

Nature Conservation

Hungary is a country rich in natural assets, thanks to its geographical location, geological history, geomorphological diversity and biogeographical situation. Its unique natural heritage is particularly evident when one examines some of its communities, plant and animal species, as well as caves.

The Hungarian natural environment clearly shares many of the general features of the Carpathian Basin, such as the diversity and mosaic-like pattern of habitats, their conservation status and the strong impact visible through social restructuring. The rich wildlife consists of a mix of Eurasian, European, Continental, Pontic, Submediterranean and Subatlantic flora and fauna. This heterogeneity is further diversified by certain Subalpine and Boreal elements as well as relic species. The large-scale, latitudinal zonation of habitats across the lowlands of East Europe are fragmented here into mosaic-structured landscapes each with an individual character, maintaining special habitats and association complexes.

Within the European Union, Hungary's land area represents the majority of a particular bioregional ecological complex, the Pannonic

biogeographical region (or *Pannonicum*). In addition to the fact that the contribution of Hungary's natural heritage is of utmost importance to the preservation of the region's natural values, it also means that Hungary shoulders the largest responsibility for their protection.

In September 2008, 9% of Hungary's territory was protected by national law, 16% of which was accorded 'strictly protected' status (Figure 54, tables 6 and 7). All caves (4,077), springs (2,479), swallets (459), bogs (837), alkali lakes (317), tumuli (1,732) and earthen fortifications (378) are protected by the Act on Nature Conservation. In addition, 63 forest reserves have been designated as protected land.

Caves have been protected by law since 1961. 4,077 caves are known to exist in the country today, of which 147 have received 'strictly protected' status. The total length of all known passages is 234 km. Highlights include the large hydrothermal caves of the Budapest thermal karst with their extraordinarily rich formations, as well as the caves of the Bükk Mountains and the Aggtelek Karst. Since 2007, 11 of the 500 dif-

Table 6. Total extension of different categories of protected area (2003, 2008)

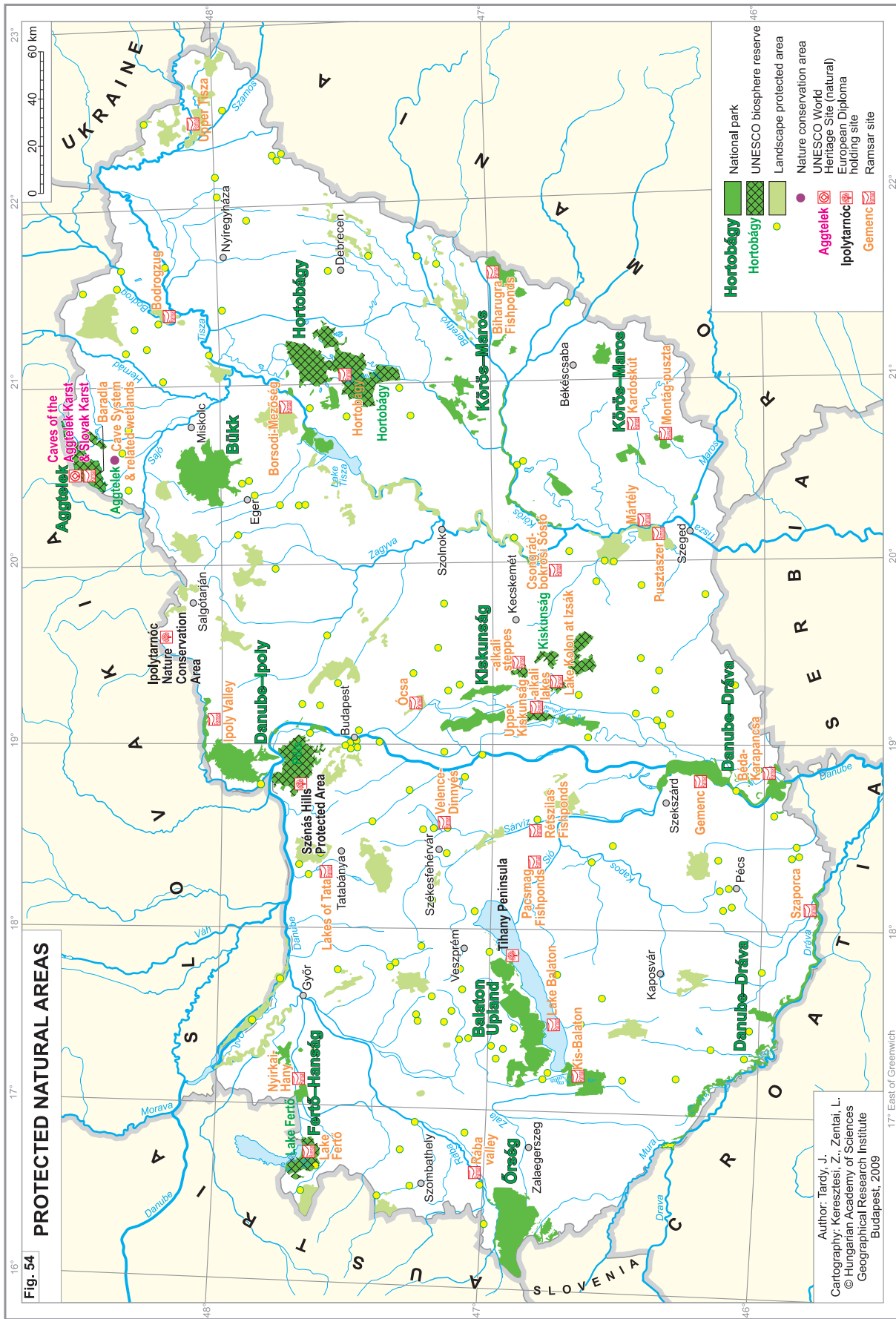
Category of protected area	Number (pc)		Area (ha)	
	01.01.2003	30.09.2008	01.01.2003	30.09.2008
National parks	10	10	484,883	484,114
Landscape protection areas	36	37	309,817	323,167
Nationally protected nature conservation sites	142	163	25,927	29,226
Nationally protected natural monument	1	1	0	0
Total of natural areas protected by individual legislative acts	189	211	820,627	836,507
Nature conservation sites designated by local governments	1,225	1,296	36,700	39,464
Total of protected natural areas	1,414	1,507	857,327	875,971

Source: State Secretariat for Nature and Environment Protection, Ministry of Environment and Water (www.kvvm.hu)

Table 7. Land use types in nationally protected natural areas (01.04.2008)

Category of protected area	Arable land	Grassland	Vineyard, garden and orchard	Reed	Fishpond	Forest	Uncultivated land	Total (ha)
National park	54,133.9	137,461.1	4,543.7	13,742.8	6,064.3	205,782.8	66,928.9	484,113.8
Landscape protection area	46,134.8	75,980.5	1,716.9	1,917.5	3,155.4	173,633.8	22,345.3	323,167.3
Nature conservation site	1,786.7	7,810.0	204.9	1,231.2	1,142.7	12,836.3	4,214.2	29,226.0
Total (ha)	102,055.4	221,251.6	204.9	16,891.5	10,362.4	392,252.9	93,488.4	836,507.1
Percentage of total	12.2	26.4	0.02	2.0	1.2	46.9	11.2	100.0

Source: State Secretariat for Nature and Environment Protection, Ministry of Environment and Water (www.kvvm.hu)



ferent *mineral types* found within these caves are also protected. Two sites that possess a particularly rich geological heritage (Nógrád,

Balaton-Bakony) have been accorded Geopark status. The karst, mineral and medicinal waters of the country are also of extraordinary value.

Natura 2000 Sites

Hungary's contribution to the ecological network of the European Union, known as '*Natura 2000*' and established in 1992, was formalised following the country's EU accession in October 2004. Amounting to 21% of Hungary's land area, or nearly 2 million hectares, the network contains 1.4 million ha of Special Protection Areas (15% of the nation's territory) and 1.35 million ha

designated as Sites of Community Importance (14.5%) (*Figure 55*). In the frame of the European Ecological Network (EECONET) born in Maastricht (1993) Hungary also established its own *National Ecological Network* (*Figure 56*), which was enforced in the Act XXVI of 2003 on National Regional Development Plan.

Conservation Status

Over 30% of the country's terrain consists of a variety of important habitats in near-unspoiled condition and/or giving home to species of major interest to conservation. However, of the 46 Annex I *natural habitat* types to be found in Hungary, only 11% were in a 'favourable' conservation condition according to the 2007 assessment carried out under the guidance of the European Commission, while 20% were in an 'unfavourable' and 67% in a 'bad' condition. The 211 *species listed by the Habitats Directive* received the following conservation assessment: 25% favourable, 47% unfavourable and 12% bad.

A number of plant associations, including all natural forest associations and approximately 20–25% of their species can be considered to be under threat. However, Hungary's natural heritage still stands up very well to international comparison.

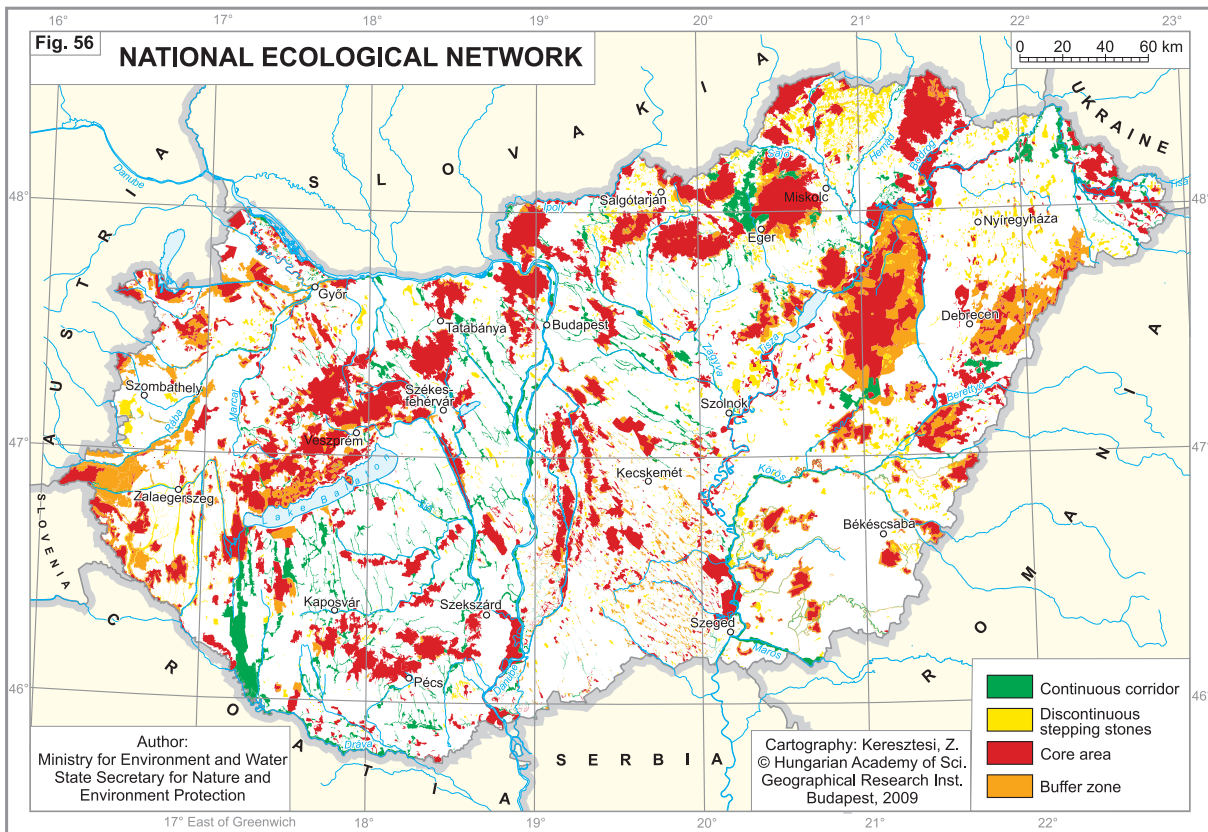
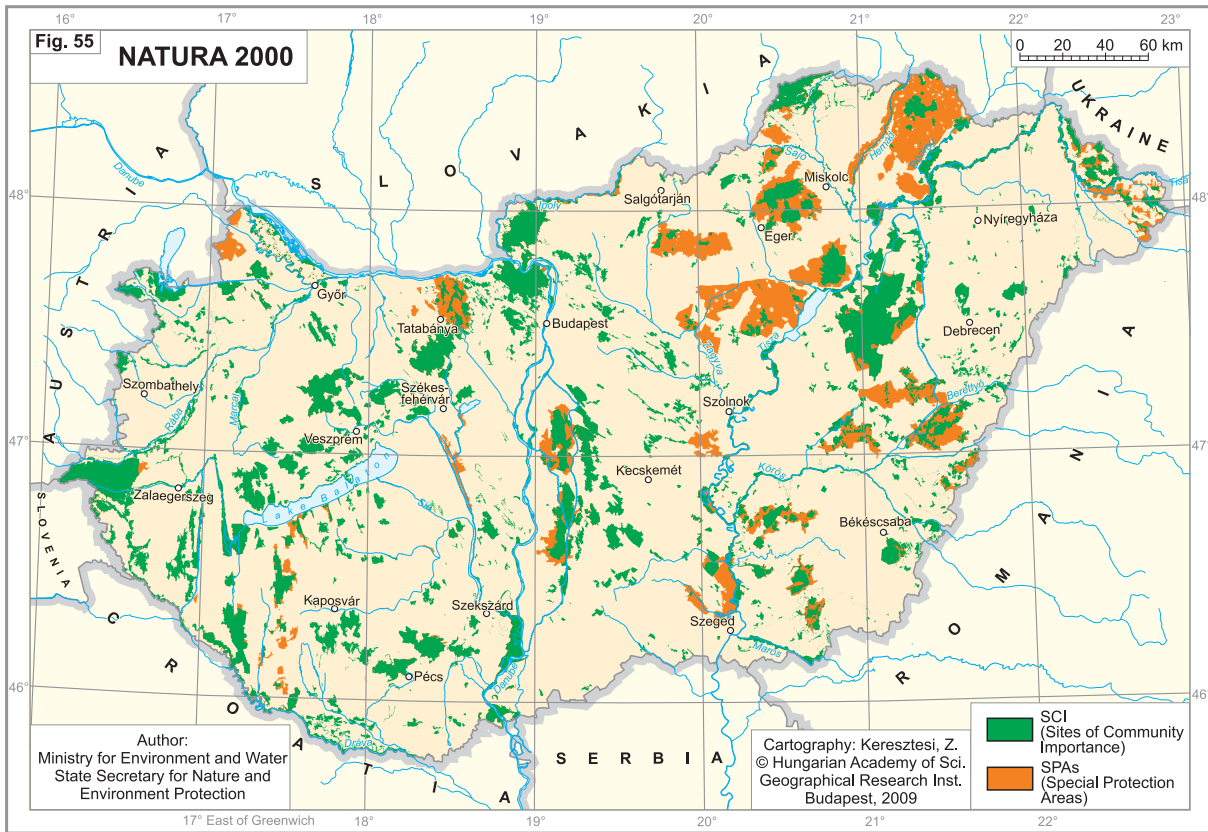
With regards to future trends, the ecological impacts of *climate change* are barely predictable, but it is important to be aware of the sensibility and vulnerability of our ecological systems. It is expected that the boundaries of vegetation zones will shift, the ranges of native species will shrink and the encroachment of invasive species will, in the long run, decrease biodiversity. It is wetlands that are most exposed to climate change.

Native, self-sustaining ecosystems are present in relatively isolated locations within the Carpathian Basin, further increasing their susceptibility and vulnerability to the impacts of climate change. This highlights the importance of ecological connections among areas giving home to native wildlife, by maintaining or restoring migration corridors.

Ownership and Management of Protected Areas

In 1990, the Hungarian National Authority for Nature Conservation had management rights

over only 19,500 ha of protected land. By 2008, this area had extended over 275,708 ha (of which

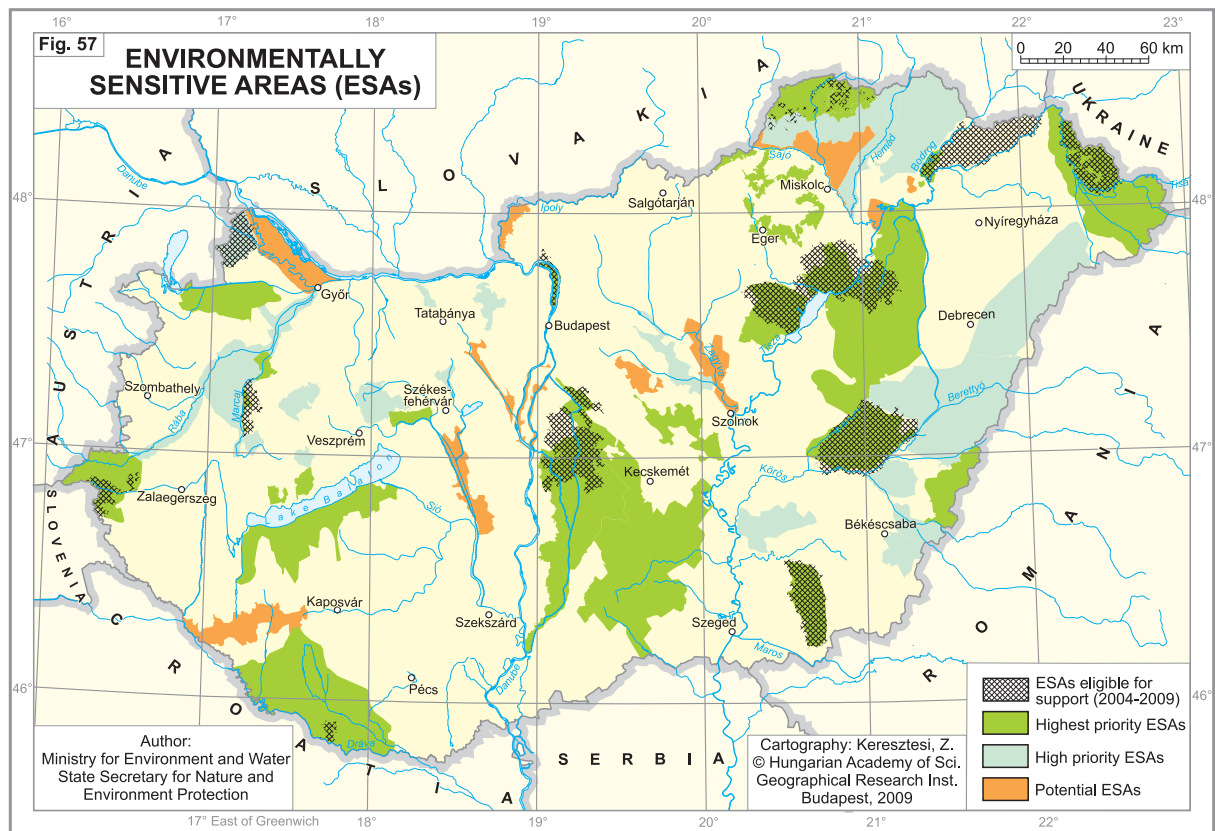


33,504 ha was forest) of particularly valuable protected land, preserved for the nation under the management of the national park directorates.

The national park directorates are responsible for game management in nearly 155,000 ha of protected area. The cornerstone of the management of protected grassland is the attention given to the proper density and species (or even breed) of grazing animals. Significant quantities of native Hungarian livestock breeds, graze in the areas managed by the national park directorates, such as Hungarian Grey Cattle, water buffaloes, native sheep breeds (racka, cigája and cikta), as well as Hungarian Pied cattle. The Aggtelek

National Park provides a habitat for Hutsul ponies, while the Hortobágy National Park is home to Przewalski horses and the Nonius stud.

A fundamental issue for Hungarian nature conservation is its harmonious co-existence with agriculture, regional policy, infrastructure development and tourism. The national nature conservation authority undertakes major projects for ecotourism, and also supports traditional landscape management by successfully running the '*Environmentally Sensitive Areas*' scheme, through EU-funded agri-environmental allotment for the management of 120,000 ha (Figure 57).



The Legislative and Institutional Background to Hungarian Nature Conservation

Hungary's first national park (Hortobágy, 1973) followed 101 years after the foundation of Yellowstone National Park (USA, 1872), the world's first. However, the history of Hungarian nature conservation goes back much further back, to 1426 when Sigismund of Luxembourg,

the then King of Hungary ordered by decree the considerate management of forests and the protection of soils against erosion. The 1729 decree of Charles III regulated hunting and the capture of birds, whilst an article of the 1790 decree of Leopold II aimed to prevent the destruction of

forests. The 1879 Act on Forests laid down regulations applicable to the songbird trade, whilst in 1883 an act was passed on hunting, and on the protection of songbirds. In 1893, the famous Hungarian naturalist, Ottó Herman established the Hungarian Ornithological Centre. The first ordinance on bird protection was issued in 1901, providing legal protection to 132 bird species and a few species of mammals. In 1906, Parliament ratified the 1902 Paris Convention for the Protection of Birds useful to Agriculture.

The first high-level, comprehensive law on nature conservation in Hungary was the 1935 Act on Forests and Nature Conservation that provided for the protection of certain plant and animal species as well as natural areas and habitats. In 1939, the designation of certain sites of outstanding natural value began. The Minister for Agriculture issued a decree in 1946 to provide for the surveillance and wardening of several particularly precious reserves. The National Nature Conservation Council was established in 1950. Four years later, a government decree regulated the protection of birds.

Act decree No 8 of 1961 was the first to provide an exclusive framework for the regulation of nature conservation. From that year a separate act designated all caves protected by law. The National Authority for Nature Conservation was set up in 1962 and was transformed into the National Environmental and Nature Conservation Authority in 1977. A 1982 decree contained lists of 'protected' and 'strictly protected' plant and animal species, the theoretical value of their individuals, as well as the list of 'strictly protected' areas. The National Authority for Nature Conservation within the Ministry of Environment and Water Management inherited nature conservation responsibilities in 1990, which it held until 2006 in the capacity of a central (governmental) body. Today, the central governance, co-ordination and supervision of nature conservation at a national level are the direct responsibility of the Ministry of Environment and Water Management.

Sites Designated Under International Conventions

As signatory to numerous international conventions on nature conservation, Hungary's responsibilities towards the natural environment are codified in conventions such as the *Washington Convention* on International Trade of Endangered Species (CITES, 1985), the *Ramsar Convention* on Wetlands (1979), the *Convention on Biological Diversity* (CBD, 1995), the *Bonn Convention* on Migratory Species (1986) and the agreements made for its implementation, the *Bern Convention* on the Conservation of European Wildlife and Natural Habitats (1990), the *European Landscape Convention* (2005), and the *Carpathian Convention* (2005).

Presently, 28 Hungarian sites are designated as wetlands of international importance, with a total area of 233,928 ha. These *Ramsar sites* are almost all part of the 'Natura 2000' network. A Hungarian proposal made it possible to include subterranean wetlands under this convention, such as the Hungarian/Slovakian Baradla-Domica cave system.

In the framework of UNESCO's *MAB ('Man and the Biosphere')* programme launched in 1970, five biosphere reserves have been designated (Aggtelek, Fertő, Hortobágy, Kiskunság and Pilis) with a total area of 130 thousand hectares. The Hungarian/Croatian Mura-Drava-Danube biosphere reserve is being prepared for addition to this list.

Hungary joined the *UNESCO Convention on World Heritage* in 1985. Currently one natural attraction (Caves of the Aggtelek Karst and Slovak Karst, 1995) and seven cultural locations are included in the World Heritage List: Budapest, including the banks of the Danube, the Buda Castle District and Andrásy Avenue (1987); the old village of Hollókő and its surroundings (1987); the Millenary Benedictine Abbey of Pannonhalma and its natural environment (1996); Hortobágy National Park – the Puszta (1999); the Early Christian Necropolis of Pécs (Sopianae) (2000); Fertő-Neusiedlersee Cultural Landscape (2001) and the Tokaj Wine Region Historic Cultural Landscape (2002).