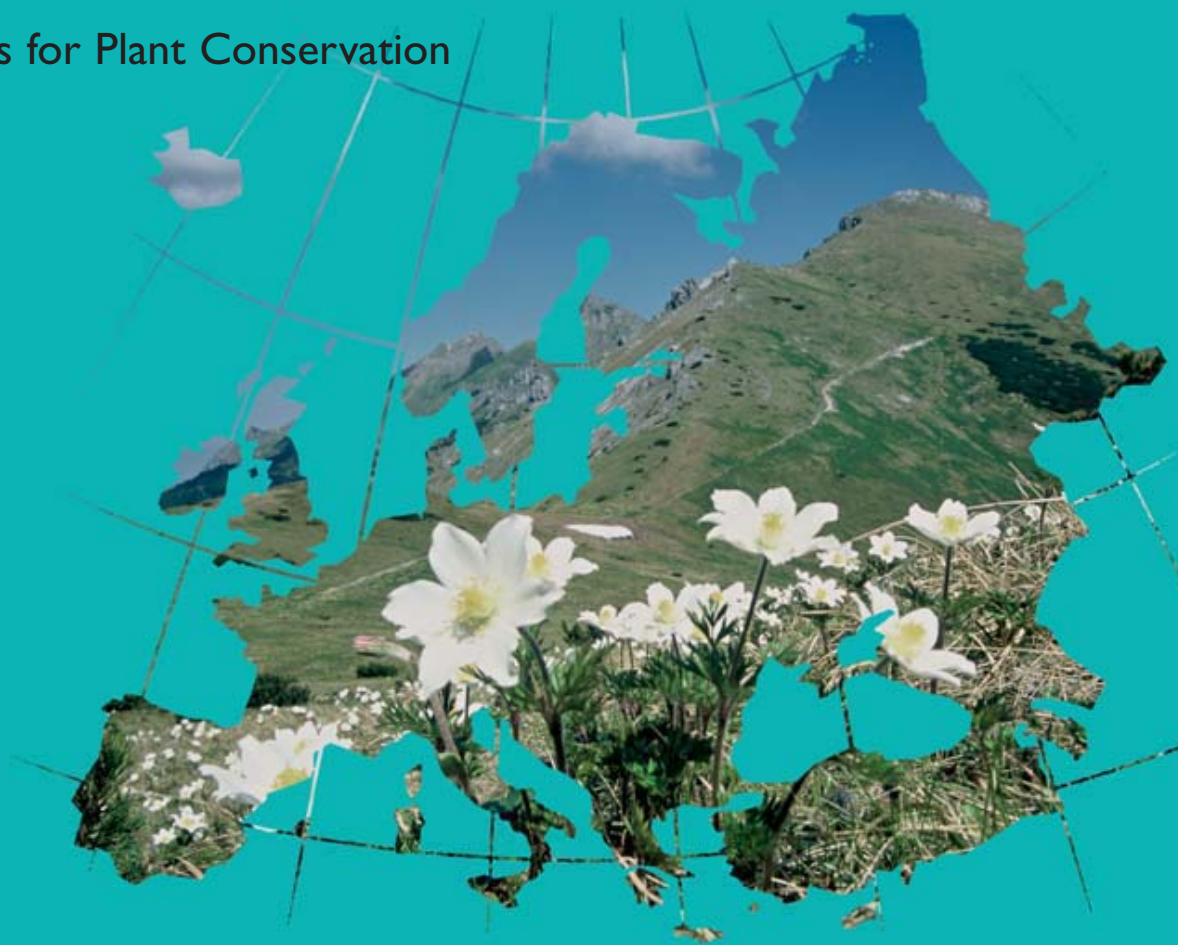


# IMPORTANT PLANT AREAS IN CENTRAL AND EASTERN EUROPE

Priority Sites for Plant Conservation



*Important Plant Areas in Central and Eastern Europe:  
Priority Areas for Plant Conservation*  
Plantlife International 2005

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## Message of Support

Important Plant Areas are unique places where the jewels of Europe's wild plants and fungi can be found. Plants form the basis for all forms of life but wild plants and their habitats are increasingly threatened throughout Europe from the pressures of development and changing forestry and farming practices. Many individuals and organisations in different countries have worked together to identify these precious sites and now it is the responsibility of everyone to ensure that future generations also have the opportunity to enjoy and benefit from these areas.

Giuseppe B. Raaphorst  
Director of the Department of Nature,  
Ministry of Agriculture, Nature and Food Quality in the Netherlands.



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## Executive Summary

The Important Plant Areas (IPA) Programme aims to identify the best sites for wild plants, fungi and their habitats and to ensure the protection of these priority sites. IPAs are natural or semi-natural sites with exceptional botanical richness and/or supporting an outstanding assemblage of rare, threatened or endemic plant species and/or vegetation of high botanic value. They are identified using three criteria, threatened species (Criterion A), botanical richness (Criterion B) and threatened habitats (Criterion C).

IPAs provide an essential resource for governments to assess their progress in fulfilling Target 5 of the Convention on Biological Diversity's (CBD) Global Strategy for Plant Conservation, and thus contribute to the World Summit on Sustainable Development's (WSSD) target to reduce significantly the loss of biodiversity by 2010.

IPAs are not legal site designations, instead they provide a framework to assess and support existing conservation programmes such as national protected area networks, the EU Natura 2000 network, the Bern Convention and Emerald Network, PEBLDS and PEEN, and the Ramsar Convention by providing up to date, easily accessible, plant data. IPAs have compatible aims and approaches with Important Bird Areas, Prime Butterfly Areas, Important Dragonfly Areas and Important Herpetological Areas and contribute to the Key Biodiversity Areas concept.

170 IPAs (21%) currently have no legal protection.

IPAs can provide essential information to support and improve the Natura 2000 Network of the EU Habitats Directive. Of the 510 IPAs in the new member states, 399 IPAs are also Natura 2000 sites.

In this current project, the first regional IPA identification programme in the world, almost 800 IPAs were identified in seven countries in central and eastern Europe. In south eastern Europe several hundred potential IPAs were identified in a parallel project, and in Russia and the CIS region IPA projects are currently being developed. IPA projects are also being developed in many other countries in Europe and other regions of the world.

This report contains a summary of IPA methodology, the latest IPA data from twelve countries on site features, threats, management and protection, a summary of the links to existing legislation and programmes, and recommendations for plant conservation stakeholders. Detailed national IPA inventories will be published in 2005 by the seven partner countries.

Hundreds of specialists in wild plants, fungi, mosses, lichens and algae took part in identifying the best sites, and each national IPA team included a variety of individuals from academic institutions, state conservation agencies, and non-governmental organisations.

The Carpathian Mountains contain a large number of IPAs across central and eastern Europe such as the High Tatras of Slovakia, shown here.



#### **Threats to IPAs in central and eastern Europe:**

- Poor forestry practices threaten 44% of IPAs
- Unsustainable tourist development threatens 38% of IPAs
- Agricultural intensification threatens 29% of IPAs
- Land abandonment threatens 27% of IPAs
- Development (transport/urban/industry) threatens 25% of IPAs
- Poor water management systems threaten 21% of IPAs
- Habitat fragmentation threatens 21% of IPAs
- Invasive plant species threaten 17% of IPAs
- Eutrophication (nutrient enrichment) threatens 15% of IPAs

Tourism, forestry and agriculture (grazing, hay-making, arable) are major land uses at IPAs. Many IPAs have some form of existing protection, although appropriate management at sites is one of the most fundamental issues for the conservation of plant diversity.

The challenge now is to use this information on the best sites for plant conservation to ensure that all stakeholders, from local communities and land managers, to national governments and regional policy makers, are aware of the importance of these sites and that they are not destroyed or damaged through ignorance or indifference.



**Recommendations:**

- IPAs should be recognised as priority sites in local, national and regional conservation policies and action.
- Threatened IPAs should be prioritised for conservation action and protection increased where necessary.
- Poor forestry management is one of the most significant threats to IPAs and there is no pan-European or EU sustainable forestry legislation.
  - IPAs, especially those with old growth or 'virgin' forest, should be targeted for inclusion in protected area systems
  - IPAs with forestry activities should be targeted for sustainable forestry management schemes and forest certification schemes
  - All afforestation schemes should undergo thorough and effective environmental impact assessments
- Agriculture (land abandonment and intensification) is one of the most important factors affecting IPAs, especially natural and semi-natural grasslands.
  - The Kiev Declaration (2003) and the message from Malahide (2004) highlighted the need to bring high nature value farmland under biodiversity sensitive management. IPAs should be recognised as criteria for high nature value farmland and included in national and regional programmes such as agri-environment schemes of rural development programmes.
- Development, especially tourism and recreation, and urban and transport, are widespread threats to IPAs.
  - Tourist development at IPAs should be assessed for sustainability and developed with local land managers and relevant specialists.
  - All EU funded development projects should undergo environmental impact assessments to ensure that they do not contradict EU biodiversity conservation aims
- Monitoring the status of species and habitats at IPAs should be an important part of national monitoring programmes, and should be incorporated into regional monitoring systems such as the EU Habitats Directive and the Water Framework Directive.
- IPA identification is an ongoing process and gaps in the identification of sites should be targeted.
  - Each country has indicated that more sites will be identified as more data becomes available
- National and European Red Lists are essential for providing sound data on the most threatened species in Europe.
- The annexes of the Bern Convention and the EU Habitats Directive should be updated to recognise important species and habitats from all regions of Europe and all taxonomic groups.
- The European Commission and member states should confirm their commitment to halting the loss of biodiversity by 2010 by providing adequate dedicated funds for biodiversity conservation either through an improved 'LIFE +' fund or through the Rural Development Programme.



BRANO MOLNAR



NEJC JOGAN



ANTOANETA PETROVA



Human communities and wild plant habitats have co-existed for thousands of years but pressures from people are increasing.

Currently 25% of central and eastern Europe's IPAs are threatened by development.

## Introduction

### Why do we need IPAs in Europe?

Wild plants, fungi and their habitats are fundamental to our lives, the lives of all other organisms, and the air, soil and water around us. Europe has already lost an astonishing number of species and habitats, from the very rare to the seemingly common. We continue to lose many plant species in Europe every year, although we still understand very little about the long-term implications of this loss for humans and other organisms.

The causes of this decline in diversity are also well documented and include habitat destruction and fragmentation, intensive agriculture, poor forestry management, transport and infrastructure development, air and water pollution, and invasive species. The identification and protection of IPAs is an important process in stemming the decline of wild plant diversity and the ecological systems that support it, by ensuring that the threats to our best sites are recognised and that these invaluable areas are not lost through indifference or ignorance.

Despite the continuing loss of plant diversity, Europe still has some of the most beautiful and diverse areas of forests, grasslands, mountains, wetlands, rivers and lakes of anywhere in the world. The central and eastern European region in particular has a wealth of large, un-fragmented natural areas; such as increasingly rare areas of natural and semi-natural grasslands, and the largest areas of old growth or 'virgin' forests with their wide range of plants, trees, fungi, mosses and lichens. Mountain ranges such as the Carpathians and Rhodopes contain hundreds of endemic plant species, the Baltic region, Belarus and Russia have unique expanses of bog, wetland and tundra, and the major European rivers such as the Danube, are home to an impressive number of plants and





animals. This region is also in a period of rapid social and economic transition and never has the need for effective and targeted plant conservation strategies been more urgent.

The aim of the Important Plant Areas programme is identify and protect the best plant areas around the world, using robust criteria, sound data and specialist knowledge, and to ensure these sites are targeted for conservation action, policy and funding.

### IPAs and other conservation projects

IPA is not a legal site designation. It is a framework for identifying sites, which can be used to support conservation actions and initiatives, and to assess the effectiveness of existing protected area networks for plant conservation.

The IPA project forms an integral part of a much wider conservation framework, from the global Convention on Biological Diversity (CBD) framework to regional pan-European and European Union initiatives. IPAs are not intended to compete with other programmes but instead to support and underpin them with sound and easily comparable plant data.

The plant and fungi kingdoms are so large and complex that important plant and habitat data are often under-used by decision makers because they are not easily available.

The main framework for the IPA project is Target 5 of the CBD Global Strategy for Plant Conservation (GSPC). This ground-breaking strategy has the first clear measurable targets of the CBD and signatory governments have committed to achieving them by 2010. The European Strategy for Plant Conservation (EPCS) was the first regional strategy for the implementation of the GSPC, and IPAs form targets 1.4, 1.5 and 2.14 of this document.

Target 5 of the GSPC requires the identification and protection of 50% of the most

Paeonies in an oak wood in Romania (left) and *Ramondia serbica* a species protected by the Bern Convention.

important areas for plants by 2010. National IPA projects can assist governments to meet this target.

IPAs are also closely linked with the conservation aims of the Pan-European Biological and Landscape Diversity Strategy (PEBLDS), the Pan-European Ecological Network (PEEN), the Bern Convention and the Emerald Network, the EU Biodiversity Strategy, the EU Habitats Directive and the Natura 2000 network, the EU Water Framework Directive, the Aarhus Convention on public participation in environmental decision-making, the RAMSAR Convention on Wetlands, and conservation monitoring projects such as the IEBI 2010. Detailed information on how IPAs link to these programmes can be found in Section 7.

**Countries involved in this project**

At the end of 2001 the Ministry of Agriculture, Nature and Food Quality of the Netherlands provided funds to identify IPAs in seven countries in central and eastern Europe. These countries are Belarus (with project development in Russia and the CIS region), the Czech Republic, Estonia, Poland, Romania, Slovakia and Slovenia. In this publication these seven countries are referred to as the partner countries.

Plantlife International carries out the role of IPA Secretariat providing technical information, database facilities, coordination and administration. In each of the seven countries there is a coordinating organisation and a national team made up of many different individuals and organisations, which carries out the identification of IPAs. Details of the national coordinators and teams can be found in Section 5.

There are also other IPA projects in Europe and in other regions of the world. Turkey was the first country to complete IPA identification and publish its results. IPA identification projects funded through the Regional Environmental Centre and environment ministries have begun in south eastern Europe including Bulgaria, Croatia, FYR of Macedonia, Serbia and Montenegro. The World Conservation Union, IUCN-CIS, in Moscow is developing IPA project proposals for Russia and regions of eastern Europe. Other countries in Europe have either begun IPA projects or are interested in developing them, including Finland, Hungary, Lithuania, Spain, Ukraine, the United Kingdom, and Mediterranean countries including Morocco and the Lebanon. Other regions of the world such as southern Africa, south east Asia, and New Zealand are also developing IPA projects and details of all these projects and the various European projects can be found in Section 5.

**Methodology for identifying IPAs**

The basic principles of IPA identification are based on the presence of one or more of the following criteria:

Criterion A	Threatened Species
Criterion B	Botanical Richness
Criterion C	Threatened Habitats

These criteria were first debated in the first Planta Europa Conference in France in 1992 and have been developed and refined through a process of workshops and written consultations involving a wide range of specialists from different countries. (A more detailed explanation is given in Section 2)



Transparency is one of the major principles of the IPA project and each country must make clear its methods and the reasons why each IPA has been selected. IPAs may be identified on protected and un-protected land.

#### **Summary of the results of this IPA project**

One of the main strengths of the project has been the high level of cooperation and communication among botanists, mycologists and specialists in the same country and across national boundaries. This open communication and wide stakeholder involvement will be essential in establishing networks to protect and manage IPAs in the future.

#### **Number and area of IPAs:**

In the seven partner countries 796 Important Plant Areas have been identified to date, covering an area of 14,739,174 hectares.



IPAs in central and eastern Europe

### Key statistics on IPA species and habitats:

#### Criterion A: threatened species

In the seven partner countries a total of 518 species qualified under Criterion A, as globally threatened, European threatened, or threatened national endemics and limited range species.

641 of the 796 IPAs (81%) contain Criterion A species, with a total of 3846 records for threatened species at IPAs.

98 IPAs (12%) contain Ai, globally threatened species

548 IPAs (69%) contain Aii, European threatened species

147 IPAs (18%) contain Aiii, threatened national endemic species

203 IPAs (26%) contain Aiv, threatened near endemic or limited range species

149 species have only one site identified in any country so far, and 328 species have less than ten sites identified in all of the partner countries.

86 IPAs contain threatened (Criterion A) bryophyte species, 20 IPAs contain threatened (Criterion A) fungi species, and 24 IPAs contain threatened (Criterion A) lichen species.

#### Criterion B: botanical richness

209 IPAs (26%) were assessed for Criterion B, botanical richness.

#### Criterion C: threatened habitats

In the seven partner countries 215 Criterion C habitats from the annexes of the Habitats Directive and the Bern Convention were used in this project. Priority threatened habitats (Ci) are those defined as priority in the EU Habitats Directive.

656 of the 796 IPAs (82%) contain Criterion C threatened habitats with a total of 4575 records of C habitats at sites.

494 IPAs (62%) contain Ci (priority threatened habitats)

620 IPAs (78%) contain Cii (threatened habitats)

20 Criterion C habitats have only one site recorded in any of the countries, and 80 Criterion C habitats have less than ten sites recorded in all of the partner countries.

### General habitats at IPAs

In the seven partner countries, forest and grassland are the most common habitats at IPAs, occurring at 68% and 65% of IPAs. Mire, bog and fen are major components of 31% of IPAs, and inland water is a significant feature at 30% of IPAs. Heath and scrub occur at 22% of IPAs, inland rocky at 16% of IPAs, coastal habitats occur at 7% of IPAs and marine habitats at 2% of IPAs. Cultivated areas and constructed areas occur as a small part of 31% and 22% of IPAs.

### Land use and ownership at IPAs

As many of the IPAs occur on existing protected areas, nature conservation and research is a major land use at over half of IPAs. Forestry activities occur at 46% of IPAs, animal grazing takes place at 34% of IPAs and haymaking for livestock at 14% of IPAs. Agriculture (grazing 34%, arable 14%, mixed 14%) is a significant land use at IPAs. Wild plant harvesting also takes place at 13% of IPAs.

Almost half of IPAs are owned by state organisations (state 46%, municipal 23 military 1%). Many IPAs are also privately owned (private 24%, religious group 1%). In the partner countries 2% of IPAs are owned by conservation organisations. A third of IPAs have mixed ownership or the ownership is unknown.

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### Threats to IPAs

The top threats to IPAs in the seven partner countries are poor forestry practices, tourist development, agricultural intensification, land abandonment, transport and urban development, poor water management systems, habitat fragmentation, invasive species and eutrophication.

- poor forestry practices threaten 44% of IPAs (intensified forest management 27%, afforestation 20%, deforestation 16%)
- tourist and recreation development threatens 38% of IPAs
- agricultural intensification or expansion threatens 29% of IPAs (grazing 16%, general 11%, arable 9%)
- land abandonment threatens 28% of IPAs
- development, transport, infrastructure, urban and industrial, threatens 25% of IPAs
- poor water management systems threaten 22% of IPAs (general 15%, drainage 7%, dredging and canalisation 4%)
- habitat fragmentation threatens 21% of IPAs
- the consequences of invasive plant species threaten 18% of IPAs
- eutrophication (nutrient enrichment) threatens 15% of IPAs

The most significant threats to IPAs are consistent in the seven partner countries. Unsustainable tourism, land abandonment and agricultural practices, poor forestry practices, invasive species control, damaging transport development, and poor water management systems, should be targeted at the national and regional level through policy and funding initiatives.

### Protection and management of IPAs

626 IPAs (79%) have some form of legal protection, either completely or partially covering the site.

170 IPAs (21%) currently have no legal protection.

In the five new member states of the EU, the Czech Republic, Estonia, Poland, Slovakia and Slovenia, 399 IPAs out of a total of 510 IPAs in those countries, have been proposed to the European Commission as Special Areas of Conservation (SAC) under the EU Habitats Directive and will form part of the Natura 2000 network.

Although 626 IPAs currently have some form of legal protection it is important to make it clear that there are many different levels of protection and conservation management in protected areas. Protected area managers may not be aware of the importance of some of the plant species and habitats at that site, or there may be insufficient capacity or funding to conserve those species and habitats adequately. Data are being collected on the level of management plans at IPAs and these data will be used to prioritise conservation action.

Fungi and lower plants are also important groups in IPA identification.

# Methodology

## Definition and general principles

An 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.

Criterion A:	Threatened Species
Criterion B:	Botanical Richness
Criterion C:	Threatened Habitats

IPA Criteria were developed and refined through extensive consultation over several years and references are given at the end of this section. The *IPA Site Selection Manual for Europe* gives more detail on identifying sites.

Criteria sources, categories and thresholds for Europe used in this project are presented in the table below.

## Criterion A: threatened species

For the seven partner countries **518** taxa were included in the Criterion A list of threatened species. 403 of those were vascular plants, 54 were bryophytes, 34 were lichens, and 27 were fungi.

Ai	Global Threat	42 taxa
Ai/Aii	Global & European Threat	32 taxa
Aii	European (Regional Threat)	196 taxa
Aiii	National Endemic (Threatened)	109 taxa
Aiv	Near Endemic/Limited Range (Threatened)	137 taxa

## Accepted Sources for Europe

For Ai, global threat, the following sources were used: the IUCN Global Red List 1997 and 2002; the World List of Threatened Trees 1998; the Global Red List for Bryophytes 2001. For Aii, European Threat, the following sources were used: the EU Habitats Directive Annexes IIb and IVb; the Bern Convention Appendix I; the European Red List of Bryophytes 1995; the European Red List of Macro-lichens 1989. The 33 threatened fungi species prepared by the European Committee for the Conservation of Fungi (ECCF) were also used in this project under Aii. National red lists were used for assessing the threat status of Aiii, national endemics, and Aiv, near endemic/limited range species.

One of the main challenges for this criterion is to identify priority threatened species which are not endemic or limited range, but are relatively widespread geographically and declining everywhere. A new IUCN European Red List would help to identify these types of species. National IUCN Red Lists in those countries which do not currently have them, and European Red Lists for lichens, fungi and algae would also help to prioritise conservation target species.





*Crocus heuffelianus* (left) and *Iris pumila*

### Endemics, near endemic/limited range species

For the purposes of this project, an 'endemic species' is defined as a species that occurs in only one country, and a 'near endemic' or 'limited range species' is defined as a 'species which occur in limited numbers in no more than 3 countries'.

There are 246 Criterion Aiii and Aiv species (threatened endemics and near endemic/limited range species) in the 7 partner countries, which are not currently recognised on any global or regional Red Lists or European species protection legislation.

### Criterion B: botanical richness

This methodology for applying this criterion was based on a comparison of species richness within standard units of habitat classification. For this project, EUNIS level 2 habitats, were used as the unit of comparison. For example E5 'Dry Grasslands' were compared for species richness, and D1 'Raised & Blanket Bogs' were compared for species richness. Each country defined the indicator species to use for comparisons of richness. Indicators species could include all characteristic species for that habitat, or could be targeted towards threatened, rare or endemic species, or could focus on particular taxonomic groups, such as mosses, lichens, fungi or algae. Details of the national indicator lists can be found in the seven national publications. Detailed discussion on the application of this criterion in Europe can be found in the technical report of national and the regional workshops held between 2001 and 2004.

### Criterion C: threatened habitats

There were 194 threatened habitats in the Criterion C lists for the seven partner countries. The list of threatened habitats was taken from the EU Habitats Directive Annex I, and the Bern Convention Resolution 4 list of habitats. The criterion was split into two categories Ci and Cii, where Ci are 'priority threatened habitats' as defined in the EU Habitats Directive. There were 42 Ci (priority threatened habitats) and 152 Cii (threatened habitats)

In eastern and south eastern Europe there were two main challenges in applying this criteria. The first was the process of translating EU and Bern classification systems into the national classification systems and further work needs to be carried out on this process in many countries. The second was the lack of habitat mapping data in most countries. The IPA process in these regions has also highlighted threatened habitats which are not currently recognised by the EU Habitats Directive or the Bern Convention and could be included in future revisions of the annexes of these legislative instruments.

### **Data availability and data strategies**

There was a wide variety of data availability in the seven partner countries and the national IPA selection strategies reflect these data availability issues. This also had implications for how national teams prioritised the use of available resources between collating existing data and undertaking new fieldwork.

In countries with a high level of recent, computerised and digitised plant and habitat records, much of the selection was based on existing data supplemented by fieldwork or specialist data collation for gap areas.

In countries with a lower level of recent or computerised data the IPAs were identified using targeted fieldwork on potential sites, which were highlighted from the existing data.

This project has also highlighted areas where we have no current data and these gaps will form the future of further IPA identification work.

### **Site selection**

An IPA can be selected for one or more qualifying criteria. The basic principles of site selection, including guidelines on site boundaries, and criteria for selection, are given in the *IPA Site Selection Manual*.

Each national team decided on their site selection strategy within the constraints of the criteria and thresholds. Fundamental to these national strategies were decisions of the number and size of IPAs and the definition of site boundaries. Each country decided on the balance of large IPAs with a mosaic of habitats and species and smaller IPAs identified to protect a particular species or habitat. Boundary demarcation, such as the treatment of small IPAs located near to each other, or the defining of boundaries in areas of fragmented habitats or land uses, was decided on the basis of the local conditions of ecological integrity, ownership and practical management.

The size range of IPAs in the current project is as follows: up to 100 ha (281 IPAs), >100 and < 1000 ha (207 IPAs), >1000 and < 10,000 ha (148 IPAs), >10,000 and < 10,000 ha (111 IPAs) and > 100,000 ha (43 IPAs).

Further work on direct conservation and site management on IPAs will also contribute to refining site selection and boundary definition guidelines for the future.

### **Bryophytes, fungi, lichen and algae**

The IPA programme includes lower plants and fungi in the assessment methodology. These important organisms are neglected in existing nature conservation legislation and Europe has a particular global responsibility to conserve them.

*Bryophytes*: mosses and liverworts, are well represented in this project. There were 54 bryophytes on the IPA list for the seven partner countries and they are recorded qualifying features on 77 IPAs. Bryophytes are also an important component of several of the threatened habitats under Criterion C and were also used in some countries as indicator species for assessing botanical richness under Criterion B.



## Lichens

There were 34 lichen species included in the IPA species list for the seven partner countries and they are qualifying features on 24 IPAs. The 1989 European Red List for Macro-lichens was used in this project, however this red list is now quite old and an updated European red list would certainly help to identify priority lichen species and sites. Lichens were also included in this project in some countries under Criterion B and under certain habitats in Criterion C. The availability of data was often a problem for this group.

## Fungi

The list of 33 fungi species prepared by the European Committee for the Conservation of Fungi (ECCF) were included in the list for Criterion A. Fungi are recorded as qualifying features in 20 IPAs under Criterion A. There are significant differences in the specialist disciplines and in the conservation needs of plants and fungi, so in each country the mycologists made the decision on whether there was sufficient data and if it was appropriate to identify priority plant and fungi sites together or separately. Again it was also possible to identify sites for fungi conservation using Criterion B and Criterion C. In Estonia several sites were identified primarily for the importance of their fungi. Lack of data was a significant problem for fungi in this project. A European red list for fungi would help to identify priority species for conservation, and specific recognition for fungi in European legislation and policies would also help in their conservation.

## Algae

Algae are poorly represented in the project, primarily because of the lack of data and the under-representation of algal species on national and regional conservation lists. The Bern Convention lists 12 algae species, although none of these occurred in the partner countries, and none are recognised in the EU Habitats Directive. However in Estonia, three sites have been proposed as IPAs entirely for their marine algae species, under Criterion B. A European red list for algae would also help to prioritise conservation action for this group.

## Methodology challenges:

Putting theory into practice is always a challenging experience and much valuable information has been gained in the process of implementing the seven national projects and in other pilot projects. These experiences will be used to refine the methodology and prepare guidance information for new countries. The most common methodological challenges are:

- Lack of recent and accessible data for species and habitats
- Lack of red lists at the national and regional level
- Deciding on the number and area of IPAs in each country
- Defining practical boundaries

Open methodological discussions among specialists, and transparency in site selection have been strong points of this project. The reasons for identifying sites as IPAs are made available to all, and with the rigorous selection of species and habitats under the criteria there can be no doubt about the importance of these sites.

## References

- Anderson, 2002 *Identifying Important Plant Areas in Europe: A Site Selection Manual and a Guide to developing criteria in other parts of the world.*
- Evans, S., Marren, P. & Harper, M., 2002, *Important Fungus Areas: a provisional assessment of the best sites for fungi in the United Kingdom.* Plantlife, Association of British Fungus Groups, British Mycological Society.
- Palmer, M., & Smart, J., 2001, *Important Plant Areas in Europe: Guidelines for the Selection of Important Plant Areas in Europe.* Planta Europa & Plantlife.
- Parmasto, E., Perini, C., & Rahko, T., 2004, *Attempts to introduce fungi into nature conservation activities* (Presentation: Planta Europa IV Conference, Valencia (www.nerium.net))
- Plantlife International, 2003 *Technical Report from 7 national IPA workshops in Central and Eastern Europe.* (www.plantlife.org.uk)
- Plantlife International, 2003 *Report from IPA CEE Regional Workshop in Bratislava, November 2003* (www.plantlife.org.uk)
- Planta Europa 1995, *Proceedings of the First European Conference on the Conservation of Wild Plants, Hyères, France, 2-8 September 1995* (Ed. John Newton). Plantlife
- Planta Europa 1998, *Second European Conference on the Conservation of Wild Plants, 9-14th June 1998, Uppsala, Sweden.* (Ed. Hugh Synge & John Akeroyd) Swedish Threatened Species Unit & Plantlife
- Planta Europa 2001, *Third European Conference on the Conservation of Wild Plants, 23-28 June 2001, Pruhonice, the Czech Republic: Developing a Plant Conservation Strategy for Europe.* Czech Agency for Nature Conservation & Landscape Protection, Planta Europa, the Council of Europe.
- Stewart, N. F. 2004, *Important Stonewort Areas, An assessment of the best areas for stoneworts in the United Kingdom.* Plantlife International, Salisbury, U.K.





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## IPA site selection criteria

Criterion	Description	Threshold	Notes
<b>A(i)</b> (threatened species)	Site contains globally threatened species	All sites known, thought or inferred to contain 5% or more of the national population can be selected, or the 5 <sup>1</sup> 'best' sites, whichever is the most appropriate.	Species must be listed as 'threatened'* on IUCN global red lists
<b>A(ii)</b> (threatened species)	Site contains regionally (European) threatened species		Species must be listed as 'threatened'* on European IUCN red list; or Habitats Directive Annexes IIb & IVb; or Bern Convention Appendix I
<b>A(iii)</b> (threatened species)	Site contains national endemic species with demonstrable threat not covered by A(i) or A(ii)	<sup>1</sup> (In exceptional cases, for example where there are less than 10 sites in the entire country or there are between 5-10 large populations of a species, up to 10 sites can be selected)	Species must be listed as national endemic (on any recognised list or publication) and 'threatened'* on national red lists
<b>A(iv)</b> (threatened species)	Site contains near endemic/limited range 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 near endemic/ limited range (on any recognised list or publication) and 'threatened'* on national red lists
<b>B</b> (botanical richness)	Site contains high number of species within a range of defined habitat types	Up to 10% of the national resource (area) of level 2 EUNIS habitat types, or 5 <sup>2</sup> 'best' sites, whichever is the most appropriate.  <sup>2</sup> (In exceptional cases, for example there are between 5 and 10 exceptionally rich sites for a particular habitat, up to 10 sites can be selected for each level 2 habitat type)	Species richness based on nationally created list of indicator species created for each habitat type and from the following types of species: characteristic species and/or endemic species and /or nationally rare and scarce species (where the endemic and rare and scarce species are numerous and/or are characteristic for the habitat)  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)
<b>C(i)</b> Priority threatened habitats	Site contains threatened habitat	All sites known, thought or inferred to contain 5% or more of the national resource (area) of priority threatened habitats can be selected, or a total of 20-60% of the national resource, whichever is the most appropriate.	Priority threatened habitats are those listed as priority on Annex I of the Habitats Directive (and any corresponding habitat from the Bern Convention Res. 4)
<b>C(ii)</b> Threatened habitats	Site contains threatened habitat	All sites known, thought or inferred to contain 5% or more of the national resource (area) can be selected, or the 5 <sup>3</sup> 'best' sites, whichever is the most appropriate.  <sup>3</sup> (In exceptional cases, for example where there are less than 10 sites in the whole country, or there are 5-10 exceptional sites, up to 10 sites can be selected)	Threatened habitats are those listed on Annex I of the Habitats Directive and the Bern Convention Resolution 4, not covered by C(i)

\* Criterion A, threatened special must be listed as **Critically Engangred (CR)**, **Endangered (EN)** or **Vulnerable (VU)** using the new IUCN criteria, or **Extinct/Endangered (Ex/E)**, **Endangered (E)** or **Vulnerable (V)** using the original IUCN categories (pre 1994).

## IPA database

### Data collation strategy

Each national team was asked to collect specific information on each site selected as an IPA, using the IPA questionnaire as the basis. Different countries had very different data availability and each country decided on their national data collation and collection strategy. In many countries the collation of data and selection of sites was made using existing national databases. In other countries the IPA central database and the IPA questionnaire were used as the basis for collating information and selecting sites.

### IPA central database

The IPA central database is an on-line data entry system, and each national partner can download their country's data into MS Access from the website. Each user of the database has a login password and use of the on-line site is governed by a data sharing agreement, which covers data ownership issues and confidential information.

For each IPA, data is collected on the area, altitude, boundary, region where the site is located, general habitats, land-use, existing protection, threats, site management, qualifying criteria and details of the site compiler.

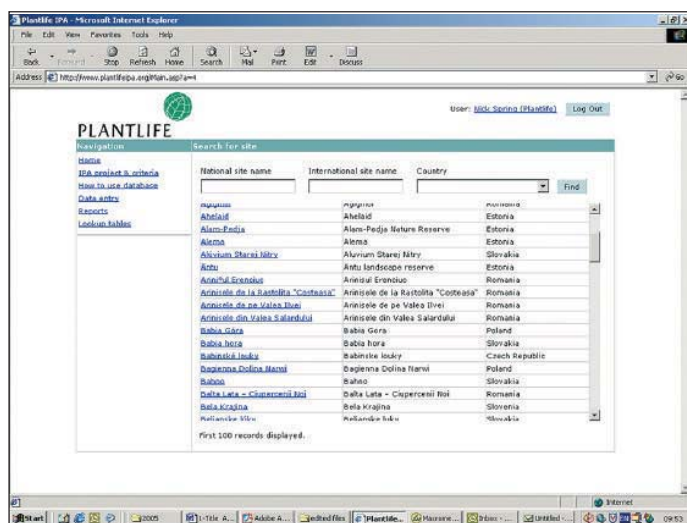
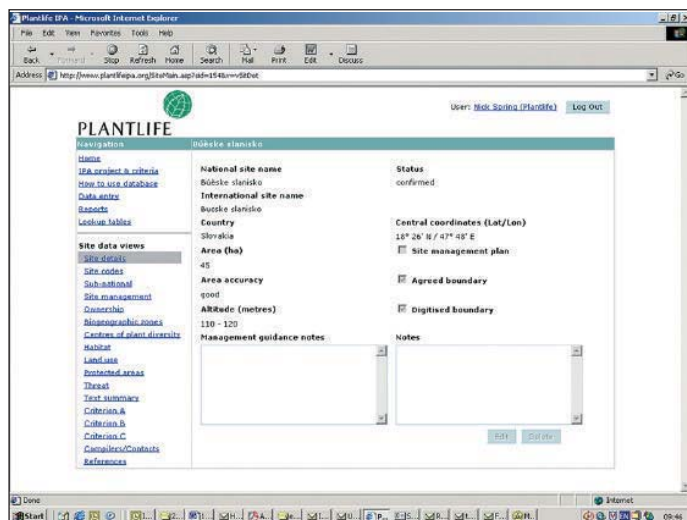
Summary fact-sheets on each site are available, and it is possible to generate detailed statistics and reports from the background Access database. The IPA database is compatible with the Important Bird Areas database and was developed with assistance from BirdLife International.

### Development potential

One of the most important potential developments for this database will be the public access facility. All developments will be made in consultation with partners. Fact-sheets for each IPA will be made available through the Plantlife International website, as well as up-to-date statistics on the sites, their features and their threats. Improving the facilities for national languages is also an important development area.

Improving the public access to IPA information will ensure that decision makers and stakeholders will have the latest information on plant conservation benefits and threats. IPA public access information will also be forwarded to the EU and CBD clearing house mechanisms.





The online IPA database enables each partner to enter and read data from the different countries' IPAs.

# Summary of IPA data in seven partner countries

## Number and area of IPAs

796 IPAs, covering a total area of 14,739,174 hectares, have been identified in the seven partner countries to date .

	Belarus	Czech Republic	Estonia	Poland	Romania	Slovakia	Slovenia
No of IPAs	10	75	108	116	276	154	57
Area of IPAs (ha)	698,330	154,569	274,690	2,547,119	340,486	546,980	10,177,000

The area range for IPAs is:

- Up to 100 ha = 281 IPAs
- >100 and < 1000 ha = 207 IPAs
- >1000 and < 10,000 ha = 148 IPAs
- >10,000 and < 100,000 = 111 IPAs
- >100,000 = 43 IPAs

Most countries have developed a mixture of larger mosaic IPAs to include particular species or habitats. In Slovenia, all the smaller IPAs have been amalgamated to create 57 large IPAs, which contain zones of particular features or groups of features, as well as zones for other land uses.

## Qualifying criteria for IPA selection

IPAs can be identified for one qualifying feature, however the majority of IPAs have several qualifying features. For example, in Slovakia the Slovensky Kras IPA has 64 qualifying species and habitats, in Romania the Tinovul Lucs IPA has 55 qualifying species and habitats, and in the Czech Republic the Boletice IPA has 49 qualifying features.

The following IPAs were identified under Criterion A, threatened species. There were a total of 3846 records of Criterion A species in all the IPAs. The sources for Criterion A are given in Section 2 on methodology.

## IPAs with Criterion A threatened species

	Total IPAs	Belarus	Czech Republic	Estonia	Poland	Romania	Slovakia	Slovenia
A	641	9	64	86	100	208	127	44
Ai	98	0	6	0	10	42	38	2
Aii	544	9	47	85	98	164	97	44
Aiii	141	0	8	0	2	95	35	1
Aiv	203	0	19	1	0	107	73	0
HD	454	9	42	83	96	91	92	41
BC	465	9	35	78	90	160	54	39
Bryophytes	86	7	8	28	13	19	11	0
Lichens	24	1	0	1	0	6	16	0
Fungi	20	0	3	7	0	10	0	0

[Ai = global threat; Aii = European threat; Aiii = threatened endemic; Aiv = threatened near endemic/limited range; HD = Habitats Directive species; BC = Bern Convention species]

**149** threatened species have **only one IPA** identified in any country so far, and **328** species have **less than ten IPAs** identified in all of the seven countries.

The following IPAs were identified under Criterion C, threatened habitats. There were a total of **4575** records of Criterion C habitats in all of the IPAs. The sources for Criterion C habitats are the EU Habitats Directive and the Bern Convention.

#### IPAs with Criterion C threatened habitats

	Total IPAs	Belarus	Czech Republic	Estonia	Poland	Romania	Slovakia	Slovenia
<b>C</b>	656	9	75	80	108	187	149	48
<b>Ci</b>	494	9	67	67	98	81	137	35
<b>Cii</b>	620	9	73	72	103	177	138	48
<b>HD</b>	651	9	75	80	108	182	149	48
<b>BC</b>	208	1	52	0	0	154	0	1

[Ci = priority threatened habitat as defined by the Habitats Directive; Cii = threatened habitat; HD = Habitats Directive; BC = Bern Convention]

**20** threatened habitats have **only one IPA** recorded in any country so far, and **80** threatened habitats have **less than 10 IPAs** recorded in all of the seven partner countries.

The following table demonstrates the number of IPAs identified for threatened forest, grassland, wetland and other types of habitat under Criterion C.

#### IPAs containing threatened habitat types

Criterion C habitat type	Total IPAs with habitat type (% of total IPAs)	IPAs with Ci priority habitat type (% of total IPAs)
Threatened forest habitats	455 IPAs (57%)	353 IPAs (44%)
Threatened grasslands habitats	444 IPAs (56%)	296 IPAs (37%)
Threatened bog and wetland habitats	224 IPAs (28%)	105 IPAs (13%)
Threatened inland water habitats	197 IPAs (25%)	4 IPAs (<1%)
Threatened scree/stone habitats	146 IPAs (18%)	42 IPAs (5%)
Threatened scrub and heath habitats	138 IPAs (17%)	38 IPAs (5%)
Threatened coastal and halophytic habitats	74 IPAs (9%)	63 IPAs (8%)
Threatened dune habitats	46 IPAs (6%)	22 IPAs (3%)

#### Criterion B, botanical richness was assessed in 209 IPAs.

This criterion was used mainly for assessing richness in marine, coastal, wetland, grassland and forest habitats. Twenty-three IPAs were identified solely using Criterion B. This criterion was used to identify sites with habitats rich in marine and coastal algae, sites rich in mosses, lichens and fungi, which are not explicitly recognised in international legislation, and for those species-rich forest and grassland habitat types which are not recognised in international legislation.



### Protection and management of IPAs

IPAs have been identified both on protected and currently unprotected land. The following table illustrates the number of IPAs that are currently in protected areas. However, there are many different levels of protection, and legal protection does not necessarily mean that the specific management requirements of plants and habitats are addressed. Data are being collected on the level of management at IPAs and these will be used to prioritise any future action. Where appropriate IPAs that are not currently protected will be proposed as protected areas or proposed for inclusion in conservation management schemes.

#### Number of IPAs with existing protection (whole site or partial)

	Unprotected	Total no. protected (all or part)	High level national protection of IPAs	Lower level national protection of IPAs	European recognition of IPAs (SAC & SPA protected)	International recognition of IPAs (not necessarily protected)
<b>Belarus</b>	2	8	4	4	Not applicable	Ramsar (2) Biosphere Reserve (1)
<b>Czech Republic</b>	7	68	66	17	SAC (68) Emerald (27)	Ramsar (15) Biosphere Reserve (3)
<b>Estonia</b>	5	103	5	67	SAC (98) SPA (51)	Ramsar (18) Biosphere Reserve (1)
<b>Poland</b>	19	97	59	–	SAC (67) SPA (51)	Ramsar (3) Biosphere Reserve (1)
<b>Romania</b>	66	210	182	6	Not applicable	Ramsar (22) Biosphere Reserve (2)
<b>Slovakia</b>	36	118	79	76	SAC (121) SPA (78)	Ramsar (16) Biosphere Reserve (5)
<b>Slovenia</b>	35 (20 of these proposed for protection)	22	1	27	SAC (45)	Ramsar (2) Biosphere Reserve (1)

[Higher level protection are designations such as National Park or Zapovednik depending on national systems; lower level protection are designations such as nature reserve or Zakaznik etc, based on national systems; some sites have overlapping types of national and regional protection; SAC = Special Area of Conservation under the EU Habitats Directive; SPA = Special Protection Areas under the EU Birds Directive]

IPAs and Key Biodiversity Areas

Important Bird Areas (IBAs) and Prime Butterfly Areas (PBAs) like Important Plant Areas (IPAs) are not in themselves legal site designations. There is a significant overlap between these sites and any future conservation action and policy should recognise the high overall biodiversity value of these sites.

	Total IPAs	IBAs which are also IPAs (total IBAs)	PBAs which are also IPAs (total PBAs)
Belarus	10	4 (19)	2 (7)
Czech Republic	75	3 (16)	3 (15)
Estonia	107	8 (52)	3 (7)
Poland	109	31 (89)	4 (16)
Romania	274	9 (44)	5 (16)
Slovakia	154	14 (32)	9 (13)
Slovenia	57	10 (14)	10 (20)

*Threats:* threats to IPAs, either to the site as a whole or to qualifying species or habitats, were assessed for their extent, potential damage and timescale, to produce a threat rating of 'high', 'medium' or 'low'. Details of threat rating are given in the *IPA Site Selection Manual for Europe* (Anderson, 2002). The table and graph below highlight the factors threatening IPAs and their threat rating. Details of the threats breakdown for each country are given in Section 5.

Key threats to IPAs



Flooding, often made worse by changes in land use, presents a serious threat to many IPAs.

## Key threats and threat status

Threat	No of IPAs (% of all IPAs)	high	medium	low	unknown
Forestry	349 (44%)				
<i>intensified forest management</i>	212	53	75	50	34
<i>afforestation</i>	159	26	48	52	33
<i>deforestation</i>	130	27	38	52	13
Tourist/recreation development	302 (38%)	85	97	95	25
Agricultural intensification/ expansion	232 (29%)				
<i>grazing</i>	126	12	42	56	16
<i>general</i>	86	11	24	34	17
<i>arable</i>	71	9	16	33	13
<i>horticulture</i>	12	0	2	10	0
Abandonment/reduction of land management	217 (27%)	79	65	44	29
Development	197 (25%)				
<i>transport/infrastructure</i>	127	23	47	36	21
<i>urban</i>	115	22	36	47	10
<i>industrial</i>	62	10	21	24	7
Water (extraction/ drainage/canalisation/ management)	171 (21%)				
<i>drainage</i>	59	22	15	5	17
<i>dredging/canalisation</i>	32	7	13	7	5
<i>management systems</i>	27	6	3	8	10
Habitat fragmentation/ isolation	165 (21%)	39	42	26	58
Consequences of invasive plant species	138 (17%)	20	38	44	36
Eutrophication (nutrient pollution)	122 (15%)	18	46	39	19
Burning of vegetation	94 (12%)	12	28	34	20
Unsustainable plant exploitation	81 (10%)	4	22	50	5
Extraction (minerals)	76 (10%)	14	13	25	24
Aquaculture/fisheries	71 (9%)	10	20	26	15
Construction of dam/dyke/barrage	54 (7%)	19	16	15	4
Consequences of invasive animal species	47 (6%)	4	8	14	21
Intrinsic species factors (slow growth etc)	47 (6%)	2	10	18	17
Extraction (peat)	31 (4%)	3	4	16	8



Damaging forestry practises, which include intensified forest management, afforestation and deforestation, threaten almost half of IPAs. The threat to IPAs from invasive species also comes in part from exotic trees species that take over existing forest habitats. Protection of forest IPAs and control of damaging forestry practices must be a high priority for future conservation action at IPAs.

Tourism and recreation development is the second most widespread threat to IPAs. The threat comes not only from facilities and infrastructure but also from exceeding carrying capacity on nature trails and paths. Tourism is a powerful tool for raising awareness about nature and conservation, but needs to be developed with local land managers and specialists to prevent the destruction of priority sites.

Agricultural intensification or expansion (grazing, mixed agriculture and arable) threatens almost one third of IPAs. Land abandonment affects over a quarter of IPAs. Rare grassland habitats are particularly vulnerable to abandonment of grazing or mowing regimes. Agri-environment schemes and Rural Development Programmes have the potential to save both important grassland habitats and the local communities that maintain them, if local, national and EU policy makers support and recognise the importance of a healthy, thriving countryside.

Transport and urban development threaten one quarter of priority plant sites. National and EU transport planners and funders have the necessary information to avoid destroying priority sites yet even some Natura 2000 sites with a high level of protection are threatened by transport projects. The EU in particular has a responsibility to ensure that structural funds used for transport networks such as TEN-T do not destroy priority sites and contradict its commitments to biodiversity conservation.

A high number of IPAs are threatened by damaging water management practices such as drainage, canalisation, and extraction. Wetlands, including peatlands, are one of the most threatened and rapidly disappearing habitats in Europe. A significant number of IPAs are also threatened by eutrophication or nutrient pollution, which often results from agricultural or industrial discharge into water systems. Damage to wetland ecosystems destroys not only the wetland sites themselves but also the many other habitats which rely on these ecosystems. The EU Water Framework Directive can be used to prevent water pollution and also to maintain the ecological status of important wetland sites.

### **Ownership and land use**

Almost half of IPAs are owned by state organisations (state 364 (46%), municipal 24 (3%), military 7 (1%)). Many IPAs are also privately owned (private 187 (23%), religious groups 8 (1%)), and 69 (9%) are communally owned. 16 (2%) are owned by conservation organisations, and just over 10% of IPAs have mixed ownership or the ownership is unknown.

#### Number of IPAs and their land use



As many of the IPAs are part of existing protected areas, nature conservation is recorded as a land use in almost half of IPAs. Forestry, tourism and hunting are major land uses. Agriculture in the form of grazing, arable land and hay making (as shown above) is a widespread land use in IPAs and wild plant harvesting is practised to varying degrees in just over one hundred IPAs.

## IPAs and land use

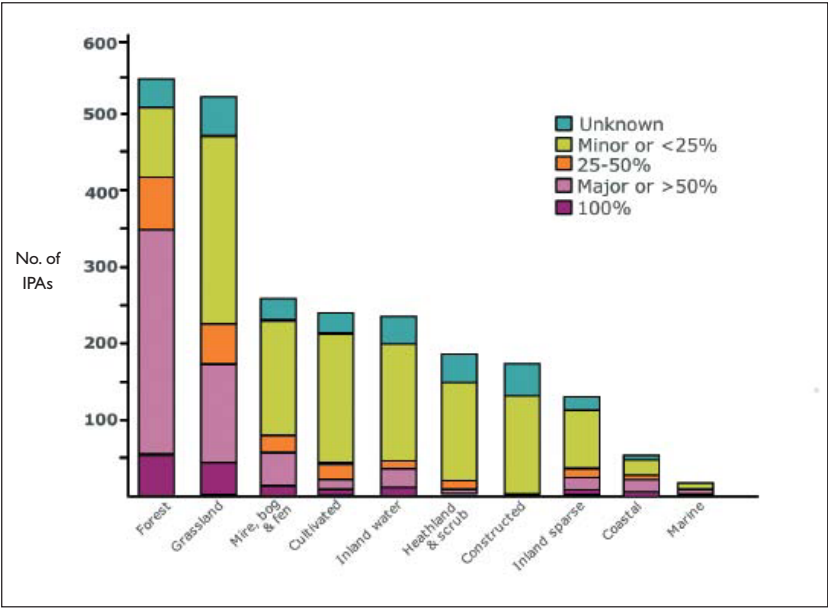
Land Use	No of IPAs (% of IPAs)	Cover 100%	Major & >49%	Cover 25 - 49%	Minor & <25%	Unknown
nature conservation	<b>471</b> (59%)	67	239	7	126	32
forestry	<b>363</b> (46%)	4	143	14	149	53
tourism/recreation	<b>333</b> (42%)	2	119	3	183	26
agriculture (grazing)	<b>267</b> (34%)	0	59	4	172	32
hunting	<b>217</b> (27%)	11	72	2	66	66
agriculture (arable)	<b>117</b> (15%)	0	6	10	86	15
agriculture (mixed)	<b>114</b> (14%)	0	18	2	68	26
mowing/hay making	<b>114</b> (14%)	0	25	2	54	33
urban/industrial/transport	<b>104</b> (13%)	0	8	0	91	5
wild plant harvesting	<b>103</b> (13%)	4	10	2	56	31
fisheries/aquaculture	<b>91</b> (11%)	0	24	0	60	7
extraction (minerals)	<b>62</b> (8%)	0	2	0	48	12
water management	<b>36</b> (5%)	0	11	0	21	4
military	<b>23</b> (3%)	2	4	0	14	3
agriculture (horticulture)	<b>17</b> (2%)	0	1	0	15	1
extraction (peat)	<b>13</b> (2%)	0	0	0	5	8



Habitats at IPAs

As well as specific threatened habitats under Criterion C, the general habitats at IPAs were recorded. Forest is the most common habitat type, followed by grassland habitats, agricultural habitats and wetland habitats.

Major habitats at IPAs



## Number of IPAs with general habitats

EUNIS level 1 habitat	EUNIS level 2 habitat (no of IPAs)	No of IPAs (% of IPAs)	100% cover	Major & >49%	Cover 25% - 49%	Minor & <25%	Unknown
<b>G</b> Woodland and forest	deciduous (412) coniferous (313) mixed (186)	<b>544</b> (68%)	52	300	69	93	30
<b>E</b> Grassland	dry (292) mesic (221) wet (150) wood fringe (108) alpine (38) wooded (20) saline (11)	<b>517</b> (65%)	34	131	70	243	39
<b>D</b> Mire, bog and fen	mires & fen (106) sedge/reed (97) base rich fen (81) bogs (80) saline marsh (10)	<b>249</b> (31%)	8	50	19	154	18
<b>I</b> Cultivated and agricultural	arable (187) gardens, parks (34)	<b>245</b> (31%)	5	11	32	172	25
<b>C</b> Inland surface water	standing (163) running (96) littoral (81)	<b>240</b> (30%)	14	29	10	158	38
<b>F</b> Heathland	montane scrub (108) riverine scrub (62) arctic/alpine (34) hedgerow (19) temperate scrub (15) mediterranean (3)	<b>178</b> (22%)	0	3	9	136	30
<b>J</b> Constructed, industrial and artificial	buildings (64) transport (27) industry (19) artificial water (11)	<b>175</b> (22%)	0	1	1	143	30
<b>H</b> Inland unvegetated/sparse	cliff/pavement (83) scree (31) miscellaneous (29) caves (19)	<b>128</b> (16%)	5	20	11	77	15
<b>B</b> Coastal	shingle (33) cliffs (29) dune/sand (28)	<b>59</b> (7%)	3	17	5	32	2
<b>A</b> Marine	Littoral/sublittoral sediment (16) Sub-littoral rock (2)	<b>15</b> (2%)	2	4	1	6	2



National IPA team

The World Conservation Union Programme Office for Russia and CIS (IUCN-CIS, Moscow) coordinates the overall project in the CIS region.

Coordinator for CIS: Galina Pronkina

National coordinating organisation: Institute of Experimental Botany (IEB), National Academy of Sciences, Minsk

National coordinator: Oleg Maslovsky

National team: full details of team members are given in the acknowledgements section, team members from the Institute of Experimental Botany (IEB), Minsk; Ministry of Natural Resources and Environmental Protection of the Republic of Belarus; Belarus Botanical Society.

Partner organisations: (full details in acknowledgements) Belarus State University; National Park 'Narochansky'; NGO Ecological Initiative; Institute of Zoology of Belarus, National Academy of Sciences of Belarus, APB; Association "Radi Zhizny Na Zemle" (Osipovichy)



Belarus

By Oleg Maslovsky

Belarus covers 207,000 km<sup>2</sup> in eastern Europe and has two biogeographic zones, the Continental and Boreal. Belarus is bordered by Russia, Ukraine, Poland, Latvia and Lithuania, and shares several cross-border protected areas with its neighbours, including the famous Belovezhskaya Pushcha. Belarus' natural and semi-natural vegetation is made up mainly of forest (taiga, coniferous and mixed), wetlands (bogs, mires and lakes), and grassland.

IPAs in Belarus



IPA summary statistics

Total number of IPAs: **10**  
Area of IPAs (ha): **698,330**  
No/Area of IPAs in Protected Areas (all or part): **8 IPAs /588,330 ha**  
Biogeographical zones: Boreal (**8**), Continental (**2**)

Criteria lists

<p><b>Criterion A = 39 species</b> Ai (0), Aii (39), Aiii (0), Aiv (0); (22 Habitats Directive; 21 Bern) Vascular plants (25), Bryophytes (6), Lichens (2), Fungi (6), Algae (0)</p>
<p><b>Criterion B = 11</b> EUNIS level 2 habitat types assessed for richness</p>
<p><b>Criterion C = 64 habitats</b> Ci (11), Cii (53); Habitats Directive (36) &amp; Bern Convention (29)</p>

### Methodology summary

**Criteria lists:** Criterion A is based entirely on Aii, European threat, as Belarus does not currently have any globally threatened species or threatened endemics or near endemics. Translating the habitats lists from the Habitats Directive and the Bern Convention into the national classification system was a major part of this project. Further work needs to be done to ensure that specific species and habitats from eastern Europe are fully integrated into European and global threat lists.

**Data and fieldwork:** ten sites were chosen on the basis of existing data for intensive field investigation using the IPA criteria. New field data were collected by the IEB in 2003 and 2004.

**Site selection:** the national site selection strategy focused on selecting larger sites, which contain a high number of qualifying criteria, and a complex of habitat types.

**Key issues:** regionally relevant criteria lists for Belarus and eastern European countries need to be developed further. This is only the first stage of IPA identification in Belarus. Further work on identification will be required and this project will provide invaluable data and experience for the development of the IPA programme in the CIS region.

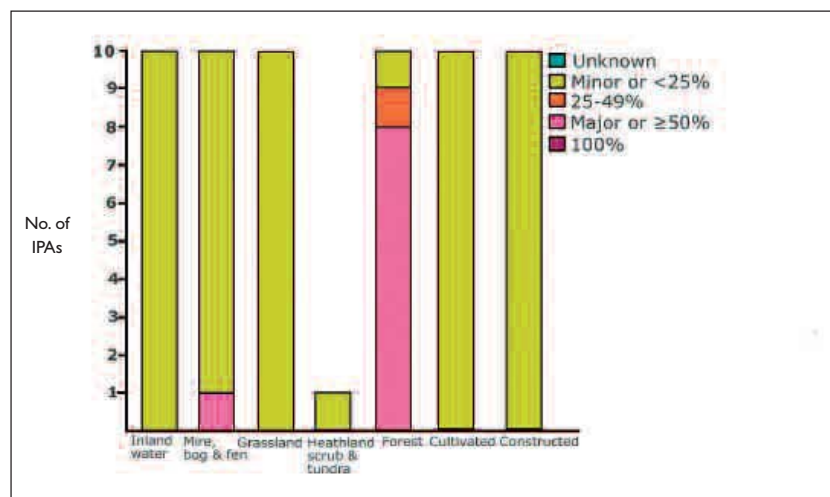
### Protection and management of IPAs

Total IPAs	IPAs with no legal protection	National protection of IPAs (high level)	National protection of IPAs (lower level)	European recognition of IPAs	International recognition of IPAs
10	2	National Park (2)	Zakaznik (4)	IBA* (4)	Ramsar (2)
		Zapovednik (2)		PBA* (2)	Biosphere Reserve (1) World Heritage Site (1)

IBA= Important Bird Area; PBA= Prime Butterfly Area

Two IPAs (20%) currently have no legal protection, four IPAs have a high level of national protection and four have a lower level of national protection. Several IPAs are recognised in European and International programmes. Eight IPAs are in protected areas but securing appropriate site management is an important conservation issue. Effective site management plans need to be developed and implemented to benefit plant conservation.

### Habitats and land use at IPAs



References:

Maslovsky O., 1998, Principles of description of Important Plant Areas in Belarus. In the Proceedings of *Planta Europa – the Second European Conference on the Conservation of Wild Plants, Uppsala 1998.*- P. 30.

Maslovsky O., 2002, System Approach for Development of a Plant Conservation Strategy for Eastern Europe. In the *Planta Europa Proceedings of the Third European Conference on the Conservation of Wild Plants – Pruchonice, 2002.*

Maslovsky O., Pronkina G. Forming of the Important Plant Areas Network in Belarus. In *Important Plant Areas of Northern Eurasia*. Moscow, 2004, issue 1. pp. 51-64

Maslovsky O., Pronkina G. Important Plant Areas in Belarus. In *Planta Europa IV Proceedings, Valencia, 2004* ([www.nerium.net/plantaeuropa/](http://www.nerium.net/plantaeuropa/))

Parfenov V., Rykovsky G., Tretyakov D., 2004, Natural Migratory Channels as Base for Identification of Important Plant Areas of Belarus. In *Important Plant Areas of Northern Eurasia*. Moscow, 2004, issue 1. pp.40-50.

*Red Data Book of European Bryophytes.* ECCB:Trondheim, 1995. – 291 p.

Major habitats at IPAs in Belarus

Forest is the major habitat on the majority of Belarussian IPAs (the major habitat on eight IPAs) and covers 62% of the area of IPAs. There is coniferous forest on all ten IPAs and deciduous forest on three IPAs. Bog is the major habitat at one IPA, and mire, fens and bog are significant features of nine IPAs, covering 15% of the area of IPAs. Grassland habitats occur at all ten IPAs (dry grasslands in two and mesic grasslands in nine), covering 5% of the area of IPAs. Running and standing water is also a key feature on all ten IPAs. Constructed habitats occur on all IPAs but at between 1-5% of the area. There is a low level of agricultural or cultivated land on all IPAs although one IPA has up to 15% agricultural land.

Nature protection is the most common land use on IPAs, occurring on eight sites. Forestry, and hunting are also important land uses occurring on nine and eight sites respectively. Recreation (seven IPAs) and agriculture (seven IPAs) are also significant land uses at IPAs in Belarus.

Qualifying criteria for IPAs in Belarus

Criterion A	No of IPAs	Criterion A Tax. Group	No of IPAs	Criterion B	No of IPAs	Criterion C	No of IPAs
Total sites with A species	9	Vascular plants	9	Total sites with B richness	9	Total sites with C habitats	10
Ai	0	Bryophytes	7	C	C1 (7), C2(9), C3 (2)	Ci	10
Aii	9	Lichens	1	D	D1(6), D2(6), D4 (5), D5(6)	Cii	10
Aiii	0	Fungi	0	E	E2 (6),		
Aiv	0	Algae	0				
HD* species	9			G	G1 (7), G3(8) G4(8)	HD* habitats	10
BC* species	9					BC* habitats	10

\*Letter codes refer to EUNIS habitats levels 1 & 2; HD = Habitats Directive, BC= Bern Convention

Of the ten IPAs in Belarus, nine qualify under all three criteria. Eight Criterion A species have only one IPA recorded and eleven Criterion C habitats have only one IPA recorded.

Key Threats to IPAs in Belarus

Deforestation threatens the most IPAs in Belarus. The other significant threats are the lack of management planning, intensified forest management, land improvement measures, tourist and recreation pressure, fires and the absence of monitoring.



OLEG MASLOVSKY



### Blue Lakes

The Blue Lakes IPA in the Minsk region was protected in 1972 and included into Narochansky National Park in 1999. The area is characterised by a great variety of landscapes, in particular the splintered mosaic of lakes, hills and moraine. This relatively small area forms a unique natural complex with a large number of rare and vanishing plant species and habitats, including four species protected in Europe.

### Recommendations

There are three main directions for the development of the IPA project in Belarus:

- The selection and description of further IPAs
- The development of ecological management programmes for individual IPAs in cooperation with the Ministry and the reserve administrations (Blue Lakes is the probable first candidate for this)
- The development of joint management projects for trans-border IPAs (with Poland, Lithuania, Ukraine and Russia)

OLEG MASLOVSKY



### Belovezhskaya Pushcha

Belovezhskaya Pushcha National Park is situated in the south west of Belarus on the border with Poland. The main area covers 90,000 hectares with additional zones covering 120,000 hectares. It is a unique area of species rich, old European forest, and most of its species are in the Red Book of Belarus, fourteen of those are European protected species, and it also includes many relict plant and animal species.

The picture shows Berezinsky IPA.

**National IPA team**

National coordinating organisation:

Agency for Nature Conservation and  
Landscape Protection of the Czech  
Republic (AOPK ČR)

National Coordinator: Zdenka Podhajská;  
Deputy National Coordinator: Dana  
Turoňová; Senior Consultant:  
Jan Čeřovský

Cooperating organisations in the national  
team: Czech Botanical Society;  
Botanical Institute of the Academy of  
Sciences of the Czech Republic; Botany  
Chairs of Science Faculties – Charles  
University Prague and Masaryk University  
Brno; National Museum Prague; St John's  
Pedagogical College; State Forests of the  
Czech Republic; Czech National Park  
Administrations; Czech Union of Nature  
Conservationists.

Data kindly provided by: almost 100  
specialists including the staff of the Czech  
Agency for Nature Conservation and  
Landscape Protection with its regional  
branches, of the above mentioned  
organisations, other Czech universities,  
regional and local museums, specialists  
from Protected Landscape Areas  
cooperating as external experts, and  
some other individuals.

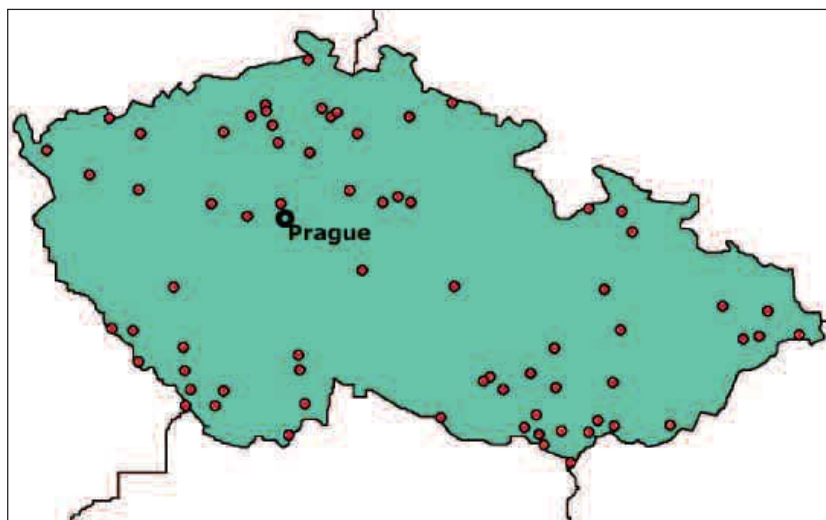


# Czech Republic

By Zdenka Podhajská and Dana Turoňová

The Czech Republic covers an area of 78,864 km<sup>2</sup> in the centre of Europe, and is bordered by Austria, Germany, Poland and Slovakia. The western and central part of the Czech Republic belongs to the Bohemian Highlands, the east to the west Carpathians. There are two biogeographic zones with most of the country covered by the continental zone, and a small part in the south east by the Pannonian zone. The Czech Republic has an agricultural and industrial landscape that has been altered considerably by human activity since the Neolithic. Agricultural lands cover 54% of the country and forests 33%, most of which are Norway spruce and Scot's pine plantations. The flora is relatively diverse due to environmental conditions. The best-preserved and most valuable natural areas are preserved by a dense network of protected areas which cover 16.6% of the state territory. The Natura 2000 network currently covers 13.5% of the country. The Czech Republic joined the EU on 1st May 2004 and is also a member of the Council of Europe.

## Czech IPAs



## IPA Statistics

No of IPAs: **75**

Area of IPAs (ha): **146,051**

No/Area of IPAs in protected areas: 68 / **123,810 ha**

Biogeographic Zones: Continental **63**, Pannonic **10**, both **2**

## Criteria lists

### Criterion A = 131 species

Ai (13), Ai/Aii (8), Aii (76), Aiii (21), Aiv (47); Habitats Directive (40), Bern Convention (50)  
Vascular plants (105), Bryophytes (25), Lichens (6), Fungi (18), Algae (0)

**Criterion B** = not applied in current project, see below  
EUNIS level 2 habitat types assessed for richness

### Criterion C = 105 habitats

Ci (20), Cii (85); Habitats Directive (60) & Bern Convention (45)

## Methodology summary

**Criteria lists:** a considerable percentage of the Criterion A taxa are identical with the Natura 2000 system. Special effort was made to include non-vascular plants and this resulted in a number of methodological problems: the western European bias of lists, poor data on distribution, difficulties in confirming records, and sporadic occurrence of some species. Criterion B was applied in three cases, in areas where there was a high diversity of fungi species and the occurrence of rare algae species. Criterion B was not widely used because almost all threatened Czech plant communities were included in the Criterion C list, and the remaining threatened plant communities qualified under Criterion A.

**Data and fieldwork:** much of the information to select IPAs came from the existing database of the coordinating Czech Agency – AOPK ČR, or was obtained from published records and consultations with specialists. The Natura 2000 database, created from 2000-2004, provided the main source for the relatively precise statistical data given in this report. IPA questionnaires were also important and they were completed by many of the cooperating specialists. Almost all of them visited their areas in 2003 or 2004, and those visits also generated some new data.

**Site selection:** the national site selection strategy was to select IPAs with a range of sizes from a few hectares to several thousand hectares depending on the qualifying features. Sites were identified for their Criterion A populations and then for their Criterion C habitats. The intention was not to create too many IPAs at the beginning of the project, and most IPAs fall within the boundaries of existing protected areas or the proposed Natura 2000 network. However, the identification of IPAs is not considered final and will continue as new data become available.

**Key issues:** as already identified above, there were some problems in IPA identification in relation to non-vascular plants. It is very probable that the areas delineated for the best habitats also are the best sites for non-vascular plants, particularly fungi. This needs to be confirmed by follow-up research for those taxonomic groups.

## Protection and management of IPAs in the Czech Republic

Total IPAs	IPAs with no legal protection	National protection of IPAs (high level)	National protection of IPAs (lower level)	European recognition of IPAs	International recognition of IPAs
75	7	66	17	SAC* 68 Emerald 27	Ramsar 15

\*SAC - sites proposed to the European Commission as Special Areas for Conservation

## References

- Podhajska Z., 2005: Zaostřeno na botanicky významná území. Ochrana Přírody, Praha, 60: 58
- Čeřovský J., Podhajska Z. et Turoňová D., 2005: Botanicky významná území ... v Česku i jinde v Evropě. Krása našeho domova, Praha (in prep.)
- Čeřovský J., Feráková V., Holub J., Maglocký Š. et Procházka F., 1999: Červená kniha ohrožených a vzácných druhů rostlin a živočichů ČR a SR. Vol. 5. Vyšší rostliny. – 456 p., Příroda a.s., Bratislava
- Kotlaba F. a kol., 1995: Červená kniha ohrožených a vzácných druhů rostlin a živočichů SR a ČR. Vol. 4. Sinice a řasy. Houby. Lišejníky. Mechorosty. – 220 s., Příroda a.s., Bratislava
- Holub J., Procházka F., 2000: Red List of vascular plants of the Czech Republic – 2000. Preslia 72: 187 – 230
- Chytrý M., Kučera T. et Kočí M. (eds.), 2001: Katalog biotopů České republiky. – 304 p. Agentura ochrany přírody a krajiny ČR, Praha.
- Kubát K., Hrouda L., Chrtěk J. jun., Kaplan Z., Kirschner J. et Štěpánek J. (eds.), 2002: Klíč ke květeně České republiky [Key to the Flora of the Czech Republic] 928 p., Academia, Praha
- Procházka F. (ed.), 2001: Černý a červený seznam cévnatých rostlin České republiky (stav v roce 2000). – Příroda, Praha, 18: 1–166
- Rybka V., Rybková R. et Pohlová R., 2004: Rostliny ve svitu evropských hvězd. Rostliny soustavy NATURA 2000 v České republice. – 87 p., Sagittaria, Olomouc.
- Anderson, S., 2003, *Identifikování botanicky významných území*. Czech translation by Z. Podhajska, 43 pp. AOPK ČR Praha.
- Čeřovský J., 2003 Soustava botanicky významných území pro ČR. Živa, Praha, 51 : LXXXI.
- Čeřovský J., Podhajska Z., Turoňová D., 2004, Botanicky významná území v České republice. Information leaflet, 6 pp. Praha, AOPK ČR.



References (continued)

Čeřovský J., Podhajská Z., Turoňová D., (Eds.), 2005, Botanicky významná území České republiky. Final report. Msc.

Podhajská Z., 1998, Important Plant Areas in the Czech Republic. In Synge H. & Akeroyd, J. (Eds) *Planta Europa*, Proceedings of the Second European Conference on the Conservation of Wild Plants, Uppsala, Sweden, pp. 98-102

Podhajská Z., 2003, Kde jsou v Evropě území významná pro ochranu rostlin? *Ochrana Přírody*, Praha, 58 : 164.

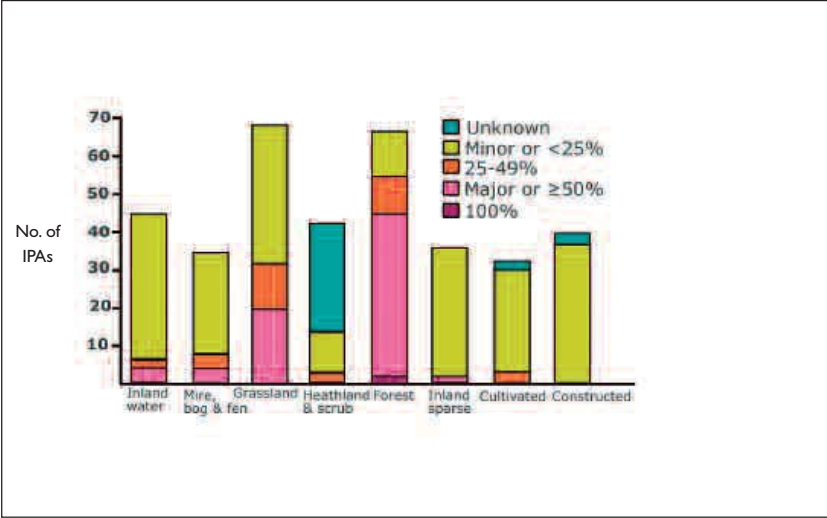
Podhajská Z., 2005, Zaostřeno na botanicky významná území. *Ochrana Přírody*, Praha (in prep.)

*In the Czech Republic several lectures on IPAs were held during 2003 – 2004 in specialist meetings and workshop as well as for the general public. During 2004 Czech Radio broadcast six debates about IPAs (which were repeated with great success), and 15,000 copies of the IPA information leaflets were widely distributed. IPA stories were also carried in daily newspapers.*

Protection of IPAs in the Czech Republic

Most IPAs are located in specially protected areas, or protected areas cover a major or minor part of their area. In total 84% of the area of IPAs is covered by existing protected areas, and 81% is covered by SACs in the Natura 2000 network. In existing protected areas, and very soon in the Natura 2000 sites, IPA management is relatively well assured. Only a few IPAs currently have no legal protection and efforts will be used to achieve protection as soon as possible, using their IPA status as a tool. Until then there are several management strategies possible such as the Landscape Management Programme of the Ministry of Environment and negotiating support with local stakeholders.

Habitats and land use at IPAs



Major habitats at IPAs in the Czech Republic

Grassland habitats occur on the most IPAs (68) and cover an area of 18,924 ha (45% mesic, 23% dry, 18% wet grasslands). Forest occurs on 67 IPAs and covers the most area of all habitats at IPAs with 94,610 ha (56% broadleaf and 44% coniferous). Other habitats such as heathland and scrub (4,414 ha), inland surface water (2,549 ha), mires, bogs and fen (1,356 ha), inland unvegetated or sparse vegetation (1,092 ha), cultivated habitats (3,427 ha) and constructed or artificial habitat (1,739 ha) are relatively rare.

Nature conservation activities occur on 50 IPAs and recreation and tourism is recorded for 42 IPAs. Forestry is a significant land use, occurring at 44 IPAs. Mowing and haymaking occur at 28 IPAs and animal grazing at 16 IPAs. Wild plant gathering is recorded at ten IPAs.

Qualifying criteria for IPAs in the Czech Republic

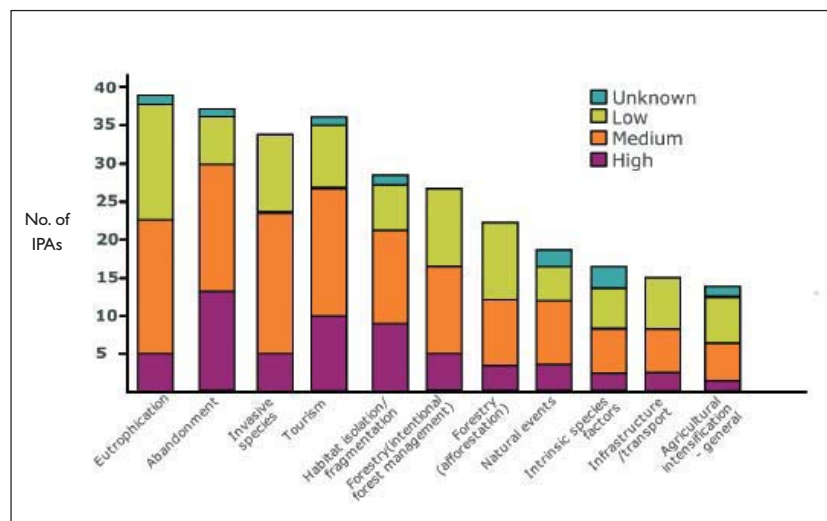
Criterion A	No of IPAs	Criterion A Tax. Group	No of IPAs	Criterion C	No of IPAs
Total sites with A species	64	Vascular plants	53	Total sites with C habitats	75
Ai	6	Bryophytes	8	Ci	67
Aii	47	Lichens	0	Cii	73
Aiii	8	Fungi	3		
Aiv	19	Algae	0		
HD* species	42	–	–	HD* habitats	75
BC* species	35	–	–	BC* habitats	52

HD\*= Habitats Directive; BC\*= Bern Convention

### Qualifying criteria for IPAs

Most of the 75 IPAs in the Czech Republic – 48 (64 %) qualify under both Criteria A and C; 16 IPAs (21 %) were identified for Criterion A only, and 11 (15 %) for Criterion C only. The selection of IPAs identified for fungi (5) and algae (3) was made on the basis of high species diversity and of the occurrence of rare species.

### Key threats to IPAs



The IPAs on non-forest lands are threatened primarily by neglected cultivation or complete land abandonment. This applies not only to meadows and steppes, but also to wetland habitats. Most non-forest habitats are also threatened by an increasing eutrophication resulting in a decline in oligotrophic plant species and communities. Eutrophication also affects habitats that historically required no management intervention, e.g. some bogs and fens are being vegetated by reed and woody plants. Invasive plant and animal species, agricultural intensification, fisheries, and natural disasters currently present only limited threats to IPAs on non-forested land.

Forest habitats are primarily threatened by intensive, commercial forest management, with the exception of some primeval forests in strictly protected nature reserves. A considerable area of forest is also threatened by atmospheric emissions: air pollution makes the forests less vital and more susceptible to insect-damage.

A considerable number of IPAs are located in regions that are very attractive for tourism, and tourist activity should be regulated. Some threats, which have been significant in the past (e.g. peat mining, habitat drainage), currently have a low or negligible impact on IPAs.

### Next steps and recommendations

The main follow-up tasks after IPA identification have been proposed:

- Potential identification of more IPAs
- Monitoring of the status and developments at IPAs
- Ensuring protection for unprotected IPAs and strengthening protection on existing protected areas
- Providing effective management at IPAs by means of action plans and rescue plans for the area and the species
- Raising awareness of IPAs among the public at large and involving local stakeholders

These activities have been proposed for inclusion in the plan of the Agency for Nature Conservation and Landscape Protection of the Czech Republic. If endorsed, this would commit the Ministry for Environment of the Czech Republic to support these activities (although not financially).

The coordinators also plan to publish an accessible book on IPAs for the general public and to develop signage to mark IPAs in the countryside.

DANA TUROŇOVÁ



#### Krkonoše IPA (Giant Mountains).

The highest Czech Mountains (up to 1,602 m) bear the impacts of Pleistocene glaciation and host interesting sub-alpine and alpine plant communities, glacial relicts (*Rubus chamaemorus*), and local endemics (*Campanula bohémica*, *Pedicularis sudetica*, *Sorbus sudetica*). Their isolated mountain tundra formations qualify them as 'an Arctic island in central Europe'. This was the first national park in the Czech Republic (established in 1963), and includes the very valuable, coherent, upper zones of sub-alpine and alpine vegetation, peat-bogs, dwarf pine stands, mountain meadows and adjacent montane spruce and mixed forests.

DANA TUROŇOVÁ



#### Pavlovské vrchy IPA (Pavlov Hills)

This site is an upland area of steep rocky limestone hills dominating the South-Moravian landscape (up to 550 m). Here, in the Pannonic zone and in the warmest region of the Czech Republic, rich plant communities of rock steppes, dry grasslands, forest steppes and thermophilous oakwoods have developed and been preserved. The flora contains many relict species as well as species on the boundaries of their geographical range. The site contains the Criterion A species *Iris humilis* subsp. *arenaria*, *Dianthus lumnitzeri*, and *Pulsatilla grandis* (shown above).

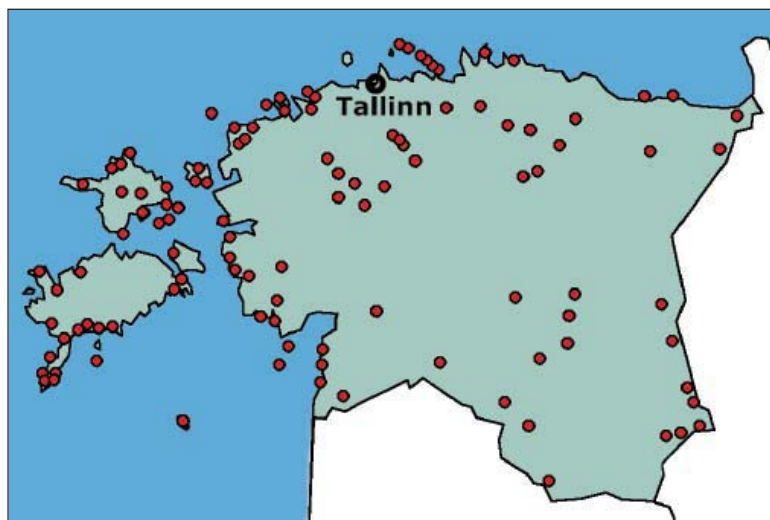


# Estonia

By Mart Külvik, Anneli Palo, Ülle Kukk, Ene Hurt, Tiit Kull,  
Erast Parmasto, Kai Vellak, Elle Roosaluste, Inga Jüriado, Irja Saar

Estonia covers just over 45,000 km<sup>2</sup> in north-east Europe, on the shores of the Baltic Sea. Estonia borders Russia and Latvia and has one biogeographical zone, the Boreal. Estonia's natural and semi-natural vegetation consists mainly of forest, mires, grasslands and coastal habitats. The Alvar forests and Alvar meadows are characteristic habitat types of the north-western and western part of Estonia and the Baltic Islands. Estonia joined the EU in May 2004 and is also a member of the Council of Europe.

## Estonian IPAs



## IPA summary statistics

Total number of IPAs: **108**

Area of IPAs (ha): **286,084**

No/Area of IPAs in protected areas (all or part): **103 IPAs**

Biogeographical zones: Boreal (**108**)

## Criteria lists

### Criterion A = 48 species

Ai/Aii (1), Aii (45), Aiii (0), Aiv (2); Habitats Directive (23), Bern (18)

Vascular plants (21), Bryophytes (8), Lichens (4), Fungi (15), Algae (0)

### Criterion B – 25

EUNIS level 2 habitats assessed for botanical richness

### Criterion C = 58 habitats

Ci (17), Cii (41); Habitats Directive (58), Bern Convention (not applied)

## IPA national team

National Coordinating Organisation:

The Environmental Protection Institute,  
Tartu

National Coordinator: Mart Külvik

National team organisations:

(full details of the national team are given  
in the acknowledgements)

Environmental Protection Institute,  
Estonian Agricultural University; Institute  
of Zoology and Botany, Estonian

Agricultural University; Institute of Botany  
and Ecology, University of Tartu

Other contributing organisations:

Ministry of the Environment, Estonia;  
Estonian Marine Institute, University of  
Tartu; Wildlife Estonia



EPMI Keskkonnakaitse Instituut  
Environmental Protection Institute

Methodology summary

**Criteria lists:** the Criterion A threatened species qualify mainly under Aii, European threat. National biotope classifications were used to determine botanical richness under Criterion B. Criteria B and C were also used to assess IPAs important for fungi and algae.

**Data and fieldwork:** existing databases provided the information to select potential IPAs and two fieldwork seasons were carried out in 2003 and 2004 to verify selection and collect additional information.

**Site Selection:** the national site selection strategy focussed on selecting sites of different sizes, both inside and outside of the existing protected area system.

**Key Issues:** special emphasis was placed on integrating data from vascular plants, bryophytes, lichen, fungi and algae in the selection of IPAs.

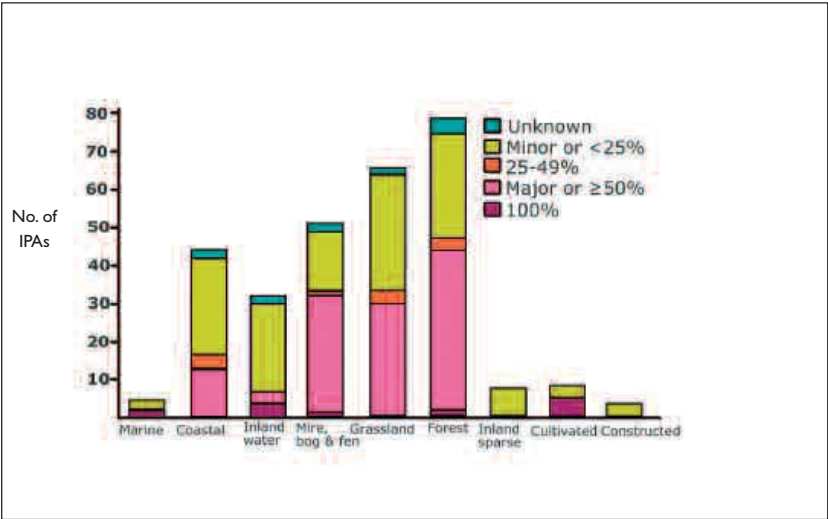
Protection and management of IPAs in Estonia

Total IPAs	IPAs with no legal protection	National protection of IPAs (high level)	National protection of IPAs (lower level)	European recognition of IPAs	International recognition of IPAs
108	5	National Park (5)	Landscape reserve (41) Nature reserve (26)	SAC* (98) SPA* (51)	Ramsar (18)

SAC\* & SPA\*= sites officially proposed by the Estonian Government to the EC

Management and protection of IPAs is partly secured through existing conservation management on statutory conservation sites and Natura 2000 areas. The next step should be for management plans for IPAs to be developed either to ensure that existing conservation management plans take account of IPA features or, to develop specific management plans for IPAs outside of protected areas.

Habitats and land use



Major habitats at IPAs in Estonia

Forests are the most frequent habitat at IPAs in Estonia (77 IPAs – deciduous broadleaf forests 28, coniferous forest 49, mixed forest 46). Grassland occurs as a frequent and significant habitat cover at IPAs (65 IPAs – dry 45, mesic 24, wet 23, wooded grassland 13). Mire, bog and fen habitats are frequent (51 IPAs – valley mires/fens 21, bogs 17). Inland water habitats are also well represented (31 IPAs – standing water 23, running water 21, littoral zone 5). There are many coastal habitats (43 IPAs – dunes 13, shingle 32, cliffs 28) and four IPAs with marine habitats including two IPAs which are 100% marine.

Apart from nature conservation activities on protected areas the most frequent land uses on IPAs in Estonia are tourism and recreation (56 IPAs), forestry (40 IPAs), haymaking or mowing (29 IPAs), grazing animals (26 IPAs), and hunting (11 IPAs).

### Qualifying Criteria for IPAs

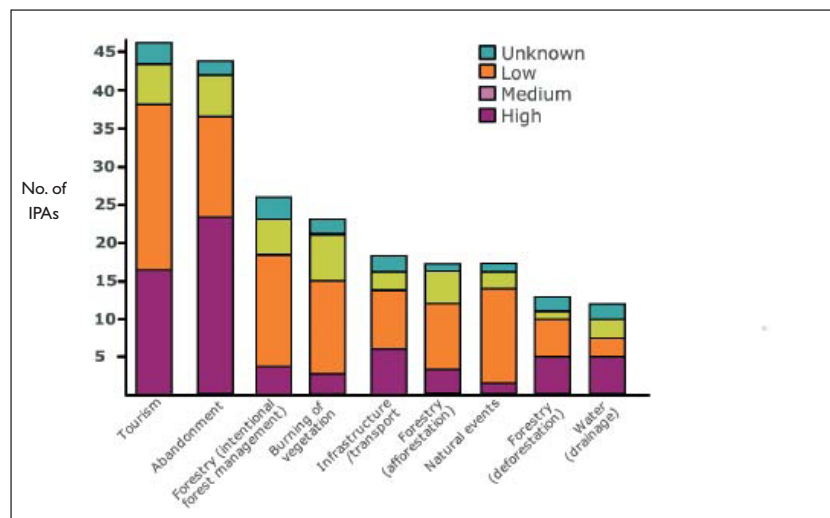
Criterion A	No of IPAs	Criterion A Tax. Group	No of IPAs	Criterion B	No of IPAs	Criterion C	No of IPAs
Total sites with A species	86	Vascular plants	82	Total sites with B richness*	105	Total sites with C habitats	80
Ai	0	Bryophytes	28	A	A1 (1), A2(3), A4 (3)	Ci	67
Aii	85	Lichens	1	B	B1 (13), B2(30), B3 (27)	Cii	72
Aiii	0	Fungi	7	C	C1 (19), C2(19), C3(5)		
Aiv	1	Algae	0	D	D1(15), D2(19) D4 (31), D5(6)		
HD* species	83			E	E1 (43), E2(22) E3(20), E5(2)	HD* habitats	80
BC* species	78			G	G3(46), G4(47)	BC* habitats	0

HD\*= Habitats Directive, BC\* = Bern Convention;

B Richness \*, codes refer to EUNIS level 1 & 2 habitats

Of the 108 IPAs in Estonia, 52 IPAs (48%), contain features from all three criteria. Eight Criterion A species have only one site recorded and 26 species have less than ten sites recorded. 54 IPAs contain threatened forest habitats and 49 IPAs contain threatened grasslands habitats. Fungi, bryophytes, lichen and algae were used to identify sites under the three different criteria. Kassari Bay IPA, one of only two marine IPAs to date, was identified under Criterion B for its unique drifting red algal communities.

### Key threats to IPAs



### References:

Kull T., Kukk T., Leht M., Krall H., Kukk Ü., Kull K. & Kuusk V., 2002, *Distribution trends of rare vascular plants species in Estonia.*

### Biodiversity and Conservation

11: 171-196.

Paal, J., 1997, Eesti taimkatte kasvukohatüüpide klassifikatsioon. – Tallinn: Keskkonnaministeerium, ÜRO Keskkonnaprogramm, 297 lk.

Ryttäri T., Kukk Ü., Kull T., Jäkaläniemi A. and Reitalu M. (eds.), 2003, *Monitoring of threatened vascular plants in Estonia and Finland – methods and experiences.* The Finnish Environment, 659. Finnish Environment Institute, Helsinki, 122 pp.

Külvik, M., et al., 2005. *Eesti tähtsad taimealad /Estonia Important Plant Areas, in Estonian/ publication in preparation.*



### Recommendations

■ The national IPA team should develop an action plan for the IPA network which prioritises sites most in need of protection and management, including a list of appropriate actions and tasks, and should aim to engage all the key stakeholders.

■ **Management plans** for IPAs should be developed, either to ensure that existing conservation management plans take account of features of IPAs or, to develop specific management plans for IPAs outside of protected areas.

■ **Monitoring** the state of the IPA system should be carried out, particularly the threats to sites and the level of protection they are receiving. The system will include existing national biodiversity monitoring programmes, the Natura 2000 monitoring system, and monitoring of IPAs outside protected sites and outside of conventional monitoring programs.

■ Actions should be carried out to develop possibilities for **funding** actions to protect IPAs. Existing legal instruments and opportunities will be adapted to IPAs (e.g. agricultural land), others need to be elaborated (e.g. for forestry).

■ **Publicity campaigns** which promote IPAs, good conservation practise at IPAs, and activities to engage people in plant conservation, should be targeted at politicians and the general public, and should involve landowners and local communities.

■ IPAs **support the Natura 2000 process** and improve habitat protection.

Forestry practices threaten almost half of IPAs (51 IPAs – intensified forest management (IFM) 26, afforestation 17, deforestation 13). Recreation and tourist development threatens 44% of IPAs. Abandonment and reduction of land management is a high or significant threat at 41% of IPAs. In total, development (transport/infrastructure and urban) threatens 21% of IPAs; Burning of vegetation threatens 21%; and water management practices threaten 17%.

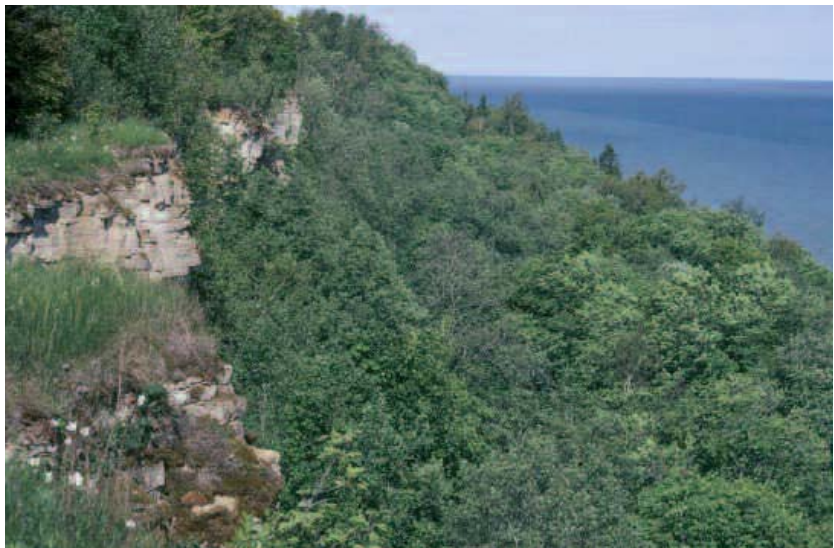
MART KÜLVIK



#### Puhtu forest and coastal meadows

Puhtu is a well preserved area of old growth, predominantly oak forest and Baltic coastal meadows. The site contains two priority European habitats, and has been assessed for species richness for its mesic grasslands and its coastal shingle habitats. The park and pasture were formerly owned by the local manor and its coastal meadows, reeds and juniper scrub are now only used a little.

MART KÜLVIK



#### Ontika cliff forests (Saka-Ontika-Toila pangamets)

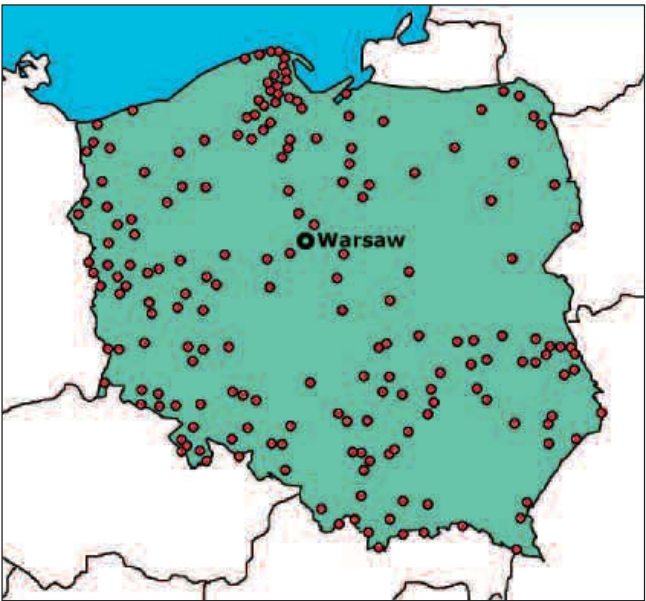
This is an area of unusual, old growth, cliff forests, situated on a limestone bank fed by natural springs. The forest is dominated by lime, maple, ash, alder, and other deciduous species with a few examples of oak and spruce. There has been little human impact in the forest and the priority is to protect these valuable, species rich forests.

# Poland

By Zbigniew Mirek

Poland covers an area of over 312,000 km<sup>2</sup> in Central Europe and has two biogeographical zones: the Continental, which covers most of the country and a small area of the Alpine zone in the Carpathian Mountains of the south. Poland's natural and semi-natural habitats consist mainly of several types of forest, mown or grazed grasslands, including small areas of warm, dry, steppe-like grassland, as well as vast areas of swamps and peat bogs. The country also harbours two Centres of Plant Diversity, the Carpathians and the Białowieża Forest. Poland joined the EU in May 2004 and is a member of the Council of Europe.

### IPAs in Poland



### IPA summary statistics

Number of IPAs: **116**

Area of IPAs (ha): **2,070,000**

No/Area of IPAs in protected areas (all of part): **97 IPAs/2,046,500 ha**

Biogeographic zones: Continental (**107**), Alpine (**9**)

### Criteria lists

#### Criterion A = 101 species

Ai (15), Ai/Aii (10), Aii (70), Aiii (6), Aiv (0); Habitats Directive (47), Bern (47)  
Vascular plants (78), Bryophytes (23), Lichens (0), Fungi (0), Algae (0)  
[due to data deficiencies, fungi and algae data have not yet been included]

**Criterion B** – Applied marginally in the current project, as additional criteria

#### Criterion C = 73 habitats

Ci (17), Cii (56); Habitats Directive (73) & Bern Convention (0)

### IPA national team

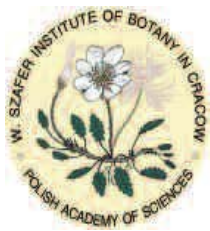
National coordinating organisation:

The W. Szafer Institute of Botany, Kraków,  
Polish Academy of Sciences

National coordinator: Zbigniew Mirek

Other contributing organisations:

(full details of national team members and contributing specialists are given in the acknowledgements)



### Tatra Mountains IPAs

The Tatras, located on the border of Poland and Slovakia and the highest arc in the Carpathians, are an exceptional area in central Europe for geological, climatic and biological diversity. They contain 28 habitat types and seven species of European importance, several endemic and sub-endemic species and plant associations, and are nationally important because they contain the only site in Poland for tens of plant and fungi species.



**Dolina Biebrzy (Biebrza River Valley) IPA**

The Biebrza IPA, as the largest lowland river valley preserved in an almost natural state in western and central Europe, is widely acknowledged for its unique value as a habitat complex for many plants and animal species. Among the mosaic of bog, fen and wet forest communities there are fifteen priority threatened habitats from the Habitats Directive, and this area is the richest site in the whole country for species such as *Cypripedium calceolus*. The picture shows *Cochleria polonica*, a globally threatened species.

**Methodology summary**

**Criteria lists:** Poland's criterion A list for threatened species covers a wide range from globally to regionally and nationally threatened. The IPA project also provided an impetus to update national red lists and checklists. The Criterion C list for Poland also contains a high number of priority threatened habitats.

**Data and fieldwork:** much of the IPA selection was based on existing data with some additional fieldwork to verify and/or supplement the necessary IPA information.

**Site selection:** potential IPAs were identified from national and landscape parks, the preliminary Natura 2000 list, and other sites nominated by specialists. These sites were checked using the IPA criteria and the results reviewed by consultation with regional advisors and non-vascular plant and fungi specialists. The national site selection strategy focussed on a range of site sizes from thousands of hectares to single hectares depending on the qualifying features and ecological context. Special attention has been paid to the botanically important sites proposed for the NATURA 2000 network, that were not included in the official list presented to the EU. More potential IPAs will be investigated during the planned continuation of the network.

**Key issues:** Criterion B application evidently needs more analyses and a multi-faceted approach. It has been applied to a very limited extent so far and it is intended that it will be used more extensively during the planned continuation of the programme. The most important and tangible spin-offs of the project are the updates and creation of national Red Lists for most of the systematic groups of plants and fungi, and comprehensive checklists for particular systematic groups. These lists are now being published.

**Protection and management of IPAs**

Total IPAs	IPAs with no legal protection	National protection of IPAs (high level)	National protection of IPAs (lower level)	European recognition of IPAs	International recognition of IPAs
116	19	National Park (23)	Landscape Park (60)	SAC* (67) SPA* (7)	Ramsar (3)
		Strict Nature Reserve (34)	Protected Landscape Area (62)		Biosphere Reserve (9)
		Private Nature Reserve (2)	Ecological Use Areas (60)		

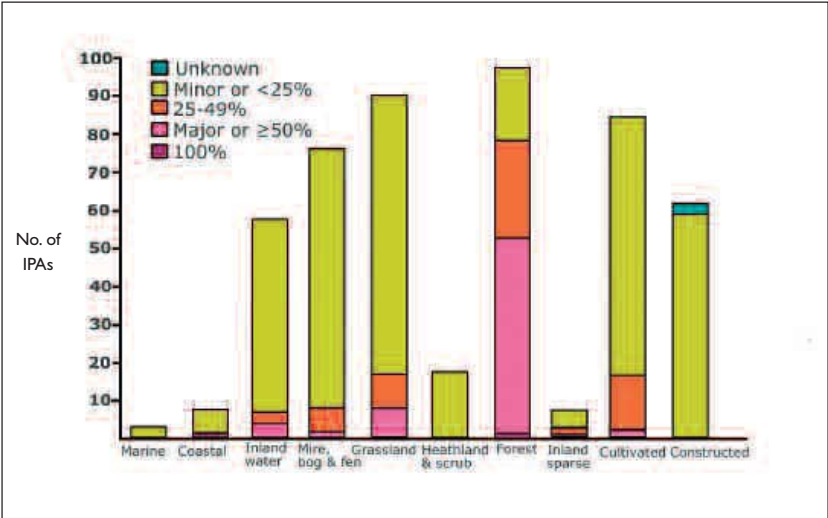
SAC\*/SPA\* = sites officially proposed by the Polish Government to the European Commission

**Protection of IPAs**

All IPAs that are National Parks have official, Ministry of Environment-approved, management plans. On anecdotal evidence most Landscape Parks and Nature Reserves have management plans that are already prepared (although not recently in some cases), or in the course of preparation. For other types of IPAs such management plans are very scarce, or at least the information on their existence is not easily available.



### Habitats and land uses



### Major habitats at IPAs in Poland

Forest is the most widespread of habitats at IPAs, occurring at ninety-eight IPAs (84%), (deciduous 95, coniferous 75 IPAs, mixed 49 IPAs). Grassland is also a major habitat type at 93 IPAs (80%) (wet 63 IPAs, mesic 56 IPAs, dry 31 IPAs, alpine and subalpine 8). Cultivated and constructed habitats occur at a low level of many IPAs. Wetland habitats occur at almost two thirds of IPAs (sedge/reed beds 38, valley mires/fens 35, base rich fens 29, bogs 17). Inland water occurs at 51% of IPAs. Temperate heath and alpine scrub, screes and rock habitats, coastal dunes and marine habitats also occur at IPAs.

Agriculture occurs at 67% of IPAs (arable 54, mixed 52, animals/grazing 41). Forestry (72 IPAs) and tourism and recreation (66 IPAs) are also major land uses at IPAs. Transport, industrial and urban activities occur on sixty IPAs (51%), and the other main land uses are hunting, fisheries and aquaculture, mineral extraction and water management.

### Qualifying criteria at IPAs in Poland

Criterion A	No of IPAs	Criterion A Tax. Group	No of IPAs	Criterion C	No of IPAs
Total sites with A species	100	Vascular plants	97	Total sites with C habitats	108
Ai	10	Bryophytes	13	Ci	98
Aii	98	Lichens	0	Cii	103
Aiii	2	Fungi	0		
Aiv	0	Algae	0		
HD* species	96	–	–	HD* habitats	108
BC* species	90	–	–	BC* habitats	0

HD\*= Habitats Directive; BC\* = Bern Convention

Of the total IPAs in Poland (116), 84% qualify under Criterion A and Criterion C. 23 Criterion A species currently have only one site recorded and seven Criterion C habitats have only one site recorded.

### References:

- Mirek Z. et al. [eds.] 2005 [in prep.]. Ostoje roślinne w Polsce. [Important Plant Areas in Poland]. Instytut Botaniki im. W. Szafera, Kraków.
- Każmierczakowa R. & Zarzycki K. 2001. Polish Red Data Book of plants. Pteridophytes and flowering plants. Polish Academy of Sciences, W. Szafer Institute of Botany & Institute of Nature Conservation, Cracow.
- Piekoś-Mirkowa H. & Mirek Z. 2003. Atlas roślin chronionych. [Atlas of protected plants]. Multico O.W., Warszawa.
- Siemińska J. [in press]. Red list of threatened algae in Poland.
- Wojewoda W. & Ławryniewicz M. [in press]. Red list of threatened macrofungi in Poland (3rd ed.)
- Zarzycki K., Szlag Z. & Trzcńska-Tacikowa H. [in press]. Endangered with extinction and threatened vascular plants in Poland at the end of the 20th century.
- Żarnowiec J. T. [in press]. Red list of threatened mosses of Poland.
- Mirek Z., Piekoś-Mirkowa H., Zajac A., Zajac M. et al. 2002. Flowering plants And pteridophytes of Poland. A checklist. – *Biodiversity of Poland* 1. W. Szafer Institute of Botany, P.A.S., Cracow; 442 pp.
- Zarzycki K., Trzcńska-Tacik H., Różański W., Szlag Z., Wolek J. & Korzeniak U. 2002. Ecological indicator values of vascular plants of Poland. – *Biodiversity of Poland* 2 W. Szafer Institute of Botany, P.A.S., Cracow; 183 pp.
- Ochyra R., Żarnowiec J. & Bednarek-Ochyra H. 2003. Census catalogue of Polish mosses. – *Biodiversity of Poland* 3. W. Szafer Institute of Botany, P.A.S., Cracow; 372 pp.

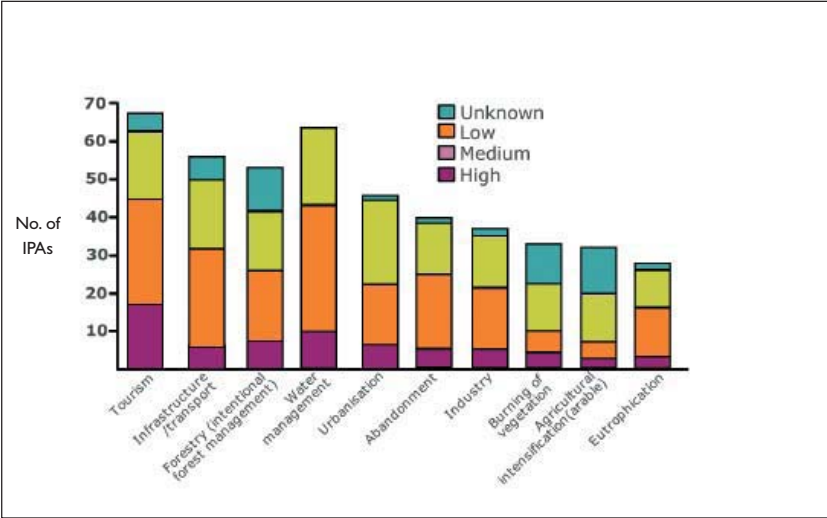


Recommendations

- Further development of the national IPA network, as information on new sites becomes available (80-100 more sites are expected to be added).
- More extensive inclusion of spore plants and fungi into the network.
- Larger scale application of Criterion B in identification of future sites.
- Establishing a monitoring programme for IPAs already identified.
- “Lobbying” for inclusion of IPAs that are not otherwise protected into some formal network of protected areas; if feasible, also promotion of increased protection for sites with low levels of protection.
- Actions towards securing permanent financial support from the Ministry of Environment (or other sources), to guarantee the existence and development of the national IPA network.
- Integration of the nationally identified IPAs into pan-European networks of protected areas.

The quality of data and especially the long-term trend information varies considerably from site to site. The best information comes from sites that have been extensively studied by the scientific community, such as national parks and a few nature reserves, or those sites with rare or interesting species. However, since the introduction of several monitoring schemes such as Ramsar, NATURA 2000, and red list projects, data flow has notably increased and the IPA programme will also be able to contribute to improving trend assessments and monitoring possibilities.

Key threats to IPAs in Poland



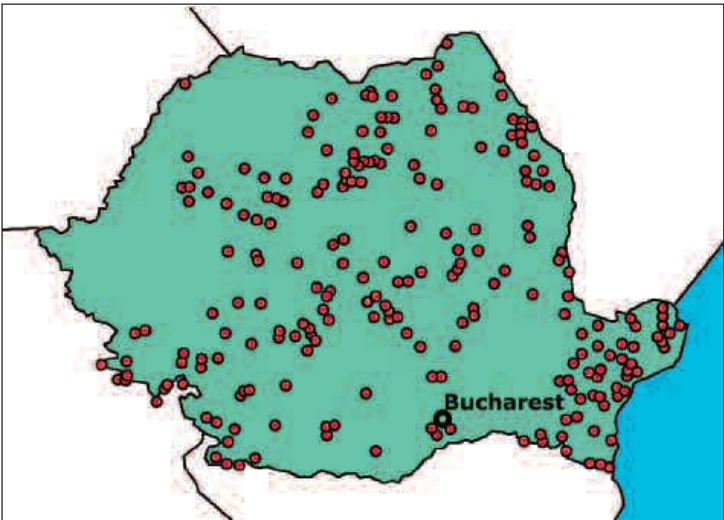
Tourist and recreation development is the single most widespread threat to IPAs in Poland (68 IPAs). Inappropriate forestry practices affect 56% of IPAs (intensified forest management (IFM) 53, deforestation 27, afforestation 25). Infrastructure and transport development is also one of the most significant threats (56 IPAs), as well as urban development (45 IPAs) and industrial development (38 IPAs). Inappropriate water management systems, including drainage, extraction, and canalisation, affect 49 IPAs, and eutrophication affects 28 IPAs. Burning of vegetation and aquaculture and fisheries also threaten IPAs in Poland.

# Romania

By Anca Sârbu

Romania covers almost 238,000 km<sup>2</sup> in south eastern Europe and has five biogeographic zones, the Continental, Pannonian, Alpine, Steppic and Black Sea. The diversity of biogeographic zones matches the diversity of plant species and habitats from the Carpathian Mountains in the north, to the steppic grasslands and wetland areas of the Danube Delta in the south. Romania has two Centres of Plant Diversity, the Carpathians and the Danube Delta. Protected areas with botanical importance cover about 5% of the Romanian territory. Romania is set to accede to the EU in 2007 and is also a member of the Council of Europe.

### IPAs in Romania



### IPA summary statistics

Number of IPAs: **276**

Area of IPAs (ha): **426,500**

No/Area of IPAs in protected areas (all or part): **210 IPAs**

Biogeographic zones: Continental (**128**), Alpine (**98**), Steppic (**40**), Black Sea (**9**), Pannonic (**1**)

### Criteria lists

#### Criterion A = 226 species

Ai (34), Aii (99), Aiii (59), Aiv (34); Habitats Directive (36), Bern (75)  
Vascular plants (182), Bryophytes (25), Lichens (7), Fungi (12), Algae (0)

#### Criterion B

EUNIS level 2 habitats assessed for richness

#### Criterion C = 116 habitats

Ci (24), Cii (92); Habitats Directive (66), Bern Convention (55)

### IPA national team

National coordinating organisation:

The Association of Botanical Gardens of Romania (AGBR)

National coordinator: Anca Sârbu

Other organisations in the IPA team:

the Ministry of Water and Environmental Protection, Botanical Gardens of Bucharest, Cluj-Napoca, Iasi, Craiova, Târgu-Mures, University "Al. I. Cuza" Iasi, University "Babes-Bolyai", University of Bucharest, University of Craiova, Faculty of Medicine and Pharmacy Târgu-Mures, University "V. Goldis" Arad, Institute of Biological Research Cluj-Napoca, Danube Delta Research and Design Institute Tulcea, Institute of Grassland Cultivation and Protection Brasov, National Park Piatra Craiului. Scientists from 16 state organizations were involved in the data providing process, based especially on their field activity developed between 2002-2004.



Methodology summary

**Criteria summary:** there is a wide range of globally, regionally and nationally threatened taxa in Criterion A. Of these, 93 taxa are nationally threatened endemic or limited range taxa with no European or global recognition. Ten EUNIS Level 2 habitats were assessed for botanical richness, including 19 types of unique Romanian habitats, not yet recognised for their European importance, which could not be assessed under Criterion C. Criterion C also has a wide range of habitats but more of Romania’s threatened habitats should be recognised at the European level.

**Data and fieldwork:** at the beginning of the project all available existing data were collated and potential sites for field investigation selected. Two extensive field seasons on almost 400 sites were carried out in 2003 and 2004. The majority of the data used for IPA identification were updated in the last two years.

**Site selection:** according to the project methodology, the national selection strategy focussed on selecting sites of different sizes (from one ha up to 38,000 ha) depending on the qualifying features and the ecological situation. Sites were selected inside and outside the existing protected area network. Conservation priority level was also a key element in selection.

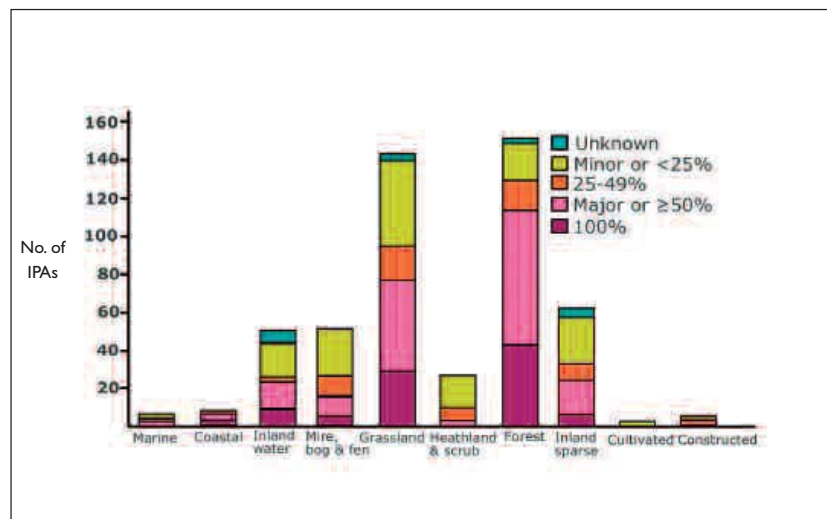
**Key issues:** lower plants and fungi were fully integrated into the site selection procedure. The lack of up-to-date and centralised information on flora and habitats was a significant problem at the start of the project. For this reason, the existing data was checked in the field and the IPA project provided the impetus for the first national database of threatened plant and habitat locations. 3,000 leaflets and a guide to the identification of IPAs in Romania were published, and the ‘Important Plant Areas in Romania’ book will be published in 2005. This will ensure that decision makers, scientists, students and the general public will have access to this information.

Protection and management of IPAs:

Total IPAs	IPAs with no legal protection	National protection of IPAs (high level)	National protection of IPAs (lower level)	European recognition of IPAs	International recognition of IPAs
276	66	National Park (49 IPAs)	Natural Park (2 IPAs)	IBA (2)	Ramsar (3)
		Nature Reserve (133 IPAs)	Geological Reserve(1 IPA)		Biosphere Reserves (22 IPAs)
			Nature Monument (3 IPAs)		

As the most sensitive areas for threatened plant and habitat conservation, all IPAs require national protection and special management to ensure their maintenance or restoration. Consequently the 66 IPAs located outside the existing protected areas in Romania need to become nationally protected. More research is also needed to provide the scientific background for the correct management of sites according to the aims of in situ conservation. Unique populations of threatened plants such as *Andryala levitomentosa*, *Astragalus peterfii*, *Centaurea pontica*, *Centaurea jankae*, *Linum pallasianum* ssp. *borzeanum*, and *Stipa danubialis* will shortly disappear without special management, including reintroduction.

### Habitats and land use:



### Major habitats at IPAs in Romania

Forest is the most widespread major habitat at IPAs in Romania (150 IPAs), (deciduous 116 IPAs, coniferous 47 IPAs, mixed 10 IPAs). Grasslands are also a major habitat type (dry 70 IPAs, mesic 46 IPAs, alpine 24 IPAs, wet 8 IPAs, saline 7 IPAs, wooded grasslands 6 IPAs). Inland cliffs, rock pavements and screes occur at 61 IPAs. Wetland habitats are also significant at IPAs (bogs 20 IPAs, mires and poor fens 15 IPAs, base rich fen 1 IPA, standing water 33 IPAs, running water 10 IPAs and littoral zones 8 IPAs). Coastal habitats, in particular dunes, occur at 9 IPAs and littoral and sub-littoral marine habitats occur at 8 IPAs on the Black Sea.

Apart from nature conservation activities on existing protected areas, grazing and livestock practises (119 IPAs) are the most widespread land use at IPAs. Forestry activities occur at 108 IPAs. Tourism and recreation is also a major land use at IPAs (109 IPAs), as well as wild plant gathering (50 IPAs) and hunting (28 IPAs). More than 50% of IPAs have three or more land uses.

### Qualifying criteria at IPAs in Romania:

Criterion A	No of IPAs	Criterion A Tax. Group	No of IPAs	Criterion B	No of IPAs	Criterion C	No of IPAs
Total sites with A species	216	Vascular plants	211	Total sites with B richness	85	Total sites with C habitats	196
Ai	66	Bryophytes	19	A	A2 (2)	Ci	76
Aii	177	Lichens	7	B	B1 (4)	Cii	167
Aiii	116	Fungi	10	C	C1 (1)		
Aiv	117	Algae	0	E	E1 (35)		
HD* species	91			F	F1 (7)	HD* habitats	182
BC* species	160			G	G1 (45)	BC* habitats	154

HD\*= Habitats Directive; BC\*= Bern Convention; B richness codes refer to EUNIS level 2 habitats



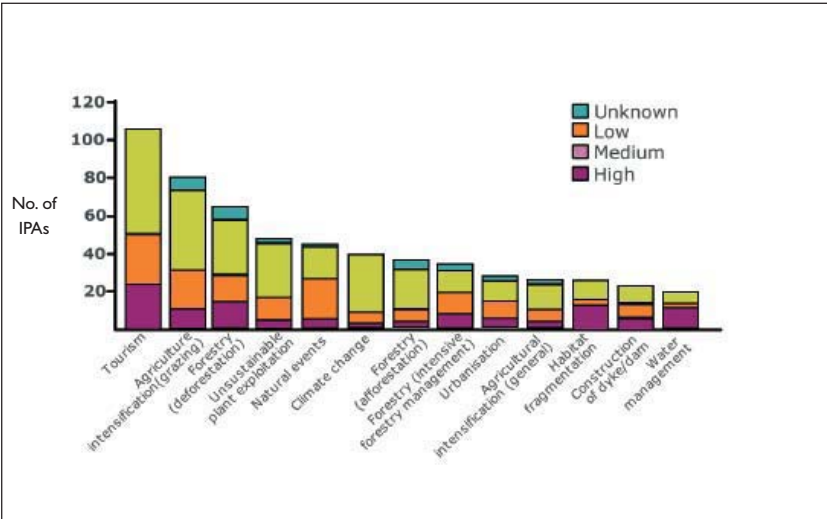
Recommendations

As key sites for threatened plants and habitats the following actions are recommended to ensure the sustainable protection of IPAs and their features:

- Ensuring the identity of IPAs as the most significant network for conservation of threatened plant taxa and habitats in Europe.
- Developing a strategic action plan for the IPA network and identifying the people and organisations to watch over them and to promote them at the national and international level.
- Obtaining protection status for non-protected IPAs.
- Identifying new IPAs (IPA identification need to be understood as a dynamic and ongoing process).
- Developing a national IPA monitoring system.
- Developing management plans for IPAs as a part of the national strategy for biodiversity conservation.
- Organising a programme on “capacity building for IPA sustainability”
- Raising awareness among politicians, local communities and the general public about the importance of IPAs and to involve them in the IPA protection and conservation.
- Developing funding proposals for ACTIONS to conserve IPAs!

Of the 276 IPAs in Romania, 20 IPAs (7%), qualify under all three criteria, 179 IPAs (65%) qualify under two criteria and 79 IPAs (28%) qualify under one criterion (A or B or C). Seventy-nine IPAs were selected for only one criterion, of these 20 IPAs were selected for criterion A species, 21 IPAs for criterion B and 38 for criterion C. The highest number of Criterion A taxa recorded in one IPA was 40 and the highest number of Criterion C habitat types recorded in one IPA was 11.

Key threats to IPAs in Romania



Recreation and tourism development is the most widespread threat to IPAs in Romania (104 IPAs). Intensification or expansion of grazing is also a significant threat, occurring at 80 IPAs and general agricultural intensification affects 24 IPAs. Poor forestry practices affect 100 IPAs (deforestation 63 IPAs, afforestation 38 IPAs, IFM intensified forest management 37 IPAs). Habitat fragmentation affects 24 IPAs, often to a high level. Natural events such as drought, disease etc are recorded as threats at 43 IPAs and climate change and sea level rise as a low level threat at 40 IPAs. Urban development, construction of dams, dykes and barriers, and inappropriate water management systems also threatens several IPAs.

Significant globally and European-level threatened habitats, such as coastal dune grasslands, broadleaved deciduous and coniferous woodland, and alluvial forest, are still well represented in Romania. However they are increasingly affected by tourism, agriculture and deforestation and they require special management measures as soon as possible. Unfortunately the connection between scientific information and political will is still weak and in many cases even existing protected areas have no real management. Human capacity and the necessary infrastructure need to be developed to make the protection and conservation system work.

ANCA SÂRBU



### Muntii Bucegi IPA

This large and diverse IPA is located in the Carpathian Mountains in the Bucegi Mountains National Park. It hosts significant populations of 38 globally threatened species (such as *Festuca bucengiensis*), 20 threatened habitat types, and three rich newly described habitat types under Criterion B. The site is affected by high anthropogenic pressure, especially tourism development, grazing and deforestation, and requires a management plan for rehabilitation of its botanical features. Picture shows *Dianthus spiculifolius*.

ANCA SÂRBU



### Pietrosul Brostenilor, Bogolin IPA

This is the only IPA in the world with the globally threatened species *Andryala levitomentosa*. It also contains two threatened European habitats, alpine and boreal heath, and siliceous alpine and boreal grassland. The site covers 400 hectares in the eastern Carpathians and is not a protected area. There are no direct threats but the site needs monitoring and species reproduction research and action. Picture shows dry stone grasslands from Dobrogea-Allah Bair Hill which hosts 30% of the Romanian population of *Agropyron cristatum* ssp. *brandzae* a threatened endemic.

### References:

Jalas, J. & Suominen J. (eds.). 1972-1999, *Atlas Florae Europaeae*. Vols. **I-I0**. Helsinki.

Jalas, J., Suominen J., Lampinen R., Kurtto A., (Eds.)  
1996, *Atlas Florae Europaeae. Distribution of vascular plants in Europe*. Vol. **11**. *Cruciferae (Ricotia to Raphanus)*. Helsinki  
1999, *Atlas Florae Europaeae. Distribution of vascular plants in Europe*. Vol. **12**. *Resedaceae to Platanaceae*. Helsinki

Sârbu, A. (coord.), 2003, *Ghid pentru identificarea importantelor arii de protecție și conservare a plantelor din România*. București: Edit. Alo, 113 pp. ISBN 973-86.364-0-x.

Săvulescu, T. (Ed.), 1952-1976, *Flora României*. București: Edit. Academiei Române. Vol. **I-13**.

**National IPA team**

**Coordinating organisation:** The World Conservation Union (IUCN) Programme Office for Russia and the Commonwealth of Independent States (CIS), Moscow

**Coordinator:** Galina Pronkina

**Recommendations**

Priorities for plant conservation in European Russia:

- Prepare a list of endemic species for use in conservation work.
- Create an inventory of plant species in regional and federal protected areas.
- Assess the status of rare species using IUCN red listing criteria.
- Prepare a list of Russian species for inclusion in global and European Red Lists and conservation lists.
- Assess the effectiveness of the protected area system for plant conservation.
- Assess the conservation priorities for species, habitats and sites.
- Identify Important Plant Areas and assess protection status.

The following areas have been identified as particularly unique, valuable or vulnerable areas, where plant conservation action is needed urgently:

- The agricultural and steppe zone of the central and southern part of European Russia.
- The Russian Arctic (European and Asian), a priority region for IUCN.
- The Caucasus and central Asia (Uzbekistan and Kazakhstan).

## Russia and the CIS Region

By Galina Pronkina

The Russian Federation and the Commonwealth of Independent States cover a vast area of Europe and Asia with a range of habitats from the polar deserts of the Arctic to the sandy deserts of central Asia. There is a wealth of landscape types, plants and fungi, from the tundra, taiga and wetlands of the north to the steppes and grasslands of the south, to the diverse mountain areas of the Caucasus.

The IUCN-CIS Moscow Office acts as a focal point for the *European Plant Conservation Strategy* and the IPA project in Russia and the CIS Region. They work to raise awareness for plant conservation, disseminate Russian-language materials, establish networks of specialists and stakeholders, and develop project proposals with partners.

**Awareness raising**

In order to raise awareness among specialists and stakeholders, IUCN-CIS has translated the *European Plant Conservation Strategy*, the *IPA Site Selection Manual* and information leaflets into Russian and distributed them in Russia, Belarus, Ukraine, Moldova, Georgia, Armenia, Azerbaijan, Kazakhstan and Uzbekistan. Other information materials have also been published in Russian (see references). An IPA workshop was also held at the International Symposium on *Steppes of Northern Eurasia* in Orenburg, 2003.

### Ongoing work

**Belarus** The IPA project in Belarus is the first practical project in the region and has demonstrated the need for fieldwork in validating data, the need to develop regionally relevant species and habitats lists, and the value of regional teams for developing the project in different countries. (see Belarus section above for details)

**Russia** IUCN-CIS has disseminated Russian-language materials and information and the Russian national network of specialists, protected area managers and government representatives, continues to increase.

IUCN-CIS is working on a study of the rare and threatened species of European Russia, which illustrates the need to update global and regional plant conservation lists with the latest information from Russia. Of the 273 species listed in the *Red Data Book* for the European part of Russia, which includes 125 endemic or near-endemic species, only 81 of these were included in the *Global Red List* (1997) and only 15 species are included in the Bern Convention. This study also illustrated that only 32% of Russia's rare species are conserved in strictly protected areas such as Zapovedniks.

JONATHAN RUDGE



Forest steppe in Siberian Russia

### References:

Plantlife International 2002, **Identifying Important Plant Areas in Europe**.

Russian language edition published by IUCN-CIS

Demina O., 2004 *The East Europe steppes of Russia and the preservation of flora*. Presentation at Planta Europa IV Conference ([www.nerium.net/plantaeuropa/Submissions.htm](http://www.nerium.net/plantaeuropa/Submissions.htm))

IUCN for Russia and CIS, & the Institute for Experimental Botany Minsk, 2004, **Important Plant Areas in Belarus**. IUCN-CIS (In Russian)

IUCN for Russia and CIS, 2004 **Important Plant Areas in European Russia**. IUCN-CIS (In Russian)

IUCN for Russia & CIS, 2004 **Important Plant Areas in Northern Eurasia** Vol. I. IUCN-CIS (In Russian)

Kazakova M., 2004 *Ecosystem approach to Important Plant Area Protection: an example from Russia*. Presentation at Planta Europa IV Conference ([www.nerium.net/plantaeuropa/Submissions.htm](http://www.nerium.net/plantaeuropa/Submissions.htm))

Planta Europa & the Council of Europe, 2002 **European Strategy for Plant Conservation**. Russian language edition published by IUCN-CIS

Smelansky, I.; Korolyuk, A. & Artemov, I. 2004. Protection of steppe communities and plant conservation: a case of one Russian territory. Planta Europa IV Proceedings. ([www.nerium.net/plantaeuropa/Download/Proceedings](http://www.nerium.net/plantaeuropa/Download/Proceedings))

Varlygina T., Pronkina G., 2004 Important Plant Areas in European Russia – Approaches to Identification. Planta Europa IV Proceedings. ([www.nerium.net/plantaeuropa/Download/Proceedings](http://www.nerium.net/plantaeuropa/Download/Proceedings))

Krasnaja Kniga RSFSR. Rastenija. M., Rosagropromizdat, 1988. 592 s. (Red Data Book of the RSFSR. Plants/ – Moscow, 1988. – 592 pp..

The Present-day State of Biodiversity within Protected Areas of Russia. Issue 2. Vascular Plants (in 2 parts) – Moscow, 2003. – 784 pp.

1997 IUCN Red List of Threatened Plants. – IUCN, 1998. – 862 p.



**IPA national team**

Coordinating organisation:

Daphne Institute of Applied Ecology

National coordinator: Dobromil Galvánek

Other organisations in national team:

the State Nature Conservancy of Slovak Republic; the Institute of Botany, Slovak Academy of Sciences; individual members from other institutions

Other information: Data from the

Information System of Taxa and Biotopes of the State Nature Conservancy were used for the selection of IPAs

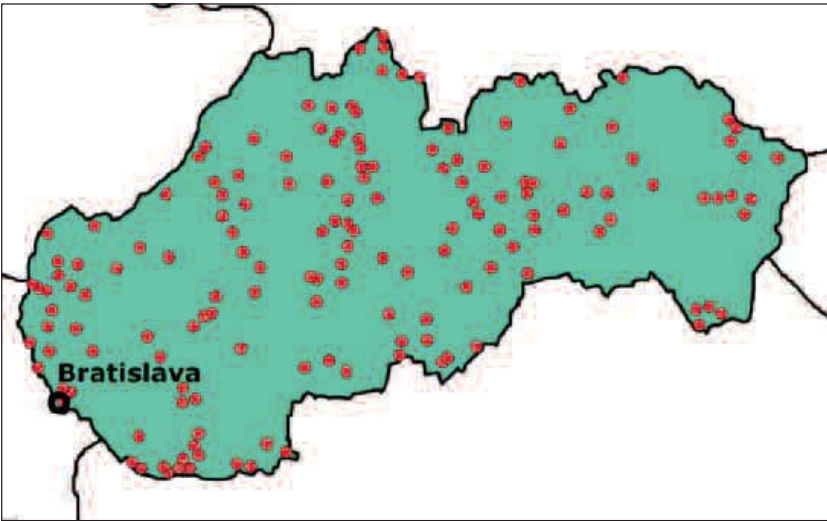


# Slovakia

By Dobromil Galvánek

Slovakia covers 49,000 km<sup>2</sup> in central Europe and has two biogeographic zones, the Alpine and the Pannonian. Slovakia borders the Czech Republic, Poland, Hungary, Austria and Ukraine and has one Centre of Plant Diversity, the Carpathians. Slovakia's natural and semi-natural habitats consist mainly of forest, from the large expanses of beech forest in the Carpathians to the Danube flood plain forest and grasslands; from the alpine meadows of the mountains to dry calcareous grasslands, to alluvial and fen meadows. Slovakia also has a high number of endemic and limited range species. Slovakia joined the EU in May 2004 and is also a member of the Council of Europe.

**IPAs in Slovakia**



**IPA summary statistics**

Number of IPAs: **154**

Area of IPAs (ha): **645,507**

Number/Area of IPAs in Protected Areas: **118 IPAs/ 488,036 ha**

Biogeographic zones: Alpine (**102 IPAs**), Pannonic (**52 IPAs**)

**Criteria lists**

**Criterion A = 241 species**

Ai (20), Ai/Aii (8), Aii (109), Aiii (30), Aiv (72); Habitats Directive (50), Bern (42)  
Vascular plants (151), Bryophytes (37), Lichens (31), Fungi (22), Algae (0)

**Criterion B = 11 not applied in current project**

**Criterion C = 77 habitats**

Ci (23), Cii (54); Habitat Directive (67), Bern Convention (10)

### Methodology summary

**Criteria lists:** the Criterion A list represents a wide range of globally, regionally and nationally threatened endemics and limited range species. There are also a high number of eligible bryophytes, lichens and fungi species.

**Data and fieldwork:** much of the selection of sites was based on existing data, although some additional fieldwork was carried out primarily on mapping of non-forest habitats in the regions not covered to date. The additional data on Criterion A species were extracted from existing data sources as well.

**Site selection:** the existing data on species and habitats were overlaid using GIS software to select the best sites, which were then verified by expert opinion. Other sites were then added to ensure representation of the IPA network. The selection strategy produced a range of site sizes depending on the qualifying features and the ecological situation.

**Key issues:** the integration of all taxonomic groups, and the use of all the available data on threatened habitats were major factors in the project.

### Protection and management of IPAs in Slovakia:

Total IPAs	IPAs with no legal protection	National protection of IPAs (high level)	National protection of IPAs (lower level)	European recognition of IPAs	International recognition of IPAs
154	36	National Parks (31 IPAs) Protected Landscape Areas (48 IPAs)	Nature Reserves (95 IPAs) Nature Monuments (26 IPAs) Protected Sites (16 IPAs)	SAC* (121 IPAs) SPA* (78 IPAs)	Ramsar sites (16 IPAs) Biosphere Reserves (5 IPAs)

SAC\* & SPA\* = sites officially proposed by the Slovak Government to the European Commission

### Protection of IPAs

Thirty-six IPAs currently have no legal protection in the national network of protected areas. Most of those sites have been proposed for the NATURA 2000 network by the Slovak Government, or have been listed in the alternative proposal of SACs prepared by Slovak NGOs lead by DAPHNE. Although management planning has been used in nature conservation in Slovakia for several decades, it has not fitted fully with international standards. New methodology is being developed and should be applied in all proposed NATURA 2000 sites over the coming few years. Management planning will be also applied to the national network of protected areas; however, it is not the priority of the State Nature Conservancy.

References:

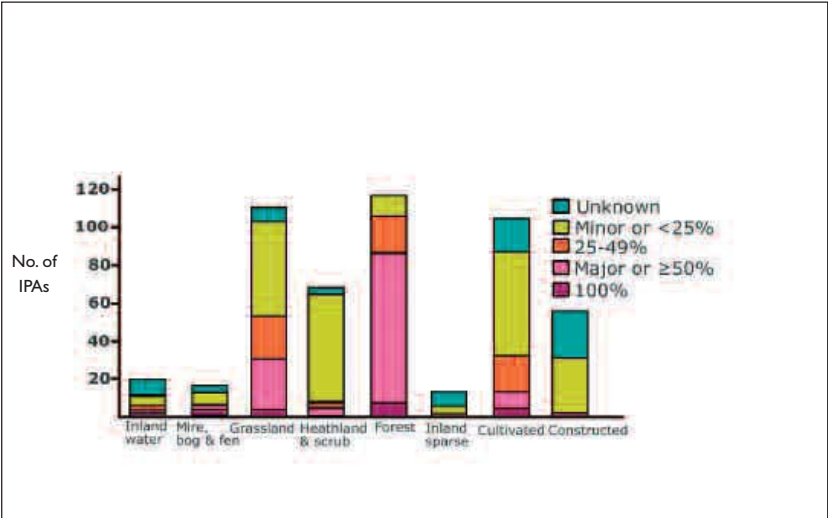
Feráková, V., Maglocký, Š. & Marhold, K., 2001: Červený zoznam paprad'orastov a semenných rastlín Slovenska (December 2001), Ochrana prírody Suppl., 20:44-77

Kliment, J., 1999: Komentovaný prehľad vyšších rastlín flóry Slovenska, uvádzaných v literatúre ako endemické taxóny. Bull. Slov. Bot. Spoločn., 21, Bratislava, Suppl. 4

Stanová, V., Valachovič, M. (eds.), 2002: Katalóg biotopov Slovenska. DAPHNE-Inštitút aplikovanej ekológie, Bratislava. 225 pp.

Viceníková, A. & Polák, P. (eds.), 2003: Európsky významné biotopy na Slovensku, Štátna ochrana prírody, Banská Bystrica, 151 pp..

Habitats and land use



Number of IPAs with a particular habitat

Forest is the most widespread and often dominant habitat, occurring at 117 IPAs (deciduous 88, coniferous 67, mixed 58). Grasslands are also a significant habitat, occurring at 71% of IPAs (dry 85, mesic 24) and temperate scrub occurs at 66 IPAs. Bogs, base rich fens, running and standing water are also frequent habitats. Arable land forms a minor and in a few cases a significant habitat at 102 IPAs.

Forestry is the most widespread land use (98 IPAs), along with hunting (91 IPAs) and nature conservation (91 IPAs). Agricultural activity is also a major land use – grazing and animals (65 IPAs), hay-making and mowing (52 IPAs), mixed (43 IPAs), arable (26 IPAs). Tourism and recreation occur on 62 IPAs, wild-plant harvesting at 36 IPAs, mineral extraction at 24 IPAs, and fisheries and aquaculture at 16 IPAs.

Qualifying criteria for IPAs in Slovakia:

Criterion A	No of IPAs	Criterion A Tax. Group	No of IPAs	Criterion B	No of IPAs	Criterion C	No of IPAs
Total sites with A species	119	Vascular plants	112	Total sites with B richness	0	Total sites with C habitats	146
Ai	45	Bryophytes	10			Ci	108
Aii	83	Lichens	16			Cii	129
Aiii	32	Fungi	0				
Aiv	65	Algae	0				
HD* species	73					HD* habitats	146
BC* species	49					BC* habitats	0

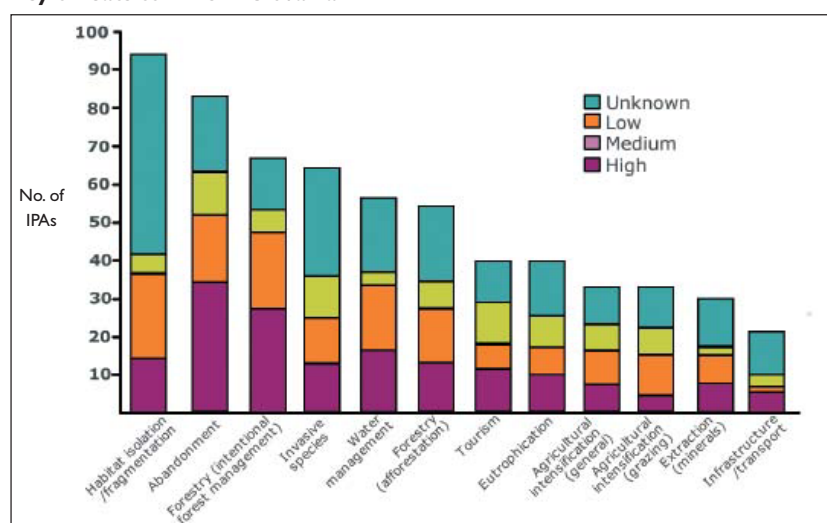
HD\*= Habitats Directive; BC\* = Bern Convention

Of the 154 IPAs in Slovakia, 111 (72%) qualify under more than one criterion.

77 Criterion A species have only one IPA recorded and four Criterion C habitats have only one site recorded.

There are quite large datasets on species distribution available in Slovakia. They were mostly collated during habitat inventories as a by-product of mapping projects. The information on species abundance was usually available only in very rough numbers in three-degree scale. No systematic floristic mapping has been carried out in Slovakia in the past. There are many records published, but they have not been processed into information systems, so the evaluation of the trends remains very problematic at the moment.

### Key threats to IPAs in Slovakia



Habitat fragmentation and isolation affects a high number of IPAs (93). Abandonment or reduction of land management is a high level threat to IPAs, affecting 83 sites. Poor forestry practices are the most widespread threat to IPAs, affecting 94 IPAs in total (IFM, intensified forest management 68, afforestation 56, deforestation 15 IPAs). Agricultural intensification or expansion is a frequently recorded threat (general 34, grazing 34). Invasive plant species threaten 65 IPAs, and tourism and recreation development threatens 40. Inappropriate water management systems, including drainage, dredging and canalisation affect 49 IPAs and eutrophication affects 40. Mineral extraction threatens 30 IPAs and transport or infrastructure development affects 21.

### Recommendations

- The future of IPAs is strongly connected with the process of implementing the EU Habitat Directives in Slovakia.
- The significant overlap between IPAs and the official proposal of sites for the NATURA 2000 network does not fully guarantee appropriate plant conservation within the sites.
- Plant conservation ideas have to be included in management plans and management measures have to be applied at the sites.
- Several IPAs are still without any legal protection and face different threats from economic activities.
- It is necessary to find the mechanisms to ensure their protection.



DOBROMIL GALVANEK



DOBROMIL GALVANEK

**Devínska Kobyla IPA**

The site has been well known for its high biodiversity, the presence of floristic rarities, edge-of-range elements of the Slovak flora , and its orchids and their hybrids since the 18th century.



JAN RÍPKA

**Pastiersko IPA**

The site is a small, but very well preserved fen, which is situated near the village Štrba between the High and Low Tatras. It is one of the best preserved fen localities within Slovakia in spite of the fact that it is surrounded by intensive agricultural land.

The orchard *Himantoglossum adriaticum*, one of the most threatened plants in Slovakia has a large population at this IPA.

# Slovenia

By Nejc Jogan

Slovenia covers over 20,000 km<sup>2</sup> in south central Europe, and has two biogeographic zones, Continental and Alpine, bordering the Mediterranean and Pannonic zones. Slovenia borders Italy, Austria, Hungary and Croatia, and contains the south eastern part of the Alps Centre of Plant Diversity. Slovenia's natural vegetation consists mainly of deciduous and mixed forests from the lowland to montane belt, coniferous forests in the upper montane belt and subalpine to alpine grassland and shrub vegetation. It is well known for the semi-natural grasslands of the limestone Kras region. Slovenia joined the EU in May 2004, and is also a member of the Council of Europe.

## IPA national team

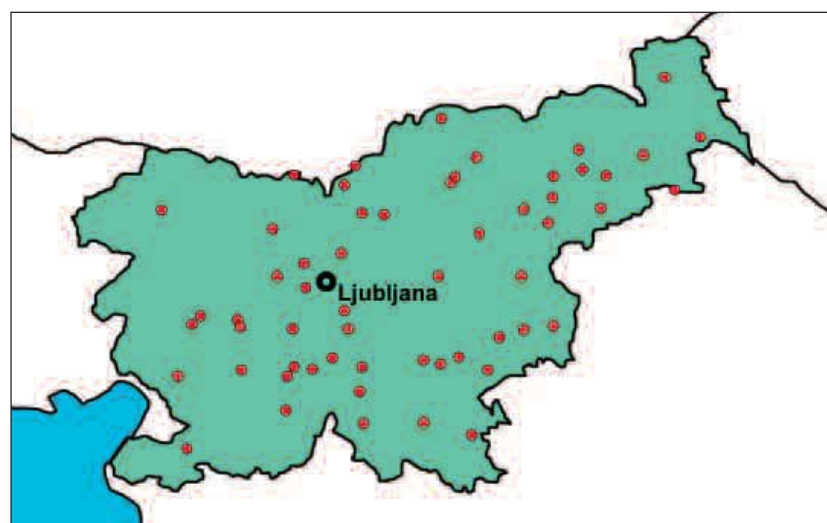
National coordinating organisation:

The Slovenian Botanical Society in collaboration with the Centre for Cartography of Flora and Fauna

National coordinator: Nejc Jogan



## Slovenian IPAs



## IPA summary statistics

Total number of IPAs: **57**

Area of IPAs (ha): **10,177,000**

No/Area of IPAs in Protected Areas (all or part): **22 IPAs** (20 have proposals for increased protection)/**1,802,000 (ha)**

## Criteria lists

### Criterion A = 46 species

Ai (1), Aii/Aii (3), Aiii (1), Aiv (0); Habitats Directive (34), Bern Convention (30)  
Vascular plants (42), Bryophytes (4), Lichens (0), Fungi (0), Algae (0)

### Criterion B = 28

EUNIS level 2 habitats assessed for botanical richness

### Criterion C = 82 habitats

Ci (14), Cii (68); Habitats Directive (49), Bern Convention (33)

Methodology summary

**Criteria lists:** the Criterion A list is based mainly on European threatened species and Criterion C has a wide range of threatened habitats. Criterion B was based on indicator species density maps produced from the CKFF database for each EUNIS level 2 habitat.

**Data and fieldwork:** much of the existing data was available in digitised form (“Flora of Slovenia” database at CKFF with over ¾ million records) and was used to select potential sites for field verification. Two field seasons were carried out in 2003 and 2004 by members of the Slovenian Botanical Society.

**Site selection strategy:** the Natura 2000 network proposed for vascular plant species, forest and non-forest habitat types served as a rough basis. The existing and new field data were assessed using GIS software to select the best sites and verified with expert opinion. In the preliminary assessment c. 300 IPAs of varying sizes were identified. Many of the smaller sites were included within large boundaries, which produced a final count of 57 IPAs.

**Key issues:** Slovenia is already well covered with legally protected sites under the Natura 2000 network (approx. 36% of the national territory), and the IPA system also considers additional species and habitats from the Bern Convention, which enlarges the potential area for “best preserved nature”. The main aim of the ‘maximalistic’ approach to IPA selection and boundaries is not so much to achieve legal protection of sites but to help raise public awareness of the importance of high biodiversity and to illustrate the Slovenian method as compared to other approaches in Europe.

Protection and management of IPAs in Slovenia

Total IPAs	IPAs with no legal protection (excl. Natura 2000)	National protection of IPAs (high level)	National protection of IPAs (lower level)	European recognition of IPAs	International recognition of IPAs
57	35 (20 have proposals for increased protection)	National Park (1)	Regional Park (2) Landscape Park (20) Nature Monument (2) Nature Reserve (3)	SAC* (45)	Ramsar (2)  Biosphere Reserve (1)

Thirty-five IPAs are currently without any protection in the form of Nature Parks or Reserves, but in 20 of them some form of protection is planned. On the other hand only 12 sites, do not currently overlap completely or partly with SACs. Almost 800 km² of the Julian Alps IPA are covered by the Triglav National Park, and a slightly smaller area is covered by the 20 IPAs, which overlap Landscape Parks. Two IPAs overlap an area of 200 km² of the Regional Parks and less than 30 km² in four IPAs are covered by Nature Reserves or Nature Monuments. 1420 km² of 45 IPAs are also SACs and there is also a substantial overlapping of IPAs with SPAs.

Major habitats at IPAs in Slovenia

Forest and grassland are major habitats occurring at over half of IPAs. Heath and scrub habitats are also a common feature, occurring at over 50% (alpine/sub-alpine 6, temperate 15, maquis 2, riverine scrub 27). Inland water habitats also form a significant feature of IPAs (littoral habitats 23, running water 11, standing water 7). Wetland habitats are frequent (sedge/reed beds 12, bogs 5, base-rich fens 5, valley mire/poor fens 5). Coastal, marine and inland rocky habitats also occur at IPAs.

\*SAC - sites officially proposed to the EU.

### Qualifying criteria for IPAs in Slovenia

Criterion A	No of IPAs	Criterion A Tax. Group	No of IPAs	Criterion B	No of IPAs	Criterion C	No of IPAs
Total sites with A species	44	Vascular plants	44	Total sites with B richness*	36	Total sites with C habitats	48
Ai	2	Bryophytes	0	A	A2(1)	Ci	35
Aii	44	Lichens	0	B	B2(1)	Cii	48
Aiii	1	Fungi	0	C	C1(7), C2(11) C3(23)		
Aiv	0	Algae	0	D	D1(5), D2(5) D3(5), D5(12)		
HD* species	41			E	E1(5), E2(22), E3(23), E4(3), E5(22)	HD* habitats	48
BC* species	39			F	F2(6), F3(15), F5(2), F9(27), FA(19)	BC* habitats	1
				G	G1(23), G3(15), G4(23)		
				H	H2(4), H5(3), H4(3), H5(3),		
				I	I1(6)		

HD\* = Habitats Directive; BC\* = Bern Convention; B richness\* codes = EUNIS Level 1 & 2 habitat codes

**Six** Criterion A species have only **one IPA** identified to date, and **29** threatened species have **less than ten IPAs** identified to date.

**13** Criterion C habitats have only **one IPA** identified to date, and **42** threatened habitats have **less than ten IPAs** identified to date.

### Key threats to IPAs in Slovenia

Abandonment of grassland areas and rapid changes in land management threaten many IPAs in Slovenia. Tourist development also threatens several sites and development (urban, transport and industrial) is a significant threat. Invasive plant species also affect some of the IPAs.

### References

- Čušin, B. (ed.), 2004: Natura 2000 v Sloveniji, Rastline. Založba ZRC SAZU, Ljubljana. 172 pp.
- Jogan, N., M. Kotarac & A. Lešnik (eds.), 2004: Opredelitev območij evropsko pomembnih negozdnih habitatnih tipov s pomočjo razširjenosti značilnih rastlinskih vrst: [Končno poročilo]. Naročnik: MOPE, ARSO, Ljubljana. CKFF, Miklavž/Dravskem polju. 1002 pp.  
[http://www.natura2000.gov.si/projektivec/koncno\\_porocilo\\_habitati.pdf](http://www.natura2000.gov.si/projektivec/koncno_porocilo_habitati.pdf)
- Skoberne, P. & S. Peterlin (eds.), 1988: Inventar najpomembnejše naravne dediščine Slovenije (1. del: vzhodna Slovenija). Zavod SRS za varstvo naravne in kulturne dediščine, Ljubljana.
- Skoberne, P. & S. Peterlin (eds.), 1991: Inventar najpomembnejše naravne dediščine Slovenije (2. del: osrednja Slovenija). ZRSVNKD, Ljubljana. 607 pp.
- Wraber T. & P. Skoberne, 1989: Rdeči seznam ogroženih praprotnic in semenk SR Slovenije. Varstvo narave (Ljubljana) 14-15: 1-429.



### Recommendations

- Zones created within proposed IPAs.
- Developing a procedure for regularly updating the IPA network
- Disseminating information on IPAs as widely as possible.
- Developing a special strategy for the “Slovenian case”: 1/3 of the country is within the proposed EU Natura 2000 network: who would dare to protect more?
- Helping neighbouring countries in the early phases of IPA projects.
- Developing a system for selection of IPAs within well preserved areas.
- Lobbying for efficient allocation of money: detailed investigation versus large scale sustainable use support.

NEJC JOGAN



#### Trnovski gozd

The area of Trnovski Gozd and Nanos is a plateau rising with steep slopes from the sub-Mediterranean Vipava valley to over 1200 metres. It is a patchwork of limestone rocks and screes, sub-Mediterranean dry grassland often colonized by Common juniper, and well preserved natural forests. It is particularly rich in plants and contains the only Slovenian generic endemic *Hladnikia pastinacifolia* (APIACEAE).

NEJC JOGAN



#### Prevojske Gmajne

The site of Prevojske Gmajne is encircled by the heavily urbanized landscape north east of Ljubljana, but in an area of about 5 km<sup>2</sup>, there are 12 red data list wetland species including the only known Slovenia locality for *Hammarby paludosa* and probably the largest population of *Eleocharis carniolica*, which live in the natural marsh habitats and the semi-ruderal sites along the rarely used forest cart-tracks.

# IPAs in south east Europe

South east Europe is one of the most diverse regions in Europe for wild plants and their habitats, which occur in a mosaic of mountains, forest, grasslands, river gorges, lakes and coastlines. The Balkan and Rhodope Mountains are recognised as Centres of Plant Diversity.

Projects to identify the best plant sites in this region have already begun through pilot work to collate existing data, identify potential sites, and to assess existing information on land use, threats and plant conservation policy.

## Background to the Project

National coordinators and teams in Albania, Bulgaria, Croatia, Macedonia (FYR), and Serbia and Montenegro have identified several hundred IPAs and 37 cross-border sites in the Regional Environmental Centre's (REC) *'Plants Along the Borders'* Project, which aims to enhance the co-operation between south eastern European countries through undertaking joint actions for plant conservation. In Serbia, the national IPA team, coordinated by the University of Belgrade, have identified many of their IPAs as part of an ongoing project.

## Challenges

The main challenges to the identification of sites were the age of the available data, the lack of national Red Lists, the lack of vegetation mapping in many countries, and the short time available for the pilot work.

## Threats

Habitat loss through human activity in wetland, coastal and marine areas is very high, as are the effects of agricultural intensification. The main threats in the mountains are forestry exploitation, burning, over-grazing and over-exploitation of some of the wild food and medicinal plants.

## Recommendations

- Further funding is required for field investigation, mapping and to engage more stakeholders
- National Red Lists using IUCN criteria need to be completed and integrated into European and global Red Lists and legal documents
- Awareness raising among specialists and the public
- Local community involvement in site management and protection
- Engage with government agencies, representatives of state-owned economies and the private sector to improve strategic planning and conservation action
- Use IPA data to engage with Pan-European and global initiatives

## References

Individual country report references are given adjacent to country accounts

Vangelis J. et al. 2004, *Potential IPAs in South East Europe*. (Oral Presentation at SEE side event at the Planta Europa IV Conference) ([www.nerium.net/plantaeuropa](http://www.nerium.net/plantaeuropa))

IUCN & WWF, 1994, Centres of Plant Diversity.

**National IPA team**

**National coordinator:** Dimitar Peev  
(Institute of Botany, BAS, Sofia)

**Other contributing organisations:**

Botanical Garden, BAS Sofia; Bulgarian  
Wilderness Fund, Bulgarian Biodiversity  
Foundation

**Main funder:** REC through the 'Plants  
Along the Borders' Project



THE REGIONAL ENVIRONMENTAL CENTER  
for Central and Eastern Europe

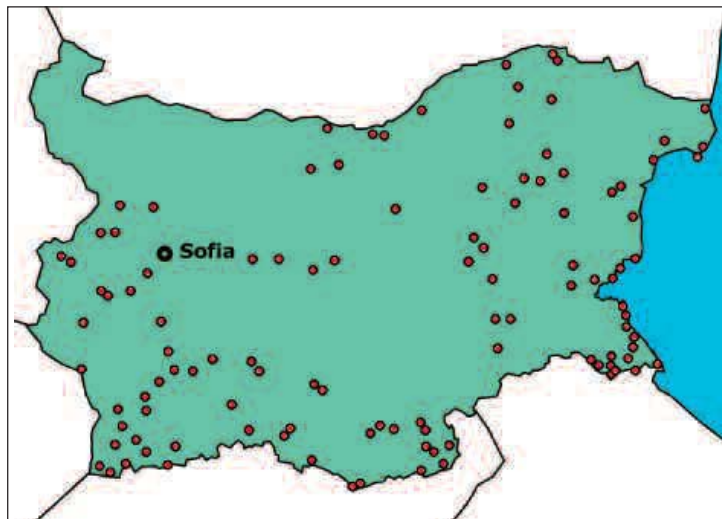
# Bulgaria

By Peev D., Petrova A., Spiridonov J., Meshinev T., Apostolova I.,  
Tzoneva S., Valjovska N., Kaneva Z.

Bulgaria covers an area of almost 111,000 km<sup>2</sup> with extensive mountain and forest areas of the Rhodope, Rila, Pirin and Stara Planina ranges, and a coastline along the Black Sea. Bulgaria borders Serbia, FYR of Macedonia, Greece, Turkey and Romania, and has three biogeographic zones, the Alpine, Continental, and Black Sea. Bulgaria has a high level of mountain endemics and limited range species, with large expanses of deciduous and coniferous forest, including unique areas of endemic pine forests. Bulgaria is due to accede to the EU in 2007 and is a member of the Council of Europe.

**Background to the Project**

This project has provided the first stage in identifying and protecting IPAs. Existing data have been collated, potential sites identified, site reports for two sites completed, and an assessment of plant conservation policy in Bulgaria completed. Further work on identification needs to be carried out and there is a high level of interest in continuing this work, and also on implementing protection strategies.

**Potential IPAs and cross-border IPAs in Bulgaria****Current IPA statistics**

Total number of potential IPAs: 114

Number of cross-border IPAs: 1 with Serbia, 1 with Macedonia (FYR)

Area of IPAs (ha): up to 1000 (82), 1000-150,000 (20), >150,000 (12)

## Criteria and methodology

### Criterion A = 92 species

Ai (15), Aii (56), Aiii (13), Aiv (10)

### Criterion B not applied in current project

### Criterion C = 202 threatened habitats

Ci (12), Cii (190)

The main challenges to applying the methodology were the lack of Bulgarian species and habitats recognised on European and global status lists, the need to update the Bulgarian Red List, and the need to verify data in the field.

## Protection, threats and conservation issues

There is a high level of legal protection for plants and sites in Bulgaria and a large capacity among specialists, although the latest CBD assessment found there was greater need for implementation of conservation at the local level. The main threats to IPAs and plants primarily come from pollution (both internal and external to Bulgaria), the rapid increase in tourism, a high level of deforestation and land abandonment, especially of pasture land.

PETKO TSVETKOV



## Pirin

Pirin is a mountain IPA in southwest Bulgaria. The site contains a great diversity of habitats, including beech, spruce and pine forests, among them century old forests of Bosnian (*Pinus heldreichii*) and Macedonian (*Pinus peuce*) pines, alpine heaths, alpine calcareous grasslands, calcareous and siliceous rocks and screes, alpine lakes, etc. The Vichren Peak area (2914 m) is a centre of speciation with many endemic species. Pirin National park is a World Heritage Monument.

## Recommendations

- Continue the revision of the Bulgarian Red List, which will provide information for IPA threatened species, and also to update global and regional red lists.
- Continue with field verification and identification of IPAs.
- Use IPA information in the development of management plans for national parks.
- Use the status of IPAs to increase support and understanding of plant conservation and eco-tourism among local communities.

## References

Peev D., Spridonov J., Meshinev T., Apostolova I., Petrova A., Tzoneva S., Valjovska, N., Kaneva, Z. 2003

**Assessment of the Potential Important Plant Areas in Bulgaria and two cross-border IPAs.** Sofia

Peev D., Petrova A., Spridonov J., Meshinev T., Apostolova I., Tzoneva S., Valjovska N., Kaneva Z., 2004 *Analysis of a Potential Network of the IPA – Bulgaria* (Oral and Poster Presentation, Planta Europa IV ([www.nerium.net/plantaeuropa](http://www.nerium.net/plantaeuropa)))

National Biodiversity Strategy: Bulgaria ([www.biodiv.org/world/reports](http://www.biodiv.org/world/reports))

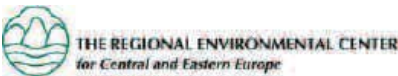


**National IPA team**

National coordinator: Toni Nikolić  
(Faculty of Science, University of Zagreb)

Other contributing organisations:  
Croatian Botanical Society

Main funders: REC through the 'Plants  
Along the Borders' Project.



# Croatia

By Toni Nikolić

Croatia covers an area of 56,500 km<sup>2</sup> from the Adriatic coast to the mountains of the north. Croatia borders Slovenia, Bosnia-Herzegovina, Serbia and Montenegro, Italy and Hungary, and has four biogeographic zones, the Pannonic, Continental, Alpine and Mediterranean. The country has a high number of national and Balkan endemics and a rich mosaic of plant communities from large areas of natural forest to grasslands, coastal and island habitats. Croatia is a member of the Council of Europe.

**Background to the Project**

This project is the first and preliminary stage in IPA identification and protection in Croatia. Only existing data have been collated to identify potential sites but further work is needed to verify data in the field and to provide information on species and habitats where there are no current data. These data are already being used to update Croatia's national biodiversity action plan and the Croatian Botanical Society are keen to continue the work.

**Potential IPAs and cross-border IPAs in Croatia**



**Current IPA statistics**

Total number of potential IPAs: **88**  
Number of cross-border IPAs: 3 with Slovenia, 3 with Bosnia-Herzegovina

Criteria and methodology

<p><b>Criterion A = 114 species</b>  Ai (15), Aii (62), Aiii (4), Aiv (33)</p>
<p><b>Criterion B</b> data on 326 taxa were available to make richness assessments</p>
<p><b>Criterion C</b> there was no habitat data available to make this assessment</p>

The main challenges to applying the methodology were the age of the existing data and the representation of Croatian threatened species and habitats on existing European and global status assessments. Mapping data were not available for most habitats, and lower plant and fungi data are particularly lacking. 88 potential sites were identified but several of the smaller islands could be identified as individual IPAs. Further fieldwork is necessary to identify boundaries and make detailed site reports.

Protection, management and threats

62% of the species decline in Croatia is related to habitat loss and degradation. The causes of the habitat loss are water (inland and coastal) management systems and drainage (c. 30%), development of infrastructure and urbanisation (c. 22%), shifting agriculture (c. 17%) and tourism (9.8%). Steppe, grasslands, wetlands, and coastal and sub-littoral habitats are particularly under threat. Many of the potential IPAs have some form of protection but areas such as the south Adriatic islands have no protection.

Recommendations

- Enlarge the national team to continue the work.
- Target fieldwork and data collection at identified gap areas.
- Redefine preliminary list of IPAs with new data.
- Highlight the status of IPAs outside the existing protected area systems.
- Work with government agencies to improve plant conservation aspects of national biodiversity action plan and regional initiatives.
- Work with local stakeholders on improving awareness and action.

References:

Nikolić T., 2003 *Preliminary Analysis of a Potential Network of IPAs, Croatia*. Zagreb  
National Biodiversity Strategy Croatia ([www.biodiv.org/world/reports](http://www.biodiv.org/world/reports))



Neretva Delta

The Neretva Delta is a cross-border site between Croatia and Bosnia and Herzegovina. The delta is a large alluvial fan, which washes into the Adriatic Sea. The marshes, lakes and lagoons of this remarkable Mediterranean wetland have decreased dramatically and its unique plants and habitats are still threatened by land reclamation and drainage projects. The site is also an Important Bird Area and a Ramsar site. The picture shows *Sparganium erectum*.

## References

Matevski V. & Melovski L. 2003 *Analysis of a Potential IPA Network – Republic of Macedonia*. Skopje May 2003

National Biodiversity Strategy: The Former Yugoslav Republic of Macedonia (www.biodiv.org/world/reports)

Melovski L. & Brajanoska R. 2004 *Plant Protection & IPAs in the Republic of Macedonia*. Oral Presentation at Planta Europa IV (www.nerium.net/plantaeuropa)



# Macedonia (Former Yugoslav Republic)

By Ljupčo Melovski & Vlado Matevski

Macedonia (FYR) covers an area of almost 26,000 km<sup>2</sup> with mountain terrain in the west and east, and lowland habitats in the central part. Macedonia (FYR) borders Bulgaria, Greece, Albania and Serbia and contains two biogeographic zones, the Alpine and the Continental. The valleys have a strong Mediterranean influence and Macedonia has a very high level of local and Balkan endemic species, and relict species in the mountains, forest and “steppes” of the lowlands. Macedonia (FYR) is a member of the Council of Europe.

## National IPA team

*National coordinators:* Ljupčo Melovski and Vlado Matevski (University of Sv. Kiril & Metodij, Skopje)

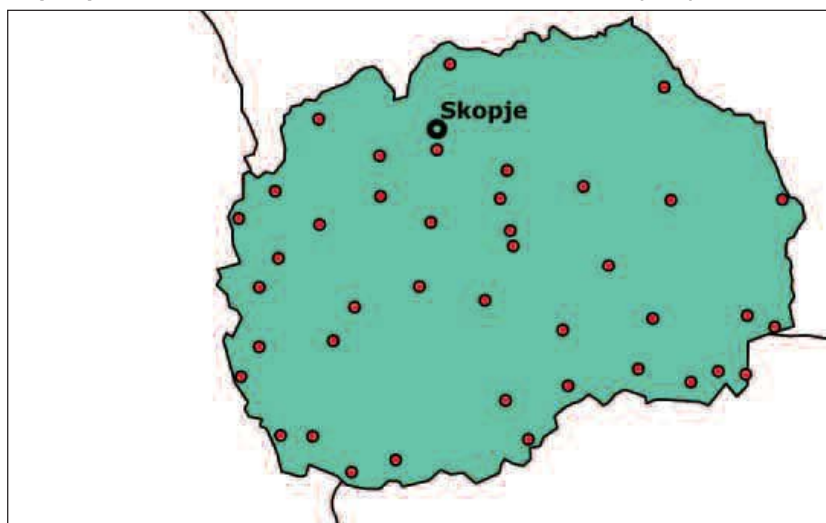
*Other contributors:* Mitko Kostadinovski

*Main funder:* REC through the ‘Plants Along the Borders’ Project

## Background to the project

This represents the first phase of identification of IPAs in Macedonia (FYR). All existing data have been collated, potential sites identified and a preliminary assessment of available information on threats to potential IPAs, completed. Further work on national Red Listing, habitat classification and fieldwork to verify and collect data will be required. The coordinators have expressed their interest in continuing with their work.

## Map of potential IPAs and cross-border IPAs in Macedonia (FYR)



## Current IPA statistics

Total number of potential IPAs: 42

No of cross-border IPAs: 7 with Greece, 5 with Albania, 2 with Bulgaria, 3 with Serbia and Crna Gora Kosovo

### Criteria and methodology

**Criterion A: 102 species**, Ai (4), Aii (12), Aiii (34), Aiv (52)

**Criterion B:** used partially

**Criterion C: 54 threatened habitats**, Ci (6), Cii (48)

The main challenges in applying the methodology were in the lack of national Red Lists, the lack of national species on European threat lists, the lack of species, habitat and vegetation mapping data, the lack of information for many taxonomic groups, such as fungi, and in general the age of the data.

### Protection, threats and conservation issues

Threat assessments were made for each of the IPAs and the results show that poor forestry management (intensified forest management and deforestation) is a widespread threat to IPAs, development (recreation, tourism and urban) are also major threats, as are water extraction and management systems, and agricultural expansion particularly arable and horticulture.



Nidže (Kajmakčalan, Belo Grotlo, Zmejca, Dobro Pole) is a cross border IPA with Greece.

### Recommendations

- Completion of national Red List for plants
- Additional research to update plant distribution and habitat data
- Mapping of vegetational units
- Identification of the boundaries of potential IPAs
- Definition of protection status, land ownership and threats for IPAs
- Inclusion of IPAs in sectoral policies
- Raising public awareness
- Capacity building for plant conservation



**National IPA team**

IPA Coordinator: Danka Petrović  
(University of Montenegro)

Team members from the following  
organisations: University of Montenegro  
and the Natural History Museum

Main Funders: REC through the 'Plants  
Across the Borders' Project



# Serbia and Montenegro – Montenegro

By *Danka Petrović*

Montenegro covers an area of almost 14,000 km<sup>2</sup> and has two biogeographic zones, the Mediterranean and the Alpine, with a strong Mediterranean influence. Montenegro borders Albania, Bosnia-Herzegovina and Macedonia (FYR), Croatia and Serbia. Montenegro has a high degree of plant diversity with many national and Balkan endemics, and the natural and semi-natural habitats are characterised by forest (oak, beech and coniferous), grasslands, and coastal habitats on the Adriatic. Serbia and Montenegro is a member of the Council of Europe.

**Background to the project**

This project represents the first phase of IPA identification in Montenegro. The available data have been collated, potential sites identified, site reports written for eight IPAs, and an assessment of plant conservation policy in Montenegro completed. Further work to revise national criteria lists and to collect new data needs to be carried out. Several institutions, NGOs and individuals have expressed interest in continuing with the project.

**Potential IPAs and cross-border IPAs of Montenegro**



**Current IPA statistics**

Total number of potential IPAs: 8  
Number of cross-border IPAs: 1 with Macedonia (FYR) and 1 with Albania

## Criteria and methodology

**Criterion A = 44 species** were used

Ai (2), Aii (10), Aiii (6), Aiv (26)

**Criterion B** not applied in current project due to lack of data

**Criterion C = 49 threatened habitats** were used

Ci (6), Cii (43)

The main challenges to applying the methodology were the lack of a national red lists, the representation of species and habitats in European legal documents, the translation of European habitat systems into the national classification system, and the age of the available data. However potential sites were identified using the available data, and the gaps and priorities for future fieldwork were assessed.

## Protection, threats and conservation issues

Protected areas cover 7.2 % of Montenegro but there are still many problems with the protection of wild plants. Infrastructure and tourism are major threats, as are deforestation and lack of financing for forestry management, abandonment of land and depopulation of rural areas, poor agricultural practises and over exploitation of wild plant resources.



### Bijeli Nerini

Bijeli Nerini is an IPA containing many threatened species, water and forest habitats, including high water quality indicator species and a quarter of the moss species known in Montenegro. The site is not currently protected.

## Recommendations

■ Enlargement of the national IPA team.

■ Inclusion of lower plants and fungi in the identification of IPAs.

■ National IUCN Red Lists for threatened species should be prepared.

■ Workshops and training programmes aimed at building capacity should be held for the following subjects:

- Application of IUCN Red List criteria;
- Application of European habitat classification systems;
- Key European and global legal frameworks, e.g. Bern Convention.

■ Carry out targeted fieldwork to provide new data and verify old data.

■ Mapping of relevant habitats.

■ Inclusion of IPAs in the national protected area network with appropriate management, beginning with the most threatened site.

## References

Petrović, D. 2003 *Report on the National Analysis of the Potential IPA Network in Montenegro, January 2003* (REC Project REREP 4.3.23.1)

Petrović, D. 2004 *Report on the National Analysis of the Potential IPA Network in Montenegro, September 2004* (REC Project REREP 4.3.23.1)

## References

- Stevanović, V. & V. Vasić (eds.), 1995, *Biodiversity of Yugoslavia with survey of internationally important species*, 183-218, Ecolibri, Belgrade, Faculty of Biology, Belgrade (Serb.). (Articles by Stevanović, V. Jovanović, S. Lakušić, D., Niketić, M. 1995. *Diversity of vascular flora of Yugoslavia with survey of internationally important species*; Stevanović, V. Jovanović, S. & Lakušić, D. 1995. *Diversity of vegetation of Yugoslavia*.)
- Stevanović, V. ed. 1999, *Red Data Book of Flora of Serbia 1 – extinct and critically endangered taxa*. pp. 566, Ministry of Environment of the Republic of Serbia, Faculty of Biology, University of Belgrade, Institute for Protection of Nature of the Republic of Serbia, Belgrade.
- Stevanović V. et al. 2002 *Centres of Plant Diversity in Serbia; Estimation & Manual for Estimation and Conservation Strategy Planning*, report for Ministry of Environment of the Republic of Serbia, pp. 51.
- Lakušić, D. 2003 *'Plants Along the Borders' Report for Serbia REC REReP*

## Faculty of Biology



University of Belgrade

Ministry of Science and  
Environmental Protection

# Serbia and Montenegro – Serbia

By Vladimir Stevanović

Serbia covers an area of over 88,000 km<sup>2</sup> and has three biogeographic zones: the Continental, the Pannonic and the Alpine. The southern parts, particularly the limestone regions, are strongly influenced by the Mediterranean climate. Serbia borders Montenegro, Albania, Macedonia (FYR), Bulgaria, Romania, Hungary, Bosnia-Herzegovina and Croatia. The natural and semi-natural habitats are characterised by a high number of national and Balkan endemics in the mountain, forest, steppe and wetlands, and a rich limestone and serpentine flora both in the mountains and the limestone canyons and gorges. Serbia and Montenegro is a member of the Council of Europe.

## National IPA team

*National coordinator:* Vladimir Stevanović (Fac. of Biology, Uni. of Belgrade)

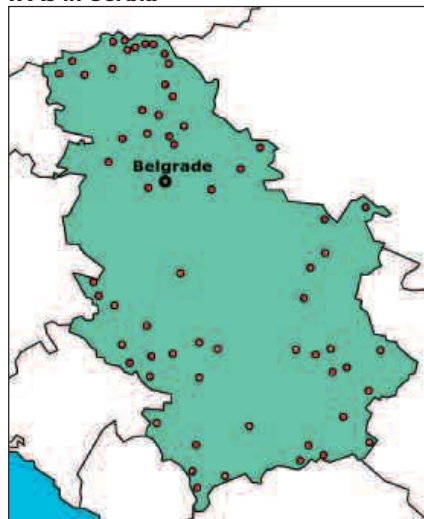
*Contributing organisations:* (full details of team members are given in the acknowledgements) the Fac. of Biology, Uni. of Belgrade; the Institute for Nature Protection of the R. of Serbia; Fac. of Science, Dept. of Biology, Uni. of Novi Sad; Fac. of Science, Dept. of Biology, Uni. of Niš; Natural History Museum Belgrade; Fac. of Science, Dept. of Biology, Uni. of Kosovska Mirovica; Fac. of Technology, Uni. of Niš

*Main funder:* Ministry of Science and Environmental Protection of the Republic of Serbia

## Background to the project

This project began as the 'Centres of Plant Diversity in Serbia' in 2001, and in 2003 was continued by a large national team as the 'IPAs in Serbia' project. Existing data have been collated and assessed, but there is further work to be carried out on updating regional threat lists, although the identification phase is almost finished. Two projects related to IPAs are still in progress; 'Red Data Book of the Flora of Serbia 2 – endangered and vulnerable taxa' and 'Habitat types in Serbia and harmonization with EUNIS, Palearctic habitat and Emerald habitat classification'. The 'Stara Planina' project, for the mountain bordering Serbia and Bulgaria, has been completed as part of the REC 'Plants Along the Borders Project'.

## IPAs in Serbia



### Current IPA statistics

Total number of IPAs: **59**

Number of cross-border IPAs: 12

### Criteria and methodology

**Criterion A:** the *Serbian Red Data Book* (Vol. I and database for Vol. 2) was used to identify IPA species, and an assessment of internationally important species was completed. The list includes species having most or all of their distribution in Serbia and was mapped using 10 x 10 km squares

**Criterion B:** the following approach was adopted for this criterion: general species richness with particular emphasis on rare, endemics and relict species, and diversity of plant communities. Species richness was assessed using 50 x 50 km squares.

**Criterion C:** threatened, as well as rare and unique habitats, including the limestone cliffs in gorges and canyons, forests of endemic trees and shrubs, steppe and sandy steppe, relict peat bog and wetland plant communities were mapped at 10 x 10 km squares. The main challenges were the lack of Serbian and Balkan species and habitats included on regional Red Lists or political documents. Maps of IPA site details, species and habitats are held in GIS and databases.

### Protection, threats and conservation issues

Of the IPAs identified so far five are in National Parks and 15 in nature reserves of various status, although some of the IPAs have no current protection. The IPAs selected so far have been concentrated on the mountainous areas with their many endemic and relict species, areas of the rare habitats of steppe, forest steppe and sandy steppe, and the few peat bogs, marshes and wet meadows.

### Deliblatska Pescara

Deliblatska Pescara in north east Serbia is a unique area of inland sand dunes and is a floristically rich part of the Pannonian Plain. The dunes and adjacent loess hills contain many rare types of plant communities such as steppe grasslands, sandy steppe and forest steppe, as well as areas of deciduous forest and flooded Danube streams. The site is largely protected but the rare habitats are threatened by afforestation by pine and false acacia. This site is also an Important Bird Area. The picture represents a characteristic landscape with feather grass (*Stipa sabulosa*) community mixed with groups of common juniper (*Juniperus communis*) and natural of white oak (*Quercus pubescens*) and silver white lime (*Tilia tomentosa*) forests.

VLADIMIR STEVANOVIĆ



### Recommendations

- Continue the identification and validation process of potential IPAs in Serbia
- Publication of 'IPAs in Serbia' is planned to be finished in 2005.
- Promote the inclusion of Serbia and Balkan species and habitats in European and International lists of conservation status
- Use of IPA data in conservation strategic planning in Serbia and establishing net of protected areas in Serbia.
- Close cooperation with the Ministry of Science, Natural Resources and Environmental Protection, other government agencies and stakeholders to protect and manage IPAs



## References

For IPA presentations at the Planta Europa IV Conference, 2004, please go to ([www.nerium.net/plantaeuropa/Submissions.htm](http://www.nerium.net/plantaeuropa/Submissions.htm) or [www.nerium.net/plantaeuropa/OralPresentations.htm](http://www.nerium.net/plantaeuropa/OralPresentations.htm))

Anna Asatryan: *Important Plant Areas in Armenia: research for conservation.*

Vileta Atienza: *Lichen data as a contribution to the identification of IPAs in the Valencian Community.*

Teresa Gil Gil: *Important Plant Areas in Navarra Region.*

Eszther Illyes: *An introduction to the Pannonian habitats and flora and the IPA programme in Hungary.*

Pérez-Rovira P. et al: *The micro-reserves network as a preliminary approach to IPA selection in the Valencian Community.*

Radford, E.: *IPAs go global.*

Del Valle E. et al: *Important areas for the Spanish endangered flora.*

For information on the South African National Biodiversity Institute – former hosts of SABONET ([www.nbi.ac.za](http://www.nbi.ac.za))

For information on the ASEAN Regional Network for Biodiversity Conservation ([www.arcbc.org](http://www.arcbc.org))

For information on the New Zealand Plant Conservation Network ([www.nzpcn.org.nz](http://www.nzpcn.org.nz))

For general information on IPA projects in different countries ([www.plantlife.org.uk](http://www.plantlife.org.uk))

Evans, S., Marren, P. & Harper, M., 2002, *Important Fungus Areas: a provisional assessment of the best sites for fungi in the United Kingdom.* Plantlife, Association of British Fungus Groups, British Mycological Society.

Özhatay, N., Byfield, A., Atay, S., 2003, *Türkiye'nin Önemli Bitki Alanları (IPAs in Turkey).* WWF Türkiye (Dogul Hayati Koruma Vakfi), Istanbul

Stewart, N. F. 2004, *Important Stonewort Areas, An assessment of the best areas for stoneworts in the United Kingdom.* Plantlife International, Salisbury, U.K.

# IPA projects in Europe and other parts of the world

## Central and eastern Europe

As well as the projects detailed above there are developing IPA projects or interest in starting IPA projects in several other countries. In Hungary, a project to identify IPAs is being developed by researchers at Eötvös Loránd University and the Regional Environmental Centre (REC). In Armenia, a project to collate and analyse existing data has been carried out at the Institute of Botany. Researchers in Ukraine at the Institute of Botany, Kyiv, have made an assessment of plant conservation in protected areas. Individuals and organisations in Georgia, Lithuania, Latvia and Moldova have expressed their interest in developing IPA projects.

## Other parts of Europe

Turkey was the first country anywhere in the world to complete its IPA identification. The project was carried out by the NGO Dogal Hayati Koruma Demegi (DHKD), the Institute of Botany, the University of Istanbul, and Flora and Fauna International and the results published by WWF Turkey. Researchers at the Finnish Environment Institute have begun work on projects to identify important fungi and plant areas in Finland. In the UK the national IPA team, coordinated by Plantlife International, includes specialists from a wide range of organisations including the state agencies and the specialist societies. Projects to identify Important Fungus Areas and Important Stonewort Areas in the UK have already been completed. In Spain several research projects into IPAs in different regions have begun, including the Valencia and Navarra regions.

In June 2003, the IUCN Centre of Mediterranean Cooperation, Planta Europa and Plantlife International coordinated an IPA workshop with participants from Croatia, Cyprus, Egypt, France, Greece, Gibraltar, Italy, Lebanon, Morocco and Spain. Since then, a national IPA workshop has been held in Morocco, where 53 preliminary IPAs were identified, and a proposal for a national IPA project has been developed in Lebanon.

## Other parts of the world

In May 2004, SABONET, the Southern Africa Botanical Network, organised a regional IPA workshop for seven countries (Angola, Malawi, Mozambique, Namibia, South Africa, Zambia and Zimbabwe). Subsequently, national IPA workshops were carried out in Mozambique and Namibia. Using existing data, 28 preliminary IPAs have been identified in Mozambique and 39 in Namibia. In South Africa, IPA team members are in the process of analysing considerable amounts of existing plant data in order to select IPAs.

The ASEAN network in south east Asia has also begun the process of discussing IPA projects at a regional level with representatives from nine countries (Brunei, Cambodia, Indonesia, Lao, Malaysia, the Philippines, Singapore, Thailand, Vietnam).

The New Zealand Plant Conservation Network is developing a strategy for implementing IPAs and the other targets of the *Global Strategy for Plant Conservation*.



In Armenia (top) IPA data is currently being collated. In Turkey 122 IPAs have been identified such as the Savval Tepe or Eastern Black Sea Mountains IPA shown above.

# Habitats and land uses

## Agriculture and grasslands

Agriculture, from horticulture to arable fields and grazing land, has shaped the landscape and environment of Europe for millennia. Agricultural fields and grasslands provide unique habitats for many thousands of species of plants and animals. Agriculture employs millions of people in Europe and is the focal point of human, animal and plant interdependence.

### High Nature Value (HNV) farmland in CEE

The Dobris Assessment 1995 highlighted the damage to biodiversity on western European farmland due to the extensive use of pesticides, fertilisers, intensive grazing, and the reseeded and fertilising of grazing land. Countries such as the U.K. have lost more than 90% of their semi-natural grasslands in the last 50 years. The Kiev Declaration (2003) and the Message from Malahide (2004) also highlighted the need to bring High Nature Value Farmland under biodiversity sensitive management.

The central and eastern European (CEE) region contains much of the European extent of natural and semi-natural grasslands, some of the most rapidly declining habitats in Europe. Practices such as low intensity grazing and annual hay mowing have maintained the delicate balance of species rich grassland and prevented the growth of scrub and forest.

### Threatened grassland habitats

30 inland grassland habitats are recognised as threatened in the EU Habitats Directive and 17 by the Council of Europe, Bern Convention. In CEE these range from the steppes and dry grasslands of the south and east, mountain hay meadows, wetland and forest meadows, to the Alvar meadows of the north. Many of the endemic plant species of southern Europe depend on the existence of these grasslands for their survival. These habitats rely on sustainable grazing and are particularly vulnerable to changes in agricultural production and rural economies, such as intensification or land abandonment.

### IPAs and grassland habitats

**517 IPAs (65%)** contain grassland habitats.

**439 IPAs (55%)** contain EU Habitats Directive threatened grassland habitats.

**296 IPAs (37%)** contain priority grassland habitats.

**97 IPAs (12%)** contain Bern Convention threatened grassland habitats.

**132 IPAs (17%)** were assessed for species richness of grassland habitats under Criterion B.

Grazing or livestock agriculture was recorded at **267 IPAs (34%)**

Hay making or mowing was recorded at **114 IPAs (14%)**

### Threats from agriculture at IPAs

The most widespread threat to IPAs from agricultural activity comes from abandonment or reduction in the land management. Agricultural intensification or expansion is also a significant threat. Afforestation affects a large number of IPAs, some of the afforestation may occur on existing grasslands.

**217 IPAs (27%)** are threatened by land abandonment or reduction of management

**126 IPAs (16%)** are threatened by an intensification of grazing

**86 IPAs (11%)** are threatened by general agricultural expansion or intensification.

### Protecting grasslands

Agri-environment schemes of Rural Development Programmes in the new EU member states can and should be used to conserve these precious habitats and maintain rural communities in a healthy countryside. For example, in Slovakia, the DAPHNE Institute of Applied Ecology assesses and certifies grasslands for farmers on the basis of their database of grassland habitats and field surveys. This certification is an essential part of the application for agri-environment funds. In this way, farmers benefit from continuing to maintain their grasslands. National protected area networks and the EU Natura 2000 network can also be used to protect and manage the richest and most vulnerable of these grasslands.

BRANO MONLAR



Alpine grasslands in the Tatras, Slovakia.

ANCA SĂRBU



A meadow with globe flowers managed by mowing.  
Poiana Stăniș, the Carpathians.

### References

Council of Europe, 2003, *High-Level Pan-European Conference on Agriculture and Biodiversity: Towards Integrating Biological and Landscape Diversity for Sustainable Agriculture in Europe*.

Daphne Institute of Applied Ecology  
([www.daphne.sk](http://www.daphne.sk))

European Environment Agency  
([www.reports.eea.eu.int](http://www.reports.eea.eu.int))

1995, *The Dobris assessment*

1998, *Europe's environment: the second assessment*.

2003, *Europe's environment: the third assessment*.

King, M., 2002 *England's green unpleasant land?: Why urgent action is needed to save England's wild flower grasslands*. Wildlife Trusts & Plantlife.

Ministry of Agriculture Nature and Food Quality, the Netherlands, 2005, *Land abandonment, Biodiversity and the Common Agricultural Policy*.

Veen, P. Grassland Research: Estonia, Hungary, Slovakia, Latvia, Slovenia, Romania, Bulgaria, Lithuania  
([www.veenecology.nl](http://www.veenecology.nl))



## Water, wetlands and coasts

Wetlands are a vital habitat for many species of plants and animals as well as providing life support systems for many other habitats. Wetlands habitats such as rivers, lakes, bogs or peatlands, fen and mires cover about 9.9% of Europe. They have an extremely important role in water regulation including flood prevention. They are also important for carbon storage, the maintenance of human food sources and they provide a link between ecosystems allowing the migration and survival of many species. All wetland habitats are vulnerable to pressure from human land uses.

Wetland habitats have long been underrated economically and their extent has been reduced dramatically in Europe by drainage to create 'more productive' land, suitable for forestry and agriculture. The largest threats to wetlands come from damaging agricultural practices, pollution, and water management systems.

### Threatened wetland habitats

Peatlands are key habitats for plant conservation and are highly threatened in Europe. In Western Europe many countries have destroyed up to 90% of their peatlands. Protecting the diverse areas of peatlands in central and eastern Europe is essential in maintaining Europe's plant diversity. Peatlands are threatened not only by drainage and pollution but also by peat extraction for the horticultural industry.

The Danube river and its tributaries flows through 16 countries and encompasses a variety of habitats from the remnants of flood plain forest near Bratislava to the many channels and lakes of the Danube Delta. Protection from damaging transport developments, water management systems and pollution requires a high level of international cooperation.

Europe's coastlines are also valuable habitats for plants and algae, from coastal dunes, to shore and drift plants, to the diverse seaweeds of the coastal zone. These habitats are vulnerable to developments such as tourist resorts and pollution. The site of Kassari Bay in Estonia is the only existing site for a rare drifting red algae community (*Furcellaria lumbricalis* – *Coccotylus truncatus*). It is not currently protected.

### IPAs, wetlands and coasts

#### Mire, bog and fen

**249** IPAs (**31%**) contain mire, bog and fen habitats.

**224** IPAs (**28%**) contain threatened mire, bog and fen habitats from the EU Habitats Directive, and **105** IPAs (**13%**) contain priority mire, bog and fen habitats.

#### Inland surface water: rivers and lakes

**240** IPAs (**30%**) contain inland surface water habitats.

**197** IPAs (**25%**) contain threatened inland water habitats from the EU Habitats Directive, and **4** IPAs (**<1%**) contain priority water habitats.

#### Coasts and dunes

**59** IPAs (**7%**) contain coastal habitats and **15** IPAs (**2%**) contain marine habitats.

**74** IPAs (**9%**) contain threatened coastal and halophytic habitats from the EU Habitats Directive, **63** IPAs (**8%**) contain priority coastal habitats.

**46** IPAs (**6%**) contain threatened dune habitats (inland and coastal) from the EU habitats directive, **22** IPAs (**3%**) contain priority dune habitats.

#### Threats to wetland IPAs

**171 IPAs (21%)** are threatened by drainage, extraction, canalisation or water management systems.

**122 IPAs (15%)** are threatened by eutrophication (nutrient enrichment).

**71 IPAs (9%)** are threatened by aquaculture and fisheries.

**54 IPAs (7%)** are threatened by the construction or the impact of dykes, dams or barrages.

**31 IPAs (4%)** are threatened by peat extraction.

#### Protecting wetlands and coasts

There are several international treaties and protection systems designed to conserve Europe's wetlands. The RAMSAR convention obliges governments to identify and protect wetland sites. The EU Natura 2000 network and the EU Water Framework Directive can be used to protect precious wetland sites. A detailed global framework and guidelines for action on the wise use of peatlands has now been developed (GGAP). The Helsinki Convention and the Barcelona Convention aim to protect marine and coastal areas of the Baltic and Mediterranean respectively.

#### References

Bragg, O & Lindsay, R. (Eds) 2003, *Strategy and Action Plan for Mire and Peatland Conservation in Central Europe*. Wetlands International, Wageningen, The Netherlands

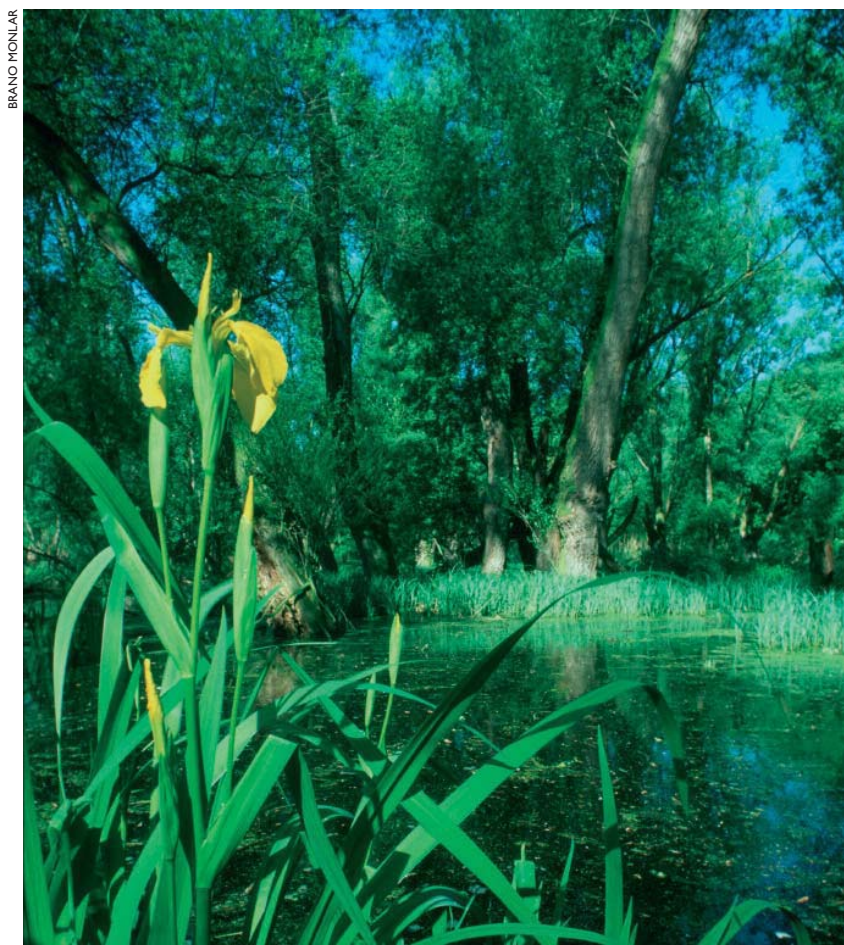
Duckworth, J., Davis, R. & Costley, J., 2002, *Junk Food for Plants: How nutrient pollution is threatening the UK's wild flora*. Plantlife

European Environment Agency, 2003, *Europe's Environment: the third assessment*. EEA Copenhagen

The Barcelona Convention ([www.europa.eu.int/scadplus/leg/en/lvb/l28084.htm](http://www.europa.eu.int/scadplus/leg/en/lvb/l28084.htm))

The Helsinki Convention ([www.helcom.fi/helcom/convention.html](http://www.helcom.fi/helcom/convention.html))

The Ramsar Convention & Ramsar site database ([www.ramsar.org](http://www.ramsar.org))



Yellow iris in the Danube flood plain forest.

## Forests and forestry

Forests are key habitats for the conservation of many rare plant, fungi, moss and lichen species. Europe has a wide diversity of forest types from the expanses of conifer forests in the north and the Baltic, to the unbroken belts of oak-beech and beech-spruce forests of central Europe and the species rich deciduous and mixed forests of southern Europe. Some of the forests of southern Europe were not affected by glaciation and have forest compositions that have existed for many thousands of years. Old growth forests, areas where there has been little or no human activity for over one hundred years, are extremely species rich. They are increasingly rare and these few remaining areas should be prioritised for protection. Sustainable management should be applied also in forests that are commercially exploited.

Several million people are employed in the forestry industry in Europe today, and forestry is an important economic sector. There is an urgent need to find a sustainable balance between the needs of economic forestry and the need to conserve Europe's forest heritage for the future.

### Threatened forest habitats

The EU Habitats Directive recognises 65 threatened forest habitats and the Council of Europe, Bern Convention recognises 109 threatened forest habitats, such as the Alvar forests of Estonia, flood plain forest, beech forests and Scots pine forests. Many of Europe's rarest tree species are listed in the *World List of Threatened Trees*.

The most important impacts of human activity on forest biodiversity are:

- Clearing old growth and deciduous forest and replacing them with plantations of exotic and coniferous species.
- Harvesting of trees before they reach maturity, which results in a decrease in the number of species associated with old and decaying trees.
- Clearing of alluvial forests for agriculture and plantations of fast growing hybrid poplars, and changing the hydrological systems of swamp forests
- Modifying the species composition of existing forests and creating formations that do not occur naturally
- Draining of peat soils and humid forests to accelerate forest growth
- Constructing timber road networks in wilderness areas
- Reforestation of abandoned agricultural land and formerly grazed environments

### Quality not quantity: afforestation in Europe

The area of forest in Europe is increasing, partly through afforestation programmes co-financed by the EU (1 million hectares since 1991), but also through natural regeneration on agricultural and formerly grazed land. Although this is generally viewed as a positive trend, there are concerns for plant conservation.

- In afforestation projects, the preference for conifers over deciduous trees, and exotic over indigenous species, has a negative effect on biodiversity
- The rise in forest area conceals the fact that many of the last old growth forests in Europe are still threatened with deforestation and replacement with plantations
- Afforestation projects often occur on key natural and semi-natural open and grassland habitats.

All afforestation programmes should be subject to thorough and effective environmental impact assessments to ensure that Europe's most valuable forests are not lost in the numbers game of quantity rather than quality.

**IPAs and forestry:**

**544** IPAs (**68%**) contain forest habitats (deciduous 412 IPAs, coniferous 313 IPAs, mixed 186 IPAs).

**448** IPAs (**56%**) contain threatened forest habitat from the EU Habitats Directive, **353** IPAs (**44%**) contain priority forest habitats.

**123** IPAs (**15%**) contain Bern Convention threatened forest habitats.

**363** IPAs (**46%**) record forestry activity as a land use.

**Threats to IPAs from forestry activity**

**212** IPAs (**27%**) are threatened by intensified forest management

**159** IPAs (**20%**) are threatened by afforestation

**130** IPAs (**16%**) are threatened by deforestation

**Protecting Europe's forests**

Some of Europe's most valuable forests are currently designated as protected areas in national or regional systems. However many more have no protection or are vulnerable to illegal logging. The EU forestry strategy and the Ministerial Conference on the Protection of Forests in Europe (MCPFE) recommend guidelines for sustainable forestry but these actions are voluntary. Another effective way of ensuring forests are managed sustainably is through forest certification systems, for example the Forest Stewardship Council (FSC) scheme.

**References**

European Commission, 2004, Natura 2000 and forests "*Challenges and opportunities*" – interpretation guide.

Forest Stewardship Council ([www.fsc.org](http://www.fsc.org))

Ministerial Conference on the Protection of Forests in Europe  
(<http://www.mcpfe.org/>)

1st, 1990, Strasbourg Conference

2nd, 1993 Helsinki Conference

3rd, 1997 Lisbon Conference

4th, 2003 Vienna Conference

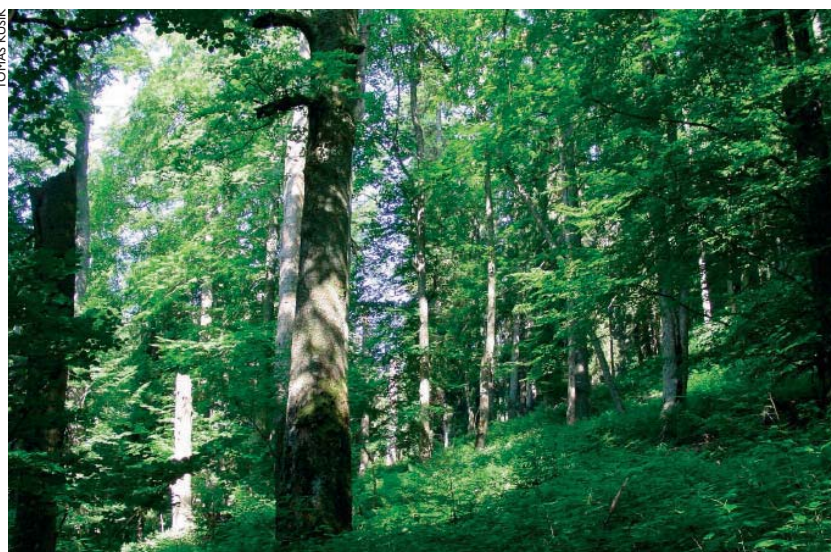
Ozinga, S., 2004: *Footprints in the forest – Current practice and Future challenges in forest certification*. FERN, Gloucestershire, UK. ([www.fern.org](http://www.fern.org))

UNEP-WCMC 1998 *World List of Threatened Trees* ([www.unep-wcmc.org/trees/](http://www.unep-wcmc.org/trees/))

Veen, P., Virgin Forests Project  
([www.veenecology.nl](http://www.veenecology.nl)) ([www.knnv.nl](http://www.knnv.nl))

WWF Forestry Section ([www.panda.org](http://www.panda.org))

Old growth forest in Slovakia.



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References

Birdlife International, CEE Bankwatch, Friends of the Earth Europe, Transport & Environment, WWF, 2003 *Conflict Areas between the TEN-T and Nature Conservation: Case Studies*, July 2003.

Transport & Environment, WWF-European Policy Office, Birdlife International, CEE Bankwatch, 2002, *Trans-European Transport Networks: Options for a Sustainable Future*. T & E 03/2.

Development: transport, infrastructure and tourism

Transport

The CEE region is undergoing rapid economic change and part of that transition involves the development of the Trans-European Transport Network (TEN-T), which sets out plans for the development of road, rail, air and waterways. However the establishment of this transport network directly threatens several important sites identified under the EU Natura 2000 network. A recent report by environmental NGOs highlights the lack of environmental impact assessments in the creation of the TEN-T network and the contradictions with the aims of the EU Nature Conservation policies.

The report recommends that no EU funds are allocated for transport projects that threaten EU Natura 2000 sites and that all TEN-T projects undergo thorough Environmental Impact Assessments. New data from this IPA project on priority sites for plant conservation should also be used in environmental impact assessments of TEN-T projects.

**127 IPAs (16%)** record transport and infrastructure development as a direct threat.

Development and tourism

Urban and industrial development in the CEE region is also in a period of rapid change and potentially threatens many valuable plant sites. However, recreation and tourism development are recorded as the most common threats to IPAs.

**302 IPAs (38%)** are threatened by tourism and recreation development

The threat comes not only from the building of tourist accommodation or facilities but also from exceeding capacity on protected areas and nature trails. Tourism, especially eco-tourism, has the potential to be a powerful tool in awareness raising and funding of conservation work but needs to be developed with local land managers and specialists to ensure that rapid development does not destroy the high nature value of these sites.

16% of IPAs are threatened by development of transport and infrastructure



## Sustainable plant use

The main uses of wild plants and fungi in Europe are herbal medicines, decorative plants, berries and mushrooms for food, forestry products, timber, and peat for horticulture. The scale of collection of these wild plant products ranges from small amounts for household use and local markets to large scale collection for international corporations. Medicinal plant collection for household and market economies is most widespread in south eastern Europe. In many cases the use of wild plants is of positive benefit to local economies and biodiversity but there are risks of over-exploitation and sustainable collection practices need to be established. The extraction of peat for horticulture is still a widespread practice. However as legislation in EU countries tightens there is a danger that peat exploitation will move beyond the boundaries of the EU.

### IPAs and wild plant use

Wild plant gathering is recorded as a land use on **103 IPAs (13%)**

Unsustainable plant gathering is recorded as a threat at **81 IPAs (10%)**, although this is mainly assessed as a low level threat.

Peat extraction is recorded as a threat at **31 IPAs (4%)**

### Protection of wild plants from unsustainable collection

Many of these plants, especially decorative flowers, berries, mushrooms and some medicinal plants, are perceived to be common, however this makes them more vulnerable to over-exploitation. There are several legal provisions for the protection of wild plants. CITES, the Convention on International Trade in Endangered Species prohibits the collection and sale of many plant species. Annex V of the EU Habitats Directive obliges EU member governments to safeguard resources of many plant species. Many national governments also have wildlife protection legislation, e.g. in Bulgaria, where particular species are legally protected and specific sites have annual collection quotas.

Organisations such as TRAFFIC trace the route of medicinal plants from collectors to the herbal medicine market and work to establish sustainable collection strategies. Information on peat free growing media is available from several sources including organisations such as the Royal Horticultural Society.

## References

Annex V of the EU Habitats Directives, 1992, *Animal and Plant Species of Community Interest whose taking in the wild and exploitation may be subject to management measures.* ([www.europa.eu.int](http://www.europa.eu.int))

Convention on International Trade in Endangered Species (CITES) website ([www.cites.org](http://www.cites.org))

Kathe W., Honnef S., & Heym A., 2003 *Medicinal and Aromatic Plants in Albania, Bosnia-Herzegovina, Bulgaria, Croatia and Romania.* WWF Deutschland and TRAFFIC Europe-Germany ([www.bfn.de](http://www.bfn.de))

TRAFFIC website ([www.traffic.org](http://www.traffic.org))

Vines, G., 2003 *Herbal Harvests with a Future: Towards sustainable sources for medicinal plants.* Plantlife International



Local women collecting wild plants in Slovenia.

# IPAs and existing legislation and programmes

## IPA legal status

Important Plant Areas are not legal site designations. Instead, they provide a framework for identifying the best sites for wild plants, fungi and their habitats using consistent criteria and sound data. IPAs provide the best available data from the botanical and mycological communities, which is then available to inform national, regional and global protection and management schemes, including legally protected areas, site management planning, agri-environment schemes, forestry management and general awareness-raising projects.

IPAs provide an important check on the plant conservation effectiveness of existing systems of national and international protected area systems, and biodiversity conservation strategies and policies.

Although Important Plant Areas are not in themselves legally designated sites they do provide the framework for signatory governments to fulfil their obligations to meet the targets of the Convention on Biological Diversity (CBD) Global Strategy for Plant Conservation (GSPC).

Target 5 of the GSPC (Targets 1.4, 1.5 & 2.14 in the European Plant Conservation Strategy) requires signatory governments to ensure the protection of 50% of the most important areas for plants by 2010. IPA projects provide a framework for assessing and reporting on these targets.

## Principle of compatibility and support

IPAs are not intended to compete with existing programmes and legislation. Instead they are designed to be compatible with a range of regional and global conservation initiatives. IPAs can provide essential information for the implementation of national conservation programmes, as well as contributing to the implementation of the legislation and conservation programmes detailed below.



The Minister of Environment, Macedonia (FYR), Mr Ljubomir Janer, at the 4th Planta Europa Conference, Spain 2004.

## IPAs and the Convention on Biological Diversity (CBD) (Global Strategy for Plant Conservation and the European Plant Conservation Strategy)

### Context

The Convention on Biological Diversity (CBD) provides a framework for conservation action, from local and national biodiversity action plans up to regional frameworks. In April 2002, the implementation of the CBD received a fresh boost when the Global Strategy for Plant Conservation (GSPC) was adopted by the Sixth Meeting of the Convention of the Parties (COP 6) in the Netherlands in 2002. The GSPC is the first part of the CBD to have clear, measurable targets, and was an initiative of the global botanical community. The European Plant Conservation Strategy (EPCS), developed by the Planta Europa network and the Council of Europe, was the first regional strategy designed to implement the global strategy.

### Targets

The GSPC has 16 targets grouped into five objectives: documentation, conservation, sustainable use, education and awareness, and capacity building. IPAs provide the framework for implementing and reporting on Target 5 of the GSPC (Targets 1.4, 1.5 & 2.14 of the EPCS), and can contribute to Target 6 on production lands managed to be consistent with the conservation of plant diversity.

### ‘Target 5: Protection of 50% of the most important areas for plants assured by 2010’

The IPA projects in central and eastern Europe have demonstrated the cross-cutting nature of the other strategy targets on Red Listing, education and awareness, and capacity building for plant conservation. IPAs can also contribute to Articles, 6, 7, 8, 12, 13 of the CBD on in-situ conservation and international cooperation.

### Government responsibility

The governments of all seven national partners and also the European Union itself are signatories to the CBD. They are thus obliged to make an assessment and report on progress with Target 5 of the GSPC. The IPA programme provides a framework to achieve this target.

### References

Convention on Biological Diversity website ([www.biodiv.org](http://www.biodiv.org))

Global Strategy for Plant Conservation, ([www.biodiv.org](http://www.biodiv.org))

Planta Europa and the Council of Europe, 2002, The European Plant Conservation Strategy. ([www.plantaeuropa.org](http://www.plantaeuropa.org))

### Recommendations

IPA data on priority plant conservation sites made available to influence national policy through CBD focal points and the CBD Clearing House Mechanism.



*Primula minima*



## References

- Europe's Environment  
([www.reports.eea.eu.int](http://www.reports.eea.eu.int))
- 1995 The Dobris Assessment
- 1998 The Second Assessment
- 2003 The Third Assessment
- Pan-European Biological and Landscape  
Diversity Strategy  
(PEBLDS) website  
([www.strategyguide.org](http://www.strategyguide.org))
- Pan-European Ecological Network (PEEN)  
Programme and Map, European Centre  
for Nature Conservation ([www.ecnc.nl](http://www.ecnc.nl))
- PEBLDS, 2004, Third intergovernmental  
conference 'Biodiversity in Europe and 8th  
meeting of the Council of the Pan-  
European Biological and Landscape  
Diversity Strategy, January 2004, Madrid,  
Spain

## IPAs, the Pan-European Biological and Landscape Diversity Strategy (PEBLDS) and the Pan-European Ecological Network (PEEN)

### Context

PEBLDS was established as a means of implementing the Convention of Biological Diversity at the Pan-European level. The strategy aims to provide a framework to unite conservation programmes, and to encourage a cross-sector focus to nature conservation. The PEBLDS programme for 2003-2007 includes 4 main goals:

Facilitation of European biodiversity issues (close collaboration with EU and CBD)

Increased capacity to implement PEBLDS and CBD

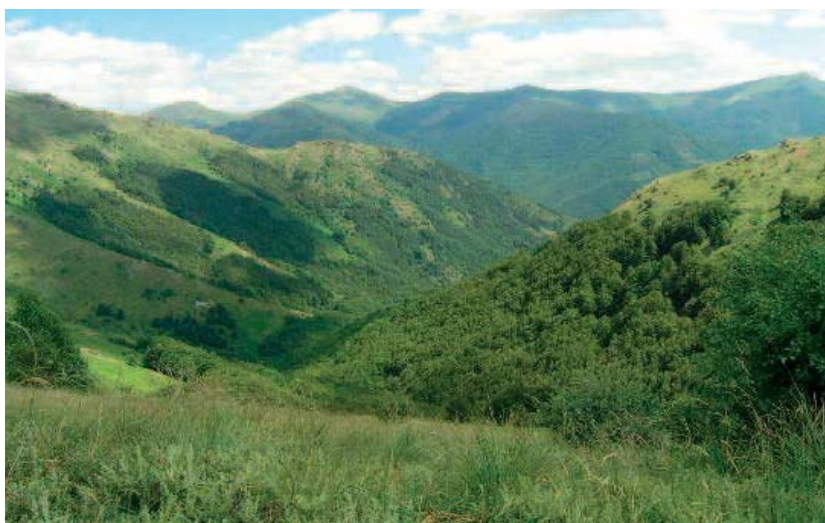
Integration of national biodiversity action plans and of landscape and biodiversity issues into other sectors

Achievement of a wider understanding of biodiversity issues, leading to a broader involvement of society

One of the major achievements of PEBLDS has been the promotion of the Pan-European Ecological Network (PEEN), which seeks to identify not only priority sites, but also ecological corridors to prevent isolation and fragmentation of European ecosystems. Projects on new areas of the PEEN network are continuing and IPA data can make a significant contribution to this process.

The IPA programme forms action 1.4 of the PEBLDS work programme. IPA data on priority sites will continue to inform projects such as PEEN but also contributes to the wider aims of engaging stakeholders, of encouraging cross-sector nature conservation, of building capacity to engage in the conservation process, and of disseminating information on biodiversity, its value and threats to a wider audience.

Grassland in Macedonia



TOMAS KUSIK

## IPAs, the Bern Convention and the Emerald Network

### Context

The Bern Convention adopted by the Council of Europe in 1979 was one of the first pan-European conservation initiatives, and contributed directly to the establishment of the EU Habitats Directive. The Emerald Network, seeks to establish a network of sites to protect species and habitats of European importance. The Emerald Network is based on the same principles as the EU Natura 2000, and represents its de facto extension to non-EU countries.

There have been pilot Emerald Network projects in 22 European countries. In new EU member states the Natura 2000 network has largely replaced the Emerald Network, but new Emerald pilot projects are planned for non-EU European countries and also in Africa.

### Bern Convention species and habitats lists

The Bern Convention currently recognises 179 threatened habitat types and 681 threatened species [vascular plants (644), bryophytes (25), algae (12)]. A list of 33 threatened fungi species have been prepared by the European Council for the Conservation of Fungi (ECCF), but are not currently included in the annexes of the Bern Convention. The Council of Europe recognises 11 biogeographic zones in Europe.

### IPAs and the Bern Convention

The criteria lists for selecting IPAs include all of the threatened habitats on Resolution 4, and all of the threatened species on Appendix I.

**553** IPAs (69%) contain Bern Convention species or habitats.

### References

The Bern Convention and Emerald network website

([www.nature.coe.int](http://www.nature.coe.int))

The Council of Europe website  
([www.coe.int](http://www.coe.int))

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*Haberlea rhodopensis*, a species listed under the Bern Convention

References

European Commission environment website  
([www.europa.eu.int/comm/environment](http://www.europa.eu.int/comm/environment))  
European Environment Agency (EEA)  
([www.eea.eu.int](http://www.eea.eu.int))  
EU Biodiversity Strategy and Action Plans  
([www.reports.eea.eu.int](http://www.reports.eea.eu.int))  
EU Clearing House mechanism  
([www.biodiversity-chm.eea.eu.int](http://www.biodiversity-chm.eea.eu.int))  
EU Sixth Environmental Action Plan,  
'Environment 2010, Our Future Our Choice'  
([www.reports.eea.eu.int](http://www.reports.eea.eu.int))  
Europe's Environment  
([www.reports.eea.eu.int](http://www.reports.eea.eu.int))  
1995 The Dobris Assessment  
1998 The Second Assessment  
2003 The Third Assessment

IPAs and the EU Biodiversity Strategy

Context

The three European Environment assessments have highlighted the urgent need for concerted regional action to prevent the ongoing decline in biodiversity. In 1998 the EU, as a signatory to the CBD, formulated its first Biodiversity Strategy. The implementation of the strategy has been outlined in a series of Environmental Action Plans. The latest of these, the Sixth Environmental Action Plan, 'Environment 2010, Our Future, Our Choice', seeks to halt the loss of biodiversity by 2010 and sets out five priority areas: Climate Change; Nature and Biodiversity; Environment; Health and Quality of Life; and Natural Resources and Waste.

The strategy and action plans recognise the cross-sectoral nature of biodiversity conservation but there are also specific legal tools and strategies, such as the Natura 2000 network (Birds and Habitats Directives), the Water Framework Directive, and financial tools such as LIFE Nature and Rural Development Programmes.

The IPA project can make a significant contribution to the EU Biodiversity Strategy by engaging a range of stakeholders, and providing sound data on priority sites for conservation action and protection.

*Aquilegia alpina* in Slovakia



## IPAs, the EU Habitats Directive and the Natura 2000 Network

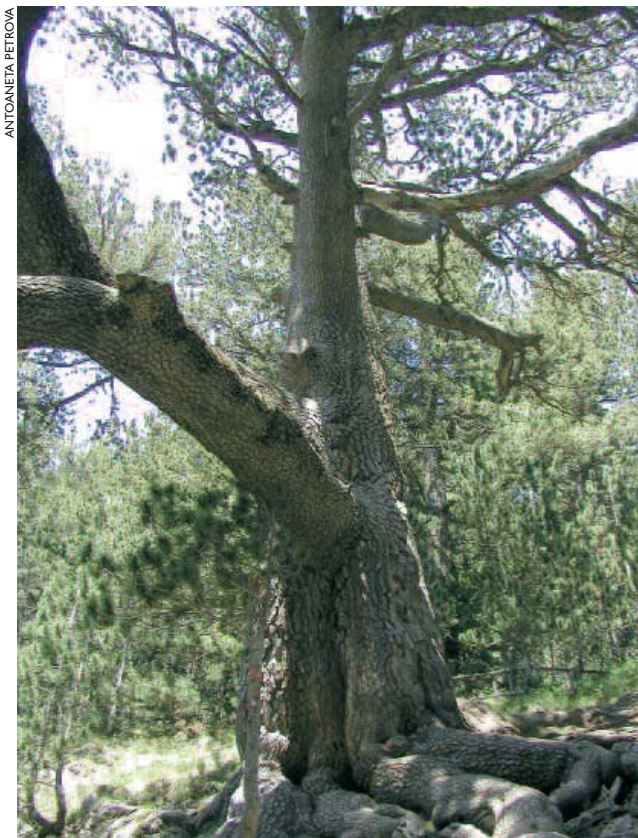
### Context

The EU Habitats Directive (92/43/EEC) adopted in 1992, is the main EU legal framework for protecting species and habitats of European importance, and must be transcribed into each member state's national legal system. The IPA project is designed to support this process by providing additional data, but also to provide an external check on its effectiveness.

The Directive obliges each member state to identify sites of community interest (SCIs) and from these 'Special Areas of Conservation' (SACs). SACs must be afforded legal protection and be maintained or restored to 'favourable conservation status' by appropriate management. The European Commission assesses national site proposals in Biogeographic seminars and qualifying sites make up the Natura 2000 network along with Special Protection Areas (SPAs) from the Birds Directive.

### Accession, enlargement and the annexes

The ten new member states have brought with them many large, un-fragmented natural areas, and a diversity of species and habitats of European importance. The annexes of species and habitats should reflect the diversity and richness of this region and be updated where necessary to reflect the new boundaries. Accession countries, such as Romania and Bulgaria, are particularly rich in species and habitats and the Directive should recognise this diversity in its annexes and implementation.



*Pinus heldreichii* in Bulgaria, a globally threatened forest type and one of the many species-rich habitats that Romania and Bulgaria will bring to the EU.



### References

EU Habitats Directive  
([www.europa.eu.int/comm/nature/nature\\_conservation/eu\\_nature\\_legislation](http://www.europa.eu.int/comm/nature/nature_conservation/eu_nature_legislation))

LIFE Nature database  
([www.europa.eu.int/comm/environment/life/project](http://www.europa.eu.int/comm/environment/life/project))

Natura 2000 network website  
([www.europa.eu.int/comm/environment/nature/home.htm](http://www.europa.eu.int/comm/environment/nature/home.htm))

## IPAs, the EU Habitats Directive and the Natura 2000 Network (cont.)

### Management of SACs and funding

Maintaining sites in '*favourable conservation status*' requires adequate, sustainable funding and the member states must produce a co-financing plan with the Commission. The lack of direct nature conservation funds, such as the LIFE programme, or a **dedicated** portion of other funds, such as the Rural Development Programme, would undoubtedly diminish the effectiveness of the Habitats Directive and the Natura 2000 network.

### IPAs and the Habitats Directive

The criteria lists for selecting IPAs include all of the threatened habitats on Annex I, and all of the threatened species on Annex IIb and IVb. The IPA project uses the six biogeographic zones of the EU but also the additional five of the Council of Europe.

In the five partner countries in the EU, 399 IPAs (78% of IPAs in those countries) are also currently proposed as SACs by the national governments.

**711 IPAs (89%)** contain Habitats Directive species or habitats.

LIFE Nature Projects are currently improving plant conservation on many IPAs, including the Danube Flood Plain in Slovakia, the Baltic coastal meadows of Estonia, and important forest habitats in Piatra Craiului and Domogled National Parks in Romania.

Swamp habitat in Slovakia.



DANA TOUJONOVÁ

## IPAs and the EU Water Framework Directive

### Context

The EU Water Framework Directive (WFD) (2000/60/EC) provides a legally binding framework to protect the water systems of Europe (rivers, lakes, coasts, estuaries, and groundwater). This includes a commitment to protect and enhance aquatic ecosystems, and the terrestrial and wetland ecosystems, which depend on those ecosystems. IPA data can be used to support assessment and monitoring of priority areas.

Each member state is obliged to incorporate the Directive into their national laws. Article 6 requires a register of the protected areas which fall within these water systems, Article 7 requires management plans for river basins, and Article 8 requires a network of sites to monitor the ecological status of these water systems. Annex V sets out the qualitative features that can be used to classify the ecological status of the water systems.

### IPAs and the Water Framework Directive

**197 IPAs (25%)** contain threatened inland water habitat from the EU Habitats Directive.

**224 IPAs (28%)** contain threatened mire, bog and fen habitats from the EU Habitats Directive

**74 IPAs (9%)** contain threatened coastal and halophytic habitats from the EU Habitats Directive

IPA data should be used to check on the comprehensiveness of the register of protected areas and on the network of monitoring sites, which each country must produce for the Directive.

### References

European Environment Agency  
([www.themes.eea.eu.int/Specific\\_media/water](http://www.themes.eea.eu.int/Specific_media/water))

EU Water Framework Directive  
([www.europa.eu.int/comm/environment/water/water-framework](http://www.europa.eu.int/comm/environment/water/water-framework))

WWF, 2003, WWF's *Water and Wetland Index: Critical Issues in Water Policy Across Europe*. ([www.panda.org/downloads/europe/wwireport.pdf](http://www.panda.org/downloads/europe/wwireport.pdf))



Water lilies at Bohelovske fish ponds in Slovakia.

**References:**

Ramsar Convention website and database  
([www.ramsar.org](http://www.ramsar.org))  
Wetlands International website  
([www.wetlands.org](http://www.wetlands.org))

**IPAs and the Ramsar Convention on wetlands**

**Context**

The Ramsar Convention (adopted in 1971) is an intergovernmental treaty, which provides the framework for national action and international cooperation on the conservation and wise use of wetlands and their resources. The term ‘wetland’ includes marsh, fen, peatland, water, and marine water less than six metres at low tide. To date 141 countries are signatories of the convention, including all of the seven partner countries in this project. The current guidelines contain four criteria that include plants and plant communities.

**Criterion 1:** rare, representative or unique example of natural or near-natural wetland type within appropriate biogeographic region

**Criterion 2:** vulnerable, endangered or critically endangered species or threatened ecological community

**Criterion 3:** populations of plant and/or animal species important for maintaining biological diversity of a particular biogeographic region

**Criterion 4:** supports plants and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions

Full description of criteria at [www.ramsar.org](http://www.ramsar.org)

**IPAs and Ramsar**

In the seven partner countries in this project there are currently 42 RAMSAR sites, 78 IPAs are found within the boundaries of these RAMSAR sites.

**224 IPAs (28%)** contain threatened mire, bog and fen habitats

**197 IPAs (25%)** contain threatened inland water habitats

**74 IPAs (9%)** contain threatened coastal and halophytic habitats



A frog emerges from the leaves of *Spirodella polyrhiza* and *Salvinia natans*.

## IPAs and Key Biodiversity Areas: Birds, Butterflies, Dragonflies, and Herpetological Species

### Context

The Important Bird Areas (IBA) project of BirdLife International has been a great success in Europe and other parts of the world. It has not only provided a list of priority sites for bird conservation, but has also united a network of specialists, prompted legal and policy change at the highest level, and involved a range of stakeholders in ground-level conservation. The Important Biodiversity Areas Forum held in Wageningen, the Netherlands, brings together representatives from the different groups and ensures that there is exchange of information on methodology, experience and progress.

### Progress so far

*Bird Areas:* 3619 sites in Europe

*Plant Areas:* 788 sites in Europe in seven countries and preliminary projects or interest in many countries in Europe

*Butterfly Areas:* 433 PBAs in thirty-seven countries in Europe

*Dragonfly Areas:* project in progress

*Herpetological Areas:* project in progress

### Key Biodiversity Areas (KBAs)

IPAs, IBAs, PBAs, IDAs and IHAs all contribute to the emerging concept of key biodiversity areas being developed by Birdlife International and Conservation International, which aims to be applicable to all major groups of taxa and to identify sites important for all biodiversity.

### References

- Eken, G. et al, 2004, *Key Biodiversity Areas as Site Conservation Targets*. BioScience, December 2004, Vol. 54, No. 12, pp. 1110-1118
- Heath, M.F. & Evans, M.I. 2000, *Important Bird Areas in Europe*. Birdlife International ([www.birdlife.org](http://www.birdlife.org))
- Key Biodiversity Areas leaflet ([www.sifiryokolus.org/pdf/key\\_biodiversity\\_areas.pdf](http://www.sifiryokolus.org/pdf/key_biodiversity_areas.pdf))
- Van Swaay, C. & Warren, M. 2003, *Prime Butterfly Areas in Europe*. Dutch Butterfly Conservation ([www.vlinderstichting.nl](http://www.vlinderstichting.nl))
- Butterfly Conservation ([www.butterfly-conservation.org](http://www.butterfly-conservation.org))



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## References

Birdlife International, ([www.birdlife.org](http://www.birdlife.org) and [www.birdlifecapcampaign.org](http://www.birdlifecapcampaign.org))

2004, *Birdlife International's vision for rural Europe. 2002, CAP Reform Proposals: a ten point plan for radical reform of the CAP.*

European Commission CAP Reform website, ([www.europa.eu.int/comm/agriculture/capreform](http://www.europa.eu.int/comm/agriculture/capreform))

European Environment Agency agriculture section, ([www.themes.eea.eu.int/Sectors\\_and\\_activities/agriculture](http://www.themes.eea.eu.int/Sectors_and_activities/agriculture))

Ministry of Agriculture, Nature and Food Quality, The Netherlands, 2005, Land Abandonment, Biodiversity and the Common Agricultural Policy (CAP)

## IPAs and Agricultural Policy

### Context

The negative effects on plant diversity of the intensive, high production farming of the EU Common Agricultural Policy (CAP) have been acknowledged for many years. Europe is now entering a transition period where much of the high nature value farmland of the CEE will be managed under the EU CAP system. Although there have been some reforms of the system, there is still a long way to go to ensure that socio-economic and biodiversity needs are balanced with agricultural production to ensure a healthy and sustainable rural Europe.

There is an urgent need to ensure that the biodiversity-rich farmlands and the rural communities of CEE are not devalued in the same way as those of western Europe.

### Reform of the EU CAP

The BirdLife International review of EU Rural Development policy highlights the inconsistencies of the system proposed in the reform of 2003. The proposed system separates agricultural production from rural communities, has no requirement for targeted, objective-lead agri-environment schemes, and has a complex, overlapping system of payments which do not cover the true costs of delivering the EU's commitment to halting the loss of biodiversity by 2010.

50% of the EU budget is spent on agriculture. Rural Development takes only 10% of that total budget. Agri-environment schemes are only one part of many different areas competing for Rural Development funding. The schemes are funded using nationally defined criteria, which are not required to include conservation of biodiversity, nor are they required to meet clear objectives, or to provide monitoring indicators of their success in conserving biodiversity.

### IPAs and agriculture

**444 IPAs (56%)** contain threatened grassland habitats, and **296 IPAs (37%)** contain priority threatened grassland habitats.

**232 IPAs (29%)** are threatened by agricultural intensification (grazing, arable, mixed, horticultural)

**217 IPAs (27%)** are threatened by land abandonment

Grasslands are home to much of Europe's species diversity. High Nature Value areas should be brought under biodiversity sensitive management and targeted for funding.



BRANO MOLNAR

## IPAs and Forest Policy

### Context

Specific forest protection and management legislation is only present at the national level in Europe. There is no common forestry policy in the EU with binding legal commitments, although forest conservation measures are included in the EU Biodiversity Strategy including the Natura 2000 network of sites. The Ministerial Conference for the Protection of Forests in Europe (MCPFE) was established in 1990. It provides a policy framework for the sustainable management of forests and incorporates the aims of the major forest conservation initiatives such as the CBD. However, the recommendations are voluntary.

The protection of Europe's old growth forests and rare forest habitats is possible through national legislation, protected area networks and forest certification schemes. However many valuable forest areas are under threat from damaging management and intensive logging.

The area of forest in Europe is increasing although there are many conservation concerns about some afforestation practices.

- The replacement of species rich, old growth forest with new plantations
- The preference for exotic and coniferous species over indigenous and deciduous species
- The afforestation of former grassland areas

### IPAs and forests

**455 IPAs (57%)** contain threatened forest habitats, **353 (44%)** contain priority threatened forest habitats.

In total, **349 IPAs (44%)** are threatened by poor forestry practices.

**212 IPAs (27%)** threatened by intensified forest management.

**159 IPAs (20%)** threatened by afforestation.

**130 IPAs (16%)** threatened by deforestation.

### References

European Commission, 2004, *Natura 2000 and forests – “Challenges and opportunities” – interpretation guide.*

Forest Stewardship Council ([www.fsc.org](http://www.fsc.org))

Ministerial Conference on the Protection of Forests in Europe

1st, 1990, Strasbourg Conference

2nd, 1993 Helsinki Conference

3rd, 1997 Lisbon Conference

4th, 2003 Vienna Conference



Almost half of IPAs are threatened by poor forestry practices.

References

EBMI-F information  
([www.strategyguide.org/ebmf.html](http://www.strategyguide.org/ebmf.html))

IEBI 2010 information, European Environment Agency ([www.eea.eu.int](http://www.eea.eu.int)), European Centre for Nature Conservation ([www.ecnc.org](http://www.ecnc.org))

IRENA website  
([www.webpubs.eea.eu.int/content/irena/index.htm](http://www.webpubs.eea.eu.int/content/irena/index.htm))

IPAs and monitoring

Context

Monitoring is part of the long-term work of conservation, involving the need to check on the state of particular species, habitats and sites over time, to assess the effectiveness of different programmes, and to react if there is a problem or a negative pressure on those species or sites. Monitoring is carried out by many stakeholders, from specialists, to local communities and land owners, to government organisations involved in funding and reporting on conservation.

Coordinated monitoring in Europe

The different monitoring initiatives in Europe (primarily the CBD, the EU Biodiversity Strategy and the PEBLDS) have been rationalised in the creation of the IEBI 2010 (Implementing European Biodiversity Indicators 2010), which will be coordinated by EEA, ECNC and UNEP-WCMC. The IEBI 2010 includes input from a wide range of stakeholders, including the European Biodiversity Monitoring and Indicator Framework (EBMI-F), Indicator Reporting on the Integration of Environmental Concerns into Agricultural Policy (IRENA), and the Agricultural Biodiversity Monitoring Initiative. The importance of many different stakeholders is emphasised in this initiative and IPA data could be used to assist this process.

IPAs and monitoring

As part of this project we have recorded any known information on the trends of species and habitats at sites in the central database. Establishing national and regional IPA monitoring systems is an essential part of the development of this project. The challenge for all stakeholders is to find adequate sustainable funding to carry out monitoring.



## IPAs and the Aarhus Convention on Public Participation

### Context

The Aarhus Convention is an environmental treaty with three pillars, which grants citizens **access** to environmental information, the right of **public participation** in environmental decision making, and the right of **access to justice** if public (local, regional, and national government) environmental decisions are made without reference to the rights outlined above.

The Convention was negotiated by the UN Economic Commission for Europe (UNECE) and signed in 1998 at the Fourth Ministerial Meeting in the 'Environment for Europe' process. It brings together environmental rights and human rights and was triggered by Principle 10 of the Rio Convention (the CBD). 40 countries in Europe are signatories of the Aarhus Convention. The EU is also a signatory and has two directives relating to the access to information and public participation. These EU directives should be enforced in the national legislation of member states by 2005.

### IPAs and the Aarhus Convention

The aims of the IPA project and information about priority plant sites must be disseminated to a wide public audience in order to facilitate public participation in environmental decision-making.

### Current progress

In the seven partner countries, Russia and the south east Europe region there have been many articles, leaflets and publicity material, including a radio show in the Czech Republic. At the start of 2005 there will be national publications about IPAs in each of the seven partner countries and also a regional overview in English, which will be publicly available in print or over the web. Plantlife International is also developing the public access section of their website, in consultation with partners, which could allow public access to fact-sheets about IPAs in participating countries.

### References

The Aarhus Convention  
([www.unece.org/env/pp/](http://www.unece.org/env/pp/))

The European Commission and the Aarhus Convention ([www.europa.eu.int/comm/environment/aarhus](http://www.europa.eu.int/comm/environment/aarhus))

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# Definitions and Abbreviations

## Definitions

Biogeographic region: the seven biogeographic regions recognised by the EU and the additional four biogeographic regions recognised by the Council of Europe: the Alpine, Anatolian, Arctic, Atlantic, Black Sea, Boreal, Continental, Macaronesian, Mediterranean, Pannonian, and Steppic.

Endemic: a plant which has its complete geographical range within one nation state.

Near endemic/limited range: a plant which has a very limited range and occurs in no more than three countries.

Plant: to conserve space the word 'plant' is used to denote vascular plants, mosses and liverworts, fungi, lichens and algae.

## Abbreviations:

CAP: Common Agricultural Policy

CBD: Convention on Biological Diversity

CEE: central and eastern Europe

CIS: Commonwealth of Independent States

COP: Conference of the Parties

EC: European Commission

ECNC: European Centre for Nature Conservation

EEA: European Environment Agency

EMBI-F: European Biodiversity Monitoring and Indicator Framework

EPCS: European Plant Conservation Strategy

EU: European Union

GSPC: Global Strategy for Plant Conservation

IBA: Important Bird Area

IDA: Important Dragonfly Area

IEBI2010: Implementing European Biodiversity Indicators 2010

IHA: Important Herpetological Area

IPA: Important Plant Area

IRENA: Indicator Reporting on the Integration of Environmental Concerns into Agricultural Policy

MCPFE: Ministerial Conference for the Protection of Forests in Europe

PBA: Prime Butterfly Area

PEBLDS: Pan-European Biological and Landscape Diversity Strategy

PEEN: Pan-European Ecological Network

SAC: Special Area for Conservation

SBSTTA: Subsidiary Body on Scientific, Technical and Technological Advice (Expert Group for the CBD)

SCI: Sites of Community Interest

SPA: Special Protection Area

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