

INTERNATIONAL WORKSHOP

Conserving our seabirds: how to identify Important Bird Areas in the marine environment (marine IBAs)

Vilanova i la Geltrú, Spain - 13-16 November 2005

WORKSHOP CONCLUSIONS AND RECOMMENDATIONS

1. Species

- 1.1 For the purpose of this workshop, only 'true' seabirds were considered. All relevant waterbirds (gulls and terns) were treated as seabirds. Forthcoming harmonisation of IBA criteria between seabirds and waterbirds was welcomed.
- 1.2 At present it was felt inappropriate to consider incorporating criteria based on the migration of land birds or marine foraging habitat of land birds.

2 Review of the four potential types of marine IBA:

2.1 a) Seaward extensions of breeding colonies

- 2.1.1 As a minimum requirement, extensions for maintenance activity (and foraging activity for any relevant inshore-foraging species), utilising criteria analogous to those developed in the UK, were recommended for all appropriate species/IBAs.
- 2.1.2 Extensions to cover foraging areas were recommended for all appropriate species/IBAs, primarily based on radii as developed by BirdLife International (2003)¹, with additional known data for the relevant Mediterranean/Macaronesian species:

Radius around colony (to include foraging and/or maintenance activities)			
5 km	15 km	40 km	still unknown
<i>Stercorarius parasiticus</i>	<i>Calonectris diomedea</i> (rafts)	<i>Catharacta skua</i>	<i>Oceanodroma leucorhoa</i>
<i>Larus genei</i>	<i>Puffinus puffinus</i> (rafts)	<i>Larus argentatus</i>	<i>Oceanodroma castro</i>
<i>Sterna albifrons</i>	<i>Puffinus mauretanicus</i> (rafts)	<i>Larus fuscus</i>	<i>Pelagodroma marina</i>
<i>Sterna nilotica</i>	<i>Phalacrocorax carbo</i>	<i>Larus marinus</i>	<i>Hydrobates pelagicus</i>
<i>Cephus grylle</i>	<i>Phalacrocorax aristotelis</i>	<i>Larus audouinii</i>	<i>Fulmarus glacialis</i>
	<i>Larus ridibundus</i>	<i>Rissa tridactyla</i>	<i>Morus bassanus</i>
	<i>Larus canus</i>	<i>Uria aalge</i>	
	<i>Larus melanocephalus</i>	<i>Alca torda</i>	
	<i>Sterna hirundo</i>	<i>Fratercula arctica</i>	
	<i>Sterna paradisea</i>		
	<i>Sterna dougallii</i>		
	<i>Sterna sandvicensis</i>		

¹ BirdLife International (2003). *Towards the identification of marine IBAs in the EU: an exploration by the Birds and Habitats Directive Task Force*. Unpublished report. BirdLife International, Brussels.

- 2.1.3 The group recommended the following hierarchy of approaches to maximise the application of available data in order to apply appropriate radii:
1. Site-specific data (either gathered from literature, or through current field based projects, e.g.v LIFE projects, bearing in mind potential density-dependence due to differences in colony size and other other ecological considerations that may determine the size of the radii. In cases where multi-species colonies exist, the species with the largest foraging radius should be used to set the outer radius).
 2. Species-specific data.
 3. If data are not available to apply 1 or 2, use nearest neighbour or surrogate species.

- 2.1.4 To apply these criteria to new species and/or new regions it was recommended that appropriate empirical data be collected. Until these are available, the criteria illustrated above should be employed.

Before these criteria are used to delimit marine IBAs, a re-evaluation of the statistical basis on which the radii were calculated should be undertaken. It was recommended that the values adopted should be based on no less than mean maxima derived from the empirical data or the upper 95% confidence interval. This is particularly of importance in respect of affording maximum protection to the foraging range of globally threatened species.

2.2 b) Coastal concentrations of non-breeding species

- 2.2.1 There was little evidence that this type of IBA would be appropriate for the species/habitats in the Iberian region. If required, it was recommended that the approaches used, involving the Marine Classification Criterion (MCC), as set out in Skov et al. (1995 & 2000)², would be the appropriate basis.

2.3 c) Migration bottlenecks and flyways

- 2.3.1 Migration bottlenecks were agreed to be potentially highly appropriate for designation as marine IBAs when appropriate criteria are available. A priority site in the region would be the Straits of Gibraltar, nevertheless other bottlenecks whereby migrating seabirds are constrained by fixed (topographic) or dynamic (oceanographic) features may also be relevant. The Iberian region may offer an important opportunity to define appropriate criteria, especially for the Straits of Gibraltar.
- 2.3.2 Flyway corridors used by migrating seabirds, particularly when in proximity to topographic features such as headlands etc. may offer potential for future designation as marine IBAs. It was recommended, however, that existing data on the numbers, densities (eg flyway width) and related staging areas be collated and analysed to determine the possibility of defining hotspots at spatial scales appropriate for the development of relevant criteria.
- 2.3.3 It was recognised that migratory features might constitute IBAs for which management prescriptions for SPAs might operate only at specified times of year.

² Skov, H., Durinck, J., Leopold, M.J. & Tasker, M.L. (1995). *Important Bird Areas in the North Sea*. BirdLife International, Cambridge.

Skov, H., Vaitkus, G., Flensted, K.N., Girhsanov, G., Kalamees, A., Kondratyev, A., Leivo, M., Luigujoe, L., Mayr, C., Rasmussen, J.F., Raudonikis, L., Scheller, W., Sidlo, P.O., Stipniece, A., Struwe-Juhl, B. & Welander, B. (2000). *Inventory of coastal and marine important bird areas in the Baltic Sea* - BirdLife International, Cambridge.

2.4 d) Non-contiguous foraging areas

- 2.4.1 For definition of such areas the interactions between the criteria used and the size of potential IBAs is a critical issue. Until empirically based models are developed to explore these interactions and to undertake sensitivity and scenario analysis, it may be difficult to define criteria that can be applied consistently across taxa.
- 2.4.2 It was recommended that a range of models should be utilised to explore these relationships, including investigating MCC, GLM-based approaches used in the Canadian Arctic and particularly those used with existing data from the Mediterranean region (e.g., Louzao, Arcos, Hyrenbach, Gil de Sola & Oro (2005) *Oceanographic habitat of the Balearic Shearwater in the Western Mediterranean*).
- 2.4.3 In reviewing this topic the workshop noted that
- a) Species-specific – It is necessary to understand the spatial and temporal differences. There are some broad principles applicable to generalized taxonomic groups: gulls + terns, shearwaters, storm-petrels + gadfly petrels, shags.
→ Task: Compile matrix of species X time periods X geographic areas.
 - b) Approaches: colony extension, seascape surveys, tracking, focused surveys.
 - c) Combining interpolation (more data intensive, but no need to understand mechanism) and extrapolation (less data intensive, computationally demanding).
→ Note of caution: extrapolation requires a time / space match between the sampling and the predictions (e.g., inference space).
 - d) Value of telemetry to ground truth survey-based approaches (e.g., vessel / aerial) by providing a % of individuals / trips encompassed by different IBA designs . Telemetry provides an added value because it enhances our understanding of the way birds use the environment (e.g., foraging vs. transit). Consider trade offs and synergies (e.g., breeding / floaters, winter / summer) between both methods.
→ Note: Characterizing the movements of the entire population requires careful study design (e.g., stratify by colony).
- 2.4.4 An important analysis is to compare the properties of marine IBAs derived from the use of survey and remote recording data.
- 2.4.5 It was recognised that short term approaches based on relating seabird density distributions to marine habitats may be useful but probably only for relatively small scale habitat features.
- 2.4.6 The boundaries of Marine IBAs will typically show seasonal and annual variation. This should be taken into account explicitly by setting outer boundaries that correspond to the upper 95% confidence interval of the variation involved. Flexibility margins within marine areas (caused by moveable feasts that seabirds follow) could be considered to be buffer zones, and thus included in the IBA (which would then include zones of varying interest/value, spatially and temporally). This would be far preferable to moveable IBAs, which would struggle to sell to politically and/or to decision makers.

3. Marine IBA criteria

- 3.1 It was agreed that for the purposes of developing marine IBAs at this stage, the existing

IBA criteria developed by BirdLife International remained applicable, albeit requiring likely adjustment to the numerical and proportionate thresholds involved. The establishment of these criteria will require quite an extensive process of analysis and interpretation, using empirical data from as many species and regions as is feasible.

The workshop agreed that it was probably not possible to make significant progress on setting quantitative thresholds at this stage. Some of the criteria themselves have already been ‘parked’ for now, e.g. migration corridors. Virtually all of the proposed ‘M’ criteria are very similar or even identical to existing (i.e., terrestrial) IBA criteria, so all that is required are a few minor adjustments to existing IBA boundaries (e.g. out to sea) and changes to fine print of relevant clauses in IBA guidelines. Some worked examples are needed on the table first, so that it is possible to assess how the draft criteria and thresholds are performing, what sort of sites are being proposed, how boundaries are being drawn, etc. At this stage, another workshop would be needed to discuss this thoroughly.

4. Risk and threat assessment

It was recommended that, particularly for globally threatened species, work be started on defining the spatial and temporal nature of identifiable threats.

5. Review of data requirements and opportunities for Iberian region programmes

5.1 For each of the three main subdivisions of the region (Mediterranean, Macaronesia, Atlantic coasts) the group reviewed the baseline data available, and the data planned to be collected during the project in order to identify potential gaps or requirements for supplementary data. This preliminary review was undertaken at the level of taxon groups (shags, gulls and terns, shearwaters, storm petrels and gadfly petrels, auks) in relation to the main methods of data collection (aerial and ship based surveys, remote tracking (radio, satellite etc.) and other potential quantitative sources eg isotope data, bycatch records etc.). The regional overviews are summarised in the following tables. Key recommendations are set out below.

5.2 Gap analysis for data on seabird use of the marine environment in the Mediterranean Sea.

MEDITERRANEAN	Base-line	Approach 1	Approach 2	Approach 3	Available info	Priorities for taxa	Recommendations for project
TAXA	Colony – Pop. nos.	(Colony extens.)	(Seascape surveys)	(Focused studies)			
SHEARWATERS	good know. colony location.	identify rafting areas	ship-based	- PTT data C. diomedea - kernel	sufficient 1, ongoing 2, some ongoing 3	Oceanogr. habitat analysis for	Gather data from other studies (isotops, diet) as they are published.
STORM + GADFLY PETRELS	good knowledge sites.	not relevant?	ship-based		sufficient 1, ongoing 2, poor 3	Colony survey Oceanogr. habitat analysis	Need more accurate information on colony size & trends.
SHAGS	good	radiotracking (breeding season)	some aerial	radiotracking	some 1, sufficient 2, some 3 (stable isotops)	Oceanogr. habitat analysis	Refine definition of colony

SHAGS	good	radiotracking (breeding season)	some aerial	radiotracking	some 1, sufficient 2, some 3 (stable isotops)	Oceanogr. habitat analysis	Refine definition of colony
GULLS + TERNS	good	find out / define radii	ship-based	PTT Audouin's G	sufficient 1, ongoing 2, some 3	Oceanogr. habitat analysis for L. audouinii	Find out foraging range for terns

5.3 Gap analysis for data on seabird use of the marine environment in Macaronesian waters.

MACARONESIA	Base-line	Approach 1	Approach 2	Approach 3	Available info	Priorities for taxa	Recommendations for project
TAXA	Colony – Pop. nos.	(Colony extens.)	(Seascape surveys)	(Focused studies)			
SHEAR-WATERS	some data on location but gaps on numbers	rafts around colonies	breeding season, adaptive surveys of foraging grounds of tracked birds	P. puffinus (status?) & assimilis colonies, tracking & surveys for (night-time) rafts around colonies (4 - 9 km away)	some 1 (rafts), some 3 (tracking),	P. puffinus & assimilis colony survey, oceanogr. habitat analysis	Recommend colony survey (confirm breeding sites, secondarily colony size). Check out bycatch
STORM + GADFLY PETRELS	most colony sites known, suspect more exist, little data on breeding pop size	not relevant for <i>Hydrobates</i> , possible for <i>Pterodroma</i>	varying phenology (summer & winter breeding season), if possible - adaptive surveys of foraging grounds of tracked birds	explore radio tracking options, isotopic analyses of breeding foraging and post-breeding foraging (pelagic vs coastal diet signal)	some 1 (locations)	colony survey, oceanogr. habitat analysis,	
GULLS + TERNS	good for terns, poor for gulls	radio tracking	breeding season	S. dougallii & S. hirundo studies	some 1 in literature	surveys	Recommend dedicated surveys, in conjunction with tracking. Consider extending land IBAs

5.4 Gap analysis for data on seabird use of the marine environment in Atlantic Iberia.

ATLANTIC IBERIA	Base-line	Approach 1	Approach 2	Approach 3	Available info	Priorities for taxa	Recommendations for project
TAXA	Colony – Pop. nos.	(Colony extens.)	(Seascape surveys)	(Focused studies)			
SHEAR-WATERS	n.a.	n.a.	at-sea surveys & observation	some census data on P.	some 2 (ongoing)	Oceanogr. habitat analysis for P.	Check out bycatch
STORM + GADFLY PETRELS	many colony sites known, suspect	n.a.	ship-based surveys		some 1 (locations)	Colony survey Oceanogr. habitat analysis,	
SHAGS	good		ship-based surveys		some 1 & 2, some 3 (stable isotops)	Oceanogr. habitat analysis	Refine definition of colony Map colonies & calculate
GULLS + TERNS	good		breeding season	good know. passage & winter distribution	some 1 & 2, poor 3	surveys	Recommend dedicated surveys. Consider extending land IBAs

GULLS + TERNs	good		breeding season	good know. passage & winter distribution	some 1 & 2, poor 3	surveys	Recommend dedicated surveys. Consider extending land IBAs
AUKS	good	breeding season	ship-based surveys		good 1, some 2, poor 3	Oceanogr. habitat analysis	Follow-up evolution of breeding pop.

6. Next steps

- 6.1 BirdLife International European office should commence scoping opportunities and resources for extending this approach to EU countries (including new and potential accession countries) in the central and eastern Mediterranean.
- 6.2 Consideration should also be given to the compilation of relevant data for the remaining parts of the Mediterranean region, particularly North Africa.
- 6.3 BirdLife International European office, in close collaboration with SPEA and SEO/BirdLife, should give high priority to developing a strategy for conversion of marine IBAs to SPAs and the development of appropriate management plans to accompany these. This process should seek to commence once regionally consistent IBAs are developed based on the seaward extension type.
- 6.4 BirdLife International, particularly through its Global Seabird Programme, should seek to stimulate the development of marine IBAs in other priority regions, particularly in the light of the development of the marine IBA programme in New Zealand. Close links should be maintained with this programme.
- 6.5 At all regional levels, but particularly outside Europe, the development of marine IBAs should be viewed as an integral part of initiatives to establish networks of MPAs suitable for all main groups of pelagic marine taxa. Particular attention should be given to the development of trans-boundary initiatives (across EEZs and spanning EEZ and high sea areas).