

IDENTIFYING IMPORTANT BIRD AREAS

WHY APPLY IBA CRITERIA?

The selection of Important Bird Areas (IBAs) is achieved through the application of quantitative ornithological criteria, grounded in up-to-date knowledge of the sizes and trends of bird populations in Europe. The criteria ensure that the sites selected as IBAs have true significance for the international conservation of bird populations, and provide a common currency that all IBAs adhere to, thus creating consistency among, and enabling comparability between, sites at national, continental and global levels. It is crucial to understand why a site is important, and to do this it is necessary to examine its international significance in terms of the presence and abundance of species that occur there in different seasons. The status and nature of these species also need to be taken into account: threat status, breeding/non-breeding status, vulnerability through congregation, and the proportion of the total population of each species that occurs at a site, are all important factors in determining a site's importance.

A main aim of the IBA Programme of BirdLife International is to attain protection for IBAs, and the provision of convincing bird data is an essential part of any argument for statutory protection. Importantly, the application of criteria to significant species, together with future data-gathering and the development of monitoring programmes, permit not only the assessment of changes in species' numbers but also an examination of how these changes impact on the overall importance of the site, thus helping to guide the management and conservation of the area. The more specific, quantitative and comprehensive is the information available on IBAs, with links showing the fulfilment of obligations laid out in various EC directives and international conventions, the stronger

is the case for protection. To this end, the criteria build upon existing international legal instruments such as the EC Birds Directive which obliges the designation of Special Protection Areas in the European Community, and the Ramsar Convention under which contracting parties must designate at least one Ramsar Site.

THE CATEGORIES OF IBA CRITERIA

Twenty IBA criteria have been developed for the selection of IBAs in Europe. These allow the identification of IBAs, based on a site's **international** importance for:

- Threatened bird species
- Congregatory bird species
- Assemblages of restricted-range bird species
- Assemblages of biome-restricted bird species

Criteria have been developed such that, by applying different ('staggered') numerical thresholds, the international importance of a site for a species may be categorized at three distinct geographical levels:

- Global ('A' criteria)
- European ('B' criteria)
- European Union ('C' criteria)

A summary of each of the 20 criteria is given in Table 1. These 20 criteria are based on the criteria used in the first pan-European IBA inventory (Grimmett and Jones 1989), which in turn took

Table 1. Summary of the 20 criteria used in Europe to identify Important Bird Areas.

Category	Criterion	
GLOBAL	A1. Species of global conservation concern	The site regularly holds significant numbers of a globally threatened species, or other species of global conservation concern.
	A2. Restricted-range species	The site is known or thought to hold a significant component of the restricted-range species whose breeding distributions define an Endemic Bird Area (EBA) or Secondary Area (SA).
	A3. Biome-restricted species	The site is known or thought to hold a significant assemblage of the species whose breeding distributions are largely or wholly confined to one biome.
	A4. Congregations	(i) The site is known or thought to hold, on a regular basis, $\geq 1\%$ of a biogeographic population of a congregatory waterbird species. (ii) The site is known or thought to hold, on a regular basis, $\geq 1\%$ of the global population of a congregatory seabird or terrestrial species. (iii) The site is known or thought to hold, on a regular basis, $\geq 20,000$ waterbirds or $\geq 10,000$ pairs of seabird of one or more species. (iv) The site is known or thought to be a 'bottleneck' site where at least 20,000 storks (Ciconiidae), raptors (Accipitriformes and Falconiformes) or cranes (Gruidae) regularly pass during spring or autumn migration.
EUROPEAN	B1. Congregations	(i) The site is known or thought to hold $\geq 1\%$ of a flyway or other distinct population of a waterbird species. (ii) The site is known or thought to hold $\geq 1\%$ of a distinct population of a seabird species. (iii) The site is known or thought to hold $\geq 1\%$ of a flyway or other distinct population of other congregatory species. (iv) The site is a 'bottleneck' site where over 5,000 storks, or over 3,000 raptors or cranes regularly pass on spring or autumn migration.
	B2. Species with an unfavourable conservation status in Europe	The site is one of the 'n' most important in the country for a species with an unfavourable conservation status in Europe (SPEC 2, 3) and for which the site-protection approach is thought to be appropriate.
	B3. Species with a favourable conservation status in Europe	The site is one of the 'n' most important in the country for a species with a favourable conservation status in Europe but concentrated in Europe (SPEC 4) and for which the site-protection approach is thought to be appropriate.
EUROPEAN UNION	C1. Species of global conservation concern	The site regularly holds significant numbers of a globally threatened species, or other species of global conservation concern.
	C2. Concentrations of a species threatened at the European Union level	The site is known to regularly hold at least 1% of a flyway population or of the EU population of a species threatened at the EU level (listed on Annex I and referred to in Article 4.1 of the EC Birds Directive).
	C3. Congregations of migratory species not threatened at the EU level	The site is known to regularly hold at least 1% of a flyway population of a migratory species not considered threatened at the EU level (as referred to in Article 4.2 of the EC Birds Directive) (not listed on Annex I).
	C4. Congregatory – large congregations	The site is known to regularly hold at least 20,000 migratory waterbirds and/or 10,000 pairs of migratory seabirds of one or more species.
	C5. Congregatory – bottleneck sites	The site is a 'bottleneck' site where at least 5,000 storks (Ciconiidae) and/or at least 3,000 raptors (Accipitriformes and Falconiformes) and/or 3,000 cranes (Gruidae) regularly pass on spring or autumn migration.
	C6. Species threatened at the European Union level	The site is one of the five most important in the European region (NUTS region) in question for a species or subspecies considered threatened in the European Union (i.e. listed in Annex I of the EC Birds Directive).
	C7. Other ornithological criteria	The site has been designated as a Special Protection Area (SPA) or selected as a candidate SPA based on ornithological criteria (similar to but not equal to C1–C6) in recognized use for identifying SPAs.

For species lists, see Tables 2–4 and Appendices 2a and 2b.

account of several previous studies of IBA criteria at the level of the European Community (Osieck and Mörzner Bruyns 1981, Grimmett and Gammell 1989). Appendix 4 gives a full comparison between the current criteria and those used in 1989. Adaptation of the 1989 criteria has been driven particularly by the globalization of the IBA programme, with IBAs being identified in the Middle East (Evans 1994), Africa (Fishpool in prep.), Asia and the Americas. This has resulted in:

- The inclusion of criteria to identify sites within areas of high avian endemism, termed Endemic Bird Areas (criterion A2) and listed in Stattersfield *et al.* (1998), and sites within certain biomes (criterion A3).
- The creation of staggered numerical thresholds (A, B and C levels) to allow meaningful comparison between sites across regions of the world. This is particularly significant in that many countries outside Europe, which are just beginning their IBA programmes, may not have completed an assessment of the threat status of species at the continental or sub-regional level, yet can still proceed in identifying IBAs (of global importance, i.e. using 'A' criteria) at this stage.
- The identification of sites for species of European conservation concern (Box 1), under the B2/B3 criteria.
- The strengthening of links to the EC Birds Directive, through the creation of criteria categories C1–C7 with associated numerical thresholds.

The IBA criteria have been developed by BirdLife International, involving all BirdLife European Partners in several stages of consultation and in workshops held between 1993 and 1996 (BirdLife International 1995, Heath 1995, 1996). The 'Birds and Habitats Directives' Task Force of BirdLife International played a leading role in developing the EU-specific categories and thresholds (C1–C7), to maximize their utility in guiding the selection of Special Protection Areas in EU countries (Osieck 1998).

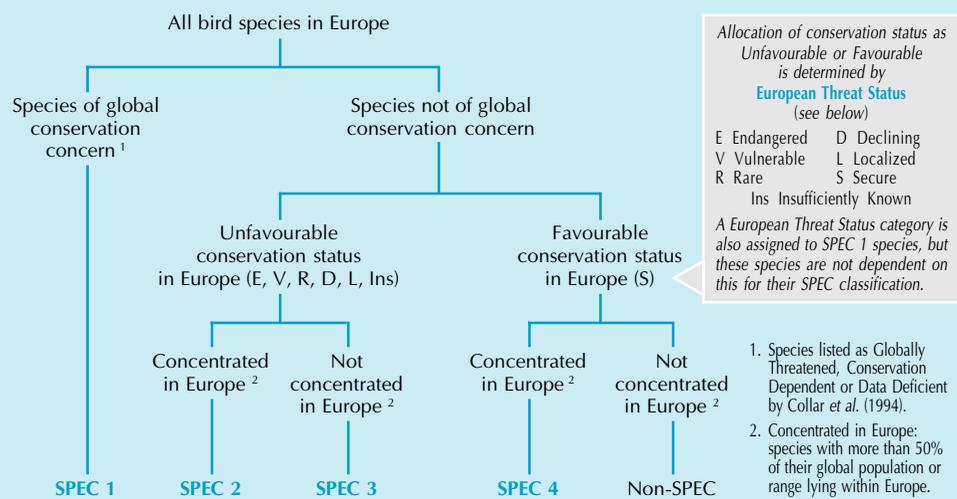
A total of 515 bird species occur regularly in Europe. IBAs have been identified on the basis of the occurrence of many of these species, provided that they occur in sufficient numbers to meet numerical population thresholds. All 515 bird species are listed in Appendix 2a of this publication, together with the criteria which they can potentially fulfil and the numerical threshold(s) if applicable.

THE APPLICATION OF IBA CRITERIA

For most categories of criteria, application of a criterion involved comparing the data provided for each relevant bird species at the site—usually in the form of an estimate of the number of individuals or pairs of the species using the site—against a numerical threshold for the species concerned (normally representing 1% of the species' population in question, e.g. its global population if applying 'A1' or 'C1' criteria). For only two criteria, A2 and A3, was the application

Box 1. Defining species of European conservation concern (SPECs).

Species of conservation concern on a European scale have been identified by BirdLife International (Tucker and Heath 1994), based on their European Threat Status and the proportion of their world population in Europe.



European Threat Status: summary of criteria and categories

Criteria: European population size/trend	<250 pairs	<2,500 pairs	<10,000 pairs	>10,000 pairs
Large decline ³	ENDANGERED	ENDANGERED	ENDANGERED	VULNERABLE
Moderate decline ⁴	ENDANGERED	ENDANGERED	VULNERABLE	DECLINING
No decline	ENDANGERED	VULNERABLE	RARE	SECURE

In addition, species that have more than 10,000 pairs in Europe are categorized as LOCALIZED if more than 90% of the European population occurs at 10 sites or fewer in Europe. See Tucker and Heath (1994) for full details of criteria.

3. Large decline: applied to a breeding or wintering population which has declined in size or range by at least 20% in at least 66% of the population or by at least 50% in at least 25% of the population between 1970 and 1990, and where the total size of populations that declined is greater than the total size of populations that increased.
4. Moderate decline: applied to a breeding or wintering population which has declined in size or range by at least 20% in 33–65% of the population or by at least 50% in 12–24% of the population between 1970 and 1990, and where the total size of populations that declined is greater than the total size of populations that increased.

Note that:

- Winter population criteria use flyway population levels of less than 1,000, 10,000 and 40,000 individuals as respective equivalents to the figures of 250, 2,500 and 10,000 pairs used above for breeding populations.
- Due to inadequate data for most species, declines in winter populations are only considered for Anatidae, Haematopodidae, Charadriidae and Scolopacidae.

process more qualitative, requiring only that particular assemblages of bird species be present.

Each criterion is associated with a list of relevant species, with each species being accompanied, where necessary, by a numerical population threshold which must be matched or exceeded in order to allow the site to qualify under that criterion. These population thresholds were derived, wherever possible, from internationally recognised sources of bird population data.

In some countries it has not been possible to apply the criteria fully to all relevant species, due to a lack of data on some species. This is known to be the case for a number of bird taxa that are considered threatened at the scale of the European Union, being listed in Annex I of the EC Birds Directive. Therefore, the identification of sites for some of these species, or the data presented on qualifying species at these sites, may be incomplete.

The definitions of the criteria given in this chapter are guidelines for the identification of IBAs. They have been followed as far as possible but, since definitions of this sort cannot cover all possibilities, they are not inflexible rules. The need for scientific objectivity and standardization has had to be balanced by common sense and the practical objectives of the exercise.

DEFINING THE BOUNDARIES OF AN IBA

- A site is defined so that, as far as possible, it:
 - i) is different in character or habitat or ornithological importance from the surrounding area;
 - ii) exists as an actual or potential protected area, with or without buffer zones, or is an area which can be managed in some way for nature conservation;
 - iii) is, alone or with other sites, a self-sufficient area which provides all the requirements of the birds (that it is important for) which use it during the time that they are present.
- Where extensive tracts of continuous habitat occur which are important for birds, only characteristics ii) and iii) apply. This definition is not applicable to migratory bottleneck sites.
- Practical considerations of how best the site may be conserved are the foremost consideration.
- Simple, conspicuous boundaries such as roads or rivers can often be used to delimit site margins, while features such as watersheds, ridge-lines and hilltops can help in places where there are no obvious discontinuities in habitat (transitions of vegetation or substrate). Boundaries of ownership are also relevant.
- There is no fixed maximum or minimum size for IBAs—the biologically sensible should be tempered with the practical. Neither is there a definitive answer on how to treat cases where a number of small sites lie near each other. Whether these are best considered as a series of separate IBAs, or as one larger site containing areas lacking ornithological significance, depends upon the local situation with regard to conservation and management.

DETAILED DEFINITIONS OF OF IBA CRITERIA

A: Important Bird Areas – global importance

Globally threatened species – Category A1

The site regularly holds significant numbers of a globally threatened species, or other species of global conservation concern.

Under this criterion, sites are identified for those species most threatened with extinction at a global level. This includes species classified as ‘Critical’, ‘Endangered’ and ‘Vulnerable’, according to the most recent, universally recognized criteria for global threat status (IUCN 1994), as well as those species classified as ‘Conservation Dependent’, ‘Data Deficient’ or ‘Near-threatened’. These latter types of species, although not strictly globally threatened, are considered here to be of sufficient global conservation concern to merit the identification of Important Bird Areas at the global level. All of these types of species are listed in Table 2 and in *Birds to Watch 2* (Collar *et al.* 1994).

This category thus allows the identification of IBAs for 35 species in Europe (Table 2). All of these species are also species of European conservation concern (see Box 1). The regular presence of a Critical or Endangered species at a site, irrespective of its abundance at the site, is considered sufficient to propose the site as an IBA. The only such species in Europe are *Pterodroma madeira* and *Numenius tenuirostris*. The remaining 33 species have to be present at a site in ‘significant’ numbers for a site to qualify under this criterion. The relevant numerical threshold for each species is calculated from the size of the species’s global population and also depends on whether the species has a relatively large or small body-size, and whether it has primarily dispersed or colonial nesting habits (see footnote to Table 2).

The words ‘regular’ and ‘significant’ in these definitions are intended to exclude instances of vagrancy, marginal occurrence, and ancient or historical records. ‘Regularly’ includes seasonal presence (and presence at longer intervals, if suitable conditions themselves only occur at extended intervals, e.g. at temporary wetlands).

Table 2. Numerical thresholds for species of global conservation concern in Europe.

Species	Global threat status	Threshold (pairs)
<i>Pterodroma feae</i> Fea’s Petrel	VU	5
<i>Pterodroma madeira</i> Zino’s Petrel	CR	0
<i>Phalacrocorax pygmeus</i> Pygmy Cormorant	NT	10
<i>Pelecanus crispus</i> Dalmatian Pelican	VU	10
<i>Anser erythropus</i> Lesser White-fronted Goose	VU	5
<i>Branta ruficollis</i> Red-breasted Goose	VU	60 ind
<i>Marmaronetta angustirostris</i> Marbled Teal	VU	5
<i>Aythya nyroca</i> Ferruginous Duck	VU	20
<i>Polysticta stelleri</i> Steller’s Eider	VU	30 ind
<i>Oxyura leucocephala</i> White-headed Duck	VU	5
<i>Haliaeetus albicilla</i> White-tailed Eagle	NT	5
<i>Aegypius monachus</i> Cinereous Vulture	NT	5
<i>Circus macrourus</i> Pallid Harrier	NT	10
<i>Aquila clanga</i> Greater Spotted Eagle	VU	2
<i>Aquila heliaca</i> Imperial Eagle	VU	2
<i>Aquila adalberti</i> Spanish Imperial Eagle	VU	2
<i>Falco naumanni</i> Lesser Kestrel	VU	10
<i>Tetrao mlokosiewiczi</i> Caucasian Black Grouse	NT	20
<i>Crex crex</i> Corncrake	VU	20
<i>Tetrax tetrax</i> Little Bustard	NT	60 ind
<i>Otis tarda</i> Great Bustard	VU	30 ind
<i>Glareola nordmanni</i> Black-winged Pratincole	NT	10
<i>Chettusia gregaria</i> Sociable Plover	VU	10
<i>Gallinago media</i> Great Snipe	NT	20
<i>Numenius tenuirostris</i> Slender-billed Curlew	CR	0
<i>Larus audouinii</i> Audouin’s Gull	CD	20
<i>Columba trocaz</i> Long-toed Pigeon	CD	10
<i>Columba bollii</i> Dark-tailed Laurel Pigeon	VU	5
<i>Columba junoniae</i> White-tailed Laurel Pigeon	VU	5
<i>Saxicola dacotiae</i> Fuerteventura Chat	NT	5
<i>Acrocephalus paludicola</i> Aquatic Warbler	VU	10
<i>Sitta whiteheadi</i> Corsican Nuthatch	NT	10
<i>Fringilla teydea</i> Blue Chaffinch	CD	10
<i>Loxia scotica</i> Scottish Crossbill	DD	5
<i>Emberiza cineracea</i> Cinereous Bunting	NT	5

All figures are in pairs unless “ind” is given, indicating individuals. To convert between individuals and pairs, a multiplying/dividing factor of 3 was used.

Globally threat status follows Collar *et al.* (1994):

CR Critical
 VU Vulnerable
 CD Conservation Dependent
 DD Data Deficient
 NT Near Threatened

Threshold calculations: For Vulnerable, Conservation Dependent, Data Deficient and Near-threatened species the following threshold levels apply at any site:

Threshold	European population (pairs)		
	<1,000	1,000–10,000	>10,000
large sized and/or fairly dispersed species	2	5	10
small sized and/or colonial nesting species	5	10	20

Restricted-range species – Category A2

The site is known or thought to hold a significant component of a group of species whose breeding distributions define an Endemic Bird Area or a Secondary Area.

Under this criterion, the most important sites within Endemic Bird Areas (EBAs) and Secondary Areas are identified.

An EBA is defined as a region to which two or more restricted-range bird species are confined, with ‘restricted range’ defined as a world distribution of less than 50,000 km² (Stattersfield *et al.* 1998). There are 218 EBAs globally, three of which are in Europe (Table 3): Madeira and the Canary Islands (with nine restricted-range species), the Caucasus (three restricted-range species) and Cyprus (two restricted-range species). Two of these species are also globally threatened, and nearly all are species of European conservation concern (Table 3), thus also qualifying under other criteria.

For many EBAs, which hold a large number of restricted-range species, it is necessary that a network of sites be chosen, using complementarity analysis, to protect adequately all relevant species. The term ‘significant component’ in the definition of the criterion is intended to avoid the selection of sites solely on the presence of one or more restricted-range species that are common and adaptable within the EBA and which may, therefore, occur at other (many other) chosen sites. Additional sites can, however, be chosen for one or a few species that would otherwise be under-represented or not represented at all.

Also included within this category are species of Secondary Areas. A Secondary Area supports one or more restricted-range species, but does not qualify as an EBA because only a single species is entirely confined to it (Stattersfield *et al.* 1998). There are three Secondary Areas in Europe: ‘Corsican mountains’ (France) for *Sitta whiteheadi*, ‘Caledonian pine forest’ (United Kingdom) for *Loxia scotica*, and the Azores (Portugal) for *Serinus canaria* and *Pyrrhula murina*.

Table 3. Restricted-range bird species in Europe.

Endemic Bird Area	Global threat status	SPEC category/European threat status
Madeira and the Canary Islands		
<i>Columba trocaz</i> Long-toed Pigeon	CD	1 Vulnerable
<i>Columba bollii</i> Dark-tailed Laurel Pigeon	VU	1 Vulnerable
<i>Columba junoniae</i> White-tailed Laurel Pigeon	VU	1 Vulnerable
<i>Apus unicolor</i> Plain Swift	—	4 Secure
<i>Anthus berthelotii</i> Berthelot’s Pipit	—	4 Secure
<i>Saxicola dacotiae</i> Fuerteventura Chat	NT	2 Vulnerable
<i>Regulus teneriffae</i> Tenerife Goldcrest	—	4 Secure
<i>Fringilla teydea</i> Blue Chaffinch	CD	1 Vulnerable
<i>Serinus canaria</i> Canary	—	4 Secure
Caucasus		
<i>Tetrao mlokosiewiczzi</i> Caucasian Black Grouse	NT	2 Insufficiently known
<i>Tetraogallus caucasicus</i> Caucasian Snowcock	—	4 Secure
<i>Phylloscopus lorenzii</i> Caucasian Chiffchaff	—	— (Secure)
Cyprus		
<i>Oenanthe cypriaca</i> Cyprus Pied Wheatear	—	2 Rare
<i>Sylvia melanothorax</i> Cyprus Warbler	—	2 Rare
Secondary Area		
Corsican mountains		
<i>Sitta whiteheadi</i> Corsican Nuthatch	NT	2 Vulnerable
Azores		
<i>Serinus canaria</i> Canary	—	4 Secure
<i>Pyrrhula murina</i> Azores Bullfinch	[not assessed]	
Caledonian pine forest		
<i>Loxia scotica</i> Scottish Crossbill	DD	1 Insufficiently known
Global threat status follows Collar <i>et al.</i> (1994):		
VU Vulnerable		
CD Conservation Dependent		
DD Data Deficient		
NT Near Threatened		
For key to SPEC category and European threat status, see Box 1.		

Biome-restricted assemblages – Category A3

The site is known or thought to hold a significant component of the group of species whose distributions are largely or wholly confined to one biome.

This category applies to groups of bird species with largely shared distributions (each individual species’s distribution being greater than 50,000 km²), which occur mostly or wholly within a particular biome and which are, therefore, of global importance. Many of these assemblages occur in large areas of relatively intact and continuous habitat where delimiting IBAs is particularly difficult.

Biome-restricted species are those species whose entire (global) breeding distribution lies within the defined boundaries of the biome (with a few exceptions where a small part of the distribution may extend to another biome). Seabirds are excluded from these lists because their distributions are thought to be influenced by different factors to those affecting terrestrial species, and their conservation

Table 4. Biome-restricted bird species in Europe.

Arctic/tundra biome	Mediterranean biome
<i>Gavia adamsii</i> White-billed Diver	<i>Falco eleonora</i> Eleonora’s Falcon
<i>Cygnus columbianus</i> Bewick’s Swan	<i>Alectoris graeca</i> Rock Partridge
<i>Anser brachyrhynchus</i>	<i>Caprimulgus ruficollis</i>
Pink-footed Goose	Red-necked Nightjar
<i>Anser albifrons</i> White-fronted Goose	<i>Oenanthe cypriaca</i>
<i>Anser erythropus</i>	Cyprus Pied Wheatear
Lesser White-fronted Goose	<i>Oenanthe hispanica</i>
<i>Branta leucopsis</i> Barnacle Goose	Black-eared Wheatear
<i>Branta bernicla</i> Brent Goose	<i>Oenanthe leucura</i> Black Wheatear
<i>Aythya marila</i> Scaup	<i>Hippolais olivetorum</i> Olive-tree Warbler
<i>Somateria spectabilis</i> King Eider	<i>Sylvia sarda</i> Marmora’s Warbler
<i>Clangula hyemalis</i> Long-tailed Duck	<i>Sylvia conspicillata</i> Spectacled Warbler
<i>Melanitta nigra</i> Common Scoter	<i>Sylvia cantillans</i> Subalpine Warbler
<i>Buteo lagopus</i> Rough-legged Buzzard	<i>Sylvia melanocephala</i> Sardinian Warbler
<i>Falco rusticolus</i> Gyrfalcon	<i>Sylvia melanothorax</i> Cyprus Warbler
<i>Pluvialis squatarola</i> Grey Plover	<i>Sylvia rueppelli</i> Rüppell’s Warbler
<i>Calidris canutus</i> Knot	<i>Sitta krueperi</i> Krüper’s Nuthatch
<i>Calidris alba</i> Sanderling	<i>Sitta whiteheadi</i> Corsican Nuthatch
<i>Calidris minuta</i> Little Stint	<i>Sitta neumayer</i> Rock Nuthatch
<i>Calidris temminckii</i> Temminck’s Stint	<i>Lanius nubicus</i> Masked Shrike
<i>Calidris maritima</i> Purple Sandpiper	<i>Sturnus unicolor</i> Spotted Starling
<i>Limosa lapponica</i> Bar-tailed Godwit	<i>Emberiza cineracea</i> Cinereous Bunting
<i>Tringa erythropus</i> Spotted Redshank	<i>Emberiza caesia</i> Cretzschmar’s Bunting
<i>Phalaropus lobatus</i>	<i>Emberiza melanocephala</i>
Red-necked Phalarope	Black-headed Bunting
<i>Phalaropus fulicarius</i> Grey Phalarope	
<i>Stercorarius pomarinus</i> Pomarine Skua	Eurasian high-montane (alpine) biome
<i>Stercorarius longicaudus</i>	<i>Tetrao mlokosiewiczzi</i>
Long-tailed Skua	Caucasian Black Grouse
<i>Larus hyperboreus</i> Glaucous Gull	<i>Tetraogallus caucasicus</i>
<i>Pagophila eburnea</i> Ivory Gull	Caucasian Snowcock
<i>Nyctea scandiaca</i> Snowy Owl	<i>Tetraogallus caspius</i> Caspian Snowcock
<i>Anthus cervinus</i> Red-throated Pipit	<i>Prunella collaris</i> Alpine Accentor
<i>Carduelis hornemanni</i> Arctic Redpoll	<i>Sitta tephronota</i> Eastern Rock Nuthatch
<i>Calcarius lapponicus</i> Lapland Bunting	<i>Tichodroma muraria</i> Wallcreeper
<i>Plectrophenax nivalis</i> Snow Bunting	<i>Pyrrhocorax graculus</i> Alpine Chough
	<i>Montifringilla nivalis</i> Snowfinch
Boreal biome	<i>Serinus citrinella</i> Citril Finch
<i>Podiceps auritus</i> Slavonian Grebe	<i>Carpodacus rubicilla</i> Great Rosefinch
<i>Mergus albellus</i> Smew	
<i>Lymnocyrtus minimus</i> Jack Snipe	Eurasian steppe biome
<i>Tringa nebularia</i> Greenshank	<i>Circus macrourus</i> Pallid Harrier
<i>Surnia ulula</i> Hawk Owl	<i>Accipiter brevipes</i> Levant Sparrowhawk
<i>Strix nebulosa</i> Great Grey Owl	<i>Aquila heliaca</i> Imperial Eagle
<i>Bombycilla garrulus</i> Waxwing	<i>Anthropoides virgo</i> Demoiselle Crane
<i>Phylloscopus borealis</i> Arctic Warbler	<i>Glareola nordmanni</i>
<i>Parus cinctus</i> Siberian Tit	Black-winged Pratincole
<i>Perisoreus infaustus</i> Siberian Jay	<i>Chettusia gregaria</i> Sociable Plover
<i>Fringilla montifringilla</i> Brambling	<i>Larus ichthyaetus</i>
<i>Loxia leucoptera</i> Two-barred Crossbill	Great Black-headed Gull
<i>Loxia pytyopsittacus</i> Parrot Crossbill	<i>Melanocephala leucoptera</i>
<i>Pinicola enucleator</i> Pine Grosbeak	White-winged Lark
<i>Emberiza rustica</i> Rustic Bunting	<i>Melanocephala yeltoniensis</i> Black Lark

is covered through the application of other criteria categories (see criterion A4).

A biome is defined as a major regional ecological community characterized by distinctive life forms and principal plant species. No global classification of biomes has been found which is suitable for generating bird-species lists for BirdLife's IBA Programme. This has necessitated a regional approach to the identification of biomes and has resulted in inter-regional differences between the biome classifications used but, as far as possible, the overall scale at which biome divisions are recognised—the 'depth' of treatment—is comparable.

Five biomes have been treated under this criterion in Europe: the Arctic/tundra biome (with 32 characteristic bird species in Europe), the boreal biome (15 species), the Mediterranean biome (21 species), the Eurasian high-montane biome (10 species) and the Eurasian steppe biome (nine species). The geographical extent of these biomes in Europe is shown in Box 1 of the 'Overview of results' chapter, and Table 4 lists the bird species characteristic of each biome.

In applying the criterion, there were some important considerations, as follows:

- **Number and area of sites:** The number of sites selected per country under this category took into account both the size of the country and the relative amount of a given biome within it. The size of the site is also relevant; it is preferable to select a few, large sites that reflect the distribution of biome across the country rather than many small ones confined to only a part of it. This ensures that a greater number of species are represented per site and takes account of their geographical distribution. Sites should not, however, be so large that they are not amenable to conservation and, in some cases, small sites with high population densities may be preferable to large ones with lower densities.
- **Coverage of all biome species:** Common sense was used to ensure that sites chosen were rich in biome-restricted species with each in high numbers wherever possible. Some sites, however, were chosen for one or a few species which would otherwise be under-represented, such as those species confined to a relatively small part of the biome.
- **Geographical spread of sites throughout biome:** All of the biomes in Europe (that are treated under this criterion) cross political boundaries, and most have a wide geographical extent. In identifying a network of sites under these criteria, the geographical spread of the biome across political boundaries was taken into account, to try to ensure that the network of IBAs identified covered much of the biological and political extent of the biome.

Globally important congregations – Category A4

The site may qualify on any one of the four criteria listed below:

- i) The site is known or thought to hold, on a regular basis, 1% or more of a biogeographic population of a congregatory waterbird species.
- ii) The site is known or thought to hold, on a regular basis, 1% or more of the global population of a congregatory seabird or terrestrial species.
- iii) The site is known or thought to hold, on a regular basis, at least 20,000 waterbirds, or at least 10,000 pairs of seabird, of one or more species.
- iv) The site is known or thought to be a 'bottleneck site' where at least 20,000 storks (*Ciconiidae*), raptors (*Accipitriformes* and *Falconiformes*) or cranes (*Gruidae*) pass regularly during spring or autumn migration.

This category was applied to those species that are vulnerable, at the population level, to the destruction or degradation of sites, by virtue of their congregatory behaviour when breeding, wintering or on passage. A total of 160 species were treated when applying these criteria in Europe, and 1% thresholds for all of these species are given in Appendix 2a. A few species of waterbird and raptor that are not considered to be congregatory (in Europe), or which have small, marginal populations in Europe, are not treated under this criteria category.

Criteria A4i and A4iii identify wetlands of international importance (Ramsar Sites), being similar to Ramsar criteria 6 and 5 respectively (see Box 4).

Definition of 'waterbird' and 'seabird'

The term 'waterbird' is used in the same sense as that used for 'waterfowl' under the Ramsar Convention, and covers (in Europe) all bird species in the following families (Rose and Scott 1997): Gaviidae (divers), Podicipedidae (grebes), Pelecanidae (pelecans), Phalacrocoracidae (cormorants), Ardeidae (herons), Ciconiidae (storks), Threskiornithidae (ibises), Phoenicopteridae (flamingos), Anatidae (wildfowl), Gruidae (cranes), Rallidae (rails), Haematopodidae (oystercatchers), Recurvirostridae (stilts, avocets), Burhinidae (stone-curlews), Glareolidae (pratincoles), Charadriidae (plovers), Scolopacidae (sandpipers and allies) and Laridae (gulls and terns). By this definition waterbirds include, for example, cormorants, gulls and terns, which some authors have more traditionally considered as seabirds. The term 'seabird' covers, in Europe, all bird species in the following families: Procellariidae (fulmars, petrels, shearwaters), Hydrobatidae (storm-petrels), Sulidae (gannets), Stercoraridae (skuas) and Alcidae (auks). A list of the criteria categories within which these species are considered is presented in Appendix 2a.

Definition of 'biogeographic population'

'Biogeographic' is used in the sense of a zoogeographic realm, e.g. the Palearctic or Afrotropical realms, which are large geographical regions in which the organisms present tend to be different from those of other realms. Thus such regions are characterized largely through the shared distribution patterns of many species. For European IBAs, the 'biogeographic' region approximates to the western Palearctic, but excludes the Middle East (for which, see Evans 1994). All 'populations' of a given species that are resident or migratory through this region are combined to form the 'biogeographic population'. For most waterbird species, the biogeographic population is taken here to equal the European breeding population. For a few species, part or all of the total passage/wintering population in Europe breeds outside the continent (e.g. in Siberia), therefore the biogeographic populations are calculated by summing the respective national wintering/passage population estimates across Europe. Feral populations of all qualifying species have, as far as possible, been excluded when applying these criteria.

Setting 1% thresholds and applying the criteria

One-percent threshold figures have been defined for all congregatory waterbird species (listed in Appendix 2a), including species for which no thresholds are currently recognised under the Ramsar Convention. Wetlands International has collaborated in generating numeric thresholds from range estimates and from unpublished population data.

There is a logical inconsistency between criterion A4i for waterbirds (1% or more of the **biogeographic** population) and criterion A4ii for seabirds (1% or more of **global** population of seabirds). It was felt, however, that the alternative of using 1% of the global population for waterbirds would, as well as departing from the criteria used under the Ramsar Convention, have insufficient biological justification, since relatively well-defined, discrete flyway populations can be distinguished within Europe for many migratory waterbird species. Taking 1% of global population would over-emphasise waterbirds endemic to Europe, since many widely distributed species may rarely occur at congregations exceeding 1% of the global population, over much of their range. For the same reason, in Europe the biogeographic and global populations are considered the same for regionally endemic waterbird species.

The A4iii and A4iv criteria are applied at the site level only, not to individual species. The most common species under these criteria are recorded in the text of the site-account where possible. The use of the A4iii criterion alone for a site has been discouraged in Europe when bird data for the site exceed 1% threshold levels for one or more individual species (cf. Atkinson-Willes 1976).

The A4iv criterion embraces sites over which flying migrants concentrate, e.g. at narrow sea-crossings, along mountain ranges or through mountain passes. Although it is the airspace here that is important, conservation of the land beneath may be necessary to protect the site and its birds from threats such as shooting and the construction of lethal obstacles such as power-lines and high radio-masts. Also included under A4iv are migratory stop-over sites and nocturnal roosts which may not hold 20,000 or more storks, raptors

or cranes at any one time but which, nevertheless, do hold such numbers over a relatively short period due to the rapid turnover of birds on passage.

B: Important Bird Areas – European importance

Regionally important congregations – Category B1

The site may qualify on any one of the four criteria listed below:

- i) The site is known or thought to hold 1% or more of a flyway population or other distinct population of a waterbird species.*
- ii) The site is known or thought to hold 1% or more of a distinct population of a seabird species.*
- iii) The site is known or thought to hold 1% or more of a flyway population or other distinct population of a congregatory species other than a waterbird or seabird.*
- iv) The site is a ‘bottleneck site’ where 5,000 or more storks (Ciconiidae), or 3,000 or more raptors (Accipitriformes and Falconiformes) or cranes (Gruidae), pass regularly on spring or autumn migration.*

The aim of this category of criteria is the same as that for the A4 category, that is to identify important sites for species which are vulnerable at sites because of their congregatory nature. However, the B1 category sets lower numerical thresholds, based largely on 1% values of the flyway population or other distinct regional population of congregatory species, and the thresholds for ‘bottleneck’ sites are also lower.

For species without distinct populations in Europe, as is the case for many of the seabirds, the global and regional thresholds are the same. Appendix 2a lists, for each relevant species, the geographical limits of each flyway population (if any) and the corresponding 1% threshold used, following Rose and Scott (1994, 1997).

Criterion B1i covers wetlands of international importance (Ramsar Sites) identified under Ramsar criterion 6 (see Box 4).

Definition of ‘flyway population’

For waterbird species, flyway or other distinct populations in Europe have been identified by Wetlands International (Rose and Scott 1997, Scott and Rose 1996), who refer to these units interchangeably as ‘geographic regions’, ‘biogeographic regions’, ‘biogeographic populations’ or ‘geographic limits of every known distinct population of a species or subspecies’. These biogeographic areas vary from species to species, and the resulting 1% thresholds can be applied in different seasons.

Species with an unfavourable conservation status in Europe – Category B2

The site is one of the ‘n’ most important sites in a country for a species with an unfavourable conservation status in Europe (endangered, vulnerable, rare, declining, localized or insufficiently known in Europe), and for which the site-protection approach is thought to be appropriate.

Under this criterion, sites are identified for those species of European conservation concern (SPECs) of categories 1, 2 and 3 (see Box 1 and Appendix 2a) for which the site-protection approach is thought to be appropriate.

Setting thresholds and applying the criteria

In order to identify a network of IBAs covering a substantial proportion of the European population of each relevant species, throughout its European range, numerical thresholds were defined, as follows.

- For each country holding 1% or more of the minimum European breeding population of a given species, those sites which support 1% or more of the minimum national breeding population should be selected.

Assuming that these thresholds are met for a particular species in a particular country, there is also an upper limit—‘n’—to the number of sites allowed to be identified in that country for that species,

ranging from five to 100 depending on the circumstances. The procedure for determining this value is explained further in Box 2.

This criterion addresses the problem of identifying IBAs for species that are widely dispersed across the landscape but which are amenable to conservation through site protection, and is framed so as to limit the maximum number of qualifying sites in countries with large total populations of any species (Box 2). The criterion should, however, be used with caution, for example in countries where absolute populations of a species are low (e.g. 100 pairs or less), since use of the 1% level loses meaning if a site qualifies on the basis of a single pair. Also, for countries which hold less than 1% of the European population of a given species, or for countries which comprise less than 1% of the land area of Europe (i.e. less than c.100,000 km²), sites may still be selected under this criterion if they support similar numbers of the species as sites in other countries which meet this criterion in a standard fashion.

For many widely dispersed SPEC2 and SPEC3 species, the site-protection approach may not be appropriate over large parts of their ranges in Europe. Yet, because they are dispersed, many IBAs identified for other species are likely to hold, overall, a sizeable population of these species. In addition, towards the edge of their range they may occur in well-defined sites, which could be considered important for maintaining the overall range of the species even if the absolute numbers occurring at any one of these ‘edge’ sites are low.

The B2 criterion is applied to bird data for the season in which the species qualifies as a SPEC. As a result, the great majority of applications of this criterion concern the breeding season (and are computed using breeding-population data), since only a few species in Europe have been identified as SPECs on the basis of their non-breeding populations (see Box 1).

European and national population data

European and national population data are taken from the European Bird Database (1994 version) of BirdLife International/European Bird Census Council. This database was updated in 1998 but as the majority of the IBAs had been proposed by this time, the new figures could not be used for most countries. However, where changes are substantial for a country, these new figures have been taken into account when finalizing the IBA identification.

The proportion of the national population of each SPEC falling within IBAs has been calculated for each country and these figures are presented in the respective national overviews. The figures should be interpreted with care as the national population estimate may not have been updated as recently as the population estimates for each IBA in the country. In addition, the stated count for a species at a site may be the maximum or average over recent years, and summing these may record more birds than are present nationally in any single year. Full documentation of the national population estimates used for each species, the proportions of the European total and calculation ratios cannot be presented in this publication because of space constraints. However, much of the relevant data is published in Tucker and Heath (1994) and Heath and Borggreve (2000).

Species with a favourable conservation status but concentrated in Europe – Category B3

The site is one of the ‘n’ most important sites in a country for a species with a favourable conservation status in Europe but with its global range concentrated in Europe, and for which the site-protection approach is thought to be appropriate.

This criterion applies to those species of European conservation concern (SPECs) of category 4 (see Box 1)—i.e. those with a favourable conservation status in Europe but with more than 50% of their global range lying within Europe (Appendix 2a)—for which the site-protection approach is thought to be appropriate. In effect, the criterion identifies sites for species with ranges greater than 50,000 km² and which are not restricted to a biome treated under the A3 criterion. The principles and methods used for setting thresholds, calculating the maximum number of sites per species in each country (see Box 2), and applying the criteria, are the same as for the B2 criterion.

Box 2. An example of the application of the B2/B3 criteria.

Identifying IBAs for Common Gull *Larus canus* in Finland

Minimum European breeding population estimate = 420,000 pairs
 Minimum national breeding population estimate = 50,000 pairs

1. The country should hold at least 1% of the total European population.
*Finland holds 12% of the European breeding population of *Larus canus*.*
2. The proposed site should hold at least 1% of the national population.
*A total of 15 sites in Finland each hold at least 500 pairs of *Larus canus*.*
3. Calculate the proportion of the national population relative to the European one. This % value corresponds to a guideline figure for the maximum number of sites ('n' max) that can be proposed for the given species in a country.
*Finland holds 12% of the European breeding population of *Larus canus*.*

The 'n' max figure is determined by the minimum size of the national population relative to the minimum estimate of the total European population. The table provides guidelines for calculating the **maximum** number of sites ('n' max) for any given species. It is emphasized that these are guidelines for the **maximum** number of sites that can be proposed and, where it is appropriate to identify a lower number of sites for a given species in a country, this is entirely acceptable.

Proportion (%) of total European population or range held by the country in question	Maximum number of sites that may be identified in the country in question ('n' max)
1-5	5
10	10
20	16-25
30	26-35
40	36-45
50	46-55
60	56-65
70	66-75
80	76-85
90	86-95
100	96-100

*Therefore up to 10 IBAs may be identified for *Larus canus* in Finland, with each having at least 500 pairs of the species. From the 15 sites that actually hold at least 500 pairs, a maximum of 10 (usually those with the highest population estimate) were selected as IBAs.*

Note: For countries which hold less than 1% of the total European population of a given species, it is still possible to propose sites which are thought to hold internationally important numbers of the species: population levels at these sites were then compared to sites identified in other countries using the above procedure. Countries with a surface area less than 1% of the total European territory (see Step 1) were particularly encouraged to use this method (with caution) to identify potential IBAs for selected species.

C: Important Bird Areas – European Union importance

The 'C' categories of criteria are used for selecting sites in the European Union which qualify, under the EC Birds Directive, as Special Protection Areas (SPAs). For details of the EC Birds Directive, see Appendix 1. These ornithological criteria represent a consolidation of the criteria which have been used, to date, by the different member states of the EU. Full details of the development of the C criteria are presented in Osieck (1998).

Importantly, the C criteria categories are based on those used in the most recent inventory of IBAs in the European Community (Grimmett and Gammell 1989), which received legal recognition as a scientific reference in a ruling by the European Court of Justice

against the government of the Netherlands in 1998 (see Box 3). The criteria presented here are a logical progression from those of Grimmett and Gammell (1989), introducing some additional quantitative thresholds (Appendix 4). The criteria take into account the conservation requirements of species within the EU territory, with the geographical spread of sites representing the full extent of each species' range in the EU (irrespective of the pattern of regional abundance) as well as sites selected on a basis of relative abundance. The criteria do not produce a more restricted selection of sites than those criteria applied in the past.

Seven categories of criteria have been applied (C1–C7), several of which emulate the higher categories under the global (A) and European (B) level criteria. It should be noted that Annex I of the EC Birds Directive lists a number of subspecies that should be

Box 3. Legal recognition of the value of the European Important Bird Area inventory by the European Court of Justice.

The 1989 IBA inventory for the European Community (Grimmett and Gammell 1989) received legal recognition in 1998 in the European Court of Justice ruling against the government of the Netherlands. On 19 May 1998 the Court of Justice delivered a significant judgment against the Netherlands in an infringement case (Case C-3/96 *Commission v Netherlands* [1998] ECR I-3031, paragraphs 60–63). The Court reasoned as follows:

“...while the Member States have a certain margin of discretion in the choice of SPAs, the classification of those areas is nevertheless subject to certain ornithological criteria determined by the Directive [...]. It follows that the Member States' margin of discretion in choosing the most suitable territories for classification as SPAs does not concern the appropriateness of classifying as SPAs the territories which appear the most suitable according to ornithological criteria, but only the application of those criteria for identifying the most suitable territories for conservation of the species listed in Annex I to the Directive. Consequently, Member States are obliged to classify as SPAs all the sites which, applying ornithological criteria, appear to be the most suitable for conservation of the species in question. Thus where it appears that a Member State has classified as SPAs sites the number and total area of which are manifestly less than the number and total area of the sites considered to be the most suitable for conservation of the species in question, it will be possible to find that the Member State has failed to fulfil its obligation under Article 4(1) of the Directive”.

The Court accordingly dismisses the Netherlands Government's argument that the Commission must establish, territory by territory, specific infringements of that provision.

¹“The Court went on to acknowledge the relevance of the *Inventory of Important Bird Areas in the European Community* [Grimmett and Gammell 1989] prepared for the competent Directorate-General of the Commission by the 'Eurogroup for the Conservation of Birds and Habitats' in conjunction with the International Council for Bird Preservation [now BirdLife International] and in cooperation with Commission experts. [Grimmett and Gammell (1989) lists, with one exception, the same sites as Grimmett and Jones (1989).] That inventory, although not legally binding on the Member States concerned, could, by reason of its acknowledged scientific value in the present case, be used by the Court as a basis of reference for assessing the extent to which the Kingdom of the Netherlands had complied with its obligation to classify SPAs. In the circumstances, IBA89 [Grimmett and Gammell 1989] had proved to be the only document containing scientific evidence making it possible to assess whether the defendant State had fulfilled its obligation to classify as SPAs the most suitable territories in number and area for conservation of the protected species. The situation would have been different if the Kingdom of the Netherlands had produced scientific evidence in particular to show that the obligation in question could be fulfilled by classifying as SPAs territories whose number and total area were less than those resulting from IBA89.”

“The Commission is continuing Article 171 proceedings against the Netherlands, to obtain implementation of the judgments.” [This means a subsequent judgment, in which the Court is asked to confirm the non-implementation of the first judgement and to impose a fine of up to 220,000 Euro per day in the case of the Netherlands.]

1. Source: Page 78 in *XVth Report on monitoring the application of Community law*. Brussels: European Commission (COM(1999)301 final, adopted on 09/07/99).

treated independently of their ‘mother’ species when applying C criteria. These subspecies are listed in Appendix 2b.

Species of global conservation concern – C1

The site regularly holds significant numbers of a globally threatened species, or other species of global conservation concern.

This criterion is identical to the A1 criterion, and the same thresholds apply (see Appendices 2a and 2b).

Concentrations of species threatened at the European Union level – C2

The site is known to regularly hold at least 1% of the flyway or EU population of a species considered to be threatened in the EU.

‘Threatened species’ refers to species, subspecies and populations listed in Annex I of the EC Birds Directive, for which Special Protection Areas (SPAs) are designated under Article 4.1 of the Directive. The definition of ‘flyway population’ is the same as that given for the B1 criteria. However, for a small number of species where the European breeding population is significantly larger than the EU breeding population, lower numerical thresholds have been set (see Appendix 2b). This criterion has also been applied for a number of dispersed species on the basis that the site holds more than 1% of the European population of the species.

Migratory non-threatened species – C3

The site is known to regularly hold at least 1% of a flyway population of a migratory species that is not considered to be threatened in the EU.

‘Migratory species not considered threatened’ refer to species considered under Article 4.2 of the Birds Directive (i.e. regularly occurring migratory species not listed in Annex I). ‘Migration’ is defined as seasonal long-distance movements from and to breeding areas. The word ‘migratory’ therefore excludes populations which are largely sedentary or short-distance dispersive (e.g. *Larus argentatus* and *Cephus grylle* in western Europe). This criterion covers wetlands of international importance (Ramsar Sites) identified under Ramsar criteria category 6, to which reference is made in Article 4.2 of the Birds Directive. Wetlands of international importance uniquely qualifying for waterbirds listed in Annex I of the Birds Directive are covered by IBA criterion C2.

The definition of ‘flyway population’ is the same as that given for the B1 criteria. Lower numerical thresholds (than those used for B1 criteria) have not been set.

Large congregations – C4

The site is known to regularly hold at least 20,000 migratory waterbirds, or at least 10,000 pairs of migratory seabird, of one or more species.

This criterion is the same as the A4iii criterion and covers all wetlands of international importance identified under Ramsar criteria category 5.

Large congregations – ‘bottleneck’ sites – C5

The site is a ‘bottleneck’ site where at least 5,000 storks (Ciconiidae), or at least 3,000 migratory raptors (Accipitriiformes and Falconiformes) or cranes (Gruidae), regularly pass on spring or autumn migration.

This criterion is the same as the B1iv criterion. As most of the species concerned are listed in Annex I of the Birds Directive, this criterion refers mainly to sites important in the context of Article 4.1.

Species threatened at the European Union level – C6

The site is one of the five most important in the European region in question for a species or subspecies considered threatened in the European Union.

‘Threatened species’ refers to species, subspecies and populations listed in Annex I of the EC Birds Directive. ‘European region’ refers to what are known as NUTS regions (Appendix 5). The Nomenclature of Territorial Units for Statistics (NUTS) was established by Eurostat—the EC Statistical Office—to provide a single uniform breakdown of approximately equal territorial units for the production of regional statistics for the European Union. Although the NUTS has no legal value *per se*, it has been used since 1988 in Community legislation. NUTS regions are equalized on the basis of human population density: regions are larger where population density is lower. The NUTS approach is not ideal for birds, because many species of birds occur preferentially in remote, sparsely populated areas. Different levels of NUTS region have therefore been selected for the purpose of IBA identification, such that the geographical size of the NUTS region used is roughly the same across the European Union (see Appendix 2b).

In general, up to five sites per NUTS region may be identified for a species—however, in exceptional cases, there may be grounds for increasing the number of sites per NUTS region to slightly more than five. In the previous pan-European IBA inventory of 1989, a total of ten sites could be selected per country for those countries which were not, then, part of the EU but which now are (Austria, Finland, German Democratic Republic, Sweden); this option has now been deleted, as NUTS levels have now been defined for these countries or territories as well.

If two or more sites in a given region hold the same number of pairs or individuals of a particular taxon, the relative priority of the sites for selection as IBAs is ranked according to the overall number of threatened (Annex I) species that occurs at each site. The C6 criterion has generally been applied to breeding populations, but may also be applied for non-breeding occurrences if these are not covered well by other criteria in the country concerned. The rationale of the criterion, overall, is to achieve a wide geographical coverage of sites throughout the species’ range in the European Union.

Sites meeting C6 should hold appreciable numbers (appreciable at the EU level) of the species or subspecies concerned. This additional condition is necessary to exclude irregular occurrences and sites holding a low number of birds (1% of the regional breeding population or 0.1% of the biogeographical population are suggested as minimum levels), although different countries have adopted different approaches in their definition of ‘appreciable’.

Other ornithological criteria – C7

A site which has been designated as a Special Protection Area (SPA), or has been selected as a candidate SPA, based on ornithological criteria (similar to, but not equal to, C1–C6) in recognized use for identifying SPAs.

Application of this criterion is confined to designated SPAs, and to sites which have been selected as SPAs in the framework of a national inventory which has been used by government agencies as such (although not necessarily officially accepted). This criterion should be applied only to a minority of exceptional cases where it would be inadvisable to exclude the sites concerned from the IBA inventory.

HOW DO THE IBA CRITERIA RELATE TO THE IDENTIFICATION OF SPECIAL PROTECTION AREAS UNDER THE EC BIRDS DIRECTIVE?

As the Birds and Habitats Directives are the most important international legal instruments for site protection in the European Union, all sites which qualify under Article 4 of the Birds Directive should be listed as IBAs. Keeping the aim of SPA designation in mind, when selecting IBAs, serves a practical conservation purpose

but also helps to keep the process within sensible bounds. All potential Special Protection Areas (SPAs) should meet at least one of the criteria of the IBA criteria category C.

HOW DO THE IBA CRITERIA RELATE TO THE IDENTIFICATION OF RAMSAR SITES UNDER THE RAMSAR CONVENTION?

The Ramsar (or Wetlands) Convention defines a wetland as “an area of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed 6 m” (Article 1). Article 2.1 of the Convention also states that “the boundaries of each wetland [...] may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than 6 m at low tide lying within the wetlands, especially where these have importance as waterfowl habitat”.

The criteria for identifying wetlands of international importance under the Ramsar Convention, as adopted at the Conference of the Parties on 7 May 1999, fall into eight categories (Box 4). There is a strong relationship between the Ramsar categories for waterbirds and the IBA criteria. Ramsar criterion category 6 was one of the main criteria used in identifying IBAs. It has been used for both non-breeding populations of waterbirds and for breeding concentrations of some congregatory species. Averages (preferably five-year) of seasonal peak numbers have been used to assess whether the 1% threshold is met, although this was not possible for every country due to a lack of five-year data-sets. Ramsar criterion category 5 has also been applied to many IBAs. However, it has not always been applied as an independent criterion, because criterion 6 was given preference where suitable data were available. Many IBAs also comply with Ramsar criteria categories 2, 3 and 4, particularly wetland sites (such as mires, peat-bogs, etc.) that are important for birds other than waterbirds.

Thus, overall, IBA criteria comply with the Ramsar criteria for birds. However, one divergence is that IBA criteria categories A4i,

Box 4. Categories of criteria for site selection under the Ramsar Convention (adopted at the Conference of the Parties, 7 May 1999).

1. Representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.
2. Supports vulnerable, endangered, or critically endangered species or threatened ecological communities.
3. Supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.
4. Supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.
5. Regularly supports 20,000 or more waterbirds.
6. Regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.
7. Supports a significant proportion of indigenous fish subspecies, species or families, life-history stages, species interactions and/or populations that are representative of wetland benefits and/or values and thereby contributes to global biological diversity.
8. An important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend.

B1i, C2 and C3 may be applied to congregations of waterbirds in grassland and marine habitats (not classifiable as wetland habitat under the Ramsar definition). For example, agricultural grassland IBAs in the Netherlands regularly meet the 1% threshold for *Anser albifrons*, and *Cygnus columbianus* and *Branta leucopsis* also use non-intensive grassland areas for feeding during the winter in the Netherlands. Similarly, many IBAs in Europe contain both coastal wetlands and some marine habitat deeper than 6 m. Thus, even though the 1% thresholds for some waterbirds may be met in these grassland and marine areas (Ramsar criterion 6), the Ramsar wetland definition excludes these sites from consideration under the Convention, therefore their eligibility for designation as Ramsar Sites has to be considered on a case-by-case basis.

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