Strengthening the scientific credibility and transparency of the EBSA process through alignment with Key Biodiversity Area thresholds and delineation procedures

A response from the Key Biodiversity Areas Partnership regarding the Convention on Biological Diversity 20 October 2017 notification on "Submission of information to support the objectives of the expert workshop to develop options for modifying the description of areas meeting the criteria for ecologically or biologically significant marine areas (EBSAs), for describing new areas, and for strengthening the scientific credibility and transparency of the EBSA process, 5-8 December 2017 – Berlin, Germany"

To be submitted to the Executive Secretary of the Convention via e-mail to secretariat@cbd.int no later than 10 November 2017.

This submission addresses the third of the issues highlighted in the notification annex on voluntary guidance for the preparation of submissions, that is, "Experience in ensuring scientific credibility and transparency in the use of specific criteria for designating significant and/or sensitive/vulnerable areas…".

The description of EBSAs has yielded important contributions towards the objectives of the Convention on Biological Diversity. It has been an effective approach for identifying areas of importance for marine biodiversity. However, while many of the EBSAs described to date have been based on empirical analysis and standardised methods, such as the EBSAs informed by Important Bird and Biodiversity Areas, for others the application of the EBSA criteria has relied more heavily on expert opinion and more subjective approaches, potentially leading to inconsistency. This is the case both for determining whether the area is characterised by biodiversity at levels deemed to be high enough to be "ecologically or biologically significant", and for delineating the boundaries of the area. This might hamper the transparency, credibility, and comparability of sites described as EBSAs over space, over time, and between different experts. The CBD Parties' Decision (CBD/COP/DEC/XIII/12) to further develop options for strengthening the scientific review of these areas both within and beyond national jurisdictions is an excellent opportunity to consider and learn from other well-established initiatives such as Key Biodiversity Areas (KBAs), which encompass and build on the Important Bird and Biodiversity Area approach and network.

In 2004, the government and NGO members of the International Union for Conservation of Nature mandated the Union to consolidate the criteria for identification of Key Biodiversity Areas, building from existing approaches (https://portals.iucn.org/library/node/44299). This mandate was fulfilled in 2016, with the Union's Council approving "A Global Standard for the Identification of Key Biodiversity Areas" (https://portals.iucn.org/library/node/46259; IUCN 2016), as sites contributing significantly to the persistence of global biodiversity, drawing from and unifying existing approaches including for the identification of Important Bird & Biodiversity Areas (IBAs), Alliance for Zero Extinction (AZE) sites, and equivalent processes for identification of important sites for amphibians, plants, freshwater biodiversity, marine mammals and turtles, and other elements of biodiversity.

Also in 2016, the Key Biodiversity Areas Partnership (http://www.keybiodiversityareas.org/kba-partners) was established to support the implementation of this standard, including maintenance of the World Database on Key Biodiversity Areas (http://www.keybiodiversityareas.org/home). The current membership of the Key Biodiversity Areas Partnership encompasses the Amphibian Survival Alliance, BirdLife International, Conservation International, the Critical Ecosystem Partnership Fund,

Global Environment Facility, Global Wildlife Conservation, the International Union for Conservation of Nature, NatureServe, the Rainforest Trust, the Royal Society for the Protection of Birds, the Wildlife Conservation Society, and the World Wildlife Fund.

One component of the process for consolidating the Key Biodiversity Area standard was the publication of a review of uses of Key Biodiversity Area data as "Applications of Key Biodiversity Areas: End-User Consultations" (https://portals.iucn.org/library/node/44911). The third chapter of this review (Weaver & Johnson 2014) discussed applications of Key Biodiversity Areas data in informing the description of EBSAs, and provides important source material for this submission.

There is already substantial alignment between the criteria used for identification of Key Biodiversity Areas and those for description of EBSAs (Table 1). Data on Important Bird and Biodiversity Areas (IBAs) –the largest subset of Key Biodiversity Areas identified to date– were widely used to inform the description of current EBSAs. The fact that ~600 IBAs of the existing ~3,000 marine Key Biodiversity Areas have been incorporated within EBSAs identified so far therefore signals the potential for the KBA Standard to inform future EBSA description and review (https://maps.birdlife.org/marineIBAs/default.html). Marine Key Biodiversity Areas have also been identified comprehensively for other elements of biodiversity in some countries (e.g. Philippines) and processes are underway to maximise alignment with the identification of Important Marine Mammal Areas, and to advance identification of marine Key Biodiversity Areas for other elements of biodiversity.

Table 1. Alignment between the criteria for description of EBSAs and criteria for identification of Key Biodiversity Areas.

EBSA criterion	Key Biodiversity Areas criterion
1. Uniqueness or Rarity	B. Geographically Restricted Biodiversity
2. Special importance for life history stages of species	D. Biological Processes
3. Importance for threatened, endangered or declining species and/or habitats	A. Threatened Biodiversity
4. Vulnerability, Fragility, Sensitivity, or Slow recovery	A. Threatened Biodiversity
5. Biological Productivity	D. Biological Processes
6. Biological Diversity	B. Geographically Restricted Biodiversity
7. Naturalness	C. Ecological Integrity

Given this existing strong alignment between EBSA and KBA criteria, we believe that the scientific credibility and transparency of the EBSA process could be further strengthened by promoting the collection of quantitative data relative to established KBA thresholds and delineation procedures.

The Key Biodiversity Area criteria and thresholds were derived through a series of technical workshops and subsequently refined through wide expert consultation, alignment with existing approaches and testing with datasets covering diverse taxonomic groups, regions and environments (e.g. di Marco et al. 2016). They are designed to be applicable in data poor as well as data rich environments, and to incorporate consideration of uncertainty. The Key Biodiversity Area delineation procedures similarly ensure that the delineation of each site is based on sound underlying science, builds from existing approaches, and reflects uncertainty appropriately.

In the view of the Key Biodiversity Areas Partnership, such evolution would represent a logical next step in the EBSA process, substantially strengthening its transparency and hence credibility, and in turn further bolstering its contributions towards the three objectives of the Convention on Biological Diversity. Consolidation of this process could perhaps initially include an assessment of how well the two sets of areas overlap, whether additional KBAs could usefully be brought into the EBSA system and vice versa, and the extent to which Key Biodiversity Area thresholds and delineation procedures are useful in strengthening transparency of the EBSA process. The Key Biodiversity Areas Partnership stands ready to support such a progression as appropriate.

References

Di Marco, M. et al. (2016) Quantifying the relative irreplaceability of important bird and biodiversity areas. Conserv Biol 30: 392–402; online at http://onlinelibrary.wiley.com/doi/10.1111/cobi.12609/full.

IUCN (2016) A Global Standard for the Identification of Key Biodiversity Areas. IUCN, Gland, Switzerland; online at https://portals.iucn.org/library/node/46259.

Johnson, P. & Weaver, D. (2014) Ecologically or Biologically Significant Marine Areas. Pp 22–24 in Dudley, N. et al. (eds.) Applications of Key Biodiversity Areas: End-User Consultations. IUCN, Gland, Switzerland; online at https://portals.iucn.org/library/node/44911.

Annex 1. Criteria for the identification of Key Biodiversity Areas.

A. Threatened Biodiversity	*Biodiversity element at site*	*% global pop. size/extent*	*RU*[1]
A1. Threatened species	(a) CR or EN species	≥0.5%	≥5
	(b) VU species	≥1%	≥10
	(c) CR or EN species Threatened only due to population size reduction in the past or present	≥0.1%	≥5
	(d) VU species Threatened only due to population size reduction in the past or present	≥0.2%	≥10
	(e) CR or EN species	Entire global population size	
A2: Threatened ecosystem types	(a) CR or EN ecosystem type	≥5%	
	(b) VU ecosystem type	≥10%	

B. Geographically restricted biodiversity	*Biodiversity element at site*	*% global pop. size/extent*	*RU*
B1: Individually geographically restricted species	Any species	≥10%	≥10
B2: Co-occurring geographically restricted species	Restricted-range species: ≥2 species OR 0.02% of total number of species in taxonomic group, whichever is larger	≥1%	
B3: Geographically restricted assemblages	(a) ≥5 ecoregion-restricted species[2] OR 10% of the species restricted to the ecoregion, whichever is larger	≥0.5%	
	(b) ≥5 bioregion-restricted species[2] OR 30% of the bioregion-restricted species known from the country, whichever is larger		
	(c) Part of the globally most important 5% of occupied habitat of each of ≥5 species within a taxonomic group		
B4: Geographically restricted ecosystem types	Any ecosystem type	≥20%	

C. Ecological integrity	*Biodiversity element at site*	
	Wholly intact ecological communities	≤2 sites per ecoregion

D. Biological processes	*Biodiversity element at site*	*% global pop. size*
D1: Demographic aggregations	(a) Species aggregation during one or more key stages of its life cycle	≥1%
	(b) Among the largest 10 aggregations known for the species	
D2: Ecological refugia	Species aggregations during periods of past, current or future environmental stress	≥10%
D3: Recruitment sources	Propagules, larvae or juveniles maintaining high proportion of global population size	≥10%[3]

E: Irreplaceability through quantitative analysis	*Biodiversity element at site*	*Irrepl. score*	*RU*
	Site has high irreplaceability measured by quantitative spatial analysis	≥0.90 on 0–1 scale	≥10 (or ≥5 for EN/ CR sp)

[1]RU=reproductive units; [2]wtihin a taxonomic group; [3]refers to global population size rather than immature individuals produced.