the various criteria were assigned the various scores. However, the ecological differences among the regions make it likely that the distributions of criteria scores would differ for ecological reasons, so no inferences can be drawn from the figure about the similarity or differences of practice among the workshops.

Similarly, no insights are possible from the very infrequent scoring of an area as low on any of the criteria. This happened only 104 times across all the 1,421 scorings (203 areas by 7 criteria). The occurrences of scores of low were slightly clustered relative to a random distribution (fit to Poisson $P < 0.01$) with an excess of areas with multiple low scores. The surplus occurred because areas low in productivity were often low in other traits (particularly diversity) as well, but still high for some species uses or vulnerability. Thus the infrequent occurrence of low scores does indicate that areas described as ecologically or biologically significant generally are not poor on any of their ecological properties. Where low scores are given, it often indicates that areas ranked low in terms of productivity can still be significant for biodiversity. This again suggests broad conservation benefits from providing enhanced conservation and sustainable use to areas meeting the EBSA criteria.

Summary of the Section

All the tabulations and analyses suggest the criteria are performing in ecologically reasonable ways. All the criteria are being used, and usually are being used in integrated ways. It is not possible from these results to test if areas that actually need enhanced measures for conservation and sustainable use are being missed by the criteria because there is no way a priori to determine which areas should be so identified, independent of a process using these or similar criteria. It is possible to test experimentally if multiple meetings, given the same data and criteria but acting independently, would produce similar outcomes. However, such experiments are complex and costly, and only justified where there are believed to be serious problems with the processes or criteria, or very important decisions hinge on the outcomes of the process. Neither of those considerations applies to this case. The general similarities of areas described as meeting EBSA criteria in the Northwest Atlantic Workshop⁹ and areas identified as EBSAs in and Northeast Atlantic with the active participation of regional fisheries management organizations, Rice et al (2014) observed no serious problems with the criteria or processes. The consequences of decisions to describe an area as meeting the EBSA criteria are to trigger a more detailed review of threats, biodiversity status and consideration of potential conservation measures by competent authorities (see the previous section). The consequence of not describing an area as meeting the criteria may be further study and future reconsideration, if there is concern about the area; neither decision is itself costly or irreversible. Consequently, it is concluded that the criteria are serving their purpose well, and that the future of EBSAs should focus on refinements through consideration of lessons learned, and not a general revision of either the criteria or the processes used to apply them.

⁹ Report of the North-West Atlantic Regional Workshop to Facilitate the Description of Ecologically or Biologically significant Marine Areas, <https://www.cbd.int/doc/meetings/mar/ebaws-2014-02/official/ebaws-2014-02-04-en.pdf>

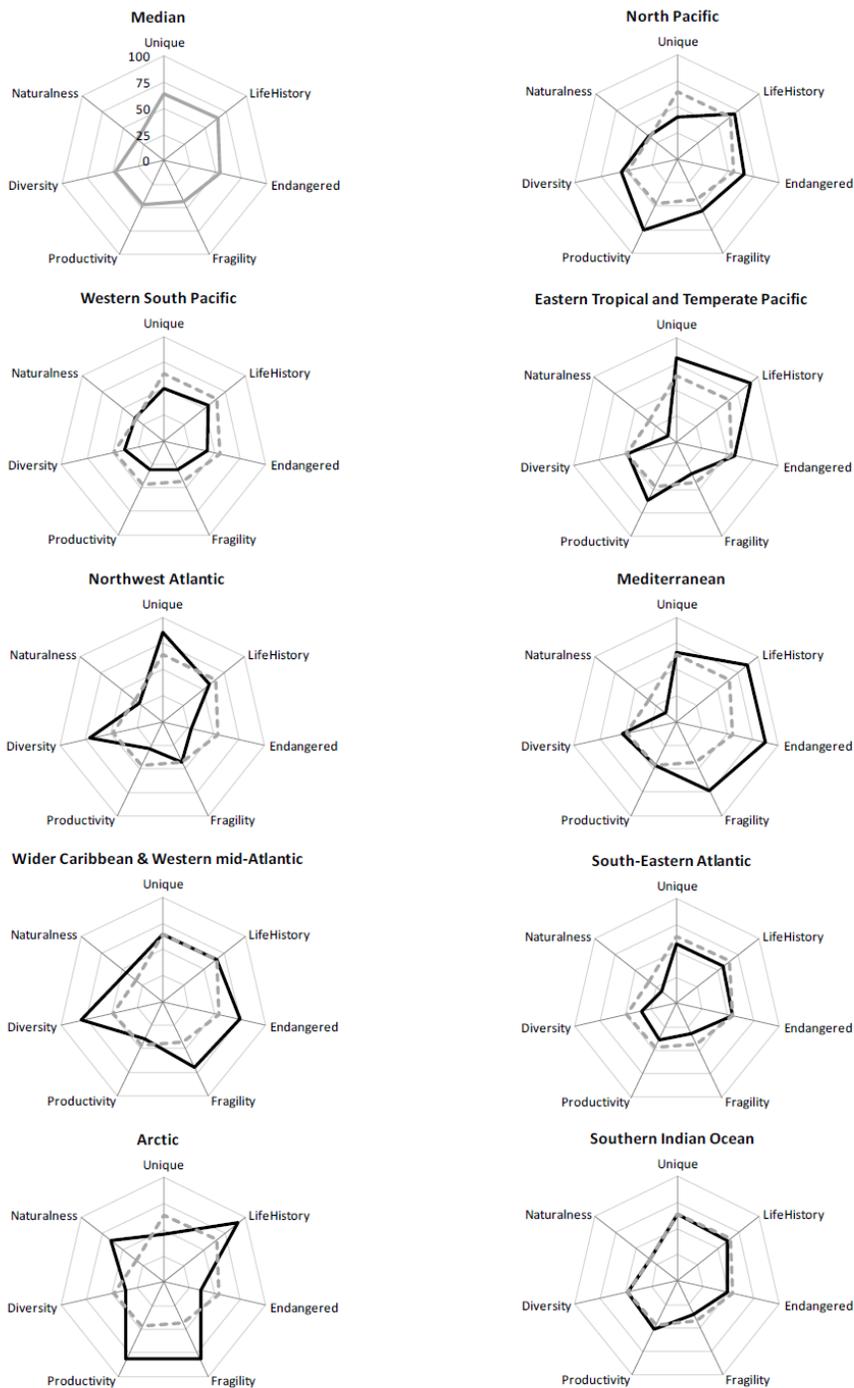


Figure 1. Analysis of the degree to which each of the first nine CBD regional EBSA workshop scored each criterion as low, medium or high (Source: Bax et al. 2015).

Review of evolving understanding of the “EBSA” concept

The initial interest in developing criteria to identify areas that were significant for biological or ecological reasons did not differentiate among the possible types of areas that might meet valid criteria. However, as experience accumulated with application of the criteria, it became clear that at least at the description

phase, the clarity of description and mapping would benefit from recognizing different types of EBSAs based, for example, on attributes of their physical features, such as:

- Type 1: EBSAs characterized by features that are clearly differentiated in the physical world, and fixed in space and time. These would be the most straightforward to position by spatial coordinates and enter on maps. Examples might be a coral reef or a specific seamount.
- Type 2: These are similar to type 1, but are a set of fixed areas that share similar features and are generally clustered in space. It would be possible in principle to describe each one individually as a type 1 EBSA, in fact. However that would be inefficient in practice, lead to substantial redundancies in the multiple descriptions of these nearby areas, and often weaken the information content in each description. The latter problem arises because not all members of the set might be equally well studied, so substantial effort would be needed to specify what is and is not documented for each member of the set, even though their ecological or biological significance is likely to be less variable among the group members than is knowledge about them. As a consequence for type 2 EBSAs, the description is likely to be done collectively for the set of areas rather than for each one individually, and the mapping would illustrate the outer boundary of the set, although within the delineated polygon, there would be a mosaic of some areas not meeting the specified criteria, as well as many patches of area meeting the criteria. Illustrations might be a chain of seamounts or of hydrothermal vents.
- Type 3: EBSAs are complex in a different way than type 2 EBSAs. These are again a larger but fixed polygon enclosing a mosaic of constituent sub-areas, some subareas meeting the specified criteria well and others meeting them less well. However the subareas are not stable in space over time. Unless specified as an EBSA that only meets its defining criteria seasonally, some part of the large delineated EBSA always meets the defining criteria and some part does not. However, those parts may shift over time so the pattern of the mosaic is not stable. Again the outer polygon encloses all the area likely to meet the specified criteria” often” (with no tight definition for what “often” means), but how much of the mosaic inside the polygon meets the criteria is in flux. Examples would include spawning areas for fish or feeding hotspots for seabirds, both of which involve the fish or seabirds moving around within the polygon, seeking exactly the right mix of school of prey for feeding or seabed substrate and temperature for spawning, respectively. However, the polygons enclose the area where those conditions are particularly likely to be found.
- Type 4: EBSAs again enclose mobile features of the ecosystem. The difference is that the location(s) with the combination of features meeting the criteria can be identified more or less homogeneously at any specified time, but that area moves over time. The description of the area meeting the criteria can be specified, often quite precisely, but its coordinates cannot be presented as reliably positioning the EBSAs. Likewise a map has to delineate an area much larger than the feature itself, to represent the full area where it may be encountered at some time during the year. Illustrations include shelf-ice edges and major oceanographic fronts.

It should be noted that EBSA descriptions often contain combination of characteristics of the different types of EBSAs summarized above. It will be useful, in terms of both efficiency and clarity, for the future workshops if further elaboration of these types of EBSAs can be provided, especially for those who can use the scientific information in the EBSA description for their conservation and management purposes. For example, the information related to different types of EBSAs can have implications for the selection of management measures, as follows, *inter alia*:

For type 1 EBSAs, the policies and measures can be applied directly to the full area meeting the criteria, and if the policies and measures are well-chosen, conservation benefits are expected to accrue from all the area so managed.

For type 2 EBSAs, there are potential reductions in costs if the policies and measures are targeted to the parts of the mosaic of areas within the EBSA that best meet the criteria—reductions in costs to the management authority by not spending management resources where less or no return is expected from them and reductions in costs to ocean industries by not constraining their actions over-prescriptively in

the parts of the mosaic where the normal standard of risk aversion is sufficient. However, there will be costs for the data collection and analysis to gain that higher degree of spatial resolution of the ecosystem features. How these contrasting costs (cost of over-regulation vs cost of increasing spatial resolution of information) balance out will be case-specific, and the cost-benefit analysis should be an early part of management planning for type 2 EBSAs.

The full implications for policy and management of type 3 and 4 EBSAs have not been systematically investigated, but some inferences of these implications is possible. For type 3 EBSAs, there is potential for large inefficiencies in management, if stringent conservation measures are applied in the entire EBSA area. Costs of management may be high because the measures have to be implemented and monitored in many parts of the large EBSA, where species may not be present so the measures may be doing little incremental good and because the industries may be excluded or operating with high-cost mitigation measures in place where the species are temporarily absent and not benefiting from the extra constraints on industry operations. However, in the parts of the larger EBSA where the species may be temporarily clustered, the absence of appropriately restrictive measures may allow substantial harm to biodiversity. Thus, cost-effective ways to isolate concentrations of the mobile species (or other EBSA feature) in near-real time, and/or have very near real-time adaptive management in type 3 EBSAs might have high payoff in both better conservation of biodiversity and more economically efficient ocean uses.

For type 4 EBSAs the management challenge is different and in this case depends on the nature of the industry being regulated inside the EBSA. If the industry's actions are also mobile then the mitigation measures or exclusion can be targeted right to the vicinity of the feature, wherever it happens to be located. For example, extra bycatch prevention measures might be required within a set distance of an ice-edge or oceanographic front, with some confidence that one could know the position of the features in real time. This makes management and operations both more cost-efficient and poses little incremental risk to the EBSA features. However, if the industry requires large infrastructure, like port facilities or operating platforms, these have to be built with all the mitigation provisions in place, because these structures will be in contact with the EBSA features, and necessary protection of biodiversity must be available.

Summary of the Section

1. Descriptions of areas meeting EBSA criteria can be further strengthened by elaborating the type of EBSAs or a combination of types of EBSAs where it can be classified, and such elaboration can be also reflected in the map, especially for Type 4 EBSA area.
2. Further guidance is needed for future regional workshops or national EBSA process on defining different characteristics of the EBSA types, and how such characteristics can be elaborated in textual description, use of relevant scientific information, including the use of proxy data, and defining polygon boundary on the map.
3. Further work is needed to clarify the implications of the types of EBSAs for conservation policies and management measures.

Evolving approaches to describing areas that meet the EBSA criteria

In the EBSA description process, two different approaches, which are complementary rather than exclusive to each other, were used to compile scientific information and identify candidate areas: (i) “*EBSA template/site-specific assessment*” approach and the “*assessment of data layers against each criteria*” approach. Both approaches consider the full set of criteria and produce full descriptions of the areas. However, each approach has some unique features.

In the “EBSA template/site specific assessment” approach, scientific information is submitted using the “EBSA Template” being provided by the Secretariat. The format of template helps the submitter to compile scientific information on areas that are highly likely to meet the criteria prior to the corresponding workshop. Such compilation has been done sometimes by a small group of experts or by national preparatory meeting as inputs to the respective regional workshops. The EBSA template also allowed the submitter to consider the location and boundary of each proposed area, which later went through a lot of transformation depending on the workshop discussion at the regional scale. In addition, the EBSA template also required the submitters to rank (e.g. high, medium, low, and no data) the extent that the proposed areas meet each criteria and provide justification for their ranking, including scientific references to support their justification. The discussion at the regional workshops was initiated by reviewing the information provided in the EBSA Templates, together with the data and scientific information compiled through GIS data overlays (about 100 – 200 layers of physical, biological, oceanographic, climatological, and geological data). During the workshop, the participants are encouraged to review all the available data at the regional and sub-regional scale, as the experts from different countries tend to submit available information on their national waters, without attempting to consider ecosystem features that are transboundary in nature or located in areas beyond national jurisdictions. As such, the workshop proceeded in the following manner:

- Review the layers of information available, including GIS maps of ocean features, other types of data sets, primary and other scientific and technical reports and publications, and expert knowledge, relative to each of the CBD EBSA criteria, taking into account guidance from the workshop plenary with regard to treatment of areas within national jurisdiction and trans-boundary areas.
- Based on that review, describe areas that may be considered to be relatively ecologically or biologically significant, based on their relative importance on one or more of the criteria,
- Document the description of each area considered to be ecologically or biologically significant, using the EBSA template and augmenting the template with such additional narrative and maps considered necessary to reflect the rationales of the group. Where appropriate, the narrative may report on strengths and weaknesses in the information used in description of the area, and key uncertainties.
- Review existing compilation of templates and as necessary refine them, considering comments provided by the Secretariat and the workshop plenary, in terms of scientific data/information; and polygon boundaries of areas to be mapped; Where appropriate consider merging areas described in proposed description (EBSA templates) with other areas or refining them into small areas
- Define the polygon boundary of areas of the proposed areas on the GIS map
- Invite relevant experts available at the meeting for their expert opinions

The above approaches, including both preparation of template prior to the workshop and further extensive development of descriptions at the workshop, were well taken by the regional workshops, in particular in the regions where data paucity and limited scientific capacity have been prevalent issues. For these regions, initiating the workshop deliberation on those priority areas with available scientific information and local expertise provided a practical solution to overcome the challenges that would require long-term investment for research, monitoring and education to address.

In some regions, however, “*assessment of data layers against each criteria*” was applied, which rely on scanning of geo-referenced data layers and other spatial knowledge of the area against each criteria, rather

than the information provided in EBSA templates that is more site-specific. These were reviewed by the participants at the workshop, who identified hotspots based on either exceptional values for one layer or co-occurrence of relatively high values on several layers, against the EBSA criteria. Once selected, a subset of workshop participants prepared the template, which was reviewed, refined and finalized by the workshop participants as a whole.

As mentioned above, both approaches are not mutually exclusive, but complement each other, with different set of strengths and weaknesses.

Strengths of the EBSA template/site specific assessment include:

- Allowing a larger number of experts to participate in the EBSA description process than can be accommodated at a workshop, since countries, through CBD national focal points, can coordinate the inputs of the scientific information with diverse range of national experts who may not be able to attend the workshop due to limitation of number of participants that can attend the workshop from each country, and relevant organizations that have substantive scientific work in respective regions can also submit relevant information regardless of their availability for the workshop
- Efficient way of consolidating scientific information in a format that can be readily used by the workshop participants. This is especially critical for the workshop to produce and adopt the workshop report that is in general 200 – 400 pages, within 5-6 days of the workshop period
- Efficient use of meeting time, since much of the work in preparing rationales can be done in advance, although a lot of new writing, re-writing, refinement and expansion of scientific information take place during the workshop.

Weaknesses of the EBSA template/site specific assessment include:

- Can be vulnerable to subjectivity of certain experts/organizations/countries that have special interest in and expertise/information on certain areas;
- The description of any particular area using the EBSA templates may not initially, when it is submitted prior to the workshop, reflect the relative importance against different criteria at the regional/sub-regional scale. The main challenge of the workshop is therefore to add a regional/sub-regional dimension to the review of relevant scientific information and finalization of EBSA description; and
- Maintaining consistency in the application of the criteria can be challenging when the EBSA templates are prepared by different experts/group of experts, and the role of workshop therefore is to ensure the consistency through collective expert judgement process

Strengths of the assessment of data layers against each criteria (the layering approach) include:

- Transparency of the process of defining areas for EBSA description
- Full landscape perspective of the distribution of the ecosystem features in the full area of the workshop, so “relatively” high areas can be identified with some consistency.

Weaknesses of the assessment of data layers against each criteria (the layering approach) include:

- Workshops can be more demanding in terms of necessary scientific information, range of expertise required to conduct full assessment of the entire workshop area at the regional scale, and consequently the volume of work to undertake a thorough assessment against each criteria for the entire workshop area. It also requires a strong leadership of workshop co-chairs, who can be knowledgeable of the entire workshop area and ensure transparency, objectivity, and consistency of the workshop discussion and assessment
- Tendency for more complete data sets with good spatial coverage to be emphasised, even if other lesser-known features may have high ecological or biological significance.

There has been no systematic analysis undertaken to see how effective each strategy actually is at describing all and only the areas that are truly ecologically and biologically significant. In fact there is no independent way to identify what the “true EBSAs” in a region are, separate from using one of these

approaches. Hence there is no objective way to establish if either is a “better” approach than the other, and during the workshop practices, it is observed that these two approaches have complemented each other at different degrees. The weaknesses of the EBSA template/site-specific approach can be managed to some extent by rigorous peer review at the workshops. However, this requires professional approaches by the participants when challenging the proposers’ judgements and by the proposers when facing the challenges. Such professionalism is supposed to be a norm for any science-based process, but in reality is hard to maintain in a time-limited meeting. The weaknesses of the layering approach can be managed to some extent by good preparations before the meeting and full engagement by all meeting participants when the layers are being reviewed. Full engagement is also supposed to be a norm for science-based meetings. Again, however, it is hard to maintain in practice, when most participants are specialists in only a subset of the data layers being examined.

Summary and conclusion of the Section

1. The two approaches applied at the EBSA regional workshop (*EBSA template/site-specific assessment*” approach and the “*assessment of data layers against each criteria*” approach) complement each other and are likely to be maintained in the future workshops. No one wants to oppose experts presenting their knowledge of specific areas if they use the criteria correctly, and no one wants to deprive the workshops of pooling collective expertise in a transparent and consistent way, as long as the necessary preparatory work is done.
2. Regardless of source, the rigour of scrutiny at the workshops is crucial to a sound process and good descriptions of areas meeting EBSA criteria. The workshops need to be “tough but fair”.
3. In order to ensure the scientific rigor and transparency of the regional workshops, while considering the challenges of data paucity and capacity disparity, it would be useful to undertake overall review of the full set of areas found to meet EBSA criteria by regional workshops so far, by a few experts with a long-term and extensive expertise in the ecological and biological aspects of the respective regions, selected in consultation with Parties in the respective region. The review would assess if the approaches taken for EBSA descriptions and rationales are sound and robust, and also consider the enabling/challenging factors that affected the workshop approach. The goal of such studies would be to see if there was a best practice, bearing in mind different level of data availability and scientific capacities, and if so, find ways to ensure its weaknesses/challenges were managed while overall its use was promoted.

IV. ISSUES RELATED TO SCIENTIFIC PREPARATION PRIOR TO THE WORKSHOP AND ACTIVITIES AT THE CBD EBSA WORKSHOPS

This section will discuss a number of operational issues that have arisen during the first nine CBD EBSA workshops. Many issues emerge directly from the summary information presented in Section I of this report. The main sources of information for this section are the technical material provided by the technical support teams from Duke University and CSIRO, who supported the Secretariat for all the regional workshops, as well as conclusions from the workshop reports, and verbal inputs from participants at those workshops.

Issues related to the compilation of scientific information using the EBSA templates

There were no suggestions from respondent Parties, workshop participants or the technical support teams that there were problems with compilation of information using the EBSA template provided by the Secretariat, prepared before the meeting. When these were discussed at the workshops, however, in several cases the workshop discussions noted that they had to be revised to be acceptable to the workshop (see details in the previous section). The scientific discussion among workshop participants, in the plenary or small groups, often significantly strengthened/refined/modified the EBSA description. This was often achieved by widening the geographic boundaries to make the area significant at the full regional scale rather than a national or even sub-national scale (e.g., Caribbean and North Pacific), but

also sometimes by taking a template focusing on a particular feature, like seabird foraging areas, and adding additional properties about the area (e.g., Arctic and Southeast Atlantic). In some cases the workshop concluded that templates prepared before the meeting were not sufficiently justified to be confident that the area met the criteria, and these were marked for further study before accepting them.

While all the regional workshops were tasked to use publicly available information through quality-controlled sources, it was also noted in a few workshop reports and particularly by the technical support teams, that data referenced on the EBSA templates prepared before the workshops were sometimes not accessible to either the workshop for examination, or to the science or management officers that might want to conduct follow-up work after the workshop report was released. The Northwest Atlantic workshop report has a particularly clear explanation of the type of information on data sources and analytical methods used that would have to be included in the templates prepared before the workshops, to enable the workshop participants to fully review the area relative to other areas being considered for inclusion as meeting the criteria.

Once completed at the workshops, however, there was strong support from all workshop participants that the completed templates were very professional documents. They were soundly justified, well referenced, and would form excellent starting points for the scientific, policy and management communities to commence follow-up work to provide enhanced conservation and sustainable use.

Conclusion of the Section

Guidance on how to prepare templates before workshops should be expanded, to highlight the following requirements:

- All data sets used in developing EBSA templates should be specified. Either they should be made available at the workshop itself, or provision should be made for an expert knowledgeable about the data sources to be available on-line through the workshop, to provide timely answers to questions that workshop participants might pose.
- If the templates include results of statistical analyses or modeling, a technical annex to the template or a scientific reference explaining the analysis/modeling, should be provided to the workshop, explaining the analyses and models in sufficient technical detail that the work could be replicated independently and experts at the workshop could evaluate the methods fully.

Issues related to the compilation of scientific information through GIS data base

There was uniform support at the workshops that the information contained in the GIS data base was invaluable to the EBSA description processes. Every workshop report included expressions of thanks to those providing the technical support at the meeting. Nevertheless, there were some issues about the GIS data bases, mostly raised by the technical support teams themselves but echoes in many of the workshop reports. Above all, the data layers available to the workshops are incomplete in several ways, even after taking account of the under-sampling of many aspects of the marine environment. Sometimes datasets are relevant, known to exist, but are treated as confidential by a State or IGO. This received particular attention in the Western South Pacific and Southern Indian Ocean workshop reports, but the problem was not restricted to those areas. At the next stage, there are many invaluable data that are not archived into GIS databases. Data-on-shelves received particular expressions of concern in the southern Indian Ocean, the Mediterranean, and a few others.

The input from the technical support teams, in particular, highlighted the value of capacity building and training workshops held some weeks or months before the EBSA workshops. These sessions alerted Parties, IGOs, and individual scientists who might be participants at the workshops of the importance of having geo-referenced data-bases in advance of the workshops, if the data were to make their full contribution to the description of areas meeting the EBSA criteria. As a result, many new data were mobilized for the workshops, although the task of data mobilization was far from complete when the workshops were held. Ample lead time is needed between the training sessions and the workshops, for their full potential to be realized, a point made strongly in the Southern Indian Ocean workshop report.

Conclusion of the Section

The main follow-ups from this consideration are not novel but have proved difficult to implement. Two priorities stand out.

First, data held by individuals or treated as commercial property by States or IGOs should be liberated and included with proper meta-data in databases widely available to the scientific and policy/management communities. This was stressed in several workshops and by input from most of the Parties. This is a very familiar concern, and most calls for freer access to data note that incentives for release of data have to be in place, and possible deterrents, such as impact on career progression, have to be mitigated.

Second, a global centre or network for maintaining all marine biodiversity data, as well as seabed morphology, oceanography, etc. would be invaluable. Again, the input from the technical support teams provides a very clear description of what is needed. It is noted, though, that such an initiative must be adequately resourced for long-term viability, and the data bases cannot be curated as static collections. They must be kept current with data acquisition projects and technology developments. Groups with the technical capability to serve this role already exist. However, secure on-going funding would be needed.

It is also noted that most regional seas conventions and action plans are implementing data systems and many countries are mobilising data within respective regional seas conventions. As such, supporting such existing initiatives at the regional scale can be considered as of priority. In fact, many of the regional workshops stressed the need for regional data bases of the biodiversity and environmental data (e.g. Mediterranean, Arctic, North Pacific). These would not necessarily have to be different from the global data bases, and in practice, and all these data bases should be interconnected. However, the regional workshops stressed the need to have the data bases well connected to the regional expert communities, with their vision including a data/knowledge centre at the regional scale, where personal relationships between the experts and database managers could be established and maintained.

A third point of follow-up that does come from these workshops is the need for training workshops well in advance of the EBSA description workshops. The workshop feedback indicates that the necessary training is well understood and well delivered. However, funding, the staff time of the Secretariat, and expert time for convening these workshops are major constraints.

Use of information compiled in GIS database by workshop participants

Workshop reports were uniform in comments that the geo-referenced data were invaluable to the workshop discussions, and in the mapping of the areas meeting the EBSA criteria. However, it should be noted that just having the data available is not enough for their successful use. Experts in GIS technologies that know the data-bases well are essential if the value of the data is to be realized, as acknowledged in, for example, the North Pacific and North-West Atlantic reports.

Several workshops did stress that the georeferenced data were sometimes on scales of resolution that did not allow really precise delineation of EBSA area polygons. However, basin-scale maps are quite coarse to begin with, so highly precise delineation of polygons may not be necessary. This is particularly the case as the EBSA description process is viewed as a step in a more complete process, and is followed by a more detailed assessment of biodiversity status in the area, potential threats to identified biodiversity, and options for conservation and mitigation of potential impacts. Some workshops reported challenges in delineating boundaries because of the gradient nature of the features meeting EBSA criteria (e.g., Mediterranean, Arctic), but this is a characteristic of the feature and not a limitation of the mapping. Consequently, the precision of the GIS data may well fit to purpose for the EBSA description step, with subsequent activities necessarily working at increasingly fine spatial scales with concomitant increases in data needs.

A number of other issues related to use of the data arose in the workshops. However, these are related to the data and criteria themselves and not the databases containing the data. They will be discussed in appropriate parts of Section V below.

Conclusion of the Section

Progress needs to continue to be made at finding ways to support global/regional database consolidation and management initiatives – a need long recognized by the expert community. Those initiatives in turn need to be connected to regional/national nodes serving the same function, at a level of connection a step closer to regional expert communities.

It should be also noted that the technical support, as arranged by CBD Secretariat in collaboration with Global Ocean Biodiversity Initiative, in particular CSIRO and Duke University MGEL teams, provided to regional workshops conducted thus far is considered essential by workshop participants and must remain a core part of the process for describing areas that meet the EBSA criteria.

Applicability of EBSA templates in capturing traditional knowledge

The value and legitimacy of using traditional knowledge in the description of areas meeting the EBSA criteria is explicitly acknowledged in the COP decisions on EBSAs (see section II above). Consequently, the CBD Secretariat has responded to this request, and has prepared a draft training manual, “Incorporation of Traditional Knowledge into the Identification of Ecologically or Biologically Significant Areas (EBSAs)”, as contained in document UNEP/CBD/SBSTTA/20/INF/21. It includes guidance on how to approach communities to document and apply traditional knowledge relative to EBSAs, and how to incorporate that knowledge into the EBSA process. Because it is yet to be reviewed and finalized for application, its effectiveness in operations cannot be evaluated. However, a review of workshop reports to date highlights the importance of completing the training manual and facilitating its application as a core part of the EBSA description process.

Of the first nine regional workshops, only four make any mention of traditional users of marine resources as part of information considered in applying the EBSA criteria (Caribbean, North Pacific, Southern Indian Ocean, and Arctic) and only the latter three include participants affiliated with holders of traditional knowledge. Aside from the Arctic workshop report, none of the workshop reports indicate that indigenous and traditional knowledge was used at the workshop in evaluating areas relative to the EBSA criteria. In both the Caribbean and North Pacific workshops, however, templates for some areas

did reference their importance for traditional uses although the amount of traditional knowledge incorporated in the draft templates was unclear.

The report of the Arctic workshop was the only one to contain substantial material on the use of traditional knowledge in the EBSA process. National reports by Canada, the Kingdom of Denmark and Russian Federation all highlighted experiences with the use of such knowledge in national processes. Annex VI to the Arctic workshop report goes into more depth, presenting a detailed exposition of the value of such knowledge in the EBSA process, challenges encountered by indigenous peoples and local communities (IPLCs) when attempting to participate in EBSA processes at national and regional scales, and specific suggestions for how to improve practice. In addition to the usual challenges of fair and equitable representation of indigenous peoples and local communities in national and intergovernmental processes, there is an additional challenge of describing transboundary areas meeting EBSA criteria when the EBSA processes respect national jurisdictions. This is due to migrating species or dynamic features, where the livelihoods of IPLCs and the resources on which they depend often cross such boundaries.

The suggestions for improvements to the process of including traditional knowledge in the description of areas meeting EBSA criteria include:

- In cases where features important to the relationships between IP&LCs and biodiversity are transboundary, Parties could allow their national EEZs to be included within the scope of the workshop, or at least allow for consideration of transboundary EBSAs within their national EEZs for this purpose.
- To address the lack of capacity of IP&LC organizations and institutions to participate in CBD regional workshops, targeted support for such participation or to conduct their own processes for describing EBSAs could be mobilized, consistent with paragraph 24 of decision XI/17. In this context the paragraph should be applied to IP&LCs in all countries, and not just developing countries.
- There is no “one size fits all” solution to ensure the participation of (IPLCs). Approaches will need to be tailored to the specific circumstances and capacities of each community.
- The template for EBSA description can be improved to provide for incorporation of traditional knowledge, particularly in the section related to “Assessment of the area against CBD EBSA Criteria”.
- Ensure full and effective participation of IPLCs, as appropriate, when organizing training workshops for EBSAs in all regions.
- Compile lessons learned from above-mentioned experiences and develop guidance and best practices for full and effective participation of IPLCs;
- Implement training and pilot projects to facilitate more effective participation of IPLCs in the EBSA process and incorporate TK into the process;
- Examine the feasibility of developing linkages to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) process on “indigenous and local knowledge systems” to assess whether information and methodologies developed by IPBES may also be useful for the EBSA process;

The Annex ends with an EBSA template for Pikialasorsuaq / The North Water Polynya, completely filled out and scored using indigenous knowledge. The justifications of the individual scores are concise and do not contain the extensive references to primary literature that characterize most templates from other EBSA workshops. However, the names of the individuals participating in the expert process are listed following the template, documenting the sources of the knowledge. In all other ways the template is fully credible and potentially as useful as templates prepared in the more established processes.

Finally, the issue of the use of social and cultural criteria in the description of areas in need of enhanced conservation and management has been discussed since COP 10 and is touched on in the Arctic workshop report. Although there is widespread agreement that social and cultural uses can justify enhanced conservation and management of specific areas, there is not yet consensus on how the CBD should proceed. There are mixed views among both experts and Parties with regard to whether the best course would be additional criteria for EBSAs, or a new category of areas – something like socially and

culturally significant marine areas. With no consensus on a way forward, progress in including social and cultural significance in CBD work on marine areas has been slow.

Conclusion of the Section

There has already been some follow-up to the proposals from the Annex to the Arctic workshop, with the draft training manual prepared for review. Its completion might be expedited to speed the use of traditional knowledge in the EBSA processes. Funding for training workshops using the manual, and other sources, as relevant, would need to be secured, however, to actually commence the capacity-building of the holders of traditional knowledge, and the understanding of other participants, particularly workshop chairs, of how to integrate this knowledge in the existing processes. The dialogue forum between EBSA scientific experts and experts from IP&LCs, referred to above, should be viewed as a step on a longer journey, and not an end in itself.

The IPBES process has invested significant effort in developing an understanding of how to access and use indigenous and local knowledge (ILK) in their assessment processes. A large number of tools to facilitate both access to and use of ILK (the term used in the IPBES context to acknowledge that many local communities and indigenous peoples have knowledge systems that are complete in their own right, and should be treated as complete knowledge systems in assessments) have been developed and can be accessed at the IPBES website (<http://www.ipbes.net/index.php/ipbes-events/266-expert-workshop-on-indigenous-and-local-knowledge-systems-to-ipbes>). These tools and associated guidance could be reviewed by CBD, for augmentation, as appropriate, of the draft training manual noted above.

National-level scientific coordination and preparatory processes

Several workshops, particularly the Caribbean, South-East Atlantic, North Pacific, and Southern Indian Ocean highlighted the value of national databases and information sources that were assembled in advance of the workshops. In some cases, these advanced preparations included preparation of templates that were tabled at the workshop, and in others the information collected through national coordination among relevant experts was provided for consideration at the workshop.

As all the workshop reports make clear, the more that was done to prepare for the regional workshops, the more successful the workshops were. In this context the training workshops were uniformly considered very valuable in helping with preparations, and for example, the Southern Indian Ocean report stresses that there would have been even more value from the training workshop had there been more time for preparations between the training session and the workshop itself. The generalization that arises from all the regional reports is that, notwithstanding the excellent input from the technical support teams in providing access to global and regional databases, the more that Parties put into preparation of information for the workshop (preparations with which the technical support teams can sometimes help) the more those Parties get out of the workshops and the better the final products.

Conclusion of the Section

Further guidance is needed to encourage countries to undertake necessary coordination among relevant experts to provide meaningful scientific inputs to the respective regional workshops.

The training workshops and other training activities prior to regional EBSA workshops can be a core step in the process for applying the EBSA criteria, and this training should be provided well before the respective regional workshops are scheduled.

V. ISSUES RELATED TO PERFORMANCE OF THE CRITERIA AND SPECIFIC ACTIVITIES AT THE REGIONAL WORKSHOPS

The performance of the criteria in the workshops was reviewed in section III above, where it was concluded that in general there was satisfaction with their usefulness in producing credible and informative outcomes from the workshops. However, there are a number of specific questions that have

been posed about the criteria. These are discussed below, usually in reference to the analyses in section III and its information sources.

Consistency of performance of the criteria in information rich vs. information poor areas

The analyses reported in Bax et al. (2015) and Table 1 in section III above, indicate that there are no major differences among the regional workshops, in terms of how often the individual criteria were assigned the various scores. Figure 1 of this report, also taken from Bax et al. (2015), does show that there are differences in the average scores awarded for the criteria, across all the regional EBSA workshops. The criteria are not often used equally, but there is no reason to expect that they should be. All are used often enough to suggest all are being found to have some value in reflecting the significant properties of the various areas.

The regional workshops cover ocean areas from the tropics to the Arctic, all four oceans, countries from small-island developing States to countries with the longest coastlines in the world, and economies from among the richest to among the least developed. With these differences in ecological characteristics and economic and socially generated pressures on the marine biodiversity, there is no clear basis for establishing how similar the regions should be in their scoring on the various criteria. The low contrast among columns in all the tables suggests that the criteria are at least not showing any major biases in their usefulness among different regions that differ ecologically, economically or both.

There was a higher rate of “unknown” scores to at least one criterion in the Western South Pacific (13.2% of all scores), Northwest Atlantic (10.2%) and Southern Indian Ocean (8.8%), than in the other regional workshops. However, those workshops cover a region generally considered to be relatively data rich (Northwest Atlantic), data moderate (Western South Pacific) and data poor (Southern Indian Ocean), whereas some other data-poor areas had quite low rates of “unknown” scores (Caribbean - 3.2%, South-Eastern Atlantic 3.5%). Moreover among the regions with the relatively high rates of awarding “unknown” as a score, the “unknown” scores tended to be clustered, with just four of the 39 areas in the Southern Indian Ocean accounting for two-thirds of the unknown scores, and in the South-Eastern Atlantic, three of the 24 areas accounted for 45% of the “unknown” scores. In all those cases, an area was described as meeting the EBSA criteria because it contained a feature that very strongly met one or more of the criteria, such that a convincing case was considered to be made based on those features, notwithstanding the absence of information on other features relevant to other criteria.

All of the workshop reports include a list of marine areas that are considered to be likely to be ecologically or biologically significant, but for which more study is needed before a sound scoring can be conducted. These lists are of variable length and detail, but all highlight that the process for evaluating areas relative to the EBSA criteria is an on-going process everywhere. The low rate of unknown scores for regions reporting significant preparation before the regional workshop highlights that the effectiveness of the criteria is probably more dependent on effort invested in assembling the relevant available information than on any inherent bias in any of the criteria towards more data-rich parts of the world.

Consistency of performance of the criteria among different regional workshops

This is a hard question to address, again because there are no norms for how individual criteria were intended to perform. In developing the criteria, features were sought intentionally that would be broad in scope, so a feasibly small number of criteria could cover a wide range of reasons why an area might be ecologically or biologically significant (see report of the Azores Workshop, 2007) and Rice et al 2014. Some insight might be gained by examining the inverse question: is a particular type of feature scored generally the same way by different regional workshops?

This question was investigated by examining across the nine workshops the scores for all areas where seamounts were a major factor in the areas’ scoring. Seamounts were chosen because they are widespread enough to be present in most of the regions, and even if there is no narrow definition of what constitutes a seamount, technical experts generally interpret the term to refer to a similar collection of features of the seafloor and associated biota. Across the nine workshops there were 26 such areas, with only the Arctic having no areas where seamounts were a major factor in scoring. For those regions with a

strong presence of seamounts, the variation in scores among areas was as wide as the variation among the regional workshops (table 4). This again reflects the fact that the criteria are trying to capture ecological properties in a dynamic ocean, where the cumulative effects of past human uses is compounded on this variable background. Although it is not possible to conclude from this tabulation that the criteria are being scored the same way across regions when applied to similar ocean features, there is certainly no evidence of consistent differences in interpretation of the criteria across regions.

Table 4. Scores awarded by the various regional workshops to the criteria, for areas where seamounts were a major consideration in the scorings. Region and criterion IDs are the same as used in all CBD EBSA reports. Area refers to the number given to the area in the corresponding regional workshop report. Scores are High (H), Medium (M), Low (L) and Unknown (U). (Bax et al 2015)

Region	Area	UNQ	LHS	END	VUL	PRO	DIV	NAT
CAR	6	H	H	H	H	H	H	H
	12	M	M	H	H	M	M	M
	15	H	H	H	H	U	H	H
	18	H	H	H	M	M	H	H
	21	H	H	H	M	M	H	H
	22	M	H	H	M	H	M	L
ETTP	18	L	H	H	H	M	H	H
	19	H	H	M	M	M	M	M
MED	5	H	H	H	H	H	H	M
	7	H	M	H	H	M	H	M
	8	M	H	H	H	M	H	L
N PAC	7	H	M	L	H	H	H	H
	18	M	M	L	M	M	M	L
NW ATL	3	H	U	U	H	L	H	H
	6	H	H	U	M	U	H	M
SE ATL	15	H	U	L	M	H	M	U
	36	L	M	H	M	M	H	H
	44	H	H	M	M	U	M	M
	45	M	H	H	M	M	M	L
SIO	2	M	H	M	H	H	H	M
	23	H	M	H	U	H	M	H
	30	H	M	H	H	M	H	M
SW PAC	2	M	U	U	H	L	M	H
	3	H	H	M	H	H	H	H
	7	H	U	M	M	H	H	H
	17	H	H	M	M	M	H	M

Other issues regarding the performance of the criteria

Calls for more guidance on application of the criteria have been made through the various workshop reports. The following specific concerns were raised:

- Concerns were expressed about the application of “vulnerability” in the specific context that sometimes a seabed feature itself was vulnerable in the sense of being fragile, readily damaged physically, and likely to be slow to recover (e.g., coral banks and sponge reefs). Other times, the seabed itself may not be vulnerable, but a biotic community using the feature may be easily impacted and slow to recover from disturbance (e.g., thought to be the case for fish communities on many seamounts), which is an issue raised in the Caribbean and Western South Pacific reports, in particular. For this criterion, there was some discussion at the Azores Workshop (2007) of whether vulnerability and fragility should be two separate criteria – one related to ease of damage (fragility) and one related to speed of recovery from disturbance (referred to as vulnerable at that time). In the end they were pooled because it was thought that most marine features that were fragile would also be vulnerable, so rating them as separate traits would double-count this feature when it occurred. If both traits do occur together, scoring as “high” is easy. Sometimes, though, one may be considering a feature where fragility is a strange concept, such as asking if a seabird foraging community is fragile in the same sense as a coral reef. However, as long as exposure to forms of disturbance relevant to the feature has a non-negligible likelihood of occurring, and recovery if disturbed is not rapid and secure, then a high score on vulnerability was intended.
- Concern was also raised that there could be possible confusion in the interpretation of “naturalness”, particularly but not solely in the context of climate change (see Western South Pacific). Aside from stressing that all criteria were intended to be applied relative to their background baselines at the regional scale, there has been no discussion of how to treat climate change in these EBSA descriptions.
- Over the workshops, however, the rationale for applying the “relative” aspect of all criteria has become clearer. From the outset it was stressed that all ecosystems and their components may have some value in ecosystem structure and function, and provision of ecosystem services to humanity. Thus conservation and sustainable use has to be the benchmark norm for all oceans, a point echoed strongly in the “The Future We Want”, the outcome document of the Rio+20 United Nations Conference on Sustainable Development (2012) and the new generation of Sustainable Development Goals (<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>) Some workshops addressed this issue of a relative baseline head on, however. Both the Arctic and the Mediterranean workshop reports included a specific section where the global significance of the entire region was described, including any properties that were globally unique at the full regional scale. The sections then went on to describe in general, non-prescriptive terms the normal level of risk aversion in conservation and management that would be applied if all human uses were kept within sustainable limits. Then the EBSA criteria were applied in the context of the importance of specific areas *relative* to that norm. If this practice was made standard, the meaning of the relative scores would be clearer to both those doing the scoring and using the results.
- In the North Pacific workshop a request was made for specific guidance on separation of seabed features from the water column, a concern also expressed in the Eastern Tropical and Temperate Pacific workshop. In the scoring guidance it is implicit but not explicit that a score can be given for a seabed or water column feature separately. If either is relatively high on a specific criterion, then a score of “high” can be given for the area. The interpretation of the meaning of any score is supposed to be presented in the assessment against criteria on the template, so the reason for the score as a water column feature, a seabed feature or a more integrated property of both should be clear. As with vulnerability, however, splitting this criterion into two criteria, one for the seafloor and one for the water column, would double the workload and information requirements, and often partition important ecological coupling between benthic and pelagic into pieces that are not ecologically independent in practice.

- Finally, the challenge of evaluating the uniqueness criterion in poorly sampled areas was raised in the report of the Southern Indian Ocean workshop. How much supporting evidence is needed to conclude that an area is unique? There is a longstanding academic dialogue on this question, which is interesting but of limited help in practice. For scoring, this concern is imbedded in the larger issue of nesting of small areas that meet the criteria within larger areas that meet other criteria, which was encountered in many workshops (e.g., Mediterranean, Southern Indian Ocean.)

The **scale issue** has a number of dimensions. Some features usually occur inherently at larger scales than others; for example, seabird foraging zones are larger than hydrothermal vents. In such cases it could be inappropriate to pool all the features into a single area, for two different possible reasons. First would be if the result was that the score on each criterion would be a blend of different degrees of fit from the smaller and larger features contributing to the score, and did not actually reflect well the status of any of the areas relative to the criterion. The second would be if the narrative presenting the area and justifying the score awarded had to be some blended narrative that did not clearly inform policy makers and managers of the conservation needs of either aspect of the area.

This is not a call to over-split into many small EBSAs, however. Often the significance and conservation needs of an area are consequences of the mosaic of features present in an area. In such cases, a single scoring and narrative should be prepared for the areas as a whole, highlighting the significance of the interactions among the ecological features comprising the mosaic.

Explicit guidance could be given in the guidance materials for the workshops that nesting of areas described as meeting the EBSA criteria is appropriate when specific conditions are met. The conditions could be if each of the areas meets different sets of criteria, or similar criteria for different reasons (e.g., a hydrothermal vent field on the deep seafloor and a marine turtle migration corridor above it in the pelagic zone). If, however, interactions among the features were part of the ecological and biological significance of the area, it should be described holistically.

A second aspect is that features that may score relatively high at, say, a national-scale evaluation may not be as relatively significant at a larger regional scale – particularly criteria such as uniqueness, productivity and diversity. In addition, as one includes larger areas in an evaluation, the chance to include more features of potential significance increases.

There is no “right” scale for the application of the EBSA criteria. What matters is that the size of the background region be made clear, and the criteria interpreted relative to the full background region. This could result in some areas scoring higher in a local or national evaluation than a regional one, if, for example, a feature is unique in a country’s EEZ but much more common in adjacent waters. On the other hand, a feature could represent an average condition for the country’s full EEZ (e.g., productivity), but on a larger scale, that one country’s typical condition could be either well above or well below the regional norm.

Again, there is no adjustment to the criteria that could make these scale issues disappear. Rather, the practice involves:

- delineating the full area to be considered when applying the criteria within the area,
- applying the criteria relative to the scope of the evaluation, and;
- describing the background standard of a sustainably managed and conserved regional ecosystem, from which EBSAs would be identified as requiring enhanced efforts to ensure conservation and sustainable use.

These steps could be incorporated into the guidance on application of the EBSA criteria and preparation of the workshop reports.

Conclusion of the Section

Several minor additions to the EBSA guidance documents could help ensure clarity about a number of technical issues in the application of the EBSA criteria. These include the bulleted list just above and

explicit guidance on how to interpret vulnerability in ecosystems where not all the features of the ecosystem are equally vulnerable to any particular threat.

The issue of how a changing climate should be considered in application of the EBSA criteria warrants further discussion.

Explicit guidance could be given in the guidance materials for the workshops that nesting of areas described as meeting the EBSA criteria is appropriate when specific conditions are met.

Finally, as was learned from the Azores workshop, tightly codified practices and standards cannot accommodate the diversity of marine socio-ecological systems. The more constrained and rule-based the CBD process for application of the criteria, the less able it will be to equitably accommodate the diversity of marine ecosystems that have to be covered. The narrative parts of the templates, both in the opening sections and in the justifications of the scores, is crucial to both the assessment process and for use of the assessment results to inform policy making and management.

VI. OPTIONS TO IMPROVE THE PRACTICE AND MEET THE CHALLENGES

Improving the quantity and quality of data

Every regional workshop included calls for more data, as summarized in section III above. These paths forward fall into two different categories.

First are options to better mobilize data known to exist but difficult for the workshops to access. To the extent that these options can be pursued, not only would the EBSA description process be more effective at identifying and prioritizing the areas most in need of enhanced conservation and management, but the credibility of the outputs to the expert community and Parties would be improved. These are not mutually exclusive options, and all could be pursued as resources and opportunities allow. Below are some possible avenues to pursue:

- a. Coordination with other intergovernmental agencies could be improved, building on existing collaboration. Many IGOs maintain data-bases to support their own mandates, and among the databases there may be substantial information of relevance to the EBSA process. Among the workshops that particularly highlighted this option were the Arctic, South-Eastern Atlantic, Eastern Tropical and Temperate Pacific and North Pacific. Agencies named as particularly relevant included the Regional Seas Organizations, FAO, international marine science organizations like the International Council for the Exploration of the Sea (ICES) and North Pacific Marine Science Organization (PICES), and the Arctic Council working groups. It should be noted that the CBD Secretariat and technical support teams have engaged such organizations prior to the regional workshops in an extensive manner, to provide data sets and experts for the workshops. However, stable and on-going collaboration, which can be sustained by adequate funding and human resources, between the CBD Secretariat and these organizations could improve the flow of information to the EBSA description process. With sufficient cooperation among IGOs, this could lead to the central archiving of various types of global and regional databases.
- b. Capacity-building, training, and technology transfer of GIS and other mapping methods. Most regional workshops commented on the limited capacity for such work in many countries. Enhanced availability of information on biodiversity in such geo-referenced electronic formats would both facilitate more systematic application of the EBSA criteria at future workshops, and facilitate national processes and other methods for preparing EBSA templates.
- c. Continuing the training workshops and holding them sufficiently in advance of regional workshops that there is time for participants to use the training in preparation for the workshops. The preparatory work is a very valuable and cost-effective way to improve the quantity and quality of information available for application of the EBSA criteria.

- d. Greatly expanded efforts to access and use traditional knowledge. The rationale for these efforts and options for progress on this path are presented above in section IV.

The second area is to increase knowledge of marine species and systems, to gain a sounder basis for application of the criteria. Suggested means to increase this knowledge include:

- a. More coordination of international research efforts on marine biodiversity both within national jurisdictions (particularly for groups of countries sharing common biogeographic areas) and in ABNJ. Research platforms are expensive, and many biodiversity features are best studied on the scales of the dominant oceanographic and ecological processes affecting their dynamics, rather than in piecemeal projects. These views were expressed in most workshops.
- b. Increased training of specialists in fields currently in particularly short supply. Across the regional workshops, insufficient capacity for almost every aspect of marine biodiversity research was mentioned. However, a few disciplines were repeatedly highlighted as needing greatly increased support. These included taxonomy of nearly every type of marine biota, information on non-commercial fish species, information on benthic fauna in general, and deep-sea fauna of all types and mapping of sensitive habitats, particularly in near-coastal and deep-sea areas.
- c. Comparatively major efforts have been made to collect information about higher vertebrates, including marine mammals, seabirds and marine reptiles (compared to other non-commercially exploited taxa). The information acquired has highlighted the complex life histories of these typically highly mobile species and the need for enhanced application of tracking technologies to provide the information for effective application of the EBSA criteria for these types of species (e.g., Eastern Tropical and Temperate Pacific, Arctic, Southern Indian Ocean).

Improving access to and usability of data that are “available”

Here the experiences of the technical support teams are particularly relevant. Their experiences with provision of the technical support to workshop participants highlight several pathways to improve the usability of data that are “available” to the workshop. These pathways are also not mutually exclusive, and any could be pursued as opportunities and resources allow.

- a. The extensive preparatory work by the technical support teams prior to the regional workshops is typically made available in data reports before the meetings (e.g., Dunstan & Fuller 2011, 2012, 2013; Halpin et al. 2012a, 2012b, 2013, 2014a, 2014b, 2014c). Although these data reports are made available to participants prior to the workshops, in practice many invited experts came to the workshops lacking familiarity with the information contained in the reports. When EBSA training workshops are held in advance of the EBSA workshops, training modules could focus on familiarizing participants with the contents of the data reports and how they will be used in the EBSA workshops. Even if the data reports are incomplete or borrowed from other regions, building familiarity with their structure and use could increase their value at the workshops. Whether training workshops are held or not, the invitations to participants could make explicit that participants are expected to familiarize themselves with the data reports before the workshop, and come prepared to use them.
- b. When templates are prepared in advance of the workshops and provided for workshop consideration, the supporting data for the area should be available in formats familiar to those experts providing the technical support. That allows the participants at the workshop to better evaluate the templates relative to the other areas being considered at the workshops.
- c. In some regional workshops, there was lengthy discussion of how to interpret the various criteria, leading to demands on the technical support team to present the information in a variety of different ways. Although such exercises can be insightful ecologically, they may compete with efforts to complete the tasks assigned to the workshops. More effective guidance on the interpretation of some aspects of the criteria may contribute to more efficient use of the information available at the workshops.

New information and the future EBSA processes

The regional workshop reports provide an important benchmark in the EBSA process. An annex to each report contains the full templates for each area considered to meet the EBSA criteria, with a general description of the area and its properties, the scorings and justifications, and the information sources used. From these annexes, a report containing summary descriptions of areas found to meet the EBSA criteria is prepared and attached as an addendum to the pre-session document presented to SBSTTA. The summary report is reviewed for technical merit at SBSTTA, and some revisions are made. The SBSTTA addendum then becomes an annex to the draft decision submitted to the COP. COP may again edit the addendum for considerations under its mandate. However, when the COP adopts the annex, it becomes a product of the CBD process, in the state in which it was adopted.

That annex is a static document, given the procedures outlined in decision X/29, XI/17 and XII/22, with no process approved for its alteration once COP has accepted it. The static nature of the annexes to the COP decisions poses challenges to the credibility and scientific merit of the EBSA outcomes, in a world where new knowledge is constantly being acquired, and factors like climate change and other anthropogenic pressures on marine systems may change the conditions of some features contributing to the scores on key criteria. Describing these challenges is much easier than meeting them. Key challenges, of increasing difficulty, include:

- a. How to incorporate improvements or additions to data sets that were used in the scoring of areas against the criteria;
- b. How to incorporate newly available/accessible scientific information on properties not featured in the workshop scorings;
- c. How to justify the costs (money, time, preparations) of a full new workshop.

Some options for dealing with various aspects of these challenges are presented in the rest of this section. These options have to take into account both the need to maintain the scientific soundness and relevance of the information in the EBSA repository, including but not restricted to the decision annexes and individual EBSA templates, and to comply with the EBSA processes as carefully negotiated and structured in decision X/29 and subsequent decisions XI/17 and XI/22. Material in reviews by Tarantino et al. (2012), Clark et al. (2014) and Yamakita et al (2015) provide important input to this section.

From a CBD perspective, the first consideration is where the new information would be coming from, and where the area meeting EBSA criteria is located. If the area is with a single Party's EEZ, that country may apply any procedures it considers appropriate to revising an EBSA description and associated template, and submit the material to the EBSA repository. The CBD decisions require that the criteria used must have been nationally or intergovernmentally agreed scientific criteria through the process must be based on sound science, and the Party must consider the criteria "comparable to" to the EBSA criteria. Beyond those broad constraints, updating, revision, creation or even withdrawal of areas and the supporting information from the repository is at the prerogative of the Party. Many countries already have their own criteria and processes for describing areas that are in need of enhanced conservation and management of sustainable use, and the products are generally proving credible and useful.

It is when areas either cross the boundaries of two or more EEZs or else are wholly or partially in ABNJ that the three questions become a challenge for the CBD process. In such cases, if data sets used in evaluation of the area by a regional workshop are improved (case i), there are no procedures that would prevent revisions to the complete description in the repository; referral back to a future COP would not be required. Referral to a future COP would only be necessary if the additional information changed the scoring on any of the criteria, because the annexes to the COP decisions include the scores on the seven criteria for each of the areas described (in addition to the name and location of the area, and summary of description). Such revisions could, however, improve the strength or clarity of the justifications for the individual scores, which appear only in the workshop report and the repository. Of course, the workshop reports could not be retroactively altered, and those consulting the repository for any reason would need to be alerted that some descriptions associated with the workshop reports had been superseded by updated information.

However, even this relatively simple revision of a description to accommodate improved information would need an agreed process. Parties made clear in decision X/29 that the CBD EBSA process was based on expert opinion, but that full oversight by Parties was necessary. Thus, there would have to be an opportunity for all Parties with an interest in the area to participate in the revision or at least approve the revision before the contents of the repository were changed. For relatively modest revisions to the descriptions, this could be achieved in at least two possible ways:

- a. On a case-by-case basis, some form of e-consultation could be conducted, coordinated by the CBD Secretariat or lead experts nominated by the Parties involved. The initial suggestion that a revision might be appropriate could be submitted to the Secretariat by any source, as long as the Secretariat notified the relevant Parties in the proposal in a timely manner, and offer Parties the opportunity to participate in the revision process. Once a full revision was drafted by the participating experts, Parties would be given a chance to comment on the revised template, further revisions made, as appropriate, to accommodate the input from Parties, and the final revision provided to Parties for their consideration. If no objections were received, the revised template could be entered in the repository.
- b. Some form of expert group could be established by the CBD Secretariat in consultation with Parties, other Governments and relevant organizations. Initially one with global scope might be appropriate, until the workload justified separate ones for each region. Parties could be invited to nominate experts to this group, and its operation should be guided by COP guidance on EBSAs in decisions X/29, XI/17 and XII/22. This group would set up its own working procedures as guided by the Subsidiary Body and COP, dependent on resources, to periodically review any proposals for revisions to templates, based on augmented information. The CBD Secretariat would circulate the draft revisions to Parties for review, further revision, and final approval, as in the first option.

In both cases the processes would remain expert-centered, with substantial opportunity for oversight by Parties. The experts would decide how extensive the revisions to the templates needed to be, based on the nature of the additional information. Some features of the processes could help to ensure that Parties had confidence in the process and products. Co-chairs of the workshop producing the original EBSA description would be good candidates for coordinating the revision process (first option) or comprising a core part of the expert group (second option), as they would have both the confidence of the Parties participating in the original workshops and an awareness of the considerations in the original scorings. In addition, the types of rule-based ways of making decisions that are described in Tarantino et al. (2012), Clark et al. (2014) and Yamakita et al. (2015) might be instituted in these follow-on meetings, even if they may be overly constraining in the original workshops. They could be tailored to particular types of revisions, as the Clark et al. methods are to seamounts, but would give Parties confidence in how the e-consultation or expert group would consider the additional information.

Regarding the next level of complexity, the same process could initially be triggered by the availability of completely new information. However, the e-consultation or expert group would have to make an early judgement of whether the new information would be likely to change one or more scores, because the scores are recorded in the annexes to the COP decisions. If that were the case, a regional process could be seen to be necessary, given the processes described in decisions X/29, XI/17 and XI/22. If there were infrequent proposals for revisions that would lead to changing scores, then an e-consultation process would probably be sufficient, operating much as described above. However, the imperative that Parties be engaged early in nominating experts to the e-consultation process would be stronger. Likewise, with an e-consultation process necessarily lacking the extended opportunities for exchange among experts that occurs in the workshops, the consistency of interpretation of the criteria that seemed to occur in the workshops could be certain to be maintained. Hence the value of agreed and understood rules to guide revising the scores, *sensu* Tarantino et al. (2012), Clark et al. (2014) and Yamakita et al. (2015), would be even higher.

Once the expert process and opportunity for objection by Parties to changes to scores was complete, the revised scorings would still need to be approved by a SBSTTA and COP, as superseding the scores already approved. All such changes in scoring could be assembled in a separate annex to the relevant SBSTTA recommendation and adopted by a decision of the COP.

The final level of complexity would be posed when new information or new consideration of existing information leads to proposals for description of a completely new area as meeting the criteria (or probably less often, withdrawal of an area already adopted through a COP decision). A blend of an expert group, with opportunity for all relevant Parties to nominate participants, usually meeting virtually (unless a donor to fund a full meeting could be found) would probably be needed. Main features of such a meeting would include:

- a. Core members of this expert group would work on the data and analyses, bringing results to the larger group through e-consultations on a regular basis.
- b. Whereas expert teams working on revisions to existing templates or scorings could be comprised of experts in the specific disciplines relevant to the new information sources, these expert groups would have to include the full range of disciplines desired at all regional workshops, including experts in traditional knowledge.
- c. Although disciplinary expertise will be important to such a group, experience with participation in larger EBSA regional workshops will be important as well.
- d. Clarity of the approaches being taking in these case-specific ad hoc expert groups would probably aid in all the cycles of drafts back to relevant Parties for input. This again would place a premium on adopting a rule-based approach to frequently encountered types of decisions, because the group would not have the benefit of dealing with a diverse array of cases at the same time, which seemed a key part of the consistency of results from the various workshops as discussed in the above section V.

Subsequent to the completion of the work of such a group, the products would have to go through the SBSTTA and COP processes as if they were the products of regional workshops.

The processes above do suggest three near-term follow-on actions that could be useful, whatever process options are needed:

- a. Consideration needs to be given to how holders of traditional knowledge can be given the same opportunities to provide input to revisions of existing EBSA descriptions and development of new descriptions through the processes described above.
- b. Particular types of ecosystems or ecosystem features that would be amenable to rule-based approaches, given the wide range of quantities and qualities of information and technical capacity that would have to be accommodated, need to be identified, and expert teams created to develop rules for those systems or features.
- c. The references cited above provide a good start for the work in the point above, but a full pilot would have to consider a system or feature where the breadth of information and capacity would be addressed, and where traditional knowledge was a core part of the information considered.

Finally, the frequency with which regional workshops are repeated requires further consideration. The workshops are costly to organize and conduct, and represent a significant workload on the Secretariat and the technical support team. Funding availability could constrain the organization of future additional workshops. On the other hand, the reports of almost every workshop included a proposal for additional work or areas to be evaluated at some future workshop. Identifying an appropriate cycle time would require review of several factors more thoroughly than can be done through this document, including:

- a. the rate at which new information becomes available for various types of data;
- b. the degree to which the information in the workshop reports, templates, and COP decisions directly influences subsequent conservation and management planning;
- c. the opportunity costs of workshops to improve existing EBSA descriptions and describe new areas vs work to improve conservation actions appropriate for various types of EBSAs.

REFENRECES

Bax, N.J., Cleary, J., Donnelly, B., Dunn, D.C., Dunstan, P.K., Fuller, M., and Halpin, P.N. 2015. Results and implications of the first global effort to identify ecologically or biologically significant marine areas, *Conservation Biology* Volume 00, No. 0, 2015, pp. 1-11

Rice, J., Lee, J. and Tandstad, M. 2014. Parallel initiatives: CBD's Ecologically or Biologically Significant Areas (EBSAs) and FAO's Vulnerable Marine Ecosystems (VMEs) criteria and processes. In: *Governance of Marine Fisheries and Biodiversity Conservation: Interaction and Co-evolution*, edited by Garcia, S.M., Rice, J. and Charles, A. September 2014, Wiley-Blackwell, pp. 195-208.

Annex II

REPORT OF THE EXPERT MEETING TO SHARE EXPERIENCES AND LESSONS LEARNED ON THE SCIENTIFIC METHODOLOGIES AND APPROACHES FOR THE DESCRIPTION OF EBSAs

**Convened by the Secretariat of the Convention on Biological Diversity and
the Secretariat of the Global Ocean Biodiversity Initiative
22-24 February 2016, Berlin, Germany**

INTRODUCTION

Pursuant to the request by the Conference of the Parties to the CBD in paragraph 10 of decision XII/22, the CBD Secretariat is developing practical options for further enhancing scientific methodologies and approaches on the description of areas meeting the EBSA criteria, which will be submitted for consideration to the Subsidiary Body of Scientific, Technical and Technological Advice of the Convention at its twentieth meeting. As inputs to the above-mentioned work, the CBD Secretariat, together with the Secretariat of the Global Ocean Biodiversity Initiative, convened the Expert Meeting to Share Experiences and Lessons Learned on the Scientific Approaches and Methodologies for the Description of the Ecologically or Biologically Significant Marine Areas (EBSAs), in Berlin, Germany, from 22 to 24 February 2016. The organization of this meeting and participation of some experts were supported by the financial resources from the European Commission. The meeting was attended by 28 experts who have been actively involved in CBD's regional workshops on EBSAs. The meeting reviewed and provided comments on the background document entitled "Compilation of experiences and lessons learned from scientific methodologies and approaches for the description of areas meeting the EBSA criteria", provided by the CBD Secretariat.

1. OPENING OF THE MEETING AND INTRODUCTORY PRESENTATIONS

Mr. Patrick Halpin, Director of the Marine Geospatial Ecology Laboratory at Duke University, was invited to chair the meeting by the CBD Secretariat. He welcomed participants to the meeting and gave a brief overview of the scientific methodologies and approaches applied to CBD regional workshops to facilitate the description of EBSAs. In this presentation he outlined goals and expected outcomes for the expert meeting. The first point was to establish that much work has been completed by the EBSA process, but now is a critical time to reflect on what has been achieved to inform future efforts. The general objectives of this expert meeting were to share experiences and lessons learned on the scientific methodologies and approaches on the description of EBSAs. Mr Halpin provided a list of potential topics he felt were important to cover in the meeting's deliberations. This list included:

- How do we establish a transparent and appropriate process to update and refine individual EBSA descriptions?
- How do we reclassify existing EBSAs into the 4 emerging categories?
- How do we usefully complement EBSA "scientific expert" workshop outcomes with more systematic methods?
- How do we revisit geographic areas or ecological features that may not have been fully considered under past workshops?
- How do we complete our global coverage and reconcile regional gaps and overlaps?
- How do we influence global ocean research agendas and funding to advance this work?

Ms Jihyun Lee, Environmental Affairs Officer for marine and coastal biodiversity at the Secretariat of the Convention on Biological Diversity, added her welcome to the meeting participants.

Mr. David Johnson, Coordinator of the Global Ocean Biodiversity Initiative, gave an introduction to GOBI, explaining its mission and role in supporting and providing scientific input to the EBSA process. He noted that GOBI's primary role to date had been in ensuring the appropriate application of the EBSA criteria and in supplying data, information and technical support to the process. This had included development of methodologies and identification of data gaps, particularly for deep sea and open ocean areas. Through a future 5-year project with global and regionally-specific elements being developed by the GOBI Secretariat, he hopes to provide data products to strengthen EBSA descriptions, and enhance the utility of EBSA descriptions for use by States and competent international organisations.

Mr. Kim Cornelius Detloff (Head of Marine Conservation, NABU) welcomed meeting participants to Berlin and gave a short presentation about NABU's work on marine conservation.

Mr. Halpin then invited meeting participants to introduce themselves to the group, give a short summary of the interest and work on the EBSA process to date, and what they hoped to achieve in this meeting.

2. MEETING BACKGROUND, OBJECTIVES, APPROACH AND EXPECTED OUTPUTS

Ms Jihyun Lee gave an introductory presentation about the background of the EBSA process and its relevance in supporting Parties in achieving progress towards all 20 Aichi targets. She explained the key components of the CBD's work on marine and coastal biodiversity, including EBSAs, addressing threats to marine biodiversity and tools and guidelines for the conservation and sustainable use of marine biodiversity, such as marine spatial planning, marine protected areas, and impact assessments. Ms Lee recalled that the EBSA criteria were developed by the CBD expert workshop held in 2007, and adopted by COP9. She reminded participants that EBSAs do not have any direct management implications, but they simply describe the inherent ecological or biological value of an area for marine biodiversity. COP10 took steps to facilitate the application of the EBSA criteria and requested the CBD Secretariat to organize a series of regional workshops on the description of EBSAs. To date, 12 workshops have taken place around the world at which experts from Parties, other Governments and relevant organizations undertake scientific assessment and judgement of the best available scientific information to describe areas of the ocean that meet the EBSA criteria. The outputs of the workshops are submitted to SBSTTA and COP of the CBD. So far, more than 70% of the world's oceans have been covered by these regional workshops. Ms Lee explained that this meeting was being convened pursuant to COP 12 request in paragraph 10 of CBD decision XII/22, and that the results of this meeting will be made available as information for participants at SBSTTA 20 in April 2016. She also informed that CBD Secretariat has prepared a draft background document for this purpose, and invited participants to provide their comments and suggestions. Specifically, she encouraged the meeting participants to focus on i) how new scientific information can be collected, compiled and analysed for the description of new areas meeting the EBSA criteria; ii) how existing EBSA descriptions can be reviewed and refined; iii) how data quality/quantity and accessibility can be improved, and iv) how to improve scientific approaches, including how to incorporate traditional knowledge.

Mr Halpin and Mr. Dunstan provided a joint presentation on the scientific methodologies and approaches for the EBSA regional workshops. MGEL Duke and CSIRO/Australia had each provided scientific and technical support to the CBD Secretariat in its organization of a series of regional EBSA workshops. An advantage of this arrangement was that baseline data provided to the workshop was as

consistent as possible and had been augmented with regional knowledge, enhancing the scientific credibility of the process. In his view, the EBSA criteria are very general and open to interpretation, which has resulted in experts having different expectations and levels of understanding in their application of the EBSA criteria. Workshops have been informed by baseline data inventories and maps that then stimulated discussion among participants. The workshop process comprised two different data input streams: 1) submission of information via a template for EBSA description, provided by the CBD Secretariat, prior the workshop; 2) compilation of global/regional data set in GIS data base prepared by the technical support team. During the workshops, the technical teams also produced derived data products, e.g. Arctic multi-year ice and ice edge delimitations. A change in scientific confidence of the experts participating in the regional EBSA workshops has been observed as the process matured, and the expert-driven process had allowed for working with idiosyncratic datasets.

Following the presentation, the meeting made the following comments and observations about the EBSA process to date:

- Workshop participants recognized the benefits and advantages of integrating national perspectives into a more comprehensive regional approach;
- Those interpreting overall EBSA results needed to be aware that in many workshops some countries had their own national processes similar to EBSA process, and requested the regional workshop not to include their national waters. Some Parties stated their intention to submit the results of national processes to the CBD EBSA Repository in accordance with the procedures set by COP in decision X/29, XI/17 and XII/22.
- Variations were evident in EBSA features, with a range of different sizes of EBSAs covering all or part of the water column and/or seabed. The process had evolved to better define categories of EBSAs.
- Overall, the EBSA process has been very productive. It should be noted however that many potential areas that may meet EBSA criteria could not be fully described due to many reasons, such as lack of nominated experts from the concerned countries, difficulties in accessing the relevant scientific information, insufficient representation of different expertise, geopolitical constraints, etc. As such, EBSA process needs to be an open and continuous process, as identified by COP in decision XI/17.

Mr Mallé Diagana reported on follow-up efforts, since the South-east Atlantic EBSA regional workshop in Namibia in 2013, to enhance the conservation of marine ecosystems in West Africa, including a commitment to increase the level of protection of territorial waters. Currently, 12% of coastal waters in PRCM countries are protected and the region had identified 14 areas meeting the EBSA criteria. Since Namibia workshop, a sub-regional workshop was convened and described 30 new national areas and three trans-boundary areas meeting the EBSA criteria, and a regional working group on EBSA monitoring with a clear mandate has been established. Future intentions are to perform in-depth research to improve knowledge, establish national working groups, strengthen capacities of stakeholders, strengthen cooperation between PRCM countries, and enhance collaboration with the Abidjan Convention to support the EBSA process and its follow-up activities by countries.

Mr Gunnar Finke provided an overview of the lessons learned and experiences gained from the EBSA process in southern Africa. He explained that South Africa had participated in two regional EBSA workshops and as a result 16 EBSAs had been identified, many reflecting the influence of the Benguela Current and the Agulhas Current. He highlighted the value of capacity building (SOI workshop in Senegal, 2013) and pre-workshop consultations and mapping. He also stated that the EBSA process had played a role of an important forum for international peer review that had subsequently influenced the proposed

MPA network in South Africa. The BMUB-funded/GIZ-executed project MARISMA is focusing on marine spatial planning and will use EBSA data. Expected MSP outcomes are national and regional MSP strategies, together with enhanced awareness of MSP benefits. The project intends to review and update current EBSA descriptions, scope potential additional EBSAs (if appropriate), assess the vulnerability of described EBSAs, and create a regional EBSA repository to be curated by the Benguela Current Commission (BCC).

Following the presentations on African experiences, the meeting then made the following comments and observations:

- PRCM countries in West Africa intend to submit national information to the CBD EBSA Repository, and there are ongoing discussions on collective BCC submissions.
- CBD Secretariat and GOBI Secretariat intend to facilitate highlighting lessons learned from the West African experience at a side event during SBSTTA 20.
- More technical clarity is needed on regional repositories and how they relate to the central CBD EBSA Repository, in line with decision XI/18.
- Linkages with other regional processes, such as the identification of VMEs by SEAFO and associated workshops, were noted.
- It was considered important to draw attention to the whole EBSA description product – i.e, description, justification and map, in order to fully appreciate the features contained within the EBSAs and rationale for their description and definition of boundary.
- Offshore industries can benefit from access to EBSA information, provided that the information available is comprehensive, correctly understood and readily accessible.
- Similar to the African experience, EBSA descriptions in the NW Atlantic had provided an opportunity for NAFO Parties to revisit and enhance fishery protection measures.

3. SHARING EXPERIENCES AND LESSONS LEARNED ON THE SCIENTIFIC METHODOLOGIES AND APPROACHES FOR THE DESCRIPTION OF EBSAS

Mr Jake Rice gave an introduction to the background document on compilation of experiences and lessons learned from scientific methodologies and approaches for the description of areas meeting the EBSA criteria. The meeting noted that the EBSA process is an open and continuous process, and that the forthcoming SBSTTA 20 and COP 13 will consider ways to improve the current scientific methodologies and approaches for the EBSA process. The background document for this meeting drew upon a digest of views and information provided by Parties and relevant organizations.

Mr Rice gave an overview of the background document contents, the sources of information used in its compilation, and key aspects of guidance from COP Decisions. Two overarching considerations were i) the application of the highest scientific standards for objectivity and evidence-based conclusions, based on the best available scientific information and taking into account the disparity in the scientific capacity among different countries, and ii) the need to consider how to deal with data-poor areas and other knowledge systems at risk of being undervalued by an analytical tools approach. He cited an analysis by Bax et al. (2015) of the application of the EBSA criteria. The evolving concept of an EBSA included differentiation or categorization and two complementary approaches for collecting scientific information in support of the workshop's discussion and descriptions of areas meeting the criteria.

3.1 Methodologies and approaches for data compilation, analysis and synthesis prior to the workshop as well as the use of compiled data after the workshop

Mr Rice gave an overview of the process of compilation of scientific information, which is contributed via GIS layers or template-based submissions. He observed that capacity-building workshops were very valuable but that to date traditional knowledge had not been sufficiently incorporated into the workshop process.

The meeting discussed the following issues where scientific preparation prior to the workshop and activities at the workshop could be strengthened:

- Consideration of a systematic approach to deal with new data, and the merits of any theme-based workshops involving appropriate experts;
- More attention to the norms of regional ecosystems;
- Clarity on which datasets used in the description of EBSAs have already been the subject of systematic analysis, and which datasets comprise raw data;
- Consideration of assumptions about completeness and comparability of datasets;
- A more comprehensive analysis of gaps highlighted by the workshops.

Further consideration was also given to:

- Whether a forum to share experience of threat assessments affecting the properties of EBSA criteria would be valuable;
- Effective way of communicating EBSA information to policymakers;
- The potential for cartographic techniques to convey additional information not included on the current EBSA maps (e.g. annotating maps to show different EBSA categories);
- Potential mechanisms for the addition of new information to enhance existing EBSA descriptions that can be done within approved CBD processes.

It was noted that zooming out to regional scale involves assumptions about data quality and completeness. A systematic analysis would need regionally complete data and some formalized methodology. Using a scientific expert approach to EBSAs at this stage makes complete sense, but in the future we may need to move towards using systematic approaches to augment the site-based approach.

It was also noted that the types of data that cover a whole oceanic region tend to be either physical-oceanographic or broadly distributed species (which are often also wide-ranging or migratory). This will limit the sorts of features identified in the data layer based systematic approach. "Special" places are usually already widely known, and hence the site-specific approach is particularly well suited for local knowledge and local scientific expertise. In using the data layer based systematic approach, caution must be applied when seeing areas of high overlap, as this convergence of edges may miss core areas that are arguably of greater ecological importance.

The meeting revisited the subject of categorizing EBSAs as a post-workshop analysis process. A majority of experts considered that it was important to distinguish between different types of EBSAs, and that not using the capabilities of mapping techniques to the fullest extent possible left EBSA descriptions open to misinterpretation. It was also suggested that such an exercise would be critical to support a global map of EBSA description. Grouping of EBSAs to inform policymakers was also considered important, for example pelagic EBSAs described for water column features have no influence on extended continental shelf submissions. The meeting noted other opportunities to convey EBSA information to a non-specialist audience, such as infographics, icon diagrams and web-based applications. The meeting concluded that it was important to communicate clear and consistent information.

3.2 EBSA criteria and their application

Mr Rice summarized the feedback on the application of EBSA criteria. This was largely positive, noting that all criteria were used and have value; they are generally used in complementary ways, and there were few examples of EBSA templates recording 'unknown' against EBSA criteria. Concerns included scales of application (for example, areas found unique at the national level lost that attribute at regional scale), inherent absence of absolute standards (potentially affecting consistency of application and interpretation), and uniqueness in undersampled areas. Mr Dunstan gave a short presentation on experiences in applying EBSA criteria in workshops, which showed that EBSA areas do not typically meet only one criteria, but that areas will have multiple values. A useful way that this has been dealt with in the regional workshops is to suggest to participants that they consider the minimum subsystem of the ecosystem that encompass linked values and dynamics, and limits an EBSA boundary to only the area that shares those values in the subsystem. Practically, this meant that areas associated with one type of ecosystem feature (e.g. reefs) were separated from the pelagic systems (e.g. upwelling areas) that might be surrounding them. This limited both the size and the number of criteria that each area met but produced more refined and specific descriptions. This way of approaching the use of the EBSA criteria facilitates the prioritisation of the "Relevant Subsystem" (Dambacher et al. 2015, Dunstan et al 2016) or the "abstraction of ecosystems into sub-systems thought to be most influential to the management issues at hand" (Levin et al. 2009). It is the subsystem of the entire ecosystem that supported the values identified by the EBSA criteria – it is not the entire ecosystem.

With reference to the application of EBSA criteria, the meeting noted that:

- It may be appropriate to consider a revision of/further guidance on application of the criteria in the light of experience to date, including best practice examples;
- An introductory narrative about the important features of each ecoregion, as reported by Arctic, Mediterranean and East Asia Seas regional workshops, were considered to be useful and informative for other processes using EBSA descriptions. In particular, a description of the regional norms would help in placing EBSA descriptions into a regional context;
- There were advantages to a subsystem approach for regions/countries that have undertaken further assessments and/or in data-poor areas where further analysis would be helpful;
- Experts chairing and/or attending multiple workshops helped bring consistency to the process.

The meeting considered each of the seven EBSA criteria and made the following comments:

- Uniqueness: regional-scale application is preferred
- Life history stages: Often needed substantial narrative to fully understand its application. Migration corridors can be hard to assign and entire foraging areas for certain species can cover extensive areas
- Threatened and declining species: the IUCN Red List provides a legitimate framework and the OBIS database is a useful resource.
- Vulnerability, sensitivity, fragility, slow recovery: posed a lot of problems, as there is always confusion regarding inherent vulnerability. Experts tend to list various threats in the area, rather than focusing on inherent vulnerability of concerned ecosystem features or functions.
- Biological productivity: was almost never the only highly scored criterion, and often used to draw the boundaries of areas for which other data is missing.
- Biological diversity: was also rarely cited on its own. It was deemed to be one of the hardest criterion to rank as it is an aggregate measure as opposed to an individual measure, and requires a lot of data to support it.

- Naturalness: This is the outlier in terms of having a high score, and could lend itself to a global scale analysis. Baseline for measuring naturalness could be an issue.

Finally, the meeting discussed capacity building. Carrying out training immediately a few months in advance of the workshops was found to be valuable (as was the case for West Africa), but resources for organizing two different sets of workshops (e.g. training workshop followed by EBSA regional workshop) are often limited. A protocol to ensure trained participants then attend the regional workshop is beneficial. Opportunities for training synergies with other organisations (e.g., FAO, UNEP, IOC/UNESCO-OBIS) were discussed. CBD Secretariat highlighted the benefit of efforts made by Sustainable Ocean Initiative in providing capacity building opportunities. The EBSA process itself has provided a capacity building opportunity and could be linked to mainstreaming efforts being promoted by CBD. Regional EBSA workshop reports had noted a range of capacity building requirements.

3.3 Approaches for incorporating new scientific information and new consideration of existing information in future application of the EBSA criteria

Mr Rice provided an overview on issues associated with incorporating new scientific information based on the compilation of key lessons learned from the application of the EBSA criteria through regional workshops and national exercises. He stated that it would be important to clarify the threshold beyond which changes to EBSA description would require COP approval (i.e., score/boundary changes). Furthermore, there has been no discussion about the evaluation of data on degradation of scored features or how much new information justifies holding a new regional workshop. Further potential complications included jurisdictional issues, provision of nationally-nominated experts, determining which areas should be reassessed when background reference conditions change e.g., due to climate change.

Participants at the meeting put forward the following considerations:

- Capacity building and awareness raising can open up new possibilities and large quantities of new information, e.g. the South Pacific;
- Opportunities to link any revision process to the timeframe of the Strategic Plan for Biodiversity 2011-2020, including setting clear timeframes and deadlines for revision periods;
- An opportunity to review EBSA descriptions from a network perspective (rather than individual EBSAs), allowing for consideration of migratory species and links to CMS;
- GOBI projects have the potential to generate significant new scientific information over the next 5 years;
- The need for a process to revisit description prepared by regional workshops that were not included in the EBSA repository by COP for different reasons.
- Issues related to curation of EBSA data/information held in sub-regional/national repositories, and their relationship to the CBD EBSA Repository;
- Potential to integrate EBSAs into future National Biodiversity Strategic Action Plan (NBSAP) reporting.

Mr Pieter Provoost provided an update on the latest developments in OBIS. OBIS is currently working on a new portal application, which (1) aims to be more accessible than the existing mapping application and (2) provide more derived information and statistics besides just raw occurrence data. The application has pages for datasets, taxa, institutions, countries, and areas (which currently includes EEZ/IHO area

intersections, MPAs, ABNJ and EBSAs). The area page contains a number of interactive graphs and lists, such as:

- Number of records per year and taxonomic group
- Number of species per taxonomic group
- Species accumulation curve
- Sampling effort over time and map of sampling effort
- IUCN Red List species present in the area (status, number of records, etc)
- Global Invasive Species Database species present in the area (first observation, number of records, etc)
- Harmful microalgae present in the area
- Species only observed in this area
- Species that are new to the area
- Species that seem to have disappeared from the area
- Datasets
- Contributing institutions

More features will be added soon, such as visualizations of spatial and taxonomic gaps. Because the application uses a publicly available API, the lists and graphs can easily be integrated in other webpages. Building on this technology, OBIS will develop thematic portals for protected areas, harmful microalgae, invasive species, deep-sea biodiversity, etc.

3.4 Facilitating the use of EBSA information by countries and competent organizations

Mr Jake Rice explained that there is no mechanism for following up on the use of EBSA information after regional workshops. There is anecdotal evidence that EBSAs are useful in setting up conservation measures, but no systematic assessment has been made. He recognized a need for ongoing capacity building for technology transfer; improvement on the interplay between global databases and local/regional databases, and between databases and traditional knowledge.

Mr Piers Dunstan stated that the use of EBSAs as a tool is still in development, and guidance on its application has not been resolved. However, there are both national and regional experiences using similar criteria systems that may provide some useful experience on possible options. Australia has identified a set of areas based on similar criteria called Key Ecological Features and Biologically Important Areas. Biologically Important Areas (BIA) are areas that are important for the feeding, breeding and migration of regionally significant marine species. Key Ecological Features are areas that are regionally important for biodiversity, productivity or ecosystem function and integrity. Together KEFs and BIAs are components of conservation values. The KEFs are described and outlined in the Marine Bioregional Plans. KEFs and BIA are used to inform the identification of MPAs, in the applications of EIA and to inform SEA. They are used as underlying data in the management of shipping and extensively in the assessment of Oil and Gas industry. KEFs have been used to prioritise the monitoring of ecosystem health in the marine environment. Similar processes have also occurred in Norway where the identification of Environmental Values and Particularly Valuable Areas have been used to inform the development of Marine Spatial Plans for the EEZ of Norway (Ottersen et al 2011, Olsen et al 2011). This has been used to inform the management of multiple sectors including petroleum, shipping, fisheries, pollution and the management of conflicts between sectors through Integrated Management plans. The outputs of EBSA workshops have been adopted by several regional seas organisation (e.g., Secretariat of the Pacific Regional Environment Program, Nairobi Convention, Abidjan Convention) and have been considered within the Convention on Migratory Species.

The meeting highlighted the following:

- Different categories of shared information, including: sharing of baseline information prepared for the workshop; sharing of EBSA polygons (e.g., OBIS indexing approach), and sharing of EBSA criteria and methodologies in national/regional processes as a complement to more quantitative MSP processes.
- Another example of a tool that could use EBSA information was Performance Standard 6: Critical Habitat Qualification for Extractive Industries. The critical habitat criteria represent a subset of EBSA criteria; not all EBSAs would qualify as critical habitats, but those with threatened species are likely to do so.
- The CBD EBSA Repository needs to be assessed in terms of infrastructure for making sure that any regional EBSA repositories that are developed can be fully integrated. There are both capacity and technical issues that need to be considered before regional repositories are planned. Technical improvement to the database search capability would also greatly enhance users' ability to discover and retrieve information from EBSA descriptions.
- The need to encourage Parties to include EBSA information in their national clearing-house mechanism.
- The potential for Parties to request RFMOs to build on EBSA information (in support of this point, Mr Chris O'Brien, FAO, provided a brief presentation of the ABNJ Deep Seas project).
- Care should be taken to undertake appropriate engagement with Indigenous Peoples and Local Community representatives when giving further consideration to incorporation of traditional knowledge.

Ms Corinne Martin (WCMC) presented the preliminary results of a global-scale spatial analysis, which aimed to provide insights regarding the level of alignment, i.e. "coincidence", between identified EBSAs (CBD/COP 11&12) (CBD Sec. 2016) and (i) Marine Protected Areas (MPAs) from the World Database on Protected Areas (WDPA) (IUCN & UNEP-WCMC, 2016), (ii) Particularly Sensitive Sea Areas (PSSAs) (IMO, 2014), and (iii) Vulnerable Marine Ecosystems (VMEs) (FAO, 2015). The analysis was undertaken to support discussions at the meeting, and does not reflect the views of the CBD Secretariat, nor those of the Parties to the Convention. The intention was to gain a better understanding of the current EBSA network, so as to inform further use of EBSAs information by countries and competent organizations.

The presentation generated a lengthy discussion. Generally, there was limited spatial overlap between the coverage of MPAs, PSSAs and VMEs in relation to that of EBSAs. The analysis also identified a number of EBSAs that did not overlap with any MPA, PSSA and VME. The results were explained by a number of factors inherent to the features considered, which are largely heterogeneous in nature, and spatially biased. For instance, a reverse analysis looking at overlap in relation to that of MPA/PSSA/VME coverage might lead to very different results. It was generally noted that such an analysis was useful, but that it should be re-focused on a more precise question, and caveats much better communicated. A number of very constructive and informed comments were provided by meeting participants (e.g. restricting the analysis to areas covered by the regional EBSA workshops, taking into account the original purpose of a given feature - i.e., the criteria triggered, including other area-based management features of deep-sea fisheries, etc). Given that the features' datasets used in the analysis are now publicly available, there is a risk that a similar analysis could be carried out by groups less informed than the meeting attendees, some of which knew the features' strengths and weaknesses intimately.

4. IDENTIFY POTENTIAL ELEMENTS FOR THE DEVELOPMENT OF PRACTICAL OPTIONS TO FURTHER ENHANCE SCIENTIFIC METHODOLOGIES AND APPROACHES FOR THE DESCRIPTION OF AREAS MEETING THE EBSA CRITERIA

Meeting participants split into the following four groups to summarize lessons learned and articulate key elements for practical options to further enhance scientific methodologies and approaches for the description of areas meeting the EBSA criteria, building on discussions so far at the plenary as well as the workshop background document:

Group 1: Methodologies and approaches for data compilation, analysis and synthesis prior to the workshop as well as the use of compiled data after the workshop, including national exercises and incorporation of traditional knowledge

The group discussed options and approaches on collection and quality assessment of traditional knowledge. Traditional knowledge was seen as a key data source that could improve the descriptions of areas meeting the EBSA criteria. It was suggested the most efficient means of obtaining input of traditional knowledge into EBSA would be within processes conducted at a smaller scale than the regional workshops (ie national or subnational processes).

Experience from all the regional EBSA workshops indicated that the level of preparation prior to workshops directly impacted the ease of the workshop process. In the workshops where either there were regional preparatory workshops or national workshops the templates submitted prior to the workshop were enhanced and the participants were more prepared to engage in the workshop process. The group suggested that national EBSA workshops or national coordination meeting should be held where possible. This would facilitate the input of national level data sets and knowledge, including traditional knowledge. Related to this, it was acknowledged that there was a need for more lead time to prepare data and/or EBSA template submission in advance of any workshop.

The group suggested that including EBSA in reporting frameworks such as NBSAPs/national reports or similar reporting frameworks would be a productive approach to improving understanding of EBSAs and could be used to reduce the reporting burden on countries if structured properly.

The group noted that as the EBSA process has proceeded there has been increasing engagement with scientific thematic groups. However, this has been ad hoc to this point and a more formal mechanism would be good to improve formalise engagement with the scientific community. Regional seas organizations, together with other relevant regional initiatives, may be able to facilitate this process.

The group suggested that the identification of the sources of data and information could be improved in the workshop outputs. This may be the references to meta data within the report and links to online resources (eg scientific papers and data resources). This may require updating of the template to allow the linkage of on line resource within the template. This would allow the integration of the GIS data sets with the areas submitted through the templates. There is also a strong link between regional efforts towards improved data availability in online portals and the progression of EBSA data collection efforts.

Group 2: EBSA criteria and its application

The Group recalled issues raised in the 'Background Document' including analysis of which criteria had been applied to describe EBSAs to date and different weighting used by the 12 regional workshops to date. The Background Document concluded that the criteria were serving the purpose intended and no revision of criteria or processes used to apply them was needed.

The meeting highlighted opportunities for better guidance for applying criteria illustrated by examples (e.g. explaining vulnerability in the EBSA context). In particular case study examples of how criteria were applied in complex situations would be useful. Guidance on applying the scientific criteria for EBSAs based on information contained in COP decision IX/20 and experience from previous CBD regional EBSA workshops that included consideration of scale, thresholds, current ranking system, expert judgement, meeting multiple criteria and dealing with relatively small sites to very extensive oceanographic features, as well overlap or nested EBSAs, could be amplified.

Scale was noted as being important for scoring criteria, particularly for uniqueness and life history stages. Language was also highlighted as a challenge to achieving common interpretation of criteria.

The meeting reviewed individual criteria in plenary, however, the group made the following additional observations:

- Traditional knowledge is important particularly for uniqueness, life history stage, and naturalness. This traditional knowledge/data are 'at risk' of extinction and needs to be captured urgently in many locations
- Application of the criteria is difficult in data poor situations (e.g. often the case in ABNJ). Adapting criteria to specific conditions in such situations may be helpful. It was suggested this could be explored in collaboration with IPBES
- Capacity building via regional facilitators using existing structures in regions and technology transfer is needed. UN Division for Ocean Affairs and the Law of the Sea (DOALOS) already have an inventory of capacity building and there is potential to consider how governance processes can take advantage of EBSA descriptions.

Group 3: Approaches for incorporating new scientific information and new consideration of existing information in future application of the EBSA criteria, including national exercises and incorporation of traditional knowledge

1. Group discussed type of new information which may be provided to improve knowledge on EBSAs. Those types include at least:

- new references (based on new data and research) to validate/support existing EBSA descriptions
- revisions of existing EBSA descriptions (changing existing templates)
- information and proposals for new EBSA areas at regional level and for ABNJ
- new information which support deletion of the EBSA from the list

2. Group proposed possible approaches for bringing and using new information for updating scientific and technical descriptions of EBSA and describing new EBSA areas. Key elements are as follows:

- propose to establish EBSA focal points or EBSA information curator (of at least a focal point on marine biodiversity) to be responsible for collecting and accumulating all new EBSA related information at national level (specific ToR to be developed)
- explore using national CHM capacities for retaining this information through collaboration between EBSA/marine focal points and CHM national focal points
- propose to establish regular updating process through the existing system of regional workshops with next round of regional workshops in 5 years and then every 10 years,

- subject available financial resources. Those workshops to consider all new information collected by EBSA/marine national focal points and available through national CHM tools
- all countries continue to be encouraged to provide results of their national exercise and process to be submitted to the CBD Secretariat and included into EBSA Repository, as appropriate
 - invite scientists and organisations to provide their EBSA related information to EBSA/marine national focal points

The issue of data quality assurance was raised and require further discussion on ways and tools to make it happen.

3. To further inform management and policy discussion and enhance understanding of EBSA information, the grouping of EBSA areas is proposed. This grouping should address two major features common for a number of described EBSAs: stability of EBSA features and complexity of features within an EBSA. The following four groups are proposed:

- geographically stable with “single” feature
- geographically stable with aggregated features
- geographically dynamic with “single” feature
- geographically dynamic with aggregated features

These groupings are to be applied only to EBSAs described through formal CBD process.

In addition the final global map of EBSA should distinguish between two major classes of EBSA (using colour code): i) EBSAs described through the formal CBD regional workshop process and ii) EBSAs submitted to the CBD secretariat by Parties with results of their national processes (show polygons when available and agreed by Parties).

The issue of “precision” was raised with the need to explore ways and means to show this component on the EBSA map.

These groupings need to be visualised on the general EBSA map using cartographic methods. These groupings are not designed to created new classification or new criteria for EBSA or in any way to change/adjust existing EBSA descriptions or change description template for future regional workshops.

The discussion on grouping was also extended to see if grouping for benthic/pelagic EBSAs is useful and possible to distinguish.

4. There are needs for new information as well as overarching analysis of EBSA process and results which requires collective and cross-regional consideration (gaps in coverage geographically and thematically, ABNJ new information and update and etc.). To address these issues ad-hoc technical expert group on EBSA within CBD can be proposed to meet in the period before the next (in 5 years) round of regional workshops. The meeting needs to cover very limited and specific set of global issues related to EBSA process and future development.

Group 4: Visibility and use of EBSA information in support of marine biodiversity conservation and sustainable use

The main recommendations and issues discussed by the group to enhance the visibility and use of EBSA information in support of conservation and sustainable use were the following:

- **EBSA repository** (and CHM) as the main mechanism for visibility and use of EBSA information to date. Possible approaches to make the repository more visible and useful to meet user needs are:
 - Including multi-faceted filtering with the ability to perform data searches based on categories (e.g. ability to search which EBSAs are important for leatherback turtles, etc)
 - Multi-use map layer would also be very useful, although it is beyond the current mandate of the CBD; however, CBD EBSA information can be used to overlay with human uses by countries and competent organizations, as appropriate (e.g. fishing effort; vessel trafficking, oil and gas, etc)
 - It would be useful to add a different colour/shading on EEZs that have their own EBSA-like criteria and a link to the respective national map/process/documents, or having the actual maps of EBSA-like polygons in the EBSA repository if the concerned Party agrees.
 - It would also be useful to show in the EBSA repository map, the geographical scope of each EBSA workshop to avoid giving a false impression that there are no EBSAs in certain regions of the world to people who are not familiar with the EBSA process.
 - It would be useful to have a link to OBIS and other relevant data-bases in the EBSA repository
 - Set up a mechanism in the repository so that users can obtain more detailed information about each EBSA through linking with other data bases and/or knowledge holders at national and international levels (e.g. workshop participants, experts, referenced authors, etc)
- **Including EBSAs into google ocean** (with underwater pictures) could help promote and communicate EBSAs more broadly.
- **National Biodiversity Strategies and Action Plans:** promoting the use of EBSAs in the NBSAPs.
- **Global Biodiversity Outlooks:** Even though EBSAs are not part of the Aichi Biodiversity Targets per se, the group felt that EBSAs could be highlighted/exemplified in the GBO 5 onwards as a tool to achieve a number of targets (e.g. target 2, 6, 10, 11, 14, etc)
- **Communication with National Focal points:** CBD Secretariat could provide national focal points with key simple messages about EBSAs to be promoted within the respective states.
- **Sustainable Ocean Initiative:** SOI work can help demystify any mis-perception related to EBSAs (e.g. Samoa Workshop very successful in using EBSAs as a tool for MSP). These results, reports, links to SOI webpage, capacity building opportunities, and other useful links, as well as use of TK should be in the “informal” section of the EBSA repository. In addition, the importance of involving all sectors/stakeholders in the CBD SOI/MSP workshops was noted.
- **Developing further MSP/EBM guidance (and the role of EBSAs in this context)** would be useful and contribute to linking the MSP and the EBSA process under the CBD whilst promoting the uptake of both MSP and EBSAs.

- **Promoting good practices on the use of EBSA information** (e.g. CSIRO, Benguela Current Commission, West Africa, NAFO Sargasso Sea seamounts, GOBI work, use of EBSAs in environmental licensing processes in certain countries) would be useful, also to show the variety of potential management approaches.
- **Competent organisations challenges:** It would be useful to ensure that the EBSA summary reports are included in the meeting agenda of competent organisations, and the potential contribution to their own mandates and activities can be highlighted to respective contracting Parties.
- **Categorisation of EBSAs:** the group discussed the utility of categorizing EBSAs (4 categories as proposed in the background document) but there was no consensus in the group about this. However, the group agreed that further clarity on the maps about dynamic EBSAs would be useful.
- **Communicating the ecosystem services** that EBSAs provide to livelihoods could be helpful.
- **Enhanced cooperation** between CBD Secretariat and competent organisations secretariats (e.g. ISA repository, IMO (e.g. PSSAs), RFMOs, CMS, etc) in exchanging biological data would be useful (e.g. deep seabed mining plumes can affect EBSAs, etc). Threat analysis should be a logical next step, which can be undertaken by competent organizations, as necessary.
- **Creating CBD Marine Focal Points** might be helpful in spreading inter-ministerial understanding about EBSAs.
- **Ensuring that main organisations/agencies/donors**, including GEF, have a good understanding of EBSAs and include them in their work would be useful.

5. CONCLUSION AND FUTURE STEPS

The meeting reached a set of conclusions and suggestions, as follows:

Conclusions

- The EBSA process has been highly successful in describing areas of ecological or biological significance in the global oceans. Establishing processes to better mainstream data and knowledge gained from the EBSA process into other international, national and sectoral activities would be critical to capture the full value of this effort.
- The potential ways and approaches were considered for adding new and/or revised information into the EBSA process. These include processes to fill data and knowledge gaps, refine descriptions and incorporate traditional knowledge.
- National and sub-regional processes can be supported with additional guidance on specific understanding of EBSA criteria and their application.
- Specific approaches were suggested to more precisely communicate the results of the EBSA workshops, including EBSA description and maps. The *post-hoc* grouping of static, and dynamic EBSAs as well as groupings of benthic, pelagic and surface features were suggested in order to provide for better interpretation of the EBSA descriptions.

- Expert work would be needed to more fully explore guidance on how information from the EBSA process can be used in ocean planning and management activities, and to exchange and consolidate information on potential threats to areas meeting different aspects of the EBSA criteria.

Suggestions

- Facilitate reporting on mainstreaming of EBSA information via national reports, Aichi Target reporting or updates of NBSAPs;
- Determine a process to deal with incorporation of new information, including traditional knowledge;
- Undertake a review to identify gaps and make proposals on how to fill them;
- Collaboratively explore methods to better communicate complex information from EBSA descriptions, including post-hoc categorisation of EBSAs;
- Review functionality of the CBD EBSA Repository in the context of user requirements, with a view to improving search capabilities and dynamic data display;
- Consider revision of scientific guidance on application of EBSA criteria to support national and regional/subregional processes;
- Explore the potential for holding expert workshops on:
 - Sharing experiences in using EBSA information in follow-up processes (provide examples of ways in which EBSAs can be used);
 - Consolidation of existing information on the types of activities that can pose threats to different aspects of the EBSA criteria and management tools/mitigation measures;
- Collaborate with relevant international/regional organizations on capacity building activities;
- Engage with IPBES to integrate EBSA information in regional assessments;
- Explore ways to strengthen traditional knowledge evidence base as part of the EBSA criteria;
- Increase the use and impact of pre- and post-workshop activities, including capacity building and data gathering.

6. CLOSING OF THE MEETING

In closing the meeting, the Chair thanked all participants for their active and constructive engagement, the CBD Secretariat and GOBI Secretariat for their effective servicing of the meeting, and the European Commission for their financial support. Thanks were also extended to the meeting hosts, NABU, for their hospitality and provision of excellent meeting facilities during the meeting. The meeting was closed at 12:30 pm, 24 February 2016.

Annex I: List of participants

No	Last name	First name	Organisation
1	Appiott	Joe	CBD Secretariat
2	Blasiak	Robert	University of Tokyo
3	Canals	Puri	MedPAN
4	Cebrian	Daniel	UNEP MAP RAC/SPA
5	Cleary	Jesse	MGEL Duke University
6	Diagana	Mallé	PRCM, Senegal
7	Diz	Daniela	University of Edinburgh
8	Dunn	Daniel	MGEL Duke University
9	Dunstan	Piers	CSIRO, Australia
10	Finke	Gunnar	GIZ/Benguela Current Commission
11	Gunn	Vikki	GOBI Secretariat
12	Halpin	Pat	MGEL Duke University
13	Hennicke	Janos	NABU/BfN
14	Johnson	David	GOBI Secretariat
15	Kenchington	Ellen	Fisheries and Oceans Canada
16	Klein	Eduardo	Universidad Simon Bolivar
17	Lascelles	Ben	BirdLife International
18	Lee	Jihyun	CBD Secretariat
19	Martin	Corinne	UNEP-WCMC
20	Notarbartolo di Sciara	Giuseppe	Tethys Institute
21	O'Brien	Chris	Food and Agriculture Organization
22	Prates	Ana Paula	ICMBIO/Brazil
23	Provoost	Pieter	OBIS/IOC
24	Rice	Jake	IUCN-CEM-FEG
25	Shestakov	Alexander	WWF Global Arctic Programme
26	Tandstad	Merete	Food and Agriculture Organization
27	von Nordheim	Henning	BfN
28	Yamakita	Take	JAMSTEC

Annex II: Meeting agenda

Monday 22 February 2016	
08.30 - 09.00	Arrival and coffee
09:00 - 09:30	<p>Agenda item 1: Opening of the meeting</p> <ul style="list-style-type: none"> • Meeting Chair (Pat Halpin) • Representative of the Executive Secretary of the CBD • Representative of the Global Ocean Biodiversity Initiative • Representative of Nature and Biodiversity Conservation Union (Kim Detloff) <p><i>Tour de table for self-introduction of participants</i></p>
09:30 - 10:30	<p>Agenda item 2: Workshop background, objectives, approach and expected outputs</p> <ul style="list-style-type: none"> • Workshop background, objectives, approaches, and expected outputs (by CBD Secretariat) – 15 min • Review of scientific methodologies and approaches applied to CBD regional workshops to facilitate the description of EBSAs (by Piers Dunstan and Pat Halpin) – 15 min • Experiences in West Africa on the use of EBSA description (by Malle Diagana and Gunnar Finke) – 15 min • Compiling key lessons learned from the application of the EBSA criteria through regional workshops and national exercises, and identifying potential ways to move forward: Overall approaches (by Jake Rice) - 15 min
10:30 – 11:00	Coffee/tea break
11:00 – 12:30	<p>Agenda item 3: Sharing experiences and lessons learned on the scientific methodologies and approaches for the description of EBSAs</p> <p>3.1 Methodologies and approaches for data compilation, analysis and synthesis prior to the workshop as well as the use of compiled data after the workshop</p> <p><i>Theme presentation: Main findings on data compilation, analysis and synthesis from the compilation of key lessons learned from the application of the EBSA criteria through regional workshops and national exercises (by Jake Rice, 5 min)</i></p> <p>Participants will discuss the following, inter alia:</p> <ul style="list-style-type: none"> • Data availability/accessibility • Compilation of data using EBSA template vs. GIS database and mapping • Coordination at the national level prior to the workshop • Incorporation of traditional knowledge • Coverage of data in terms of different taxa, geographic area, water

	<p>depth, etc</p> <ul style="list-style-type: none"> • Use of the compiled data after the workshop • Capacity building needs • Other issues related to data compilation, analysis and synthesis
12:30 – 13:30	Lunch
13:30 – 14:30	Agenda item 3.1 (<i>continued</i>)
14:30 – 15:30	<p>3.2 EBSA criteria and their application</p> <p><i>Theme presentations:</i></p> <ul style="list-style-type: none"> • Main findings on EBSA criteria and their application from the compilation of key lessons learned from the application of the EBSA criteria through regional workshops and national exercises (by Jake Rice, 5 min) • Sharing experience of EBSA criteria application (Piers Dunstan, 5 min) <p>Participants will discuss the following, inter alia:</p> <ul style="list-style-type: none"> • Understanding of EBSA criteria and its application • Challenges in the application of each EBSA criteria • Usefulness of EBSA criteria in the application of the ecosystem approach • Need for more guidance on the application of criteria • Issues related to the assessment against EBSA criteria, such as scale, ranking, relative importance, etc. • Expert judgements vs. systematic assessment • Template/Site-based approaches vs. criteria-based assessment • Different types of EBSAs (e.g. stable vs. dynamic, one single EBSA vs. connected EBSA, etc.) • Capacity building needs • Other issues related to EBSA criteria and its application
15:30 – 16:00	Coffee/tea break
16:00 – 18:00	Agenda item 3.2 (<i>continued</i>)

Tuesday, 23 February 2016

09:00 – 10:30

3.3 Approaches for incorporating new scientific information and new consideration of existing information in future application of the EBSA criteria

Theme presentation: Possible ways for incorporating new scientific information based on the compilation of key lessons learned from the application of the EBSA criteria through regional workshops and national exercises (by Jake Rice, 5 min)

Participants will discuss the following, inter alia:

- Ways and means to incorporate new scientific information or new consideration of existing information for future EBSA description or refinement of existing EBSA description, at global, regional/sub-regional or national scales
- Incorporation of traditional knowledge at different scales
- Use of EBSA information-sharing mechanism
- Potential role of Global Ocean Biodiversity Initiative
- Linking with other scientific groups
- Linking with national exercises
- Other issues

10:30 – 11:00

Coffee/tea break

11:00 – 12:30

3.4 Facilitating the use of EBSA information by countries and competent organizations

Theme presentation:

- *Possible ways for moving forwards on facilitating the use of EBSA information (by Jake Rice, 5 min)*
- *Sharing experiences on the use of EBSA information (by Piers Dunstan, 5 min)*

Participants will discuss the following, inter alia:

- EBSA repository and information-sharing mechanism through EBSA website (www.cbd.int/ebsa)
- Development of regional/sub-regional EBSA repository
- EBSA booklets
- Scientific guidance on the application of the EBSA criteria
- Training manual on EBSAs
- Use of EBSA information by countries or competent organizations
- Linking with other global and regional processes
- Other issues

12:30 – 13:30

Lunch

13:30 – 15:30	<p>Agenda item 4: Identify potential elements for the development of practical options to further enhance scientific methodologies and approaches for the description of areas meeting the EBSA criteria</p> <p><i>Participants will split into the following four groups to summarize lessons learned and articulate key elements for practical options to further enhance scientific methodologies and approaches for the description of areas meeting the EBSA criteria, building on discussions so far at the plenary as well as the workshop background document:</i></p> <ul style="list-style-type: none"> • <u>Group 1</u>: Methodologies and approaches for data compilation, analysis and synthesis prior to the workshop as well as the use of compiled data after the workshop, including national exercises and incorporation of traditional knowledge • <u>Group 2</u>: EBSA criteria and its application • <u>Group 3</u>: Approaches for incorporating new scientific information and new consideration of existing information in future application of the EBSA criteria, including national exercises and incorporation of traditional knowledge • <u>Group 4</u>: Visibility and use of EBSA information in support of marine biodiversity conservation and sustainable use
15:30 – 16:00	Coffee/tea break
16:00 – 18:00	Agenda item 4 (continued)
Wednesday, 24 February 2016	
09:00 – 10:30	<p>Agenda item 4 (continued)</p> <p>Presentation of group discussion results (15 min per group)</p> <ul style="list-style-type: none"> • <u>Group 1</u>: Methodologies and approaches for data compilation, analysis and synthesis prior to the workshop as well as the use of compiled data after the workshop • <u>Group 2</u>: EBSA criteria and its application • <u>Group 3</u>: Approaches for incorporating new scientific information and new consideration of existing information in future application of the EBSA criteria • <u>Group 4</u>: Visibility and use of EBSAs in support of marine biodiversity conservation and sustainable use <p>Q&A and plenary discussion (30 min)</p>
10:30 – 11:00	Coffee/tea break
11:00 – 12:30	<p>Agenda Item 5: Conclusion and Future Steps</p> <p>Agenda Item 6: Closing of the Meeting</p>