

THE EVOLUTION OF BIODIVERSITY CONSERVATION MANAGEMENT IN ROMANIA

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Received: 09.06.2013 / Accepted: 21.08.2013

Abstract: The biodiversity conservation is not a very new concept. In Romania in the past it was named *protection and nature conservation* and the application of these concepts was held, for the first time, at the beginning of the XX-th, especially with the establishment, in 1930, of the Commission for the Nature Monuments Protection (CMN), as part of the Romanian Academy. CMN activity had resulted, in 1985, a total of 130 protected areas that totalled approximately 75,000 ha. In present, after the signing of the Rio Declaration in 1992, and after the EU adherence in 2007, Romania committed itself to conserve its biodiversity. By complying with these documents, Romania was expected to pass legislation, develop administrative structures and promote various specific actions towards maintaining a balance between environmental and economic developments. In 2009, the Romanian Protected Areas (PAs) network covered 19.29 % of the total of Romania's surface, mostly in the newly created Natura 2000 networking. From an administrative point of view most of the protected natural areas belong to the National Forest Authority - ROMSILVA. It can be remarked on that there is a proper legislative background that covers the complex issues of the protected areas. Also, there are many provisions according to the European requests or which are the result of a series of agreements, treaties and international conventions that Romania has joined.

Keywords: legislation, protected areas, Romania

Defining biodiversity and its importance

The term of global biodiversity was first used in the United States of America, at the first National Biodiversity Forum (1986). The concept is attributed to E.O. Wilson, a well known entomologist and the father of sociobiology, who chaired the forum. The

following year, at the UN Conference in 1987, the term was taken over and used globally, by biodiversity understanding all the manifestation phenomena of the living. The concept of biodiversity has evolved from a simplistic interpretation, which means the total number of the living species that are part of the terrestrial and aquatic ecosystems on Earth, to a more complex interpretation that takes into account the systems theory in the organization of the living matter. So today, the monitoring and the biodiversity management involve four levels of approach: the genetic diversity, the species diversity, the ecosystem diversity and the ethno cultural diversity (CBD 1992).

Representing the primordial condition of the human civilization existence, biodiversity provides the support system for life and for

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the development of socio-economic systems. The importance of biodiversity for the human and the environment is expressed on several levels. The most significant value of biodiversity is the value of use, that is aimed directly and immediately to the human. People find in the biological resources that surround them sources of food, medicine, building materials, fuel, industrial raw materials (rubber, oils, waxes, paraffin, and textile).

Often this biodiversity by specific features is a source of knowledge and innovation in various scientific fields. Nature, through its aesthetic and spiritual valences, was and is an inexhaustible source of inspiration for various art forms. Nature is a health restoration and recreation environment for the human body by means of tourism, sport, people finding in nature beauty, harmony, rest, joy.

The ecological value or the amount of protection and control of our entire natural or semi-natural environments is a great service that biodiversity provides for the environment and indirectly for the human. Setting the global processes of the atmosphere, climate, conserving the water and soil balance, recycling nutrients, pollination and seed dispersal, biological control of agricultural pests and diseases, gene bank, resilient communities and ecosystems, these are some of the many services provided by biodiversity.

Biodiversity is important not only due to the goods and services provided for the human and nature. The philosophical and spiritual issues, related to biodiversity are summarized in two categories of values, future option value and intrinsic value of biodiversity.

If the intrinsic value of biodiversity is the value given by the fact that it simply exists, the future option value or the heritage value is simply the dowry that we are willing or are forced to leave to the future generations so that they, in their turn, make the most of it by using a strategy they will develop.

The natural environment of Romania

With an area of 238,391 km² and a population of 21,584,365 inhabitants, Romania is considered a medium-sized European country, representing 6 % of the total EU surface and 4 % of its population (National Institute of Statistics, July 1-st, 2007). The variety and the relatively balanced relationships between the various forms of relief - 28 % mountains, 42 % hills and plateaus and 30 % plains - represent unique and rare features in Europe and even globally (SNPACB 2010-2020).

As a result of its geographical positioning, Romania enjoys the existence of a unique biodiversity, both in ecosystems and species and also genetically. Our country has not less than five biogeographical regions (Fig. 1, Annexes), two of which the Pontic one and the steppe represent new natural elements added to the European Union dowry, marking the introduction of many new types of habitats and species (NEPA 2010).

Besides the five biogeographical regions in Romania, based on geomorphologic, geological, climatologic, hydrological, soil and vegetation criteria there were identified 21 ecoregions (Fig. 2, Annexes). The ecoregions in Romania are intended to ensure the conceptual framework that should achieve their protection (NEPA 2010).

More than 47 % of Romania hosts natural and semi natural ecosystems and almost half of the national forests (6.2 million hectares) were first given for protection, rather than production. This makes it possible for Romania to have one of the largest areas of semi-natural forests in Europe, despite the fact that forest land has decreased significantly since the establishment of the Romanian modern state in 1900 (Ioras 2003).

The flora and fauna represent a natural heritage of aesthetic, scientific and cultural value. Due to the geographical position of Romania, the flora and fauna have Mediterranean, oceanic and continental influences. Our country is famous for the

floristic diversity hosting approx. 3,630 plant species, of which up to now 23 species are declared monuments of nature. Due to its diverse habitats, Romania has a very rich fauna harbouring 105 species of mammals, 410 species of birds, 19 species of amphibians, 25 species of reptiles, 216 species of fish and invertebrate species 31,548 (30,000 species of insects, 860 species of crustaceans, 688 species of mollusks) (NEPA 2010).

Representative for Romania is the presence of large carnivores that are in a favorable conservation status, according to the data shown by the environmental authorities. Thus, the wolf population (*Canis lupus*) is estimated at 3,800 individuals, or about 40 % of the population on the territory of the European Union, the population of lynx (*Lynx*) is estimated at 1,900 specimens, and the brown bear (*Ursus arctos arctos*) at 6,600 specimens, more than 60 % of the European population. These three species of carnivores are a symbol and an indicator of wild habitats. Keeping in Romania stable and viable populations of large carnivores can be a source for restocking in other areas of Europe where the species are endangered. (SNPACB 2010-2020).

Biodiversity conservation in the past

Protecting nature is an old concept which has been in time replaced by the concept of biodiversity conservation (CBD 1992). Since ancient times, in some cases, people have been concerned with protecting nature. Romania also has a tradition in this respect. The history of ideas and practices concerning nature protection in Romania shows that there was an old tradition, which in some historical periods has been forgotten or resumed. The history of nature protection / nature conservation / biodiversity conservation in Romania was divided into four distinct periods (Soran et al. 2000).

The preceding period. Stefan cel Mare (1457-1504), ruler of Moldova is among the leaders who sought to protect some forested areas and their hunting. He was the one who

established several “reservations“ naming them with the old Slavonic word “braniște“ which means a forest with low density of trees but plenty of grassy vegetation. In such areas, felling trees or hunting were banned. Such lordly “reservations” were created in the 14-th and the 15-th centuries by some rulers in Wallachia. But from all these achievements there are still only a few terms left (braniște, bran), some place-names (Braniște, Branișca, Bran) and the stories that have survived until today.

The scientific period. In Romania, since the late nineteenth century the first scientific actions on nature protection have appeared. Names like the botanist D. Grecescu, the painter Nicolae Grigorescu, the balneologist I. Bernath, the botanist D. Brandză, the geographer S. Mehedinți, are the most representative of this movement. The establishment of the first natural reservation across the country took place in 1904 and was called "Slătioara forest“ and the first group that campaigned for nature conservation was established in 1920 by the writer Bucura Dumbravă and it was called “The Pilgrims’ Inn“ (Mohan et al. 1993).

In the interwar period there were many Romanian science men who showed a great interest in nature conservation. Of these the most famous are: the hydrobiologist Grigore Antipa (1867-1944), the botanist Alexandru Borza (1887-1971), the biospeleologist Emil Racoviță (1868-1947). Among the outstanding achievements of these fathers of nature protection in Romania, we will enumerate: the legislation, in 1930, of the first law to protect natural monuments (after 6 years of relentless campaign); the foundation, also in 1930, of the Commission for Protection of The Monuments of Nature (CMN) in the Romanian Academy, the foundation in 1935 of The Retezat National Park followed by the establishment of other protected areas, so that in 1938 the total number rises to 30 scientific reservations. Emil Racoviță (1937) was the one that focused on the issues related to the establishment of the suitable surface for a protected area. He was the one who argued

very convincingly the idea of establishing a protected area with a larger surface rather than more protected areas with a smaller surface. He was also the one that said that if we want to have a scientific reservation or a sustainable national park level, it is required to make a reasonable choice followed by an environmental monitoring and efficient administration (Motaş 1960).

The communist period. During 1948-1954, nature and the environment protection in Romania did not have a legal framework. But after the adoption of the Decree on Nature Conservation in 1954, after establishing its implementing Regulation, in 1965, and after the publication of the Law on Environmental Protection in 1973, they laid the foundation for a legal activity for nature protection in Romania. Thus, by 1985, the number of protected areas had increased about 11 times and their total expanded about 13 times. The total number of protected areas rose, in 1985, to 130 (approx. 75,000 ha), to which the forest reservations protected by the forest planning provisions were added. (approx. 64,000 ha in 1955 and over 190,300 ha in 1984) (Soran et al. 2000). The scientific personalities renowned in this period in the field concerning nature protection were: the botanist Emil Pop (1897-1974), the zoologist Valeriu Puşcariu (1896-1987) and others. But, the promotion and implementation of scientific concepts in this period was not an easy task, because any idea that did not fit into the Marxist thinking was treated with suspicion.

The transitional period. After the collapse of the communist power in Romania, there was a period of utter negligence of the authorities due to which, in several counties, various newly rich people, some former communist rulers have built in various existing protected areas, or recently declared, luxury residences, tourist complexes or business activities.

Conservation of biodiversity in the present

The network of protected areas in Romania currently covers 19.29 % of the national territory, a significant increase from 4.1% protected areas before 1989. This growth occurred in the past 20 years, having two distinct phases.

The preceding stage to the EU Accession, until 2007, when in Romania the total surface of the protected areas covered approximately 7.80 % of the country's surface and was represented by three biosphere reservations, 5 Ramsar sites, 13 national parks, 14 natural parks, 993 reservations (Băltăreţu and Busuioc 2009).

The post-accession stage to the EU after 2007, when as a result of the application of some European directives on biodiversity (Habitats Directive 1992; Birds Directive 1979), in our country there has been founded the European network of protected areas Natura 2000. Thus, 382 areas have been declared protected as part of the Natura 2000 European network, thus leading to a total surface of 19.29 % of the country's surface. In 2007, 108 SPA were declared (acc. Ministerial Order 1284/2007) and 273 SCI (cf. the Minister 1964/2007).

Currently, in Romania there are a total of 1,332 protected areas and a total of 11 categories of protected areas, out of which five categories are reported nationally, two categories declared at an European level, and four categories declared at a global level (Tab. 1). In addition to these categories of protected areas there are in each county a number of protected areas declared locally.

The newly created protected areas, the Natura 2000 sites overlap in very large proportion with the national network of protected areas, generating up to three or four different protection statutes for some sites. The management objectives of such protected areas are often unclear, but the emphasis must always lay on protecting the species and the habitats. Despite the five-fold increase of the protected areas, compared to 1989, many of the 21 eco-regions of Romania are represented in the new network of protected areas (Ioja et al. 2010).

Table nr. 1 Types of protected areas in Romania and the designation level, 2012

	Designation level	Type of protected area	Equivalent to IUCN category	Number of protected areas in Romania
1	National	Scientific reservations	Category I	53
2		National parks	Category II	13
3		Natural monuments	Category III	227
4		Natural reservations	Category IV	634
5		Natural parks	Category V	14
6	European	Site of Community Importance (SCI)	Category V	273
7		Site of bird protection (SPA)	Category V	109
8	International	Biosphere Reservations UNESCO MaB	Category X	3
9		Ramsar Site	Category I, II, IV, V	12
10		UNESCO Natural Heritage Site	Category I, II, IV, V	1
11		Geoparks	Category II or V	2

Conclusions:

Planning the biodiversity conservation in Romania evolved from “paper parks“ present before 1990, to poorly funded parks with scattered conservation activities, between 1990 and 2006. Fortunately, after 2007, with the accession of Romania to the EU, the directive on the biodiversity conservation has been changed again in response to the provisions of the EU on the expansion of the Natura 2000 network. Since 2007, the habitats and the species of Community interest have become the focus of the conservation efforts in Romania.

Rezumat:

EVOLUȚIA MANAGEMENTULUI CONSERVĂRII BIODIVERSITĂȚII ÎN ROMÂNIA

Conservarea biodiversității nu este un concept nou. În România, în trecut acest concept purta numele de conservarea și protecția naturii utilizându-se pentru prima oară la începutul secolului al XX-lea, odată cu înființarea, în 1930, a Comisiei pentru Ocrotirea Monumentelor Naturii (CMN), în

cadrul Academiei Române. Activitatea CMN a avut ca rezultat în 1985 declararea unui număr total de 130 de arii protejate care însumau aproximativ 75.000 ha. În prezent, după semnarea declarației de la Rio, în 1992 și după aderarea la Uniunea Europeană în 2007, România a consimțit să-și conserve biodiversitatea. În conformitate cu aceste documente, era de așteptat ca România să promoveze legi, să-și dezvolte structuri administrative și să promoveze diferite activități prin care să mențină balanța între protecția mediului și dezvoltarea economică. În 2009, rețeaua de arii protejate din România acoperea 19,29 % din suprafața totală a țării, cea mai mare parte aparținând noilor arii protejate din cadrul rețelei Natura 2000. Din punct de vedere al unităților administrative, cele mai multe arii protejate aparțin Companiei Naționale a Pădurilor, Romsilva. Este de apreciat faptul că la nivel legislativ există un pachet legislativ care acoperă cele mai multe aspecte privitoare la ariile protejate. De asemenea, există mai multe prevederi conforme cu cerințele europene care sunt formulate sub forma unor înțelegeri, tratate și convenții internaționale la care România este parte.

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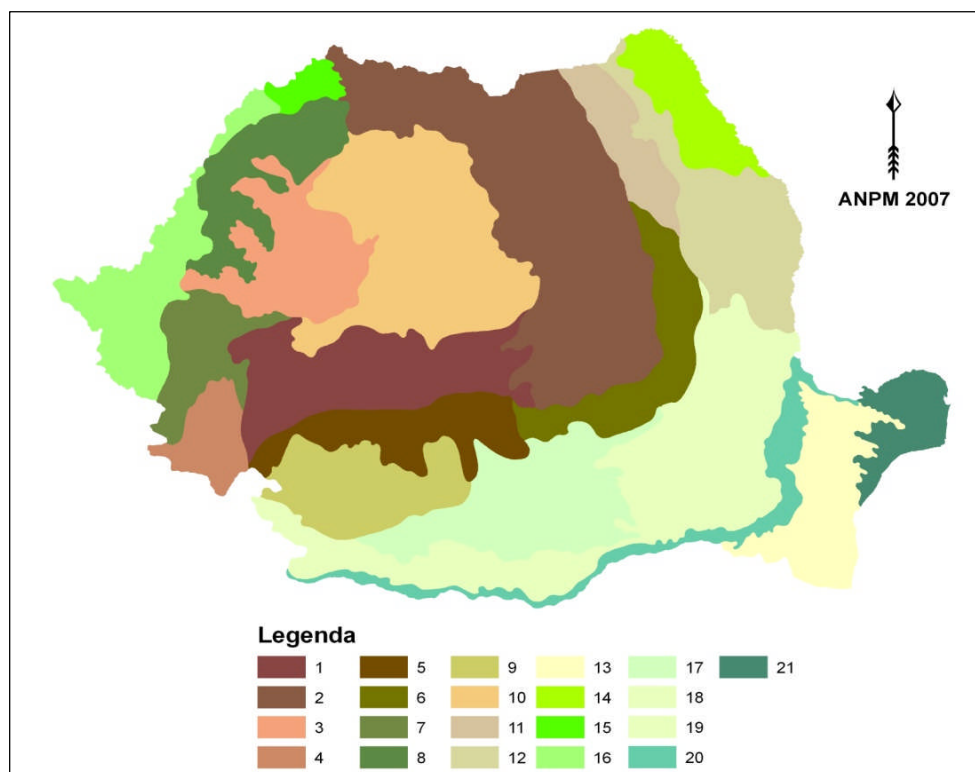
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- *** Legea nr. 5/1991 pentru ratificarea Convenției privind importanța zonelor umede ca habitat al păsărilor acvatice, semnată la Ramsar, pe 2 Februarie 1971.
- *** Legea nr.13/1993 prin care România a aderat la Convenția Europeană privind Conservarea Habitatelor Naturale și a Vieții Sălbatice adoptată la 19 Septembrie 1979.
- *** Legea nr. 58/1994 pentru ratificarea Convenției privind Diversitatea Biologică semnată la Rio de Janeiro la 5 Iunie 1992.
- *** Strategia națională și planul de acțiune pentru conservarea biodiversității, 2010-2020.
- *** Agenția Națională de Protecția Mediului, 2010, Starea mediului.

Annexes:

Figure no. 1 Biogeographic regions of Romania (NAPA 2007)



Figure no. 2 Ecoregions in Romania (NAPA 2007)



1 - Southern Carpathians; 2 - Oriental Carpathians; 3 - Apuseni Mountains; 4 - Banat Mountains; 5 - Getic Subcarpathians; 6 - Curvature Subcarpathians; 7 - Banat Hills; 8 - Crişana Hills; 9 - Getic Plateau; 10 - Transylvania Plateau; 11 - Suceava Plateau; 12 - Central Moldavian Plateau; 13 - Dobrogea Plateau; 14 - Moldavian Plain; 15 - Somes Plain; 16 - Banat and Cris Plain; 17 - Găvanu-Burdea Plain; 18 - Silvosteppe of the Romanian Plain; 19 - Steppe of the Romanian Plain; 20 - Danube Valley; 21 - Danube Delta.