



*Figure 114.*  
Information board  
in the Medvednica  
Nature Park  
(photo by I. Bralić)

# 1.5. An overview of the protection of biological and landscape diversity of Croatia

## LEGISLATIVE FRAMEWORK

### Constitutional background

The Constitution of the Republic of Croatia defines the conservation of nature and human environment as the highest values of the constitutional system of the Republic of Croatia. The provisions of the Constitution also lay down special protection of the sea, sea coast and islands, waters, airspace, mineral and other natural resources, including the

land, forests, plant and animal life and other parts of the nature, immovable property and objects of a particular cultural, historical, economic and ecological relevance for which it is specified by the law to be of vital interest for the Republic of Croatia.

### Nature Protection Act

The Nature Protection Act constitutes the basis to govern the problem areas concerning conservation of the biological

and landscape diversity in Croatia. The introductory section of the 1994 Act, which is still effective, laid down some **general protection principles** based on:

- ensuring the rational (i.e. “sustainable”) exploitation of nature and its resources, without seriously damaging and disfiguring its parts and with the least possible degradation of the balance among its components
- preventing harmful human interventions and degradation of nature as a result of technological development of the country and other activities, including provision of the best possible conditions for preservation and free development of nature
- formulation of long-term and short-term plans
- implementation of physical plans, or rather measures for the protection of protected parts of the nature.

Besides, the Act provides a **special protection** for certain particularly valuable parts of the animate and inanimate nature. By various categories of physical protection (national parks, nature parks, strict reserves, special reserves, forest parks, protected landscapes, natural and horticultural monuments) **about 9.9% of Croatia's surface area is protected**. The Act has also laid down the methods of protection, government, management and control over individual categories of protected parts of the nature. The category of individual plant and animal species is used to protect individual taxa, including the entire wild fauna and flora in national parks, strict and special reserves and the whole of the cave fauna. Commercial gathering of unprotected plant and animal species is regulated by special licences given by the Ministry of Environmental Protection and Physical Planning.

In recent years the indisputable need for the adoption of a new **Nature Protection Act** has arisen, in which a classical approach to nature protection focused on protected areas and species would be replaced by a more advanced integrated approach as outlined in the Convention on Biological Diversity. This means that the new Nature Protection Act should ensure:

- conservation and improvement of the existing biological and landscape diversity in Croatia
- economical (rational) exploitation of natural resources on the principles of sustainability and for the benefit of present and future generations
- incorporation of protection measures and sustainable exploitation of nature into all relevant sectoral and intersectoral laws, plans, programmes and strategies.

The new Nature Protection Act should include the **protection of the overall nature as a fundamental value of**

**Figure 115.**  
Information board  
on the border of the  
ornithological  
reserve containing a  
colony of griffon  
vulture on the island  
of Cres

(photo by T. Nikolić)



### Box 66. Development of the nature protection legal system in Croatia

- 1893 The Act on Hunting regulating the protection of songbirds
- 1900 The Act on Cave Protection
- 1910 The Decree on Protection of Natural Masterpieces
- 1928 Establishment of first national parks (the Plitvice Lakes, Paklenica, Štirovača, Bijeke stijene)
- 1938 The By-Law on National Parks
- 1940 The By-Law on Preservation of Antiquities and Natural Monuments
- 1949 The Nature Protection Act (new versions of 1960, 1965, 1976, 1994)

the country and the major resource for its future development, and define nature as the entire biological and landscape diversity.

This Act should clearly demonstrate that **nature protection covers 100% of the territory of the Republic of Croatia** – both in the areas of preserved and “wild” nature and in the built-up and economically exploited areas. This means that protection of nature is to be integral – to continue to be based on the protection of species and their habitats and protected areas, but also to control and govern those processes and activities that pose threat to conservation and sustainable exploitation of nature. All the activities that use natural resources (forestry, agriculture, hunting, marine and freshwater fishery, water management, etc.) including the physical planning and preparation of development programmes are to be harmonized with the basic provisions of the Nature Protection Act, which means that they are to be carried out in the manner that poses the least threat to sustainability (durability) of natural resources. The principle underlying the entire legislation concerning this field is common:

- to manage the **unrenewable natural resources** in an economical manner (sparingly)
- to manage the **renewable natural resources** in the manner that will ensure their durability.

### Other regulations governing the issues of utilization and protection of biological and landscape diversity

The problem area concerning utilization and protection of biological and landscape diversity is partly regulated by other laws and by-laws. Their analysis shows the **necessity of a revision in terms of incorporating the measures of protection and sustainable use of biological resources, including the necessity of their mutual harmonization and co-ordination.**

### Other relevant documents

In 1992 the Croatian National Parliament passed the **Declaration of Environmental Protection** – the first document to incorporate in full the problem area of environmental and natural resources protection and to lay down principles of sustainable development.

The Croatian National Parliament also adopted individual national strategies related to the field of the protection of biological and landscape diversity. The 1997 **Physical Planning Strategy of the Republic of Croatia**



Regulation	Year	Field
<b>Nature Protection Act</b>	1994	identification of parts of animate and inanimate nature, ensuring economical use of nature, prevention of harmful activities, adoption of long-term and short-term plans
<b>Environmental Protection Act</b>	1994	environmental protection regulated for the purpose of preserving the environment, preserving natural communities, reducing risks for human life and health, economical use of natural resources and energy in the environmentally most friendly way, as a prerequisite for a healthy and sustainable development
<b>By-Law on Environmental Impact Assessment</b>	1997	introduction of obligation to carry out the procedure of environmental impact assessment for all major activities threatening nature and environment
<b>Air Protection Act</b>	1995	laying down measures, organisation methods and implementation of air quality protection and improvement
<b>Act on Hunting</b>	1994	regulating the breeding, protection, hunting and exploitation of wildlife and its components, including the methods of hunting ground establishment and management
<b>Freshwater Fishery Act</b>	1986	protection, farming and catching of fish in freshwaters
<b>Marine Fishery Act</b>	1997	management of renewable biological resources of the sea, including protection, fishing and farming fish and other marine organisms
<b>Act on Forests</b>	1990	governing the management of forests and forest land in the continental and karst area, stressing the importance of useful forest functions
<b>Forest Seeds and Forest Seedlings Act</b>	1998	governing the production, processing, quality and sale of forest seeds and the production and sale of forest seedlings
<b>Waters Act</b>	1995	regulating legal status of waters and water resources, methods and conditions of water management
<b>Maritime Code</b>	1994	governing the method maritime resources exploitation (coastal and territorial waters and a part of the mainland intended by its nature for public maritime use or as such designated)
<b>Agricultural Land Act</b>	1994	rational use of agricultural land, agricultural land protection against pollution by harmful substances and other methods of transforming the agricultural land into building land, and agricultural land management
<b>Act on Ecological Production of Agricultural and Food Products</b>	1999	governing the issues of ecological production of agricultural and food products
<b>Act on Seeds, Seedlings and Approval of Agricultural Plant Sorts</b>	1997	governing the production, processing, quality and sales of seeds, approval of agricultural plant sorts, including production and sales of agricultural seedlings
<b>Act on the Protection of Agricultural Plant Sorts</b>	1997	governing the issues of rights of persons improving the agricultural plants and the protection of agricultural plant sorts
<b>Act on Protection of Plants</b>	1994	regulating protection of plants and plant products against pests, health control of plants traded, trading in plant protection chemicals and equipment for their use
<b>Plant Protection Act</b>	1994	laying down the protection of plants and plant products against pests, sanitary control of plants intended for sale, the sale of plant protection agents and equipment for their use
<b>Wine Act</b>	1995	governing the production and sale of grapes intended for production of wine, production and sale of wine, marking and protection of the controlled origin, name and identification of wine, operations and control in the field of grape-growing and wine-selling
<b>Cattle-Breeding Act</b>	1997	regulating the rearing of appropriate breeding cattle with particular emphasis on rearing the original and protected breeds and kinds
<b>Animal Welfare Act</b>	1999	dealing with welfare of animals with respect to their keeping, accomodation, feeding, protection and relationship towards animals
<b>Act on Financial Incentives and Compensations in Agriculture and Fishery</b>	1997	lays down the methods of receiving financial incentives and compensations from the national budget for specific segments of agricultural production
<b>Act on Islands</b>	1999	dealing with Croatian islands development according to the principles of National Program of Island Development

*Table 20. Acts and subordinate legislation partly governing the exploitation and protection of biological and landscape diversity*

defined strategic directions and plans of all users of Croatia's space. Although without overlapping them and giving a synthesized analysis and final decisions on the methods to use individual spatial units of the Republic of Croatia, this is a valuable document incorporating all "wishes and plans" in one place.

In 1995 the **Agricultural Development Strategy of Croatia** was adopted focusing on principles of sustainability and on encouraging the so-called ecological agriculture.

In 1998, after preparation of a comprehensive **Report on Environmental State** which was adopted by the Parliament, the development of the National Strategy of Environmental Protection.

The **Tourism Development Strategy** and the **National Programme for Development of Islands** (1997) are

### **Box 67. From the Environmental Protection Declaration**

The Republic of Croatia recognizable as a country markedly rich in diverse natural values ..... aware of the risk that insufficiently formulated reconstruction and economic development might increase the degradation of the environment ... is determined to ensure a well-balanced ecological and economic development .... is determined to persevere in the development of the legal system in compliance with international treaties and standards of European and global community that will in full provide a lasting, systematic and effective environmental protection.

**Table 21.**  
International  
conventions to  
which the Republic  
of Croatia is a party

NAME	PROBLEM AREA
<b>Convention on Biological Diversity</b> (Rio de Janeiro, 1992)	conservation and improvement of the existing biological diversity in the country, and sustainable use of its components
<b>Convention on Wetlands of International Importance, Especially as Waterfowl Habitats</b> (Ramsar, 1971)	wise use of all wetlands within the country's territory; inclusion of the most valuable wetlands into the Ramsar List of wetlands of international importance
<b>Convention on the Protection of the Mediterranean Sea against Pollution</b> (Barcelona, 1976) and <b>Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean</b> (Geneva, 1982)	regional convention on the protection of the Mediterranean, including the special protocol concerning protected areas and the entire biological diversity
<b>Convention on the Protection of World Cultural and Natural Heritage</b> (Paris, 1972)	protection of national cultural and natural heritage; evaluation and inclusion of the most valuable areas in the World Cultural and Natural Heritage List

**Table 22.**  
International  
conventions to  
which the Republic  
of Croatia is still not  
a party

NAME	PROBLEM AREA
<b><sup>1</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)</b> (Washington, 1973)	control of international trading in threatened species through the system of issuing import and export licences and certificates
<b><sup>2</sup> Convention on the Conservation of Migratory Species of Wild Animals</b> (Bonn, 1979)	protection of all wildlife species crossing the national borders during migration; the protection of certain animals is regulated by individual agreements
<ul style="list-style-type: none"> <li>• Agreement on the African-Euroasian Migratory Waterbirds</li> <li>• Agreement on the Conservation of Bats in Europe (EUTOBATS)</li> <li>• Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and the Contiguous Atlantic Area (ACCOBAMS)</li> </ul>	
<b><sup>2</sup> Convention on the Conservation of European Wildlife and Natural Habitats</b> (Bern, 1979)	laying down measures to be taken by all European countries to protect wildlife species, especially those threatened as stated in Annexes, and to protect their natural habitats

<sup>1</sup> ratified in 1999

<sup>2</sup> conventions and agreements ratified in 2000

completed, and the National Development Strategy of the Republic of Croatia, co-ordinated by the Ministry of Science and Technology, and the Transport Development Strategy of the Republic of Croatia are in preparation.

### International legislation on protection of biological and landscape diversity

The international system of the protection of natural resources is governed by a number of international conventions, recommendations and resolutions, including bilateral and multilateral treaties through which countries regulate systematically the protection of biological and landscape diversity taking into consideration their needs and interests.

The Republic of Croatia is a party to several international conventions related to this field and the laws on ratification of the rest are in the process of preparation.

### IN-SITU PROTECTION

The in-situ protection means conservation of species and ecological systems in their natural surroundings, and, in the case of domesticated or cultivated taxa, in the surroundings in which they developed their special features.

#### Protection of areas

The protection of individual areas is the **basic method of the in-situ conservation** of biological and landscape diversity. Protected areas represent the core of the overall protection and key junctions of the ecological network. For an efficient protection of biological diversity it is necessary for the space

### Box 68. Deficiencies of the legislative framework

- insufficient Nature Protection Act
- protection measures insufficiently incorporated into other sectoral laws
- shortage of regulations in certain fields (biological safety, genetic diversity of domesticated species)

between them to be filled up with various minor biotopes distributed as evenly as possible. However, it is precisely these protected areas that represent sanctuaries and storage of biological diversity.

This protection is today covering **about 9.9% of Croatia's mainland territory**, which is **planned to be considerably increased**. The Nature Protection Act specifies **eight categories** of the space protection: national park, nature park, strict reserve, special reserve, natural monument, protected landscape, park forest, horticultural monument (Table 23). The greatest part of the protected area refers to nature parks and national parks (8.7% of the mainland area). The majority of planned protected areas relate also to nature

### Box 69. Methods of in-situ protection

- protection of individual areas
- protection of individual species
- protection of habitats
- incorporation and implementation of protection measures in activities making use of natural resources

Category	Purpose	Protection
<b>National park</b>	protection of biological diversity, scientific research, tourism, recreation, education	by the state
<b>Nature park</b>	protection of biological and landscape diversity, sustainable development, tourism and recreation	by the state
<b>Strict reserve</b>	protection of the overall biological diversity, scientific research	by the county
<b>Special reserve</b>	protection of biological diversity with the focus on a specific component (forests, plant communities, fauna, hydrology, etc.), scientific research, visiting and education	by the county
<b>Natural monument</b>	protection of a representative specimen or spatially limited site, scientific research	by the county
<b>Protected landscape</b>	protection of landscape diversity, sustainable development, tourism and recreation	by the county
<b>Park forest</b>	tourism and recreation, protection of landscape diversity	by the county
<b>Horticultural monument</b>	protection of cultural heritage and landscape diversity, tourism and recreation, education	by the county

Table 23. Eight categories of spatial protection according to the Nature Protection Act

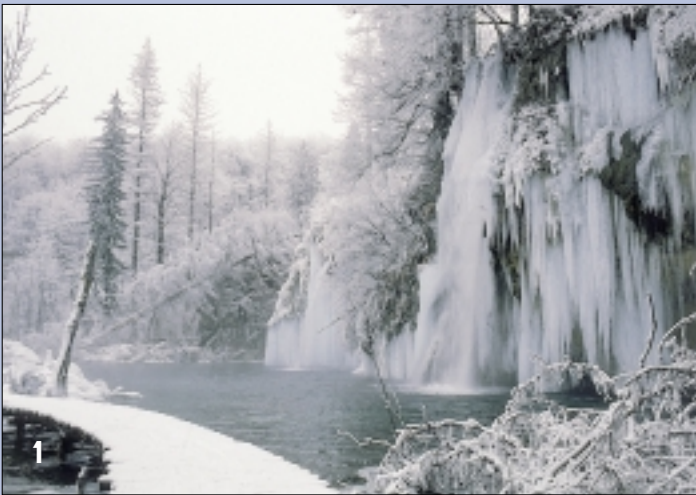
Name / surface area	Basic features	Problems
<b>Plitvice Lakes</b> 29,482 ha	a phenomenon of karst hydrography: 16 lakes arranged in a cascade, with numerous travertine downstream beds in a vivid biodynamic process; over 2/3 of the NP area covered by well-preserved forests (virgin-forest reserve of Ćorkova uvala), rich fauna, listed among world heritage in 1979	<ul style="list-style-type: none"> <li>anthropogenic causes of lakes eutrophication</li> <li>freight traffic close to the lakes</li> <li>need for construction of drainage system</li> </ul>
		
		
<b>Paklenica</b> 10,200 ha	deep ravines – turrets of Velika and Mala Paklenica; autochthonous forests of black pine and several types of beech woods	<ul style="list-style-type: none"> <li>after tripling the park area more guards are required</li> <li>lack of new signalisation</li> </ul>
<b>Risnjak</b> 6,400 ha	main types of highland forests with a typical height-related arrangement gathered on a comparatively small surface area	<ul style="list-style-type: none"> <li>after doubling the park area more guards are required</li> <li>need to buy off private pockets</li> <li>impact of acid rains on forests</li> </ul>
<b>Mljet</b> 5,480 ha	specific indentation of the coast with two “lakes” (flooded karst depressions); Aleppo pine and holm-oak forests and dense evergreen underbrush; cultural heritage with remnants of an antique palace and a complex of the Benedictine monastery from the 12th century	<ul style="list-style-type: none"> <li>complex property rights relations (over 1/2 of the land is owned by the church, with 1/4 privately owned)</li> <li>problems of illegal housing construction</li> <li>need to dislocate of waste disposal site out of the National Park</li> </ul>
<b>Kornati</b> 23,400 ha	the most indented island group of the Mediterranean; landscape values, high cliffs, interesting relief structures; over 3/4 of the NP area belonging to the sea with biocenoses ranked one of the richest in the Adriatic	<ul style="list-style-type: none"> <li>difficulties in effective control of visitors (shortage of ships, etc.)</li> <li>no office building for the management (offices rented)</li> <li>the mainland part of the NP completely privately owned (tendency of illegal housing construction)</li> </ul>
<b>Brijuni</b> 3,635 ha	a group of 14 islands with a total surface area of 734.5 ha; excellently preserved Mediterranean community of holm-oak; landscape parks on the Veli Brijun and the pertaining sea and undersea; rich cultural heritage, especially from Roman and Byzantine times	<ul style="list-style-type: none"> <li>worn out facilities and infrastructure</li> <li>harmonization of space use and financial obligations of several users (public enterprise – army – the President’s office)</li> </ul>
<b>Krka</b> 10,300 ha	a karst river with travertine downstream beds, partly in a form of lakes, with a canyon valley in some places picturesquely cut into the limestone plateau; several endemic fish species, cultural heritage – the monasteries of Visovac and Arandelovac, remnants of Middle Age towns	<ul style="list-style-type: none"> <li>problems with waste waters of Knin and Drniš; harmonization of the operation of existing hydropower plants with water requirements of downstream beds</li> <li>property rights problems (e.g. a major part of Skradinski buk is privately owned)</li> <li>some facilities within the NP owned by “Croatian Forests”</li> </ul>
<b>North Velebit</b> 10,900 ha	in terms of landscape, geomorphology, botany and forestry the richest area of Velebit; includes the strict reserve of Hajdučki and Rožanski kuk; botanical garden and two botanical reserves	<ul style="list-style-type: none"> <li>harmonization of interests of various space users</li> </ul>

Figure 116. The Plitvice Lakes National Park in winter (1) and in summer (2)

(1) photo by I. Bralić  
(2) photo by M. Schneider-Jacoby

Table 24. National parks, basic data, features and protection problems; state on 1 October 1999

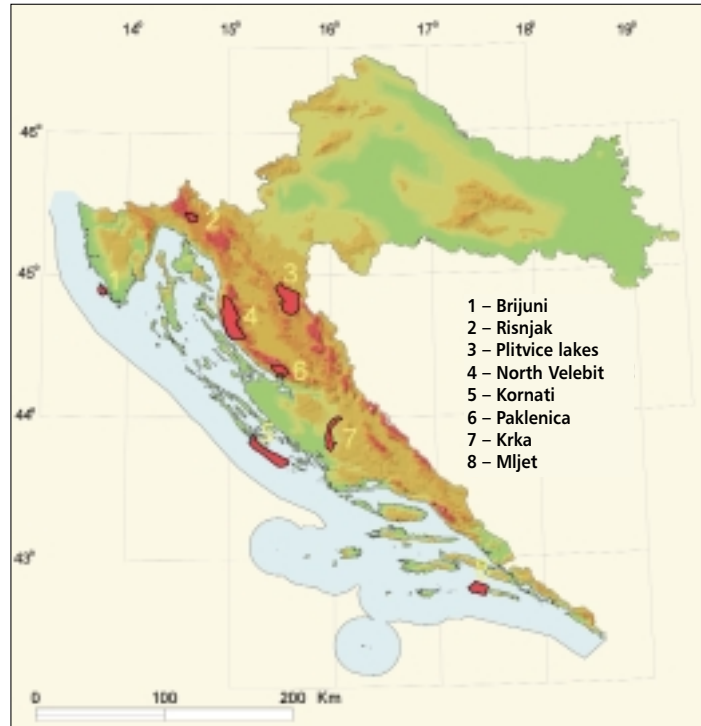




*Figure 118. The Risnjak National Park, meadows of Šegina*  
(photo by I. Bralić)



*Figure 119. The Mljet National Park*  
(photo by I. Bralić)



*Figure 117. The Paklenica National Park, Mala Paklenica*  
(photo by T. Nikolić)

parks. These are vast areas of national or even international importance whose protection lies within the responsibility of the state. While in **national parks** every economic utilization of nature that might affect natural values is prohibited (mostly traditional forms of agriculture and some tourist activities are allowed), these activities are permitted in **nature parks**, but under certain restrictions and control over their

harmonization. Of other categories managed by counties stricter measures of the protection of biological diversity are prescribed for strict and special **reserves** in particular. Although these are areas of mainly national or international level of importance, the reserves are at present entrusted to county governments.

The structure of **national parks and nature parks** is clearly reflecting the wealth and diversity of Croatia's nature. Three national parks are situated on islands (Kornati, Brijuni and Mljet), including the appertaining sea, two are demonstrating the peculiarities of the country's karst hydrography and morphology (Plitvice Lakes and river Krka) and three are typically mountainous regions with diverse vegetation and relief (Risnjak, Paklenica and Sjeverni Velebit). Among nature parks six belong to mountains (Velebit, Biokovo, Medvednica, Papuk, Učka, Žumberak), one is situated on the island (Telašćica), two are representatives of the biological wealth of the lowland flood areas (Kopački rit and Lonjsko polje) and one covers the greatest natural lake in Croatia (Lake Vransko) (Tab. 25, Map 21).

Owing to their peculiar features and value several protected parts of nature have been listed among



*Map 21. National parks of Croatia*  
(according to data by MEPPP)





*Figure 120. The Brijuni National Park*

(photo by I. Bralić)



*Figure 122. The Kornati National Park*

(from I. Bralić: National Parks of Croatia)

**internationally valuable areas.** The Plitvice Lakes are included into the UNESCO World Natural Heritage List. Velebit may be found in the inventory of biosphere reserves (UNESCO scientific programme entitled “Man and Biosphere” – MAB), and four areas are included in the Ramsar list (Kopački rit, Lonjsko polje, the lower Neretva and Crna Mlaka).

The Nature Protection Act lays down that protected areas are to be **managed by special public institutions**. Such institutions responsible for national parks and nature parks management are established by the Government of the Republic of Croatia, while for the purpose of managing other protected parts of the nature they are established by county assemblies or by the Zagreb City assembly respectively. As national park managements were established immediately after proclamation of protection, now they have already a tradition of several years. Almost all nature park

*Figure 121. The Krka National Park, the waterfall Roški*

(photo by I. Bralić)



*Figure 123. The North Velebit National Park*

(photo T. Nikolić)

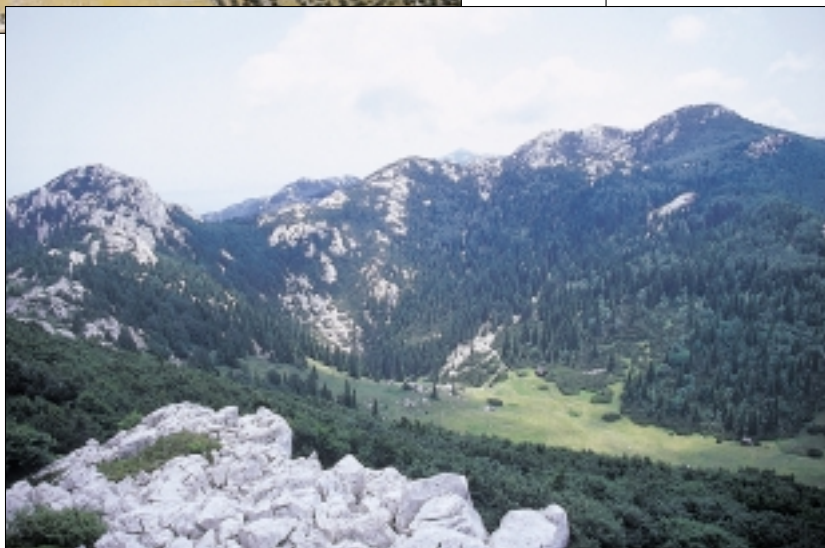


Table 25. Nature parks, basic data, features and protection problems; state on 1. October 1999

Name / surface area	Basic features	Problems
<b>Kopački rit</b> 17,770 ha	a fluvial wetland biotope at the mouth of Drava and Danube, a great wealth of ornithofauna, fish spawning area, a closer area (7,000 ha) specially separated as a zoological reserve	<ul style="list-style-type: none"> <li>• mine clearance</li> <li>• harmonization of various interests (forestry-hunting - water management - protection)</li> <li>• staff shortage</li> </ul>
<b>Medvednica</b> 22,826 ha	a mountain massif (1,035 km) near Zagreb; well-preserved forests and forest communities; 8 forest reserves; recreational area of Zagreb	<ul style="list-style-type: none"> <li>• harmonization of various space users' interests</li> <li>• establishment of a public enterprise to manage the area; office space</li> </ul>
<b>Velebit</b> 200,000 ha	the most important mountain of Croatia (145 km long) from the aspect of relief and vegetation; a biosphere reserve (UNESCO, 1978)	<ul style="list-style-type: none"> <li>• harmonization of various interests (forestry - hunting - protection)</li> </ul>
<b>Biokovo</b> 19,550 ha	craggy, limestone mountain immediately by the sea; extraordinary littoral landscape (beaches with pine forests and mountains); wealth of flora in a height range of 0-1,762 m; chamoises	<ul style="list-style-type: none"> <li>• office space</li> </ul>
<b>Telašćica</b> 6,706 ha	Southern part of Dugi Otok with a deeply incised and highly indented cove (Telašćica) and several smaller islands; continuation of natural features of Kornati islands; on the open-sea side the highest cliffs in the country (up to 180 m)	<ul style="list-style-type: none"> <li>• relocation of waste disposal sites</li> </ul>
<b>Lonjsko polje</b> 50,650 ha	flood area along the Sava, between Sisak and Nova Gradiška; a wealth of plant and animal life; nesting place for spoonbills; interesting architecture of wooden houses of the Sava basin	<ul style="list-style-type: none"> <li>• public enterprise without its own office building</li> <li>• harmonization of various interests (water management - agriculture - forestry - hunting-protection)</li> </ul>
<b>Papuk</b> 33,600 ha	the most important mountain of Slavonia's highlands dominated by wooded areas; the entire mountain has rounded, wooded peaks; thanks to the geomorphological structure its northern and southern slopes are furrowed by watercourses	<ul style="list-style-type: none"> <li>• harmonization of various space users' interests</li> </ul>
<b>Učka</b> 14,600 ha	a peculiarity of White Istria by its geographical position, relief, geological structure, geo-morphology, climate, luxuriant forest vegetation, protected and endemic flora species; the relief and nearness of the sea contributed to development of a specific climate that facilitated the development of luxuriant forest vegetation from the sea to the top of mountain	<ul style="list-style-type: none"> <li>• harmonization of various space users' interests</li> </ul>
<b>Žumberak-Samoborsko gorje</b> 33,300 ha	meadows and pastures as basic features of the landscape provide extraordinary wealth of flora and alternate with forest areas	<ul style="list-style-type: none"> <li>• harmonization of various space users' interests</li> </ul>
<b>Lake Vransko near Biograd n/m</b> 5,700 ha	Croatia's largest natural lake; connected with the sea which makes the lake water brackish; accommodating yearly over 100,000 waterbirds; nesting place of the last heron colony in the Mediterranean part of Croatia	<ul style="list-style-type: none"> <li>• the newly established nature park with the public enterprise for management to be founded</li> </ul>

managements were established during the last two years or are still in the process of establishing.

The national park and nature park management is based on **physical plans**. In distinction from national parks, there are still no physical plans available for nature parks, so this remains as an obligation at the national level. Physical plans for national parks are currently undergoing the process of

revision. It is particularly important to regulate the tourist industry adequately, because there have been several cases of collision with criteria and other functions of national parks.

Viewing the fact that physical plans do not offer a detailed solution to management of individual national and nature parks, an ever-growing need has arisen to elaborate the so-called management plans according to international patterns and to zone these areas applying various modes of protecting individual areas.

The situation concerning management of protected parts of nature at the **county level** is much more difficult.

Map 22. Croatia's nature parks

(according to data by MEPPP)

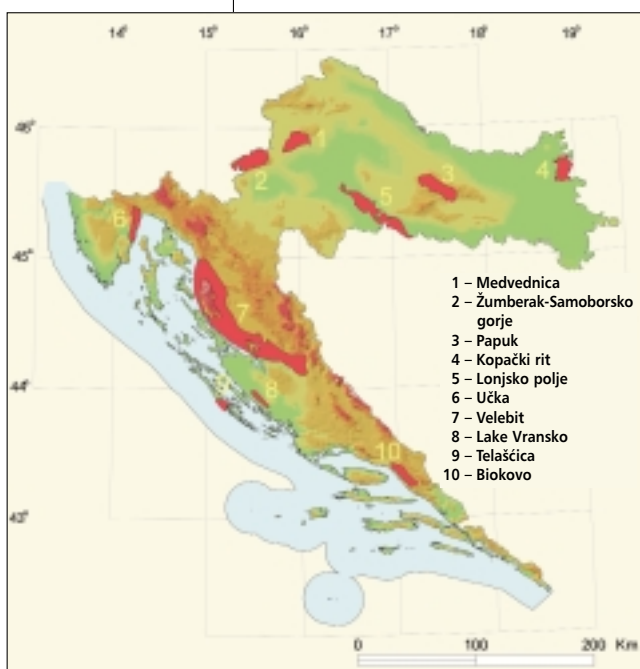


Figure 124. The Kopački rit Nature Park  
(photo by M. Schneider-Jacoby)





*Figure 125. The Učka Nature Park*  
(photo by T. Nikolić)



*Figure 126. The Medvednica Nature Park*  
(photo by T. Nikolić)



*Figure 127. The Biokovo Nature Park*  
(photo by T. Nikolić)

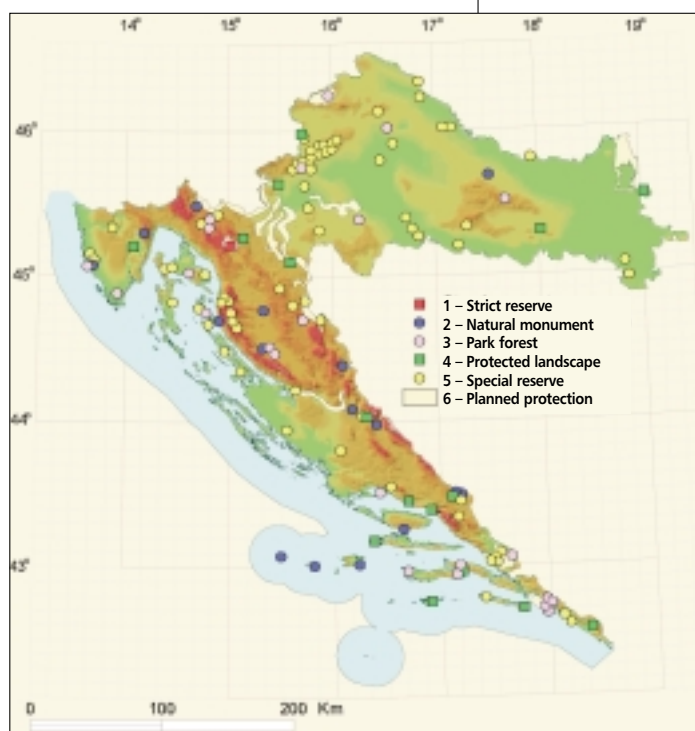
Only three public institutions have been established, with a staff of two or three employees and operating with almost symbolic funds. Instead of physical plans the Nature Protection Act has stipulated the development of protection measures to be introduced by county authorities with the approval of the Ministry of Environmental Protection and Physical Planning. Such measures have so far been introduced only in several protected areas. In most cases counties either do not show interest in nature protection or have focused on protection categories that are in the first line important for tourism and recreation. For that reason areas of strict and special reserves, i.e. the most valuable areas from the aspect of the protection of biological and landscape diversity, are regularly neglected,

with their protection existing exclusively on the paper. Considering their importance it is absolutely necessary to put these two categories under the responsibility of the state and to prescribe the development of special **management plans** that would be based on a scientific evaluation of biological diversity.

One of the problems concerning protected areas that are most difficult to solve is the new situation in **ownership relations**. Private ownership has acquired a far more serious dimension. The law foresees both the instrument of expropriation and the compensation for a restricted utilization, but viewing the present financial situation their actual application cannot be expected.

*Map 23. Overview of protected parts of nature (excepting national and nature parks)*

(according to data by MEPPP)



**Table 26.** Number and surface area of protected parts of nature according to categories of the Nature Protection Act

(state on 1 October 1999)

Category	No.	Land area (km <sup>2</sup> )	Sea area (km <sup>2</sup> )	Total area (km <sup>2</sup> )
National park	8	759	235	994
Nature park	10	4,005	41	4,046
Strict reserve	2	24		24
Special reserve	74	318	7	325
Natural monument	80	6		6
Protected landscape	32	405		405
Park forest	36	79		79
Horticultural monument	114	9		9
<b>Total</b>	<b>352</b>	<b>5,605 (9.9%)</b>	<b>283 (0.91%)</b>	<b>5,888 (6.7%)</b>

The projection of future protection related to national and nature parks includes the establishment of a greater number of nature parks: river Mrežnica, Lička Plješivica, the lower Neretva, the islands of Lastovo and Elafiti, a part of Hrvatsko Zagorje, a part of the area of river Kupa and rivers Zrmanja and Krupa (Map 23). Besides, it is planned to provide protection for about two hundred new areas in other protection categories. It is also foreseen to transform the Biokovo and Kopački rit nature parks into the category of the national park.

### Protection of species

In addition to protected nature parts individual plant, fungi and animal species are also protected on the basis of the Nature Protection Act. These are primarily those that are **threatened** or **rare** in Croatia, but there are also some others, for example those threatened on the international scale, which we are obliged to protect according to various international conventions, or those which due to similar appearances are hardly distinguishable from threatened species.

According to the Nature Protection Act it is forbidden to pick, gather, kill, catch, hurt, hold captive, buy, sell, export or import from abroad threatened species and damage their habitats. The only exception can be made for scientific and research purposes which renders the sometimes necessary management of certain species impossible (Tab. 27). This Act further provides protection for **all wild animals and plants in national parks, strict and special reserves and the entire cave fauna**. Of the rest of animal species those that are interesting from the aspect of economic use are included in other regulations, such as the Act of Forests, the Act on

**Table 27.** Species especially protected under the Nature Protection Act

Group	Remark	Protected
Mammals	the majority of indigenous species excepting "problematic" and hunting species, + all other <i>Cetaceans</i> (X)	61+X
Birds	all Croatia's breeding birds and all other European species (X), excepting hunting species, cormorant on fishponds and starling on agricultural land	283+X
Reptiles	all indigenous species excepting nose-horned viper and common adder	34
Amphibians	all indigenous species (three species of edible frog protected by ban on commercial gathering)	17+3
Invertebrates	forest ant, six butterfly species, three species of marine shellfish, all sea cucumbers (36 species) – protection through ban on gathering, 120 species of mainland snails (+ 4 species of genus <i>Helix</i> protected through regulation of gathering), leech <i>Hirudinidae</i> (2 species), crayfish <i>Astacidae</i> (3 species)	136+40
Threatened fungi		130
Economically important fungi	protected through regulation of gathering	29
Higher plants		44
<b>Total</b>		<b>777+X</b>

### Box 70. Area protection deficiencies

- unresolved management of protected parts of nature within the competence of the counties
- shortage of funds for efficient operation of public enterprises for management
- non-existence of management plans and protection measures
- unresolved proprietary relations in protected areas and
- unresolved payment of compensations to owners for imposed restrictions.

Hunting, the Act on Freshwater Fishery and the Act on Sea Fishing. The **economic use of other unprotected species** is regulated by special permits for gathering from the nature that are to be issued by the Ministry of Environmental Protection and Physical Planning.

The new Nature Protection Act should foresee **two categories of protected species** (on the model of the Bern Convention lists): strictly protected species and species that, with the control and prescribed protection measures, may be economically used.

In the course of preparing the NSAP a great number of new data on species and their threats were collected. On the basis of these information the **inventory of protected species is currently undergoing the revision**.

The legislative protection of taxa is only a precondition for a practical protection based on the protection of habitats and on special **action plans**. This segment of protection in this country is in its infancy. The tradition of giving priority to the protection of areas in relation to protection of taxa, a constant shortage of funds destined for protection of nature, a small number of scientists and professionally managed NGOs are some of the reasons for such a state. Taking into consideration the importance of Croatia for numerous species threatened on the European or the global scale, it is to expect a substantial international financial involvement into implementation of action plans related to these taxa.

Problems in implementation of protection arise also from **poor observance of regulations and insufficient field control** on the part of competent inspections, police and customs authorities.

As to the protection of indigenous sorts of cultivated plants and breeds of domesticated animals, it still lacks coordination and system, including the non-existence of appropriate legislation. For the time being it is only through the Act on Financial Incentives in Agriculture and Fisheries that the government is providing certain assistance to breeders of certain breeds (for example, Istrian cattle and the