

***Important Plant Areas (IPA)
Site Selection Manual***

**CONSULTATION DRAFT
(June 2002)**

*IPA Project in
Central and Eastern Europe*

Identifying Important Plant Areas in Europe: A Site Selection Manual for
Compilers

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landbouw, natuurbeheer
en visserij

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1: Introduction

Aims:

The aim of the Important Plant Areas (IPAs) project is to identify and protect a network of the best sites for plant conservation throughout Europe and the rest of the world, using consistent criteria.

Background:

In April of this year at COP 6 of the Convention on Biological Diversity governments across the world agreed to meet the 16 targets of the Global Strategy for Plant Conservation. For the first time the aims of the CBD in preserving biodiversity can be measured against 16 clear targets and the performance of governments can be easily assessed. The targets are grouped into 5 main areas – *Understanding & Documenting Plant Diversity; Conserving Plant Diversity; Using Plant Diversity Sustainably; Promoting Education & Awareness about Plant Diversity; and Building Capacity for the Conservation of Plant Diversity*. Target 5 of this strategy (*Conserving Plant Diversity*) calls for the protection of 50% of the most important areas for plant diversity by 2010. The IPA programme provides a framework for identifying those important areas for plants in order to protect them.

The European Plant Conservation Strategy was the product of a vast Pan-European consultation exercise in 2001 and is a regionally focussed strategy aimed at meeting the targets of the Global Strategy for Plant Conservation. Targets 1.4, 1.5 and 2.14 are based on the identification of IPAs. The IPA project was conceived in Europe in response to the increasing rate of loss of the irreplaceable wealth of Europe's wild flowers and habitats through rapid economic development, urbanisation, and habitat destruction. The IPA project is intended to be a means of identifying and protecting the most important sites for wild plant and habitats in Europe and in addition to the protection this will offer to threatened species and habitats, IPA sites will also offer protection to a wide range of species including medicinal plants, relatives of crop plants, veteran trees and many common but declining species. Currently there is no central inventory of all the sites that contain Europe's most threatened plants and habitats or areas of exceptional plant and habitat richness, identified using consistent criteria.

Consensus:

The success of the Important Bird Areas project inspired botanists to begin a similar project and in 1995 the urgent need to identify Europe's most important plant sites was proposed at the first Planta Europa Conference in Hyeres, France. In the following years, after extensive consultation and several pilot studies, European botanists reached consensus about the criteria used to identify important plant areas, and the first IPA Guidelines were published in time for the 3rd Planta Europa Conference in the Czech Republic in 2001 (Palmer & Smart, 2001). The first phase of the programme is to identify the sites of Europe's most important plants areas, and the second phase is to ensure that they receive proper protection. The IPA project will also develop programmes and protocols for monitoring IPA sites.



**Rospuda Valley peat bog,
Poland – threatened by
motorway**

What are IPAs?:

IPAs are intended to be areas of great botanical importance for threatened species, habitats and plant diversity in general, that can be identified, protected and monitored as sites. The WWF/IUCN Centres of Plant Diversity project (1994) identified large regions of botanical importance, however, the IPA approach is intended to build on this approach to identify areas that are appropriate for a site-based approach to conservation.

Progress to date:

IPA pilot projects have been carried out in Belarus, Czech Republic, Greece, Slovenia, Sweden Turkey and the UK (see references). The Turkish IPA project carried out by the NGO DHKD (Dogul Hayati Koruma Dernegi) and the University of Istanbul with the assistance of Flora and Fauna International was completed last year and the results should be available in the near future.

Updates to the Site Selection Manual:

This manual is intended to be a starting point for the IPA project in Central and Eastern Europe however it is recognised that the practical experiences of carrying out IPA identification and input from all members of the IPA network will add much valuable information that should be included in future versions of the site selection manual.

This manual is focussed on European IPA identification but the general principles can be adapted to a more global approach to IPA identification.

Global and European Conservation:

IPA identification can provide the framework for governments throughout the world to achieve the CBD targets in the Global Strategy for Plant Conservation (GSPC) (see www.biodiv.org). IPA identification is also intended to provide specific plant data that can inform other existing European and global conservation legislation and programmes. In particular IPA identification will provide essential information for the Natura 2000 network of the EU Habitats Directive and for the Emerald Network of the Bern Convention. In addition IPA identification will provide a base of solid data for the legislation and programmes detailed in the table below.

The IPA database will act as a focal point for collating data on the conservation status on higher and lower plants and fungi throughout Europe. These data can be used as a source of information for lobbying for the inclusion of species and habitats of conservation concern on existing global and European lists, such as the IUCN global/European red list, and the Habitats Directive and Bern Convention Annexes.

IPAs in Existing European and Global Conservation Programmes

Legislation/Programme	IPA Target & Notes
Global	
CBD (Convention on Biological Diversity)	IPAs help to implement Articles 6,7, 8 on biodiversity strategies and in situ conservation, and Articles 12 & 13 on national and international cooperation
CBD - Global Plant Conservation Strategy (GPCS)	Adopted at COP 6, Hague April 2002 Target 5 of the GPCS is for the protection of 50% of the world's most important areas for plant diversity by 2010
IUCN Species Survival Commission, Global Plant Conservation Programme	IPAs are a stated priority
IUCN Parks for Life Programme	In Priority Project 6 the importance of IPAs is recognised in Article 4.3.5 for higher plants, and in Article 4.3.6 for lower plants
European	
EU Habitats and Species Directive (Natura 2000)	IPAs can contribute specific plant information for Natura 2000 sites, particularly Criteria A & C
Bern Convention (Emerald Network)	IPAs can contribute specific plant information for implementing the Emerald Network, particularly Criteria A & C
European Plant Conservation Strategy (Plantlife nominated lead partner on IPA targets)	Target 1.4 – IPA inventory of Europe by 2007 Target 1.5 research to assess effectiveness of IPAs Target 2.14 Promotion of IPAs to underpin international political area networks
PEBLDS through the implementation of PEEN (Pan-European Ecological Network)	IPAs can contribute to PEEN through the identification of a network of sites that reduce threats to and increase resilience of Europe's biological and landscape diversity, through coherent European programmes and public involvement in the process

2. The IPA Project in Central and Eastern Europe (CEE)

Background:

The Dutch Ministry of Agriculture, Nature Management and Fisheries has provided funding to carry out IPA inventories in 7 Central and Eastern European countries. Plantlife International will coordinate this project. An IPA Project Manager, based in London, and an IPA Regional Coordinator, based in CEE, will work full time on this project to assist the National IPA teams to produce the national IPA inventories. Each country will have a national IPA partner organisation(s) to coordinate the IPA project.

Outcomes:

- €# Country Coordinators compile report on national IPA inventories by 2004
- €# Data on IPAs will be entered into the IPA Database as a tool for monitoring the conservation status and lobbying for protection of sites and species
- €# This project will provide practical experience for carrying out IPAs projects in other countries in Europe and the rest of the world.

Organisation of Project:

	Role	Contact Details
Plantlife International	Coordination/Organisation	www.plantlife.org.uk
IPA Project Manager (based at Plantlife International, London)	Coordination/ Administration / technical support & information for partners	seona.anderson@plantlife.org.uk Plantlife, 21 Elizabeth Street, London SW1W 9RP Tel: +44 (0) 20 7808 0122
IPA Regional Coordinator (based in CEE)	Regional coordination/ Coordination, support & information for partners – analysis of regionally based conservation issues and regionally specific problems	Based in Birdlife Slovakia Offices Contact Details to be confirmed

National IPA Partners:

In each country there will be a lead organisation to coordinate IPA identification and selection by collating available data and applying IPA criteria. Each lead organisation will be responsible for promoting awareness of IPAs in their country and encouraging participation in the IPA project from national and local experts and organisations.

Training & Information:

In each of the 7 countries there will be a national IPA workshop to provide information on the criteria, site selection and training on the IPA database. This will also provide a forum for airing national concerns and suggestions about the project. Continuing support and information will be provided by the IPA Project Manager and the IPA Regional Coordinator.

At the end of 2003 we hope to hold a regional workshop of the 7 participating countries to assess the progress and problems, to assess the European significance of the national IPA networks, and to agree on the future directions of the IPA project.

3. IPA Definitions & Methodology

Definition of an Important Plant Area:

An Important Plant Area (IPA) is a natural or semi-natural site exhibiting exceptional botanical richness and/or supporting an outstanding assemblage of rare, threatened and/or endemic plant species and/or vegetation of high botanic value.

Three Basic Principles of IPA Identification:

Criterion A

The site holds significant populations of one or more species that are of global or European conservation concern.

Criterion B

The site has an exceptionally rich flora in a European context in relation to its biogeographic zone.

Criterion C

The site is an outstanding example of a habitat type of global or European plant conservation and botanical importance.

General Principles & Definitions:

- ⌘ The word plant encompasses wild vascular plants, bryophytes, lichens, fungi and algae.
- ⌘ The selection of sites should be based on sound data, quantifiable population and area thresholds, and a transparent selection process.
- ⌘ The biogeographical zones of the IPA project are the 11 zones defined in the extended Pan-European map of the Natura 2000 project and the Council of Europe: Alpine, Anatolian, Arctic, Atlantic, Black Sea, Boreal, Continental, Macaronesia, Mediterranean, Pannonian and Steppic.
- ⌘ The aim of the IPA project is to identify and protect a comprehensive European network of IPAs, however, the number, size and range of IPA sites within each country is a national decision based on the constrictions of the existing criteria and the knowledge, resources and experience of national IPA groups.

Qualification as an IPA :

- ⌘ **To qualify as an Important Plant Area, a site needs to satisfy one or more of the criteria, i.e. a site can qualify if it satisfies either criterion A or B or C or any combination of the criteria.** The table of IPA criteria on page 11 describes the quantifiable thresholds and the acceptable sources of data for each criterion.

Potential European Wide Databases for Use in IPA Projects

Below are a selection of some pan-European databases on species or habitats that potentially could be available for use in IPA Projects.

IPA Participants wishing to find out more about these databases and how they could be used in the national IPA Project should contact the compilers and national coordinators directly or via the Secretariat.

Type	General Information	Contact Details
Habitats		
CORINE Land Cover	European land cover data from satellite imagery – 44 classifications, 250x250 m square minimum resolution	European Environment Agency data service (http://dataservice.eea.eu.int/dataservice/available.asp?type=findkeyword&theme=NATLAN&i=1) – this web page also provides information on the following databases Corine Coastal Erosion; Corine Soil Erosion; Corine Biotopes; Corine Land Quality; Digital Map of European Ecological Regions (DMEER); Nationally Designated Areas
EUNIS	European Habitats Classification System used in Natura 2000 system – hierarchical system developed from CORINE/PALAEARCTIC	(http://mrw.wallonie.be/dgrne/sibw/EUNIS/home.html)
GLCC	Global Land Cover Characterisation	http://edcdaac.usgs.gov/glcc/glcc.html this page also provides information on the Global Forests Resources Assessment
PEEN Map	Map of sites for the Pan-European Ecological Network	Coordinated by ECNC – European Centre for Nature Conservation http://www.ecnc.nl
PELCOM	Pan –European Land Cover and Monitoring Database, 1km land cover resolution for Europe	(http://systemforschung.arcs.ac.at/SU/Projects/pelcom.htm)
SYNBIOSIS	Species and habitat data for Holland & other European countries	Alterra, P.O. Box 47, 6700 AA, Wageningen, the Netherlands
WETLANDS INTERNATIONAL	Information on wetland habitats throughout Europe	http://www.wetlands.org/
Species		
Atlas Flora Europea	Computerised records of 20% of the Flora of Europe – at a resolution of 50x50 km ²	
Bern Convention, appendix I & Resolution 16 of Working Group 4 on habitats	Text of Directive and updated versions of Appendix 1	Via (http://www.ecnc.nl/doc/europe/legislat/berncov.html)
Habitats Directive Annexes IIb & IVb	Text of Directive and updated versions of Annexes I, IIb & IVb	Via (http://www.ecnc.nl/doc/europe/legislat/habidire.html)
IUCN Global Red List/ UNEP-WCMC Threatened Plants database	Annually updated list of threatened species on the Global Red List	http://www.redlist.org/ The majority of plants have not yet been assessed using the 1997 criteria for the IUCN red list so it is necessary to search also the UNEP-WCMC Threatened Plants database .

WorldMap	Computer Programme for assessing potential areas of species richness, diversity, and rarity, also capable of assessment of complementarity of sites. Has been used in conjunction with Atlas Flora Europea	Worldmap@nhm.ac.uk
Large CEE Projects		
CEE Grasslands Project	Dutch funded project to map the natural and semi-natural grasslands in CEE – Participating countries, Bulgaria, Estonia, Hungary, Latvia, Lithuania, Romania, Slovakia, Slovenia	Coordinated by the Peter Veen, Royal Dutch Society for Nature Conservation, KNNV bureau@knnv.nl
WWF Danube/Carpathian Project	EcoRegion Projects to define hotspots of biodiversity and action plans with these regions	www.carpathians.org
Protected Sites Databases		
Important Bird Areas (IBAs)	Database & details of IBAs in Europe & the Rest of the World	Birdlife International www.birdlife.org
RAMSAR	Database of RAMSAR sites maintained by Wetlands International	http://www.wetlands.org/rdb.htm
UNEP -WCMC	Protected Areas Database	http://www.unep-wcmc.org/
General GIS Information		
ESRI	Free GIS – Arcview programmes – also map library	http://www.esri.com/software/arcexplorer/

This list is not meant to be exhaustive and gives a sample of some European wide or multi-country projects. Projects running in individual countries have not been included in this list. Any further information about projects, databases or maps that that partners feel would be helpful in the IPA Project can be disseminated through the Secretariat.

IPA Selection Criteria

CRITERION	DESCRIPTION	THRESHOLD	NOTES
A(i) (threatened species)	Site contains globally threatened species	Site contain > 5% of the national population of the species	Species must be listed as 'threatened' * on IUCN global red lists
A(ii) (threatened species)	Site contains regionally (European) threatened species	Where no site contains more than 5% of the national population, the 5 'best' sites for that species may be selected.	Species must be listed as 'threatened' * on European IUCN red list; or Habitats Directive Annexes IIb & IVb; or Bern Convention Appendix I
A(iii) (threatened species)	Site contains national endemic species with demonstrable threat not covered by A(i) or A(ii)	(populations must be viable or there is a hope that they can be returned to viability through conservation measures)	Species must be listed as national endemic (on any recognised list or publication) and 'threatened' * on national red lists
A(iv) (threatened species)	Site contains near endemic/limited range species with demonstrable threat not covered by A(i) or A(ii)		Species must be listed as near endemic/ limited range (on any recognised list or publication) and 'threatened' * on national red lists
B (richness/diversity)	Site contains high number of species* within a range of defined habitat types	Up to 5 sites per defined habitat type. 'Best' sites selected on the basis of the number of species present. <i>(The process for adding sites on the basis of new data will be refined during the first phase of practical application)</i>	*Species can be counted as characteristic species or indicator species or all species, Defined Habitat Type taken as level 2 (generic) habitat types in EUNIS (e.g. D1 raised & blanket bogs; G1 broad-leaved deciduous forests; E1 dry grasslands)
C (threatened habitats)	Site contains threatened habitat	Where a habitat type is thought to cover less than 10,000 ha in Europe, all sites of that habitat should be selected. (all sites means viable sites or sites that could be returned to viability) For habitat types through to cover more than 10,000 ha in Europe then the following thresholds apply: Site contains > 5% of the national resource Where no site contains 5% or more then the 5 'best' sites, or a total of 20-60% of national resource, may be selected	Threatened habitats taken to be those listed as priority on the Habitats Directive, Annex I; or Bern Convention Standing Committee 4, Resolution 16

Notes

Criterion A, threatened species must be listed as **Critically Endangered**, **Endangered** or **Vulnerable** using the new IUCN criteria, or **Endangered** or **Vulnerable** using the original IUCN categories.

Criterion A: Threatened Species

IPAs are intended to identify and conserve populations of the most threatened plant species in Europe.

To apply this criterion each country needs to produce a list of the national IPA selection species that conform to criteria A(i)/A(ii)/A(iii)/A(iv), and identify the areas where the species are known to exist from existing data or fieldwork. It is recognised that there will be differences in the data available for different species and different countries and that IPA selection will be based on the best data currently available.

Threatened Species	IPA Category	Global Red List	Habs Dir. (IIb/IVb)	Bern (App I)	European Red List*	Threat. Endemic (not in A(i)/A(ii))	Threat. Near endemic (not in A(i)/A(ii))
Name	A(i)/A(ii)	x	x	x			
Name	A(ii)		x	x			
Name	A(iii)					x	
Name	A(iv)						x

(see appendix 1 for information on European Red Lists)

Population Thresholds

- ⚡ To ensure that the largest population centres for each species are included in the IPA network (this will be more problematic for some species), each site **must** contain at least **5%** (on the best available data) of the national population of the species.
- ⚡ In the case of particularly dispersed species where no site contains more than 5 % of the national population, then the number of sites is limited to a **maximum of 5 sites**. The principles for selecting the 'best' sites are discussed below.
- ⚡ In the case where an IPA criterion A species occurs in only **one site** in a country, that site should be chosen as an IPA.

Guiding Principles

- ⚡ The national IPA network should represent the full range of the selection species.
- ⚡ In Accession countries, consideration may be given to fast-tracking Annex IIb/IVb species to assist with selection of sites for Natura 2000
- ⚡ For particularly dispersed species with no obvious population centres, separate IPAs should not be selected where it is possible to include them on IPAs selected primarily for other species.
- ⚡ Where data are available, sites that contain a significant percentage of the European population (>1%) of a species should be included in the IPA network.
- ⚡ The degree of threat to the population and the need for protection should be taken into account, but IPAs should be selected only for populations which are viable or for which there is hope that ameliorative measures can be taken to ensure a return to viability.
- ⚡ Populations at the core and edge of the European range should be included in the IPA network
- ⚡ The genetic composition of the population should be taken into account, where there is reason to believe that this is necessary to conserve

Criterion B: Richness/Diversity

IPAs are intended to identify and conserve areas of exceptionally botanical richness and diversity. Existing European legislation targets a limited range of threatened species and habitats with no direct provision for conserving areas of outstanding botanical richness, important for the biodiversity of plants and other organisms.

Methodology:

- €# Species richness/diversity will be compared within distinct habitat types. Level 2 EUNIS habitat types are used as the basic unit of comparison, eg. **G1 broad-leaved deciduous forests**; . So the richness of various broad leaved deciduous forests is compared, then the diversity/richness of various arable land is compared etc. (see appendix 2)
- €# To apply this criterion each country needs to produce a list of the national sites for each level 2 habitat type, and a **checklist** of appropriate species to determine the botanical richness of that habitat. Three types of checklist are suggested and each national partner should select **one** checklist that is the most appropriate for each habitat type.

Examples of Species Checklists for Indicating Richness

Characteristic species	Where checklists of characteristic species are available for a particular habitat type they should be used as indicators of richness to avoid counting ruderals or uncharacteristic, disturbed ground species
Rare/Endemic species	Where there is no characteristic checklist available, a checklist of rare and endemic species can be used as an alternative method of indicating a rich/diverse environment
All species	Where no checklists of characteristic or indicator species are available all species should be used

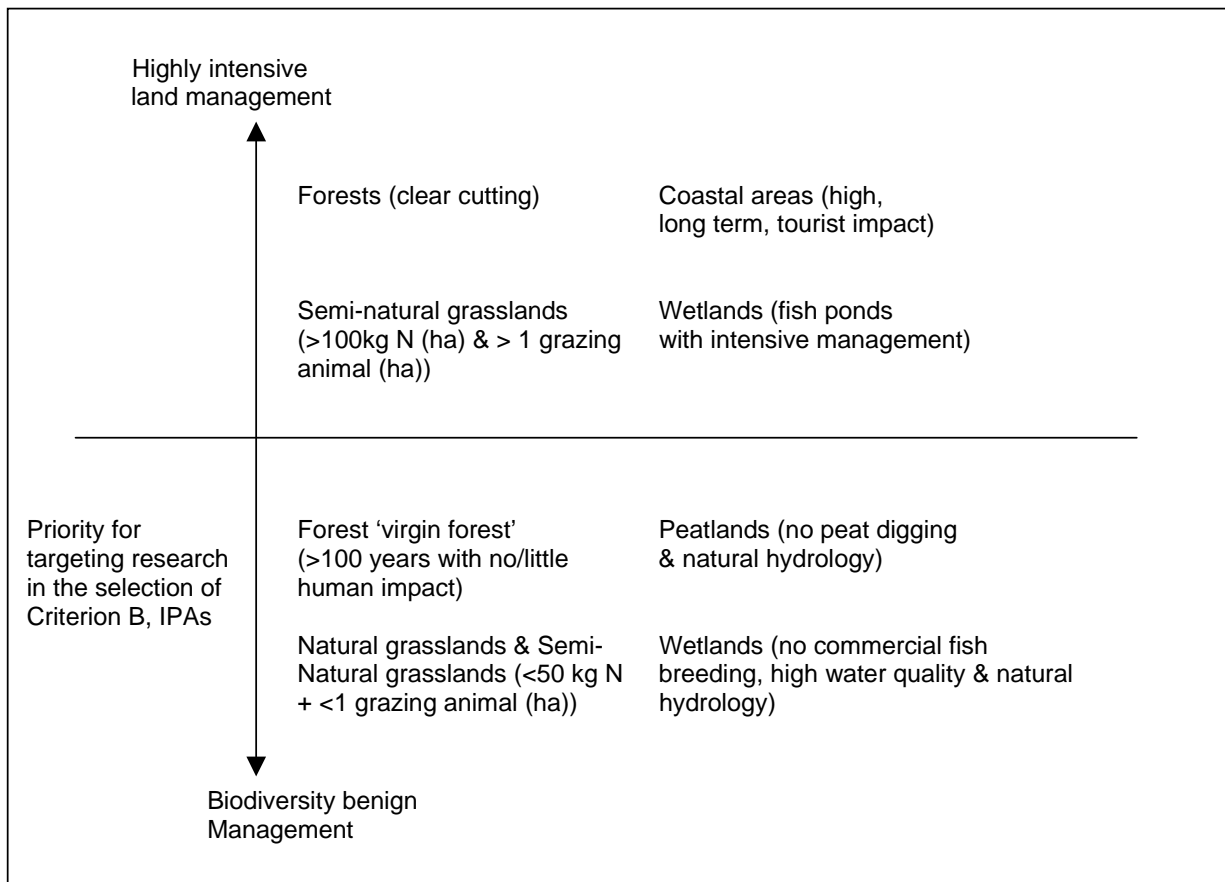
- €# The richest, most diverse sites are those with the highest number of species (characteristic/ indicator/ or all) per habitat
- €# The choice of checklist is a national decision but the methodology used in Criterion B should be make clear in the national inventory of IPA sites, and the list of characteristic or indicator species for each habitat type should be published.

Thresholds

- €# **A maximum of 5 sites can be selected per habitat type. The 'best' sites are those selected on the basis of the highest number of species present**
(The process for adding sites on the basis of new data will be refined during the first phase of practical application)

Guiding Principles

- ⚡ IPAs selected for richness should be open to review for their European representativeness.
- ⚡ When making the initial assessments for areas to target research into criterion B IPAs, priority should be given to those areas with highest potential 'quality', ie those areas that have been in continuous, benign land management for a long period. The diagram below indicates some of the ways in which a simple prioritisation within some habitat types could be made.



- ⚡ The above diagram is a suggestion of ways to target the priority areas for applying criterion B within the logistical constraints of the current project. It does not include suggestions for all habitat types.
- ⚡ The targeting of potentially biodiversity rich areas does not exclude more intensively managed habitats from being selected as IPAs. It is merely a practical suggestion of ways to prioritise the research into species rich areas and to ensure that **existing** biodiversity rich areas are included in the IPA network in the first phase of identification.

Criterion C: Threatened Habitats

IPAs are intended to identify and conserve sites of threatened habitat types.

To apply this criterion each country needs to produce a national list of threatened habitats based on the priority habitats of Annex I in the Habitats Directive and the priority habitats in Resolution 16 of Standing Committee 4 of the Bern Convention.

It is understood that there are varying degrees of information available about the locations of different habitats in each country. The IPA project can only use the best available data in each country at the present time. This IPA project is dynamic and as more data becomes available it can be incorporated into the system. Also the IPA project can help to identify the major gaps of missing data about habitat types and to target future research projects towards these habitats.

Thresholds:

≠# Where a habitat type is thought to cover **less than 10,000 ha** in Europe, **all** sites of that habitat should be selected.

≠# For habitat types thought to cover **more than 10,000 ha** in Europe then the following thresholds apply:

Site contains > 5% of the national resource **or**

Where no site contains 5% or more then the 5 'best' sites, or a total of 20-60% of national resource, may be selected

Guiding Principles:

- ≠# *The threshold for selecting IPAs are based on area, in order to preserve the largest continuous extents of each habitat type. However the quality of the habitat in terms of factors such as species diversity and land management history should be a major consideration in the selection of IPAs.*
- ≠# *The degree of threat to the habitat and the need for protection should be taken into account.*
- ≠# *The National IPA network should represent the full range of IPA selection habitats.*
- ≠# *Where an IPA selection habitat occurs at only one site, this site should be included in the network.*
- ≠# *Where available checklists of characteristic or indicator species are available for each threatened habitat types, these could be used to assess the 'best' examples of habitat types using a similar methodology described in Criterion B for assessing diversity.*

Endemics and Limited Range Plants

General Principles:

- ≠# *For the purposes of the IPA project an endemic is defined as a species that occurs entirely within one national state. It is recognised that this is a political rather than biological definition but that most of the data are held at the level of politically defined states. A near endemic or limited range species is one which is found within a very limited range within Europe, for practical purposes this may be defined as a species that has more than 50% of its range within one country or that occurs only within one geographical unit such as the Carpathians.*
- ≠# *Threatened endemics and near endemic/limited range species are covered by the criterion A.*
- ≠# *Less threatened endemics and limited range species can be included in the IPA system as indicators of exceptionally rich botanical areas in criterion B*
- ≠# *The Centres of Plant Diversity (WWF & IUCN, 1994) indicated regions of particular richness, including areas of endemic plant species throughout the world including Europe. These regions can be targeted for potential IPA sites.*

Mosses, Liverworts, Lichens (Lower Plants) and Fungi

Lower plants and fungi are poorly represented in existing European conservation legislation. The IPA network is one means of ensuring that the sites important for these plants are identified and protected.

- ≠# *National IPA selection species should include lower plants and fungi from the recognised sources listed in appendix 1*
- ≠# *Where possible IPA site selection should be integrated for all plant types, higher, lower and fungi.*
- ≠# *The Secretariat and the IPA national partners can liaise with organisations such as the ECCF (European Council for the Conservation of Fungi) and ECCB (European Council for Conservation of Bryophytes) and the IAL (International Association of Lichenologists) to collate data on the locations and status of lower plants and fungi in Europe.*

4. Selecting IPA Sites

The selection of bounded areas as IPA sites is ultimately a decision for each national IPA team. Potentially an IPA could be very small and designed to protect a single species or small area of a specific habitat, or it could incorporate a large area with many different IPA species, or habitats, or areas of richness and diversity. The following guidelines are intended to discuss important points on selection. However, the variety of botanical, geographical, political, and practical factors in identifying what constitutes a site and outlining its boundaries make it impractical to provide definitive guidelines that would cover every situation in Europe. The final judgment on what constitutes a site should be made on how best the site can be conserved in practical terms without compromising the intrinsic value of the site.

IPA Composition & Boundaries

<p><i>A site is defined so that, as far as possible:</i></p> <ul style="list-style-type: none"><i>€# i) it is different in character or habitat or botanical significant from the surrounding area</i><i>€# ii) exists as an actual or potential protected area or an area that could be managed in some way for conservation</i>
<p><i>€# There is no fixed minimum or maximum size for IPAs.</i></p>
<p><i>€# There are no set rules for the treatment of small sites that lie close to each other. These sites may remain as individual IPAs or the smaller sites can be merged to create a single larger IPA. Where possible a mosaic of interlinked habitat types would confer many conservation benefits but practical factors at the local level and the conservation priorities of individual countries will influence these decisions</i></p>
<p><i>€# Site boundaries. Obvious boundaries such as rivers or roads or distinct changes in land use can be used to mark the boundaries of sites. In larger regions where there are less obvious site boundaries or changes in habitat type, site boundaries can be delimited by geological features such as ridge-lines, or hilltops. Practical considerations such as ownership may need to be considered.</i></p>

European and National Representation in the IPA network:

There is no maximum or minimum number of sites that each country should select as IPAs, although as far as possible all the national IPA selection threatened species and threatened habitats should be represented in the national IPA network of sites.

Within the restrictions of the IPA criteria the designation of sites is a national decision.

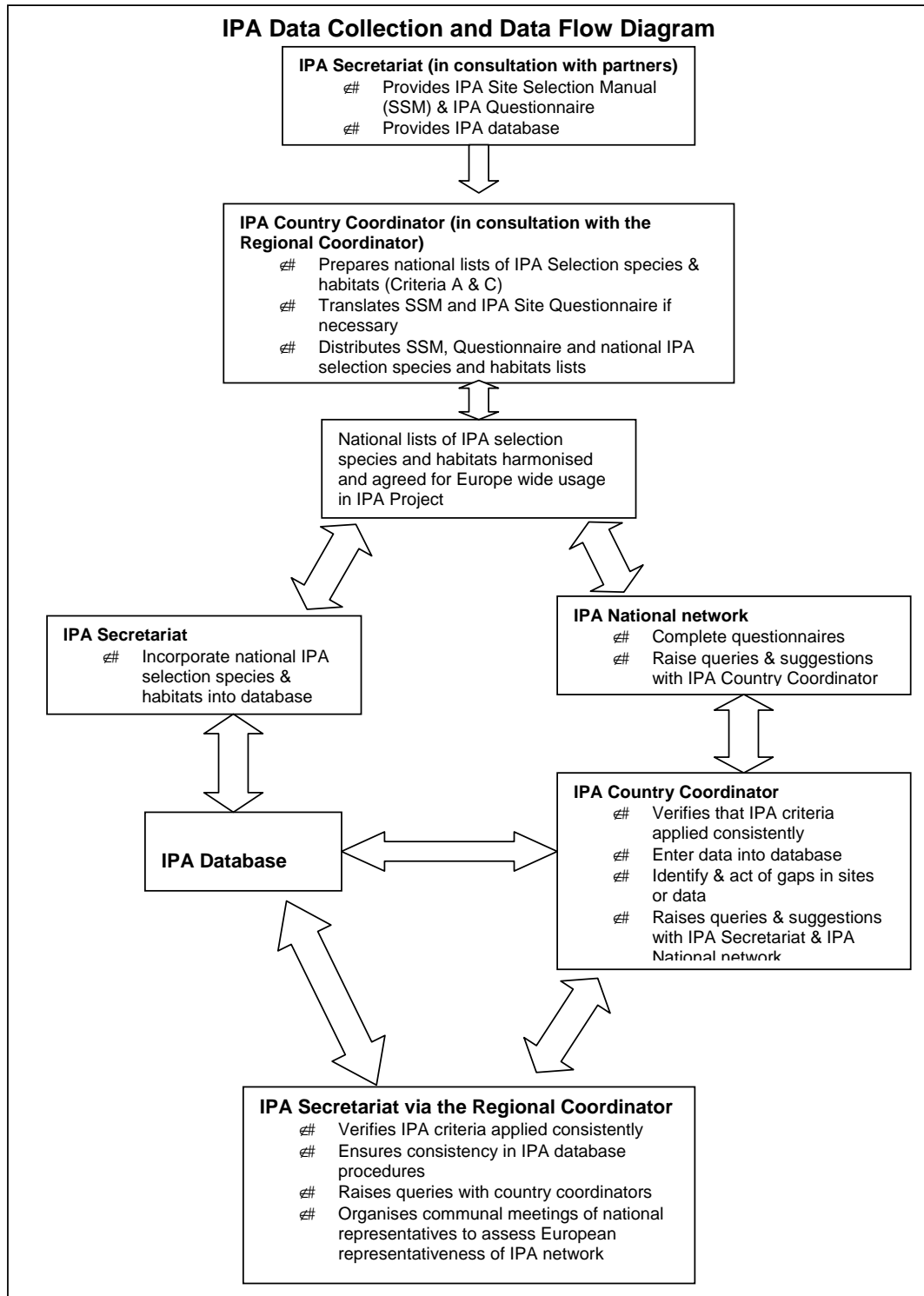
However, the IPA project is intended to identify a network of sites with European and global importance for threatened plants, threatened habitats and exceptionally rich botanical areas. It is intended to hold a workshop for all the individual country coordinators in late 2003 in order to facilitate decisions on the representativeness of national IPA networks and to reach consensus on any changes that would improve the European and global value of the IPA European network. The Secretariat will also ensure that all national partners have access to information on IPAs in other partner countries, either through a web based database or through regular reports.

General Principles for selecting site as IPAs

- ⌘# Consideration should be given to sites that constitute important areas of biodiversity value for plants and other organisms, or prevent the isolation of populations, i.e. continuous habitats or linked mosaics of different habitats.*
- ⌘# When selecting IPA sites consideration should be given to areas that support sustainable wild plant harvesting, for food, medicine, fuel or other reasons, as this contributes to the aims of the Rio Convention on Biological Diversity and emphasises the continuing importance of the relationships between wild plants and people.*
- ⌘# The degree of threat and the need for protection should be considered*
- ⌘# Where possible, as large an area as possible including buffer zones should be included in the boundaries of an IPA*

5. Data Collection & Data Flow

The IPA project will collate the wealth of dispersed information on the conservation of plants and sites throughout Europe. The following section explains the main expected channels of data flow in the IPA project.



Data Flow continued

IPA Database

- €# The IPA Database will be the main tool for collating information on IPA sites and for preparing reports to be used in conserving and monitoring the sites. The main types of data include individual site descriptions, the species and habitats present, the land use and threats to each site, and the degree of existing protection.
- €# In order to save time in data entry, to prevent typing errors and to avoid duplication of entries, many fields will be pre-entered into the data, such as species names (including authorities and synonyms) and habitat types, the range of threats and land uses, protected area designations etc and these can be chosen from pull down lists on the database.
- €# Each IPA country coordinator enters and edits their own national IPA inventory and they will also be able to view the national inventories of other partners
- €# The IPA Questionnaire is intended to be circulated to relevant national experts and returned to the National coordinator. If the site report is compiled by the National Coordinator the information can be entered directly into the database.

Data Access Policy

- €# The general principle of the data access policy is that IPA data should be used in all ways possible to protect the plants and habitats of Europe.
- €# More detailed points of data access will be agreed between the Secretariat and IPA National Partners within a data sharing agreement

Site Maps

It is essential that maps outlining the boundaries of sites at the appropriate scale are included with site reports as these will form the basis of efforts to protect the contents of IPAs. The Country Coordinator should ensure that the Secretariat has a copy of the maps.

- €# At present it is envisaged that the IPA database will use a simple dot map indicating the central point of each IPA to illustrate the distribution of IPAs across each country and across Europe
- €# Detailed GIS information about each site, including digitised boundaries, and interactive layers of information are desirable for each IPA, however, given the timescale, cost and expertise needed to carry this out, it is envisaged that this will form a second phase of IPA description and monitoring.

Compilers of IPA Site Reports

The names of the compilers of individual site reports will be recorded in the IPA database and should be credited in publications wherever possible and appropriate.

End Products

- €# National Inventories compiled by IPA Country Coordinators should include a brief overview of the main conservation threats in that country, an overview of the national IPA methodology, the IPA selection species and habitats covered in the national network, the degree of protection and impacts and the site reports and locations of national IPAs, as well as some proposed solutions
- €# Regional Overview compiled by Secretariat in consultation with partners will provide an analysis of the main threats to plants and habitats in CEE using IPA data. And as above a region overview of the IPA selection species and habitats covered by the network, the degree of protection, conservation issues and proposed solutions.
- €# The IPA database will continue to record information about the status and contents of IPAs

Proposing & Confirming IPA Sites

There are several stages in the proposal and identification of IPAs. The first stage is the collation of the best available data about the locations of threatened species and habitats, along with estimates of the percentage of the national population or area, and of data about areas of botanical richness and diversity. These locations are proposed IPA sites.

For Criterion A – threatened species. Any site where the population is estimated to contain at least 5% of the national population can be confirmed as an IPA

For Criterion B – richness/diversity. This involves a longer process to confirm a site selected for B as an IPA since it involves an overview of the national list of sites to confirm the 5 'best' sites. The process for adding sites on the basis of new data will be refined during the first phase of practical application.

For Criterion C – threatened habitats. Any site that contains an IPA selection habitat type thought to have a European extent of less than 10,000 ha can be confirmed as an IPA. Any site that is estimated to hold more than 5% of the national resource of an IPA selection habitat type thought to occur in more than 10,000 ha in Europe can be confirmed as an IPA.

Data on Proposed and Confirmed IPA Sites

- €# All of the criteria require a broad national overview of the locations of threatened species and habitats and of areas of botanical richness and diversity. This can only be done with the best data available and will highlight the major gap areas in research and data.
- €# Confirming sites as IPAs is a national decision. The Secretariat can query sites that do not appear to satisfy any of the criteria, in order to achieve agreement with the country coordinators about the status of individual sites. The European network of IPA sites should also be open to review within the IPA network of National Coordinators and the Secretariat in order to reach consensus on the best network of sites across Europe.
- €# The data from proposed sites will not be lost. These data can be held in the IPA database as proposed IPAs and will be available for further analysis on conservation issues and could be confirmed in the future if the situation changes.
- €# This project is at the start of large scale IPA identification in Europe and the IPA process will be dynamic. Within the general framework of the IPA project the focus on identifying, proposing and confirming IPAs will change as the many practical considerations influence decisions and the conservation priorities at the national, European and global level change.

IPA SITE QUESTIONNAIRE (SAMPLE)

Country: Country X	Biogeographic Region: Continental	Date Site Report Completed: July 2000	
Compiler	A Kovacs	Site Name	Misty Moor
Administrative Region(s)	Regions A and B		
Administrative District (s)	Districts x, y and z		
Site Coordinates (Lat ° ' / Lon ° ')	50°20'N 14°33'E	Approximate Area (ha)	1,200 ha
Altitude Range (m)	150-350 m	Area Accuracy (good/medium/poor or unknown)	good
			If site to be kept confidential tick box <input type="checkbox"/>

Ownership of IPA: please choose from following: **communal, state, private, religious group, mixed, international water, unknown, other** (if other please expand)

mixed

Protected Areas (Relationship, please choose **one** from: contains IPA; contained by IPA; adjacent to IPA; overlaps IPA; unknown)

Name/Designation* (see notes)	Area (ha)	National	International	Relationship to IPA
1 Grey Moor/ RAMSAR	1,500		x	Contains IPA
2 Boggy wetlands /National Park	800	x		Contained by IPA
3 Moorlands/ IBA X38	1,000		x	Adjacent to IPA
4				
5				

Land Use on site(Major/Minor or %Cover) – in box please put **major** or **minor** cover or an **estimate of the %** of the site affected by the land use

Agriculture (arable)	<input type="checkbox"/>	Agricult. (animals)	<input type="checkbox"/>	Agricult (horticulture)	<input type="checkbox"/>	Agricult (mixed)	<input type="checkbox"/>	Fisheries/ Aquacult	<input type="checkbox"/>	Forestry	<input type="checkbox"/>
Hunting	minor	Military	<input type="checkbox"/>	Urban/ Industrial/ Transport	<input type="checkbox"/>	Water Management	<input type="checkbox"/>	Tourism/ Recreation	minor	Nature Conserv./ Research	50%
Wild Plant Harvesting	<input type="checkbox"/>	Extraction	minor	Unknown	<input type="checkbox"/>	Other	<input type="text"/>				

Threats to site: please put **high, medium, low, or unknown** in the box to indicate the degree of threat

Abandonment/ Reduction of land management	<input type="checkbox"/>	Agricultural expansion/ intensification (general)	<input type="checkbox"/>	Agricultural expansion/ intensification (arable)	<input type="checkbox"/>
Agricultural expansion/ Intensification (livestock/grazing)	<input type="checkbox"/>	Agricultural expansion/ intensification (horticult)	<input type="checkbox"/>	Aquaculture/Fisheries	<input type="checkbox"/>
Burning of vegetation	<input type="checkbox"/>	Climate change/ Sea level rise	<input type="checkbox"/>	Consequences of invasive species (animal)	<input type="checkbox"/>
Consequences of Invasive species (plant)	<input type="checkbox"/>	Construction/Impact of dyke/dam/barrier	<input type="checkbox"/>	Development (industry)	<input type="checkbox"/>
Development (recreation/tourism)	unknown	Development (Transport/Infrastructure)	high	Development (Urbanisation)	<input type="checkbox"/>
Eutrophication	<input type="checkbox"/>	Extraction (minerals/quarries)	<input type="checkbox"/>	Extraction (peat)	low
Forestry (afforestation)	<input type="checkbox"/>	Forestry (deforestation)	<input type="checkbox"/>	Forestry (intensified Forest management)	<input type="checkbox"/>
Habitat Fragmentation/Isolation	<input type="checkbox"/>	Intrinsic Species Factors (slow growth, density,etc)	<input type="checkbox"/>	Natural Events (disease/ flood/fire/drought etc)	<input type="checkbox"/>
Unsustainable Plant Exploitation	<input type="checkbox"/>	Water (extraction/ Drainage/ canalisation/ Management system)	medium	No threats identified	<input type="checkbox"/>
Threats Unknown	<input type="checkbox"/>	Other	<input type="text"/>		

IPA Site Questionnaire (Sample)

General Habitat Description of Site using EUNIS Habitat System (General only, see Criteria B & C below)

Habitat Level 1: (Choose from Marine (A); Coastal (B); Inland Surface Water (C) ; Mire bog & Fen (D); Grassland & Tall Forb (E); Heathland, Scrub & Tundra (F); Woodland & Forest (G); Inland unvegetated or sparsely vegetated (H); Regularly or recently cultivated agricultural, horticultural & domestic (I); Constructed, Industrial & other artificial habitats (J))

Level 1 Habitat Type

C	D				
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Cover (please choose one from major, minor, % or unknown)

30%	70%				
-----	-----	--	--	--	--

Level 2 Habitats present on site (see Level 2 Habitats sheet) (use name or code, eg C1 Surface standing waters, D1 raised & blanket bogs)

C – C1 Surface Standing water; C2 Surface Running Water

D – D1 Raised and blanket bog; D2 Valley Mires, Poor Fens & Transition mires; D4 – Base rich fens; D5 Sedge and reed beds

Further habitat description (optional) (If EUNIS classification used please indicate code – if other system than EUNIS used for more detailed habitat classification please indicate the system used and the authority)

C1: C1.1 - Permanent oligotrophic lakes, ponds and pools

C2: C2.1- Springs, spring brooks & geysers

D1: D1. 1 Raised bogs – D1.11 Active, relatively undamaged bogs

D2: D2.3 – quaking mires – D2.38 Sphagnum and Eriophorum rafts

D4: D4.1 - Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks

D5: Sedge and Reed Beds – D5.3 Swamps and marshes dominated by [*Juncus effusus*] or other large [*Juncus*] spp.

IPA Site Questionnaire

Site Summary Account (brief account of main geographical features, climate, conservation issues, special features etc, 500 words max.)

The site is one of the best preserved and largest extents of moorland in country X with a large, un-fragmented extent and a long history of benign management over most of the site. It contains a mosaic of different plant communities and habitat types from bog to rich fens and sedge beds and is host to variety of endangered and declining bird, mammal and invertebrate species.

The Botanical Importance of the Site can be summarised as follows:

The site is the largest example of continuous moorland in the country. It contains several IPA selection species, the endemics *Dactylorhiza bohemica* and *Pinguicula bohemica*, and the Bern convention species *Ligularia sibirica* is particularly abundant here. The site also contains 33 other species listed as threatened in national red lists.

The Conservation Issues at the Site:

A planned motorway is due to be cut through most of the eastern quarter of the site, which contains the main population of the threatened endemic *Pinguicula bohemica*. Protests have been lodged and it is still hoped that the motorway may be rerouted.

Water extraction at the western and central edge of the site is a recurrent problem although recent legislation has helped to limit the effects

Peat extraction was formerly a major threat to the western edge of the site but the increased protection of the site has limited this threat.

There are plans to build a hotel and carting track on the southern edge of the site and it is still unclear how much the site will be affected by this development

IPA Site Questionnaire continued

Criterion B- Richness: (checklists of characteristic or rare/endemic or all species used – decided with national coordinator)

Habitat Level 2 (name or code)	No of species	Type of Checklist	Trend*	Data Quality*	Post 1990 data
C1 Surface Standing water	14	All species	unknown	good	<input checked="" type="checkbox"/>
D1 Raised and blanket bog	28	characteristic	unknown	good	<input checked="" type="checkbox"/>
D4 – Base rich fens	17	characteristic	unknown	good	<input checked="" type="checkbox"/>

Notes:

D2 Valley Mires, Poor Fens & Transition mires & D5 Sedge and reed beds – these habitat types were poorly surveyed and there is little modern data available with accurate species lists.

***Trend** in richness of species on site (choose one from: decreasing (continuing), decreasing (past), decreasing (future), stable, increasing, fluctuating, large increase, small increase, small decrease, large decrease, unknown)

***Data Quality** (choose from: **good, medium, poor or unknown**) **Post 1990 data** (tick box if available)

Criterion C: Threatened Habitats – Select from national list of priority habitats provided by National Coordinator

IPA Selection Habitat (Name or Code)	Area (ha)	Area Accuracy*	Trend*	Data quality*	Post 1990* data
Active raised bog (51.1)	500	good	stable	good	<input checked="" type="checkbox"/>

Notes (especially on quality of habitat)

This is a particularly well preserved example with a long history of good management and detailed research, although the threats to the site are increasing.

Area accuracy - choose one from – good, medium, poor or unknown; **Data Quality** – choose one from good, medium, poor or unknown; **Post 1990 data** (tick box if available)

Trend in the condition of habitat - choose one from – decreasing, stable, increasing, fluctuating or unknown

IPA Site Questionnaire (Sample)

Main Data Sources:, e.g. publications or fieldwork reports

Kovacs & Kovacs 1999 – Botanical Field survey report of Misty Moor. Institute of Botany X Field Reports
Gellerman, 1992 – The fen flora of Misty Moor. Science Publishing House, X

Additional Notes about site (such as any associated faunal interest at the site, any research projects associated with the site, etc)

The site is also extremely important for birds and there is a RAMSAR and an IBA site in the area. The site has been extensively studied by the Institute of Botany in X and is the subject of a current PHD thesis on vegetation history in the region.

Filling in the Questionnaire

The questionnaire is intended to keep a degree of consistency in the recording, description and assessment of IPAs in different countries. The questionnaire is intended to be distributed to national experts and mirrors the information that will be entered into the database. Where the site report is compiled by the National Coordinator the data can be entered directly into the IPA database. The choices of entries for land use, threats to site, ownership etc, have also been matched as far as possible with the IBA categories, in order to allow for easy comparison between the protection status and threats to IBAs and IPAs. Where it is possible to select from the list of choices rather than choosing 'other', this will greatly aid the comparative and analytical power of the database.

Also in order to be able to target the needs of future research into IPAs please indicate the quality of the data used for assessment.

The following table gives more detailed explanations on the type of information required.

Questionnaire	Information needed	Notes
Site Details		
Country	Country where IPA is located	Please indicate if site is transboundary
Compiler	Name(s) of site report compiler	
Administrative Region(s)	Region(s) where site is located	
Administrative District	District(s) where site is located	
Site Coordinates	The central point of the site in minutes and degrees	For simple GIS mapping
Approximate area	Area of the IPA in hectares	
Area accuracy	Estimate of the accuracy of area	
Altitude Range	Minimum & maximum altitude of site in meters	
Confidential site	Please tick if the location and details of the site are to be kept confidential	
Ownership		
What type of ownership	Please choose type of ownership from list	
Protected Areas		
Name/Designation	Name & Designation (eg National Park, IBA, MAB site etc) the Database will contain the WCMC standard lists of protected areas types	
Area	Area of Protected area	
National/International	Please tick either national or international	
Relationship to IPA	Please state how the IPA is related to the existing protected area – choose one of following – contains IPA, contained by IPA, adjacent to IPA, overlaps with IPA or unknown	
Landuse		
Types & extents of landuse on site	Please choose one from either major , minor , an estimate of the % cover of a type of land use on the site or unknown extent – please enter for every land use that applies on the site	If %s are used they can add up to more than 100%, as land use types can overlap
Threats to site		
Types & degree of threat to the site	Please put an estimate of the degree of threat to the site from the choice of threats – high , medium , low or unknown* (for guidelines on how to rank threat see below); please enter	

	for every threat that applies on the site	
General Habitat		This is for a general habitat description of the site –more detailed habitat information relating to Criteria B & C can be entered later
Habitat Level 1	Please enter the name or the code for EUNIS Level 1 Habitats and one of either major, minor, % cover or unknown ; please enter for each Level 1 Habitat Type present on the site	If %s are used they must add up to 100%
Habitat Level 2	Please enter the name or code of all EUNIS level 2 habitat types present on the site – no estimate of area necessary	
Further habitat information	If necessary please enter further habitat details. Classification systems other than EUNIS may be used to describe more detailed habitat classifications, although the system and the authority must be made clear	This further level is optional for the general habitat description of the site
Site Summary Account		
Brief account of the main feature of the site	Please enter details of the main geological features, climate, conservation issues and any species features of the site.	Please limit this description to c500 words to provide concise information for the database and the national publications
Criterion A – threatened species		
Name	Name of species from the national IPA selection species list	
Abundance	Where information is present on abundance please enter one from the list of choices - abundant, common, frequent, present, rare, uncommon, unknown	
Trend	Where information is available please enter one from the list of choices: decreasing (continuing), decreasing (past), decreasing (future), stable, increasing, fluctuating, large increase, small increase, small decrease, large decrease, unknown	
% of National Population	Where information is available please enter one from the list of choices: major, minor, %, or unknown	This information may be available to country coordinator rather than site compiler
Data Quality	Please enter one from list to indicate the quality of the data used to make assessments of the species at the site – high, medium, low or unknown	
Post 1990 Data available	Please tick box if the data used to assess the site includes data later than 1990, either literature or fieldwork	
Criterion B		
Habitat Level 2	Criterion B is assessed by comparing the number of species on different sites of a particular habitat type	Criterion B requires potential sites to be assessed by the country coordinator & IPA team
No of species	Please enter the number of species found in the particular	It would be difficult to include the name of every possible species in Europe in the IPA database, so at present only the number can be recorded. The country coordinator may wish to keep a

		detailed record of every species recorded particularly if they include rare, threatened or endemic species
Type of Checklist	There are three possible types of checklist to assess richness, characteristic species for that habitat, or rare/endemic species of that habitat, or all species – please indicate which type of checklist has been used	The choice of checklist will be discussed by the IPA team in each country – in the national inventory the country coordinator should make clear the methodology for applying criterion B
Trend (in number of species at the site)	Where information is available please enter one from the list: decreasing (continuing), decreasing (past), decreasing (future), stable, increasing, fluctuating, large increase, small increase, small decrease, large decrease, unknown	
Data Quality	Please select one from the list to indicate the quality of data used: high, medium, low or unknown	
Post 1990 Data	Please tick if available	
Criterion C		
IPA Selection Habitat	Please enter name or code from national list of IPA selection habitats	
Area	Please indicate the area of the IPA selection habitat	
Area accuracy	Please indicate the accuracy of the area assessment; select one from good, medium, poor or unknown	
Trend (in the condition of the habitat)	Please choose one from: decreasing, stable, increasing, fluctuating or unknown	
Data Quality	Please select one from the list to indicate the quality of data used: high, medium, low or unknown	
Post 1990 data	Please tick if available	
Main Data Sources		
References/Fieldwork Reports used to assess IPA	Please list the main literature sources or fieldwork reports used to assess the site	
Additional notes	Please list any other information about the site, such as associated fauna, research projects, etc	

To assess the degree of threat to the site, as **high, medium or low**, the following scale can be used. The score for each of the three sections (I, II & III) is added. A total score of 3, 4 or 5 is a **low** degree of threat; a total of 6 or 7 is a **medium** degree of threat; a total score of 8 or 9 is a **high** degree of threat

I – Effect of Threat on Habitat	II – Spatial Scale of threat (in relation to IBA)	III – Realization of Threat
Destruction (3)	Affects the IPA as a whole (3)	Threat already exists (3)
Rapid deterioration (2)	Affects a large part of the IPA, but not critical sites for threatened species or habitats, or a relatively small part of the IPA which is important for threatened species (2)	Threat is planned with realization expected in short term (2)
Slow deterioration (1)	Affects a relatively small part of the IPA with no crucial site for threatened species or habitats (1)	Threat is planned with realization expected in long term (1)

Appendix 1: Sources for Criterion A

Category	Description	Accepted categories: vascular plants	Published lists: Vascular Plants	Accepted categories: lower plants & fungi	Published lists: lower plants & fungi
A (i)	Globally threatened	All plant species in IUCN global red lists in categories CR, EN, V of the new IUCN criteria and EN or V in the original IUCN categories	New IUCN categories: <i>The World List of Threatened Trees</i> (Oldfield et al. 1998) Original IUCN categories: 1997 <i>IUCN Red List of Threatened Plants</i> (Walter & Gimmert, 1998) European Red List*	All species from a global list of IUCN new categories CR, EN, V or original IUCN categories EN or V .	Currently there are no known global lists for most lower plants or fungi There is a global Red list for lichens under construction by the IAL and SSC (IUCN)(Pat Wolseley)
A (ii)	Regionally threatened (European)	All plant species in recognised European red lists in IUCN new categories CR, EN, V categories or IUCN original E or V categories* All plants species on EU Habitat Directive Annexes IIb & IVb All plant species on the Bern Convention Appendix I	Published annexes (website 2002) (IIb & IVb) of Habitats Directive plus amendments from accession countries when they are added Published appendix I (website 2002) of Bern Convention United Nations (1991) European Red List of globally threatened animals and plants and recommendations on its application as adopted by the Economic Commission for Europe at its forty-sixth session (1991) by decision d (46) New York	All species of bryophytes, fungi, lichens or algae from recognised European lists in new IUCN categories CR, EN, V or original categories E or V All bryophytes on Annex IIb of Habitats Directive All bryophytes and algae on Appendix I of Bern Convention	<i>Red Data Book of European Bryophytes</i> (Schumaker & Martiny, 1995) *Towards a Red list of endangered European Macrofungi' (Ing, 1993) *Databases of threatened mushrooms of Europe, candidates for listing on Appendix I of the Bern Convention' (Koune, 2001) Published annex IIb (website 2002) of Habitats Directive (bryophyte species 29 + 2 for Macaronesia) Published appendix I (website 2002) of Bern Convention (algae 12 species, all Mediterranean; bryophytes 22 species + 3 for Macaronesia)

Category	Description	Accepted categories: vascular plants	Published lists: Vascular Plants	Accepted categories: lower plants & fungi	Published lists: lower plants & fungi
A (ii) continued	Regionally threatened (European)				Red listed European Macrolichens by Serusiaux 1989 Charophytes (Nick Stewart is currently coordinating attempts to initiate a European Charophyte red list)
A (iii)	National endemics (endemics with their population range entirely within one country) with demonstrable threat status , not covered by A(i) or A(ii)	IUCN, new categories CR, EN, or V , and original E or V in recognised national red book lists	National red books for vascular plants exist in all the participating countries in CEE	IUCN, new categories CR, EN, or V , and original E or V in recognised national red book lists	National red books for lower plants and fungi exist in some of the participating countries in CEE
A (iv)	Near endemics (ie range limited to 2/3 countries or where one country holds more than 50% of the global population) with demonstrable threat status , not covered by A(i) or A(ii)	IUCN, new categories CR, EN, or V , and original E or V in recognised national red book lists	National red books for vascular plants exist in all the participating countries in CEE	IUCN, new categories CR, EN, or V , and original E or V in recognised national red book lists	National red books for lower plants and fungi exist in some of the participating countries in CEE

* Currently there is no finished IUCN European Red list for use in the IPA Project. It is hoped that as and when the Euro+Med European Red List is completed that these data can be incorporated into the IPA system, **or**, if an alternative European Red List exists and is agreed by all partners these data can be incorporated into the IPA project.

Appendix 2: EUNIS Level 2 Habitat Types

EUNIS Level 1 (Habitat Description)	EUNIS Level 2 Habitat Description	EUNIS Level 1 (Habitat Description)	EUNIS Level 2 Habitat Description	
A : MARINE HABITATS	A1	F : HEATHLAND, SCRUB AND TUNDRA HABITATS	F1	
	A2		F2	
	A3		F3	
	A4		F4	
	A5		F5	
	A6		F6	
	A7		F7	
	A8		F8	
B : COASTAL HABITATS	B1	G : WOODLAND AND FOREST HABITATS AND OTHER WOODLANDS	G1	
	B2		G2	
	B3		G3	
C : INLAND SURFACE WATER HABITATS	C1		G4	
	C2		G5	
	C3		H1	
D : MIRE, BOG & FEN HABITATS	D1		H : INLAND UNVEGETATED OR SPARSELY VEGETATED HABITATS	H2
	D2			H3
	D3			H4
	D4			H5
	D5			H6
E : GRASSLAND AND TALL FORB HABITAT	E1			I : CULTIVATED, AGRICULTURAL DOMESTIC HABITATS
	E2		I2	
	E3			
	E4			
	E5			
	E6			
	E7			

Appendix 3: Centres of Plant Diversity in Europe

Centres of Plant Diversity & Endemism (by Country) (WWF/IUCN 1994, 48)

ANDORRA	HUNGARY	RUSSIA
Eu10. Pyrenees	Eu20 Carpathians	Eu21 South Crimea Mountains & Novorossia
AUSTRIA	IRELAND	SERBIA
Eu.11 Alps	Eu22 Burren	Eu14 Balkan & Rhodope Mountains
BULGARIA	ITALY	SLOVENIA
Eu14 Balkan & Rhodope Mountains	Eu11 Alps	Eu11 Alps
BYELORUSSIA	Eu12 Appennini & Alpe Apuane	SPAIN
Eu24 Białowieża Forest	Eu13 Tyrrhenian Islands: Sardinia, Sicily & offshore islands	Eu4 Baetic & Sub-Baetic Mountains (Spain)
CYPRUS	LIECHTENSTEIN	Eu5 Guadalquivir Estuary & Coto Donaña (Spain)
Eu18 Troodos	Eu11 Alps	Eu6 Sierra de Gredos & Sierra de Guadarrama (Spain)
CZECH REPUBLIC & SLOVAKIA	LITHUANIA	Eu7 Massifs of Gudar & Javalambre (Spain)
Eu20 Carpathians	Eu24 Białowieża Forest	Eu8 Picos de Europa (Spain)
FRANCE	POLAND	Eu9 Islas Baleares (Spain)
Eu10 Pyrenees	Eu20 Carpathians	Eu10 Pyrenees
Eu11 Alps	Eu24 Białowieża Forest	SWEDEN
Eu13 Tyrrhenian Islands: Corsica	PORTUGAL	Eu23 Öland & Gotland
GERMANY	Eu1 Peneda-Gêres	SWITZERLAND
Eu11 Alps	Eu2 Serra da Estrêla	Eu11 Alps
GREECE	Eu3 Algarve	UKRAINE
Eu14 Balkan & Rhodope Mountains	ROMANIA	Eu20 Carpathians
Eu15 Mount Olympus (Thessalian Olympus)	Eu19 Danube Delta	Eu21 South Crimea Mountains & Novorossia
Eu16 Mountains of Southern & Central Greece	Eu20 Carpathians	

FAQ's (Frequently Asked Questions)

1. Do I need to apply all the criteria to select an IPA?
No, An IPA can be selected if any one of the criteria applies to the site and all criteria have equal weight in selecting IPAs.
2. Can I apply more than one criterion to an IPA site?
Yes
3. Are mosses, liverworts, lichens (lower plants) and fungi included in the IPA project?
Yes
4. Will it be clear on what criterion/criteria an IPA has been selected?
Yes, for each IPA the qualifying criteria will be made published.
5. How are endemics and near endemic/limited range species incorporated into the IPA system?
Endemics with a recognised threat (global, European or national) can be selected using criterion A. Lower threat endemics/near endemics can be incorporated as indicators of richness and diversity in criterion B
6. Why are there thresholds for the criteria?
The IPA project is intended to identify the most important areas for plants to focus conservation action, this leads to a need to have some form of threshold for identifying priority sites. However this does not mean that areas not identified as IPAs will be forgotten or neglected. This is a dynamic process that will respond to future needs and concerns, and the IPA data can be used to inform wider conservation debates such as agricultural and development policy.
7. Why are the population thresholds for Criterion A based on national figures, the IBA criteria rely on global estimates?
It is unlikely that there will be accurate data for global population estimates of plant populations for many species, and even national population estimates will be extremely difficult for many species. However the data that is available, is generally held at the national level.
8. Why is the threshold for Criterion C, threatened habitats, based on area?
The reason that area was included as a primary selecting factor was to ensure that the largest examples of continuous habitat types are included in the IPA network. However, after the largest areas have been selected there is potential to use other factors such as quality of habitat and diversity in selecting IPAs
9. Criterion B is only helpful for plant communities that are rich by nature?
No, Criterion B compares richness/diversity at the habitat level, thus arable fields are only compared with arable fields, and broad leaved deciduous forests are only compared with broad leaved deciduous forests.

10. Criterion C is a last resort for sites that do not qualify under criteria A or B?
No, Criterion A & C are designed to include the very specific range of threatened species and habitats recognised at the Global and European level. Criterion B is designed to capture the important plants areas not covered by this narrow range of recognised threat, such as diversity in more common plants and the inclusion of a wider range of habitats than recognised in existing legislation.

11. What happens to areas not designated as IPAs?
The IPA inventory list in 2004/5 is not intended to be a definitive or closed list. The IPA process is dynamic and will respond to new data on species and habitats as it becomes available. Areas can be collected on potential IPAs and stored in the database at any time. The IPA data can be used to inform and lobby for more general conservation policies such as agro-environment schemes. Finally the IPA project will help to identify new directions in conservation priorities at the national and European level through the process of identifying and protecting IPAs.

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See also Appendix 1 for References to Threatened Plants and Habitats

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