



The Wildland Research Institute



Review of status and conservation of wild land in Europe for the Scottish Government

Mark Fisher and Steve Carver, WRI, Leeds University
Zoltan Kun, PAN Parks

Rob McMorran, Centre for Mountain Studies, UHI Perth
Bob Aiken
Katherine Arrell, Gordon Mitchell, SoG, Leeds University





Wildland on the European Agenda

Shaping events in Europe

- COMMITTEE REPORT

Report on Wilderness in Europe adopted by EU Committee on the Environment, Public Health and Food Safety, 5 December 2008

- RESOLUTION

Wilderness in Europe – non-legislative resolution passed by European Parliament, 3 February 2009

- CONFERENCE

Conference on wilderness and large natural areas, Czech Presidency of the EU Council and European Commission, Prague 27, 28 May 2009

Key conference commitments

- Develop guidance for non-intervention management of wilderness within the frame of Natura 2000;
- Develop a wilderness register – **mapping existing wilderness** as a basis for tailored protection plans
- Quantification of the value of non-extractive economic, social and environmental benefits of wilderness and wildland, identifying key beneficiaries;
- Further development of the Wildland Support Network, especially to support implementation of recommendations from the conference;
- Undertake a full assessment of government, institutional and private sector funding opportunities for protection and restoration.

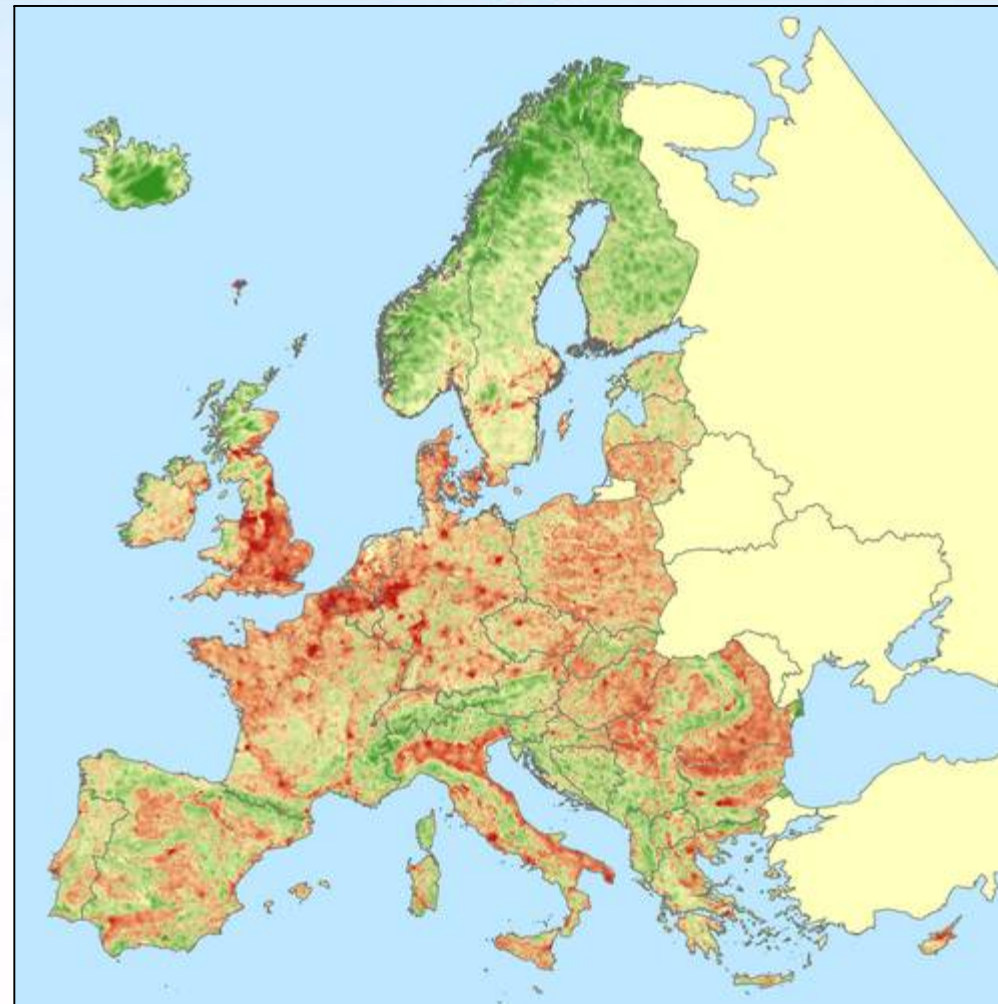
Mapping the wildland continuum in Europe

Wilderness Quality Index

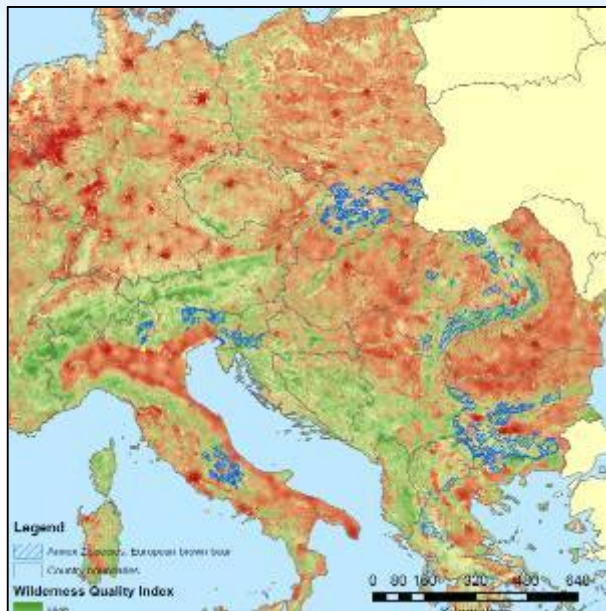
Mapping based on population density, land cover/use, transport and accessibility, and topography

Data sources: Copyright ORNL Landscan 2008TM/UT-Battelle, LCC; EEA Copenhagen 2007; DLR 2010; ESRI 2010

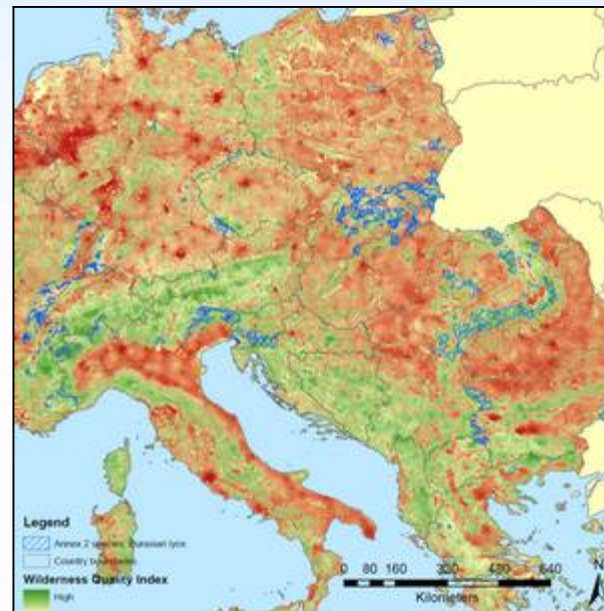
Wilderness Quality Index



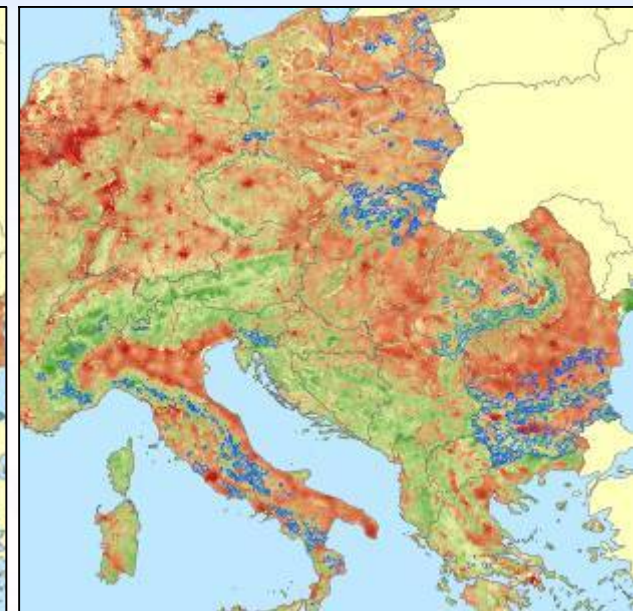
Carnivores and the Wilderness Quality Index Natura 2000 Annex II species



Brown bear



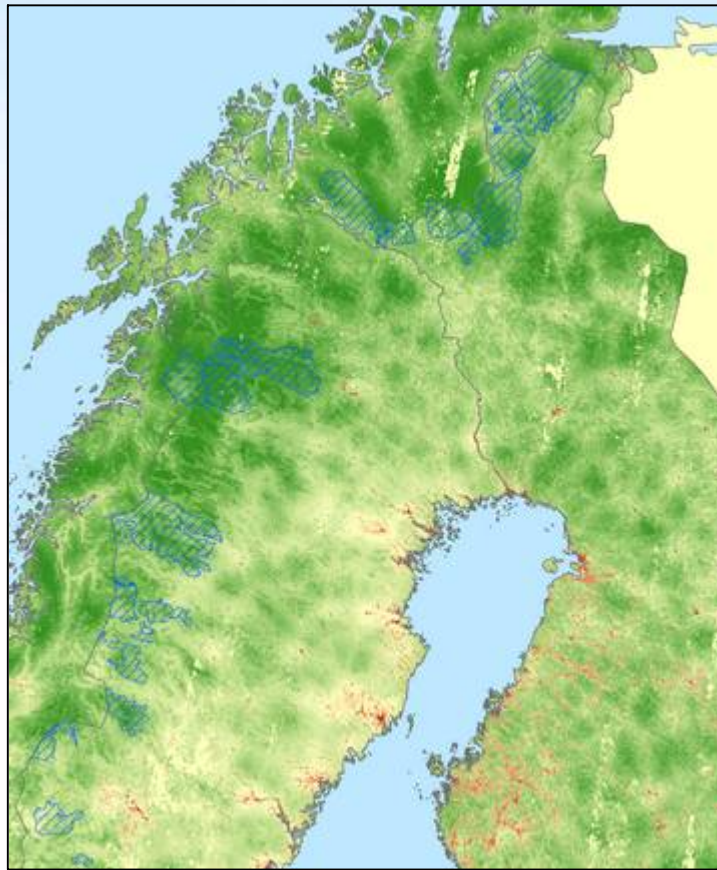
Lynx



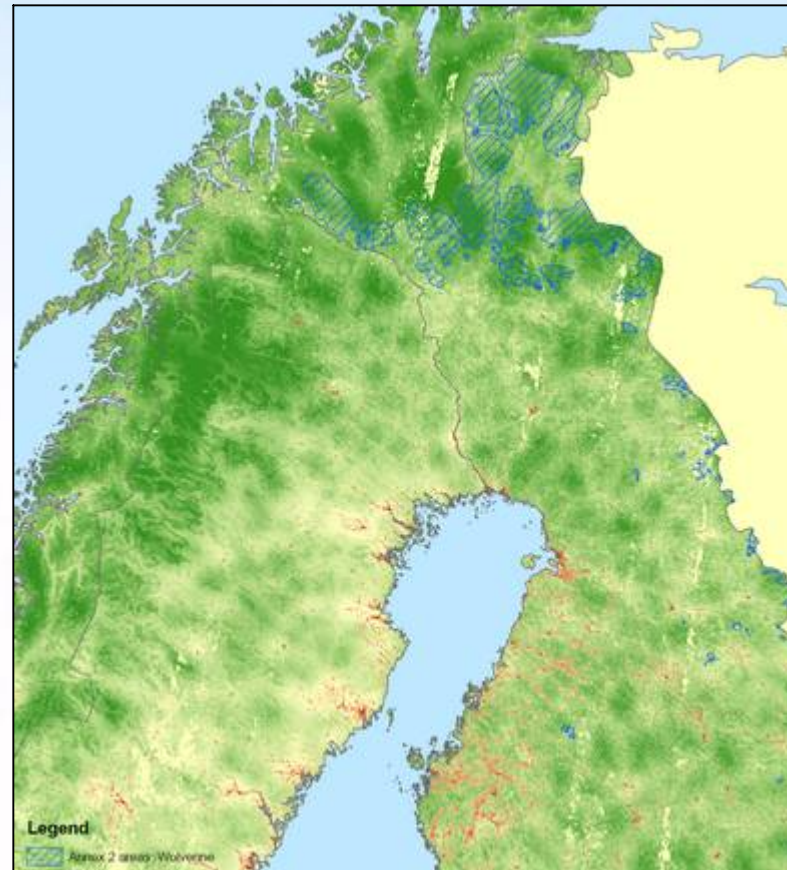
Wolf

High spatial correlation between Natura 2000 sites for bear, lynx and wolf with high WQI

Carnivores and the Wilderness Quality Index Natura 2000 Annex II species



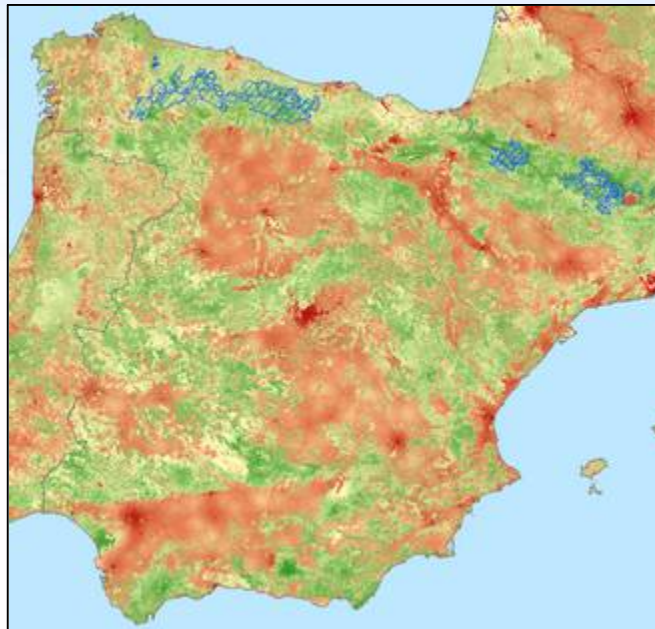
Arctic fox



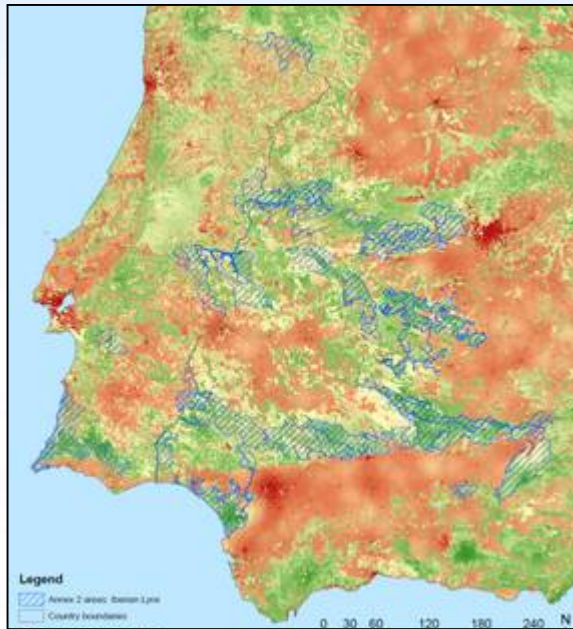
Wolverine

High spatial correlation between Natura 2000 sites for arctic fox and wolverine with high WQI

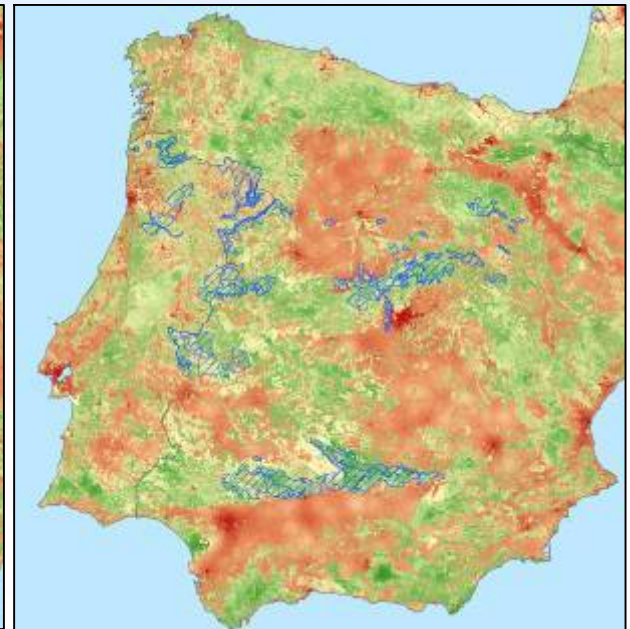
Carnivores and the Wilderness Quality Index
Natura 2000 Annex II species



Brown bear



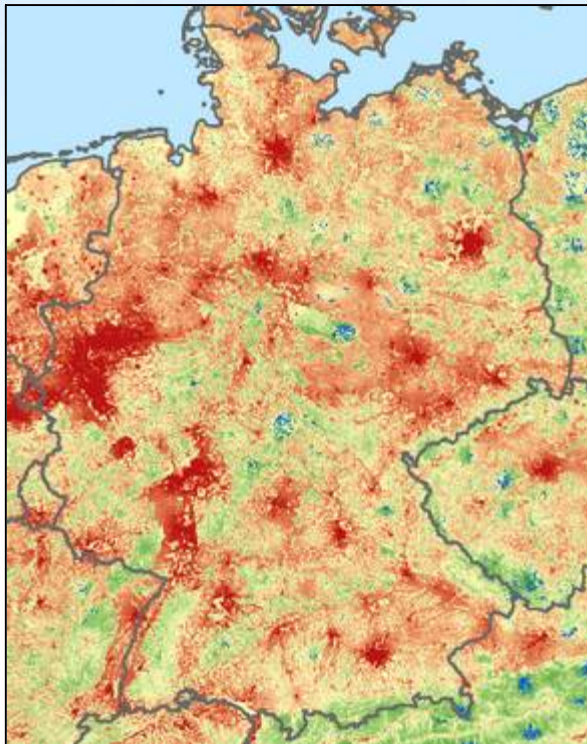
Iberian lynx



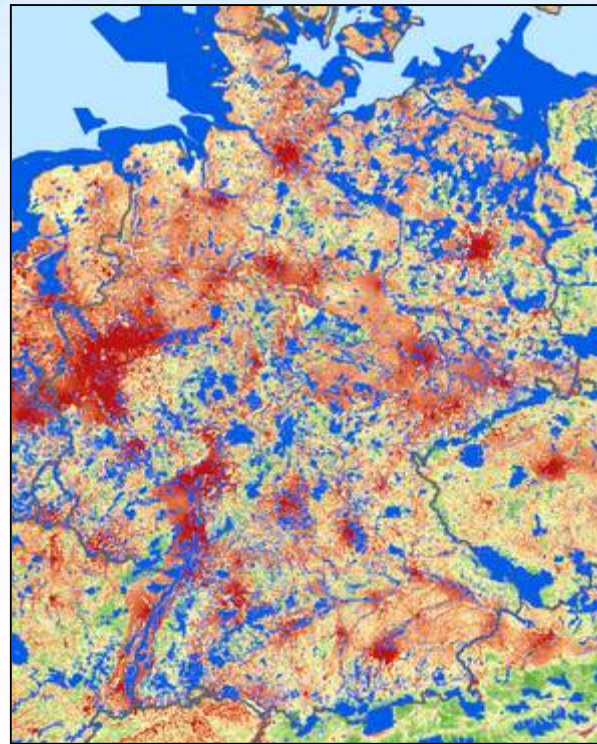
Wolf

High spatial correlation between Natura 2000 sites for bear, Iberian lynx and wolf with high WQI

Natura 2000 and the Wilderness Quality Index Germany

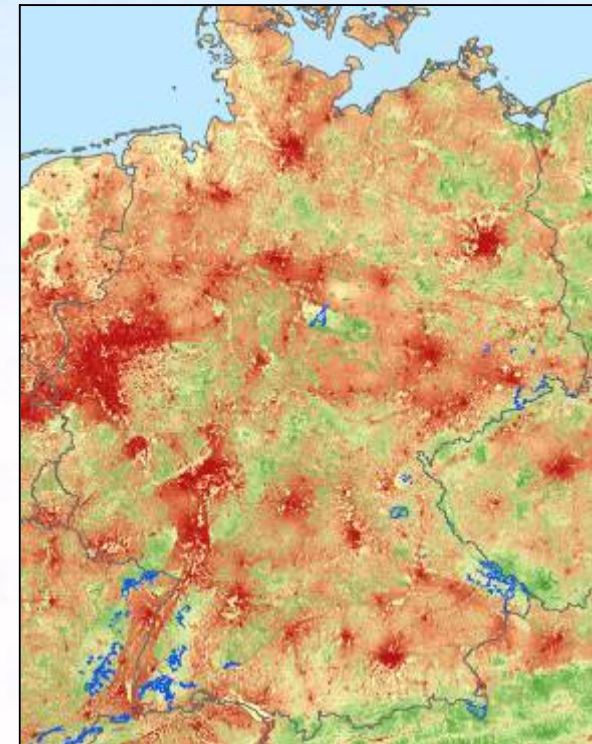


Top 5% WQI in Germany



Natura 2000

Annex I distinguishes on a biogeographical basis, but not between primary and secondary habitats

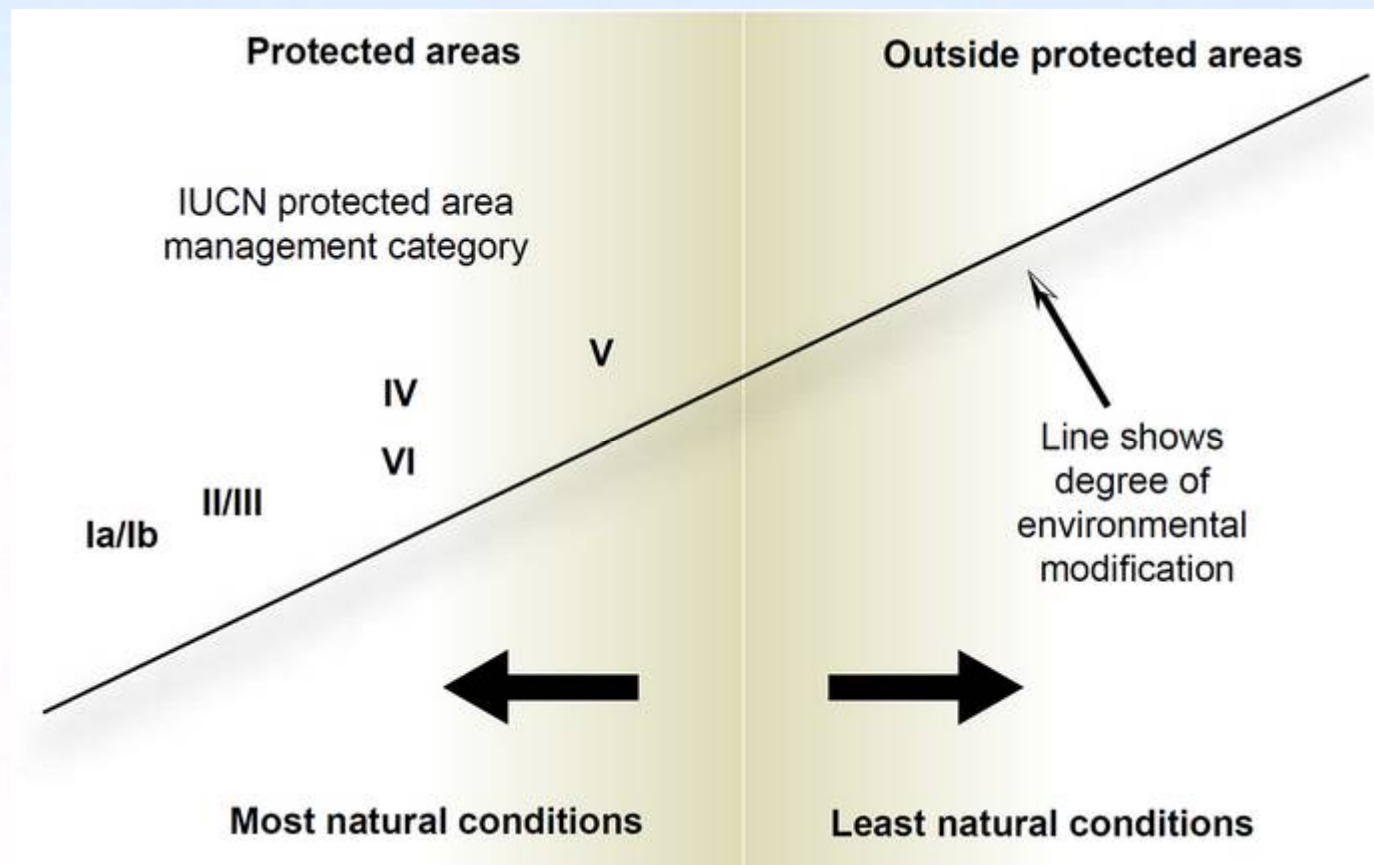


Lynx SCI

Indicative of primary habitat?

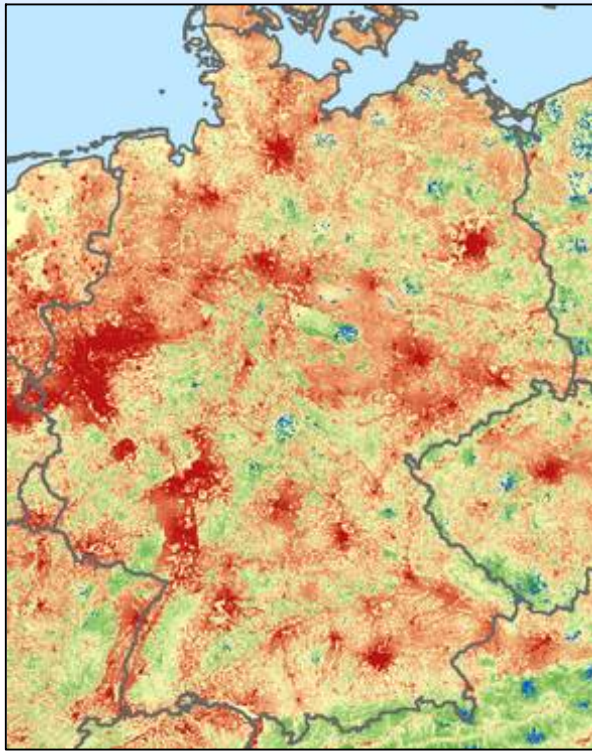
Low spatial correlation of Natura 2000 sites with high WQI, except for lynx SCI

IUCN Categories and naturalness
- the wildland continuum in national protected area systems

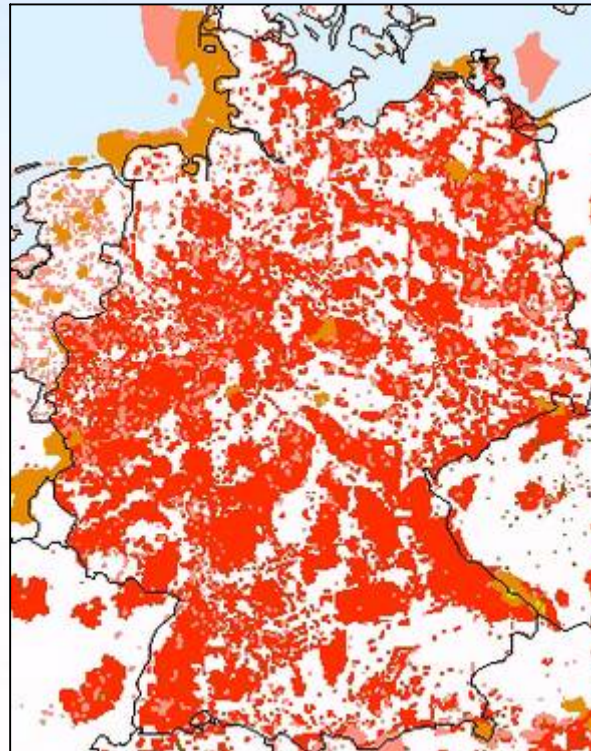


A global system, latest guidelines released in 2008

IUCN Categories and the Wilderness Quality Index Germany

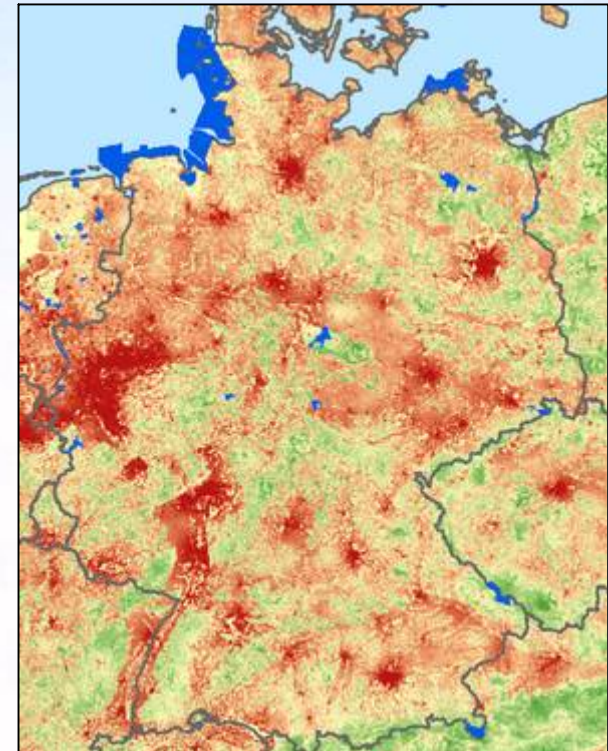


Top 5% WQI in Germany



IUCN Categories i-v


■ ia	■ ii	■ iv
■ ib	■ iii	■ v



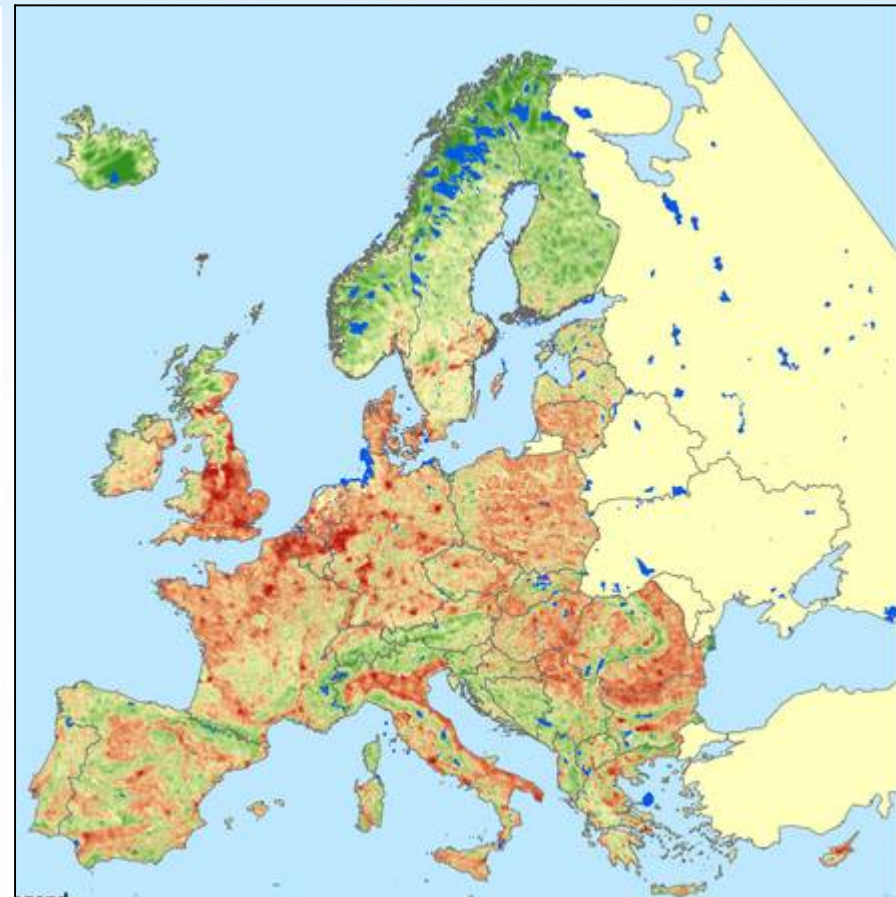
IUCN Categories i-ii
Indicative of primary habitat?

High spatial correlation of IUCN Categories i-ii with high WQI

IUCN Categories and the Wilderness Quality Index

	ia	ib	ii	iii		ia	ib	ii	iii
Albania	2		14	749	Latvia	4		46	355
Armenia	6		2		Liechtenstein		9		
Austria	3		7	249	Lithuania	6		5	
Azerbaijan	15				Luxembourg		34	2	
Belarus	2		2	315	Macedonia	4		3	56
Belgium			9		Malta	3	65	4	45
Boznia Herzog.				2	Moldova	5			22
Bulgaria	1	54	3	836	Netherlands			22	
Croatia	2	81	8	279	Norway	1,888	1	36	91
Cyprus	1	1	14	6	Poland	1		15	
Czech		10	4	485	Portugal	18	5	1	29
Denmark	6	7	9	20	Romania	77		13	230
Estonia	29	857		1202	Russia	73		36	7,886
Finland	20	6	34	2	Serbia	7	1	2	57
France	37		5	24	Slovakia		607	9	301
Georgia	20		4		Slovenia	6	50	1	1154
Germany			14		Spain	6	35	62	189
Greece	5		19	70	Sweden	1,792	120	21	316
Hungary			5		Switzerland	1			25
Iceland	2		3	36	Turkey	518		342	142
Ireland	75		6		UK 				
Italy	115		22	41	Ukraine	23		8	3054

IUCN Categories i-iii protected areas



IUCN Categories i-ii with WQI continuum



Wildland – human concept or biophysical reality?

“Postmodern criticism [of wilderness] fails to address the biological component of the word *wilderness*, nor does it fully address wilderness as a description of land that is wild”

“Thus, wilderness protected by law is not a place whose reason for being is to exclude people, but rather a formally designated place where only certain human uses are allowed in order to maintain its wild character. To be effective, a wilderness law must specify which uses it permits and which it excludes”

Cyril F. Kormos & Harvey Locke in “A handbook on International Wilderness Law and Policy”, Cyril Kormos, ed., 2008

The IUCN system categorises a range of different management approaches for protected areas, from strict nature reserves to protected landscapes, and which is based on the degree of human use and extractive activity



What links the IUCN system to wildland in Europe?

Evidence:

- The majority of legislation for national protected area systems across Europe directly reflects the IUCN system; most of the remaining countries have legislation for at least Category ii National Parks, or have a national policy commitment to the IUCN system
- National protected area legislation lays down restrictions on use as the means to protect “natural processes”, “ecosystems”, “biocenosis”
- Zoning, nesting and ecological networks are widespread in national protected area systems and legislation (spatial integration)
- State ownership is widespread in national protected area systems and legislation
- The IUCN system is aspirational

National protected area system legislation in Europe directly reflecting IUCN categories i-v

Albania, Armenia, Austria, Azerbaijan, Belarus, Bosnia Herzegovina, Bulgaria, Croatia, Czech, Estonia, Georgia, Germany, Hungary, Iceland, Latvia, Macedonia, Moldova, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Ukraine (27/44)

Examples

Article 4

Categories of protected areas

1. Important or threatened parts of the environment are declared protected areas

according to the following categories:

- a) strict nature reserve/scientific reserve (Category I); (Art 5)
- b) National Park (Category II); (Art 6)
- c) natural monument (Category III); (Art 7)
- d) manage natural resources / management area of habitats and species (Category IV), (Art 9)
- e) landscape protection (Category V); (Art 10)
- f) protected area managed resource / protected area of multiple-use (Category VI). (Art 11)

2. A buffer zone can be declared around a protected area.

Protected Areas Act, Albania - Nr. 8906, dated 6/6/2002, amended by On some Supplements and Changes in Law NR.8906, dated 6.6.2002 "Protected Areas" Nr.9868, dated 4/2/2008

Albania

Article 11

Categories and types of protected areas

1 - Protected areas may be under national, regional or local interests that seek to safeguard.

2 - Without prejudice to paragraph 6, protected areas are classified into the following types:

- a) National Park; (Art 16)
- b) Natural park; (Art 17)
- c) Nature reserve; (Art 18)
- d) Protected Landscape; (Art 19)
- e) Natural monument. (Art 20)

Act on conservation of nature and biodiversity, Portugal, Decree-Law No. 142/2008

Portugal

Legislative and extra-legislative commitment to IUCN categories in Europe

Reflects IUCN categories i-v over two Acts
Greece, Turkey

National Park (IUCN ii) category in protected area Act or National Park Act
Cypress, Denmark, Finland, France, Italy, Lithuania, Norway, Switzerland

No National Park (IUCN ii) in legislation
Belgium, Ireland, Liechtenstein, Luxembourg , Netherlands, UK

Commitment to IUCN outside of legislation

Examples

"It is the policy of the Department of the Environment, Heritage and Local Government, endorsed by successive governments, to abide by the criteria and standards for National Parks as set by the IUCN"
National Parks and Wildlife Service, Ireland

Ireland

"National Parks
Generally, the selection, establishment and management of National Parks in the Netherlands follow as much as possible the concepts and guidelines from the IUCN Management Category System"
CBD Thematic Report of the Netherlands on Protected Areas, 2003

Netherlands

Wildness and IUCN categories in legislation – Strict Nature Reserve/Wilderness area

Examples

Category of Strict Natural Reserve

Article 68

(1) Strict Natural Reserve shall be an area, which, because of its **significant or characteristic ecosystems**, geological or physical and geographical features and/or species, as well as originally preserved wilderness, acquires the status of natural heritage, primarily for the purpose of carrying out scientific surveys or monitoring of the protection.

(2) The space of the area of the Strict Natural Reserve shall provide integrity and achievement of the objectives for which it acquired the status of natural heritage.

(3) The conservation of the biological diversity within the area of the Strict Natural Reserve shall be achieved through protection, with **NO deliberate influence whatsoever on the natural processes** in the habitat or on the species populations

Law on Nature Protection, No. 67/2004, Macedonia

IUCN Category ia - Macedonia

Article 3

Definitions

For the purposes of this Act the following meanings shall apply:

4. **Wilderness**: an area of land at least 25 km² in size, or in which it is possible to **enjoy the solitude and nature without disturbance** from man-made structures or the traffic of motorised vehicles on the ground, which is at least 5 km away from man-made structures or other evidence of technology, such as power lines, power stations, reservoirs and main roads, where **NO direct indications of human activity are visible** and nature can develop without anthropogenic pressures

The Nature Conservation Act, No. 44, 22 March 1999, Iceland

IUCN Category ib - Iceland

Wildness and IUCN categories in legislation – National Park

Example

Article 19

Conservation Regime of the National Park

The conservation regime of the national park in the Republic of Armenia is:

It is prohibited in the **reserve zone** of the national park:

Any activity disturbing the water regime;

Construction and exploitation of economic and residential objects, roads, pipelines, electro-transmission cable and other communication facilities, except the construction of objects necessary for the operation of the national park (forest guard hut, entanglements, marking signs, etc) and road construction;

Disturbance of conditions of flora and fauna habitats, including loggings and animal grazing;

The use of pesticides for plants' protection, as well as the use of mineral fertilizers;

The use of plant and animal objects and their products for commercial purposes;

Geological survey, mining activities and mineral processing, destruction of soil cover, exploitation of ore minerals, ore protuberances and abruptions of stratums;

The traffic of motor or caterpillar transport out of roads of general use and streams and the parking out of the road net or in the places not planned thereof

The law of the Republic of Armenia on specially protected natural areas, 2006

IUCN Category ii - Armenia

Wildness and IUCN categories in legislation – Natural Monument

Example

Natural Monuments

Article 23

(1) Typical or remarkable non-living natural features, such as rock forms, rock exposures of scientific value, earth pyramids, caves, potholes, waterfalls, fossil beds, mineral occurrences, sand dunes and others of outstanding value because of the inherent rarity, representative or aesthetic qualities thereof or of scientific or cultural significance, shall be designated natural monuments.

(2) Natural monuments shall be managed for the purpose of preservation of the natural features thereof.

(3) Natural monuments shall be designated with an adjoining area as shall be necessary for the conservation thereof.

Article 24

Any activities that may disturb the natural state of natural monuments or impair the aesthetic value thereof shall be prohibited in natural monuments.

Law for the Protected Territories, Bulgaria SG 133, Nov 1998

IUCN Category iii - Bulgaria

Zones and nesting in national protected area systems in Europe

Zoning in national protected area legislation:

Albania, Armenia, Austria, Azerbaijan, Belarus, Bulgaria, Czech, Estonia, France, Germany, Hungary, Italy, Latvia, Liechtenstein, Lithuania, Macedonia, Moldova, Poland, Romania, Serbia, Slovakia, Spain, Switzerland, Ukraine
(24/44)

Example

Art 28

(7) the territory of all national parks shall be classified in natural, managed and demonstration zones in compliance with the international obligations and the principles pronounced by the Minister in Decrees.

Art 29

(4) by virtue of this Act, the natural zone of national parks, the core areas of biosphere reserves and the core areas of forest reserves shall be declared strictly protected.

Buffer zones

Article 30

(1) Protected natural areas shall, in case of necessity, be defended by buffer zones. The provision of law declaring protected status shall also provide for the extension of the buffer zone (subject to Article 24 paragraph (3) section b)).

(3) The function of buffer zones is to eliminate or moderate effects which are unfavourable to the conditions or the function of protected natural areas.

Nature Conservation Act No. LIII. of 1996, Hungary

Use of zoning to restrict activities in Hungarian National Parks

Zones in National Park management plans

Examples

PAN parks

Criterion 2.5

The protected area has an ecologically unfragmented wilderness area of at least 10,000 hectares where no extractive uses are permitted and where the only management interventions are those aimed at maintaining or restoring natural ecological processes and the ecological integrity.

Principles & Criteria 1-3, PAN Parks Verification Manual 2008

National Park	Wilderness (ha)	%
Archipelago (Fin)	10,600	21
Borjomi-Kharagauli (Geo)	50,325	59
Central Balkan (Bul)	21,019	29
Fulufjället (Swe)	22,140	60
Majella (Ita)	25,500	22
Oulanka (Fin)	12,924	36
Paanajärvi (Rus)	100,000	96
Peneda-Geres (Prt)	5,000	7
Retezat (Rom)	14,215	37
Rila (Bul)	16,350	20
Soomaa (Est)	11,530	29

National Parks across Europe



Management zones have been identified within the National Park as follows:

A Zone (Natural Zone) – Areas of high conservation value which require little or no management intervention. This includes undamaged bog and heath, and aquatic habitats.

B Zone (Active Management Zone) – Areas of high conservation value where management input is needed to return them to a more desirable state. The long-term aim of is to upgrade the natural value of zone B areas, possibly to the level where they can be re-classified as zone A.

C Zone (Intensive Use Zone) – Areas used intensively by visitors, National Park administration, or areas subject to intensive landscaping, or suitable for such use or management

Killarney/Wicklow Mountains National Park Management Plans 2005-09, NPWS Ireland 2005

Ireland

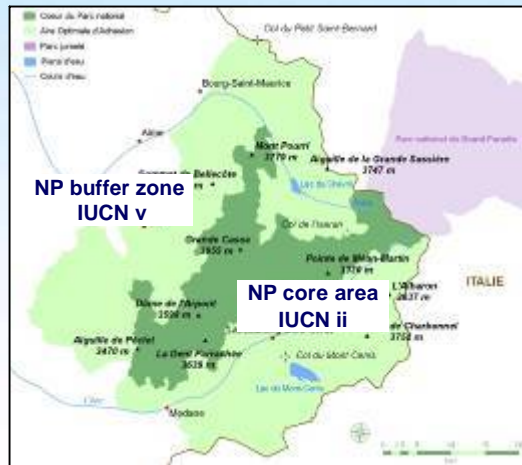
In order to protect the variety of biocenosis and unique landscape values, within the Park area the following zoning connected with the permitted range of human interruption is applied:

- strict protection (54.4%),
 - active protection (42.2%),
 - landscape protection (3.4%)
- Białowiecki National Park, Poland

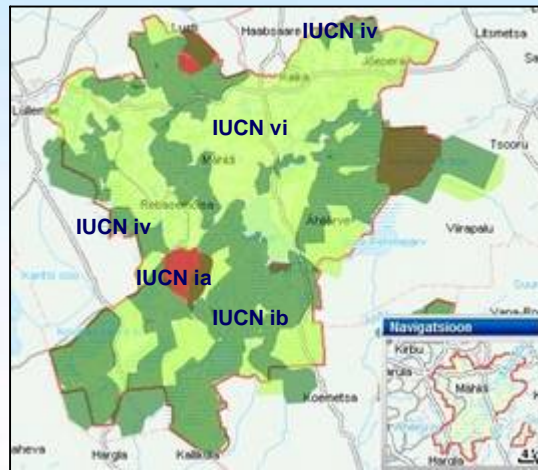
Poland



Zoning and nesting in National Parks



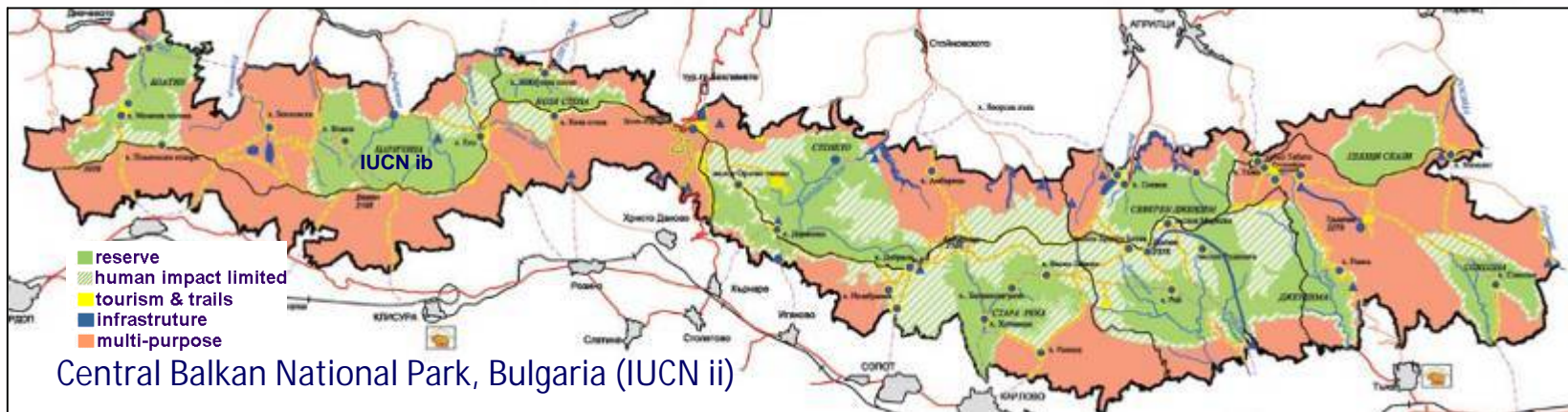
Vanoise National Park, France



Karula National Park, Estonia



Mols Mountains NP, Denmark
(DK22 - not IUCN categorised yet)



Central Balkan National Park, Bulgaria (IUCN ii)

National Ecological Networks

Ecological Networks in national protected area legislation:

Albania, Armenia, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Germany, Hungary, Liechtenstein, Lithuania, Luxembourg, Macedonia, Romania, Serbia, Spain (15/44)

Examples

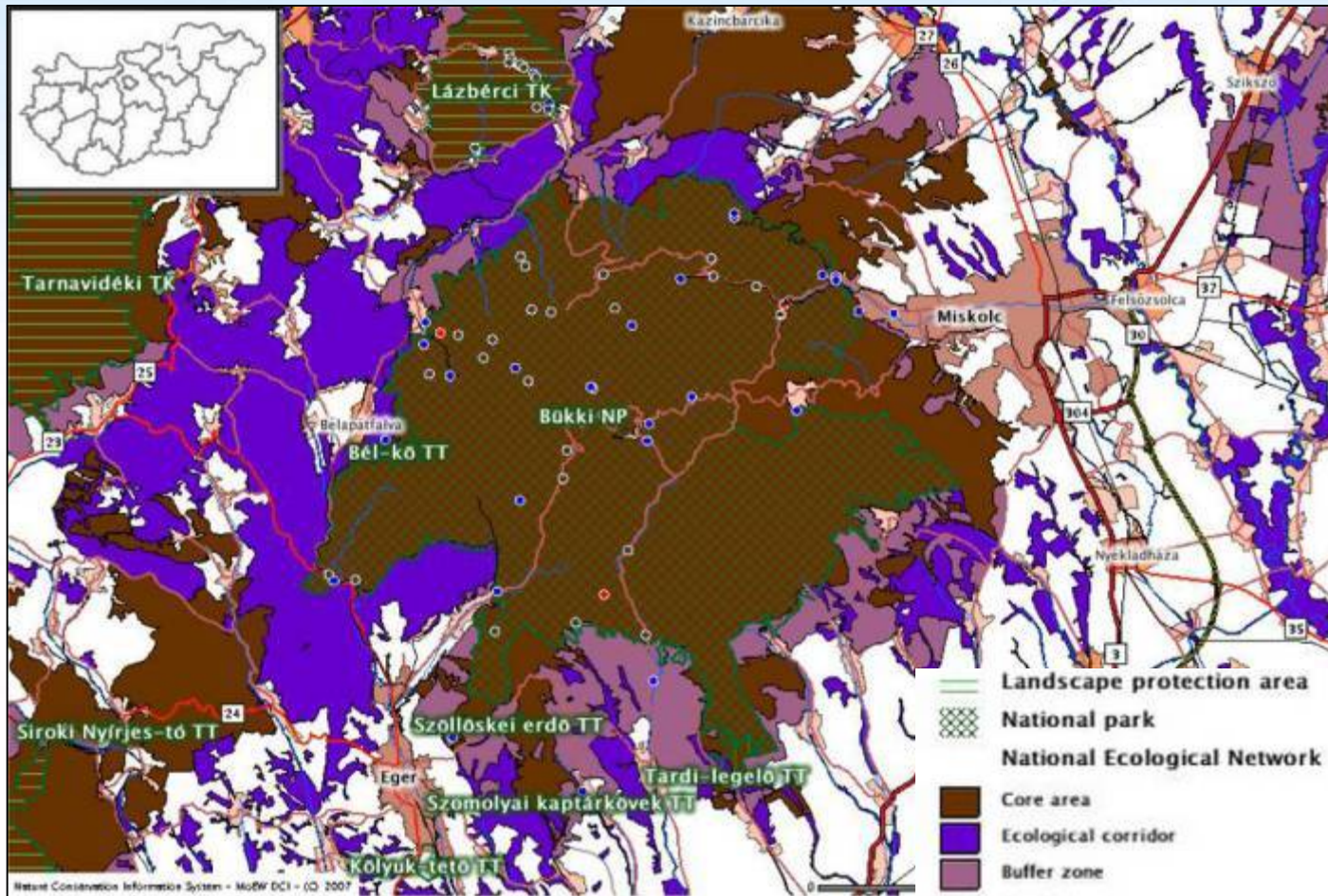
Ecological network
Article 53
(1) For the purposes of conservation, maintenance or restoration to a favourable conservation status of the environmentally important areas, a coherent ecological network of special areas of conservation shall be established.
(2) The ecological network shall represent the system of interconnected or spatially close to each other environmentally important areas, which significantly contribute to the protection of the natural balance and the biological diversity through their balanced biogeographical distribution.
Law on Nature Protection, No. 67/2004, Macedonia

Macedonia

Article 20. Ecological corridors and mountain areas.
The government shall provide in its environmental planning or management plans for Natural Resources, mechanisms to achieve the ecological connectivity of the area, setting or resetting corridors, particularly between the protected areas Natura 2000 and between those natural areas of unique relevance to biodiversity. This will give a priority role to the river courses, drove roads, mountain areas and other parts of the territory, linear and continuous, or act as focal points, regardless of having the status of protected natural areas.
The government guidelines will promote conservation of mountain areas to address at least the scenic, environmental and water in them.
Natural Heritage and Biodiversity Law 42/2007, Spain

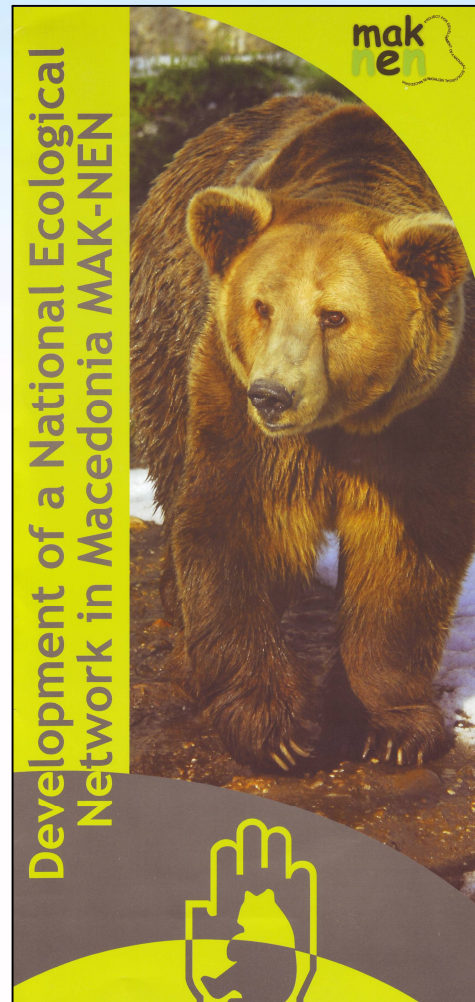
Spain

National Ecological Network mapping - Hungary



Main core area - Bükk National Park (IUCN Cat ii)

National Ecological Network in Macedonia (MAK-NEN)



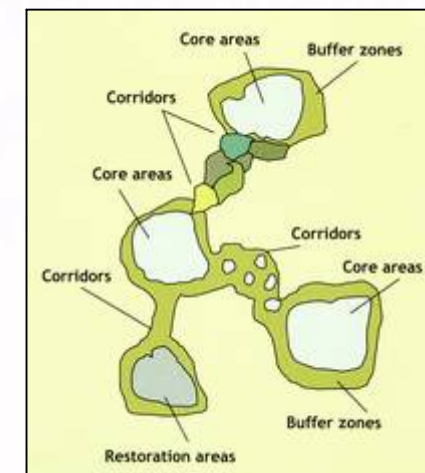
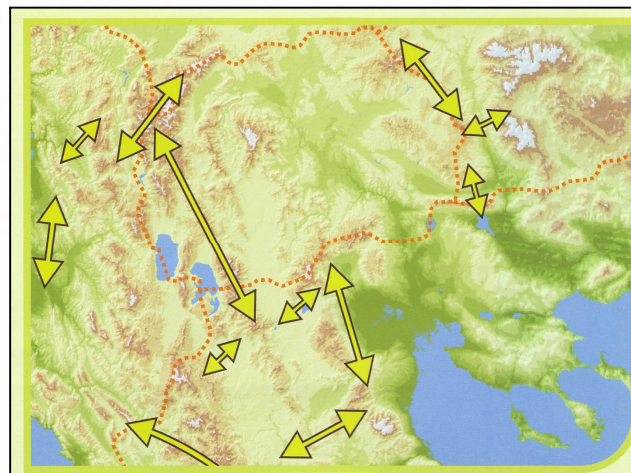
Core nature areas and corridors mapped from Slovenia to Greece (2003-06).

MAK – NEN:

- 3 year project (to July 2011) mapping ecological corridors and restoration areas in Macedonia
- connect with the existing core areas and buffer zones to provide ecological connectivity with a special focus on brown bears

The Bear Corridor Management Plan will be a vehicle for:

- a better understanding of the bear's ecological functions;
- gaining better acceptance of its needs; and
- raising the awareness and willingness of key stakeholders to accept the implementation of the Plan.





State ownership in national protected area systems

State ownership of National Parks and/or strict reserves in legislation:

Armenia, Azerbaijan, Cyprus, Hungary, Iceland, Ireland, Latvia, Lithuania, Malta, Ukraine (10/44)

Examples

Article 4. Classification and Status of Specially Protected Natural Areas
Specially Protected Natural Areas in the Republic of Armenia are State ownership. It is prohibited to transfer the state owned lands of specially protected natural areas to a private ownership.

The Law of the Republic of Armenia on Specially Protected Natural Areas, 2006

Armenia

Article 4. Ownership of the territory and objects , nature reserve fund
Areas of natural reserves, protected areas of biosphere reserves, land and other natural resources provided by National Natural Park, are the property of the Ukrainian people

On Nature Reserve Fund of Ukraine, 16.06.1992 № 2456-XII (as amended)

Ukraine

State ownership of National Parks and/or strict reserves as a national policy:

Albania, Austria, Belarus, Belgium, Bulgaria, Czech, Denmark, Estonia, Finland, France, Georgia, Italy, Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Sweden, Switzerland, Turkey (24/44)

Mixed ownership:

The land of Kemer NP is owned by the State, local governments and private owners. 29,507ha (77.3%) of the land belongs to the State, 6,704ha (17.6%) are in the possession of local governments and private owners.

Management Plan of Kemer National Park 2002-2010, Latvia

Ownership in Kemer National Park, Latvia

National Park	Natural Zone %	State Ownership %
Donau Auen	88	100
Gesaeuse	86	99
Hohe Tauern	65	38
Kalkalpen	89	88
Neusiedlersee	48	0
Thayatal	93	5

Ownership in Austrian National Parks



IUCN categorisation is aspirational for national protected area systems - CDDA

	IUCN cat		
	ia&b	ii	iii
Belgium		9	
Czech	7	2	221
Estonia	603		1,109
France	37		
Ireland	75		
Italy	109	10	30
Liechtenstein	9		
Luxembourg	34	2	
Malta	19	2	10
Norway	1786	19	91
Portugal	18		20
Slovenia	56		1,151
Spain	20	51	189
Sweden	1,215		
Switzerland			25
Turkey	510	325	140

xx - indicates new entrant into this category

COMMON DATABASE ON DESIGNATED AREAS (CDDA)

Version 8 (2009) of the CDDA data set. 34 countries updated their information on legislative instruments, sites and site boundaries. The table shows the differences in protected areas (PA) i-iii between the 2009 and the 2004 data set. The latter is currently shown on the WDPa.

- France has categorised its Forest Biological Reserves as IUCN ia
- Ireland has uprated its National Nature Reserves from IUCN iv to IUCN ia
- Liechtenstein, Luxembourg and Slovenia have identified PAs to categorise as IUCN ia or ib
- Belgium has uprated its National Parks to IUCN ii
- Norway, Spain and Switzerland have begun to designate Natural Monuments (IUCN iii)



IUCN categorisation is aspirational for national protected area systems – Germany/Austria

National Park	Core zone (I) %	Development zone (II a), management zone (II b) %	Recreation zone %
Hamburgisches Wattenmeer	91.5	8.5	
Jasmund	86.6	13.4	
Kellerwald-Edersee	~80.0	~20.0	
Berchtesgaden	66.6	9.9	23.5
Niedersächsisches Wattenmeer	60.8	38.6	0.6
Bayerischer Wald	45.0	53.5	1.5
Harz	41.1	58.5	0.4
Sächsische Schweiz	37.3	57.6	5.1
Schleswig- Holsteinisches Wattenmeer	36.0	64.0	
Eifel	*82.0	18.0	
Hainich	29.0	**71.0	
Müritz- Nationalpark	29.0	***71.0	
Vorpommersche Boddenlandschaft	17.8	****82.2	
Unteres Odertal	*****50.2	49.8	

“Most of Germany's national parks today are still in the development phase, meaning that they only partly meet the criteria of leaving nature untouched over large areas. Measures implemented under management plans over the next two to three decades will allow dynamic natural processes to be given priority in most of the territory covered by these parks.”
Federal Agency for Nature Conservation

German National Parks developing towards 75% non-intervention

Diversity of habitats

Our aims: By the year 2020, throughout 2 % of Germany's territory, Mother Nature is once again able to develop undisturbed in accordance with her own laws, and areas of wilderness are able to evolve
National Strategy on Biological Diversity, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, October 2007

German commitment to 2% wilderness by 2020

Development of the National Parks

The renouncing of any economic utilisation on at least 75% of the area is an objective of the Austrian National Park policy and the precondition for achieving the international recognition as National Park from the World Conservation Union IUCN. In the meantime all six Austrian National Parks have gained this status.
National Parks, Austria

Austrian National Parks achieved 75% non-intervention

IUCN categorisation is aspirational for national protected area systems – France

Art. 4. The conservation based management of the heritage of the core zone is intended to maintain, in particular, a good state of conservation of natural habitats, fauna and flora, ecological functions and the dynamism of ecosystems, to avoid a fragmentation of natural environments and to guarantee the preservation of a regional identity. The control of human activities, including tourism, must be sufficient to guarantee the protection of the heritage in the park's core zone and to guarantee the conservation of its character. In this context, the national park charter must more particularly:

2 - Identify important natural reference areas in the core zone which could be classified as wilderness areas;

Order enacting the fundamental principles applicable to all National Parks, Ministry of Ecology and Sustainable Development, France 2007

Protecting and managing biodiversity and natural environments

- Creating a green belt network (green corridors) and a blue belt network (waterways and bodies of water, together with surrounding areas of vegetation).
- Develop national strategy on protected areas
- Open 3 new national parks.

Environment Round Table: Initial conclusions, le Grenelle Environnement special issue/November 2007, Ministry for Ecology, Sustainable Development and Spatial Planning

Action

1-1 Protect key elements of the national ecological network
1.1.4 - Complete the network of 9 national parks through the creation of three new national parks: Mediterranean, lowland hardwood forest, wetland

Action Plan for Natural heritage: 2nd programming period 2008 to 2010, National strategy for biodiversity, Department of ecology, energy, sustainable development and spatial planning, April 2009

Looking for wildland (wilderness) in the core areas of their National Parks



State and civil society in France working together to set ambitious goals – three new National Parks - that were incorporated into the national strategy for biodiversity

Use of IUCN categorisation for the protected areas of the UK

“As you know there has never been a thorough exercise to categorise all the protected areas (including both state and privately managed protected areas) in the UK. The publication of the revised guidelines has already created a renewed interest in the use of the IUCN categories system in the UK and I would encourage the IUCN-UK National Committee to work with its members and the wider protected area community to consider a more thorough use of the IUCN categories nationally. This is particularly important as the reporting of protected areas using the category system is a requested action under the CBDs Programme of Work on Protected Areas, to which the UK is a signatory. The UK is currently lagging behind many countries in its quality of protected area reporting but the revitalised national IUCN Committee presents a real opportunity for the country to become a global leader in this field”

Nik Lopoukhine, Chair of IUCN's World Commission on Protected Areas, December 2009



IUCN-UK has set up a Protected Areas Assignment Working Group to revise and expand the application of IUCN protected area categories in the UK, and to improve coverage of UK protected areas on the World Database on Protected Areas.

How would you categorise these?

