



The mission of the European Platform for Biodiversity Research Strategy (EPBRS) is to ensure that research contributes to halting the loss of biodiversity by 2010.

**RECOMMENDATIONS OF THE WORKING GROUP ON
BIODIVERSITY AND PROTECTED AREAS
EUROPEAN PLATFORM FOR BIODIVERSITY RESEARCH STRATEGY**

Meeting under the Greek Presidency of the EU
Lesvos, Greece, 23rd – 26th May 2003

"Every man is given only enough strength to complete those assignments of whose importance he is fully convinced." – Goethe

To gain the knowledge necessary to halt biodiversity loss by 2010, high priority is placed on research to:

Ecological and social context of the Protected Areas (PAs)¹

1. investigate socio-economic (including ethical, cultural, and religious concerns) and ecological processes and their interactions to improve the design, implementation, monitoring and management of PAs;
2. develop appropriate management guidelines for human recreation, education, and economic activities in and adjacent to PAs;
3. analyse past experience and investigate new methods, including policy appraisal, for ensuring that human communities located within PAs or buffer zones are involved in the decision-making process about the management of the area and receive an equitable sharing of social or economic benefits from the sustainable use of the PA;
4. improve and develop methodologies to analyse the socio-economic effects of PAs for the regions outside the PA and to evaluate the threats for the PA that have their origin outside the designated area;
5. increase the effectiveness and reliability of different management methods (i.e. adaptive management and the ecosystem approach) to meet the main objectives of the PAs;

Ecological understanding of PAs

6. improve the application of ecological theory, including landscape ecology and biogeographical knowledge in the designation of areas to protect both the survival of endangered species/habitats, and the sustainable use of locally scarce biotic resources in managed systems;
7. strengthen the scientific foundations for the specification of protection regimes: understand how to manage, maintain and if necessary restore the favourable condition of PAs;
8. develop and investigate methods to monitor, evaluate and assess whether favourable condition of habitats and species are maintained² by PAs;
9. identify and assess hazards and risks to biodiversity in the PAs;
10. refine existing knowledge about the scales at which networks of PAs will guarantee the favourable condition of species and habitats within each major ecosystem, including the scale necessary to maintain natural processes and migratory species;
11. understand how to design and manage buffer zones around PAs so that they help to maintain ecological integrity within the PAs;

12. investigate methods including habitat creation or restoration for achieving connectivity in various ecosystems under different regimes of human exploitation;
13. predict the ecological consequences and understand the implications for conservation objectives of projected climate changes, including their influence on disturbance regimes and on conditions of and connectivity between PAs;

To ensure effective exploitation of research on these priority areas, the EPBRS recognises the crucial importance of:

- improving communication about PAs among scientists, local communities, decision makers, resource managers and other stakeholders including the general public;
- developing training and awareness programmes to expand consciousness and appreciation of PAs, especially with regard to biodiversity and its value and significance.

The above research priorities stemmed in particular from the following considerations:

- Protected areas (PAs) support biodiversity by maintaining essential ecosystems and ecological processes,
- PAs are suitable for scientific research to inventory biodiversity and prevailing ecological processes,
- the appropriate size³ of PAs and the human activities within and near the PAs are crucial factors to conserve habitats and populations,
- the area available for conservation is constrained by competing demands for resource or land use, so that new PAs are typically designated in areas that include human populations or are the location of economic activities, which makes it essential to reach compromise between local human needs and the protection of ecosystems⁴,
- the benefits derived from PAs are not always equitably distributed and local communities found within PAs have often received a disproportionately small share of those benefits;
- basic principles for the design of terrestrial PA networks are established:
 - networks of PAs should be representative of a country's eco-regions and bio-geographical and endemic or relict zones,
 - buffer zones adjacent to or surrounding PAs in which human activity is regulated may increase the effectiveness of the PA,
 - ecological corridors improve the efficiency of PA networks especially with regards to the conservation migrating species.

¹ For definition, see annex

² Our understanding of the natural world is insufficient for completely science-based management of PAs. Most species have not been described, and it is a continuing task of taxonomic research to deal with this aspect of biodiversity. The habitat requirements of these species, and indeed of most described species, are not known. Except in certain very special cases, it is therefore not possible to protect habitats in order to conserve particular species. The alternative is to establish a system of PAs that includes a wide range of major ecosystem types, including any unique habitat types that have been identified in that area.

³ Large PAs are more robust to local stochastic changes than small ones, and tend to include a disproportionately large number of species, whereas a relatively large number of small PAs may help to ensure that a wide range of species and habitats is represented, while reducing the chance of the disappearance of species from the complete set of areas. The best way to protect a wide array of species and habitats is to establish one PA that is as large as possible, with several smaller satellite PAs. Species in large PAs that are close to other such PAs exhibit smaller population fluctuations, easier re-colonisation, greater gene flow, and the possibility of large diurnal, seasonal or permanent movement of species

⁴ Efforts in this direction include the document “Assessment of plans and projects significantly affecting Natura 2000 sites Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC”.

ANNEX

The IUCN uses the following definitions of protected areas:

Category	Designation	Managed (mainly) for	Definition
Ia	Strict Nature Reserve	<u>science</u>	Area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.
Ib	Wilderness Area	<u>wilderness protection</u>	Large area of unmodified or slightly modified land and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.
II	National Park	<u>ecosystem conservation and recreation</u>	Natural area of land and/or sea, designated to: <ul style="list-style-type: none"> ↳ protect the ecological integrity of one or more ecosystems for this and future generations: ↳ exclude exploitation or occupation inimical to the purposes of designation of the area: and ↳ provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.
III	Natural Monument	<u>conservation of specific natural features</u>	Area containing one or more specific natural or natural/cultural feature which is of outstanding value because of its inherent rarity, representative or aesthetic qualities or cultural significance.
IV	Habitat / Species Management Area	<u>conservation through management intervention</u>	Area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species.
V	Protected Landscape / Seascape	<u>landscape/seascape conservation and recreation</u>	Area of land, with coast and seas as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, cultural and/or ecological value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area.
VI	Managed Resource Protected Areas	<u>sustainable use of natural ecosystems</u>	Area containing predominantly unmodified natural systems, managed to ensure long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs.

These definitions show that PAs may be designated to safeguard the ecological integrity of rare, outstanding or representative ecosystems, to conserve unique and threatened habitats or designated species, or to maintain sustainable use of a natural area, and, in some cases, to preserve cultural and ethnic diversity.