

COST Action E27

Protected Forest Areas in Europe – Analysis and Harmonisation (PROFOR)

Country Report - Romania

Working Group 1 – Task 1.1.

Description of the historical background that has led to the development of particular national
Protected Forest Area frameworks

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Abstract. This paper offers an exhaustive analysis of Romanian Protected Forest Areas (PFAs). Emphasis is put on the development of the national network of protected areas and on the increasing interest in sustainable forest management. The paper is divided into three sections: i) the first contains general remarks about Romania and Romanian forests; ii) the second, a retrospective analysis of the evolution of the PFA national system, presenting the institutional and legislative framework for forest protection and PFAs from the earliest times to the present day. iii) third, (the largest section), an analysis of the present state of PFAs in Romania. The main categories of protected areas, including the latest statistics on number and area, are presented, with an emphasis on the distinctions between types. The main organizations with responsibilities for selection, management, monitoring, inventory and control of PFAs are described. The criteria used in selecting new protected areas are discussed together with the procedure of PFA selection. The last part of the paper considers the necessity for full coverage of all types of forest ecosystems in PFAs, the harmonization of Romanian legislation in the field of nature protection and biodiversity conservation with the EU legislation, and the strength of institutional power of PFA management including the types of conflicts between different PFA stakeholders which may occur. The paper also discusses future priorities for developing a representative national network of PFA to offer a long term and efficient conservation of biodiversity of forest ecosystems.

Any views or opinions expressed in this document are those of the authors and not necessarily those of any official body within the signatory states.

Keywords: Romania, nature protection, biodiversity conservation, forest protection and management, protected forest areas

1. Introduction

Romania has an area of 238,358 km² and is located between 43°37'07" and 48°15'06" north latitude and 20°15'44" and 29°41'24" east longitude. It is characterised by a great diversity of physical and geographical features.

The Romanian landforms consist of:

- the Carpathian Mountains (over 800 m altitude), over 1,500 km in extent, maximum height 2,544 m, which represent about 30 % of the country;
- hills and plateaux (200-800 m altitude), located in the internal and external parts of the Carpathian arch, which represent about 37 % of the country;

- plains (0-200 m altitude), located along the Danube and internal rivers, which represent about 33 % of the country.

The landscape is characterised by strong fragmentation in the mountain and hill areas and high altitude variation (1,500-2,000 m) in less than 100 km. The geological substratum is also very diverse. The Carpathians contain the biggest volcanic formation in Europe. The metamorphic and sedimentary rocks are fairly diverse and the hill and plain area contain large deposits of clay, loess, sand, gravel and marl. Although located in a temperate climate region, Romania is influenced by three regional climates, central-European (sub-oceanic), east-European (continental) and south European (sub-Mediterranean).

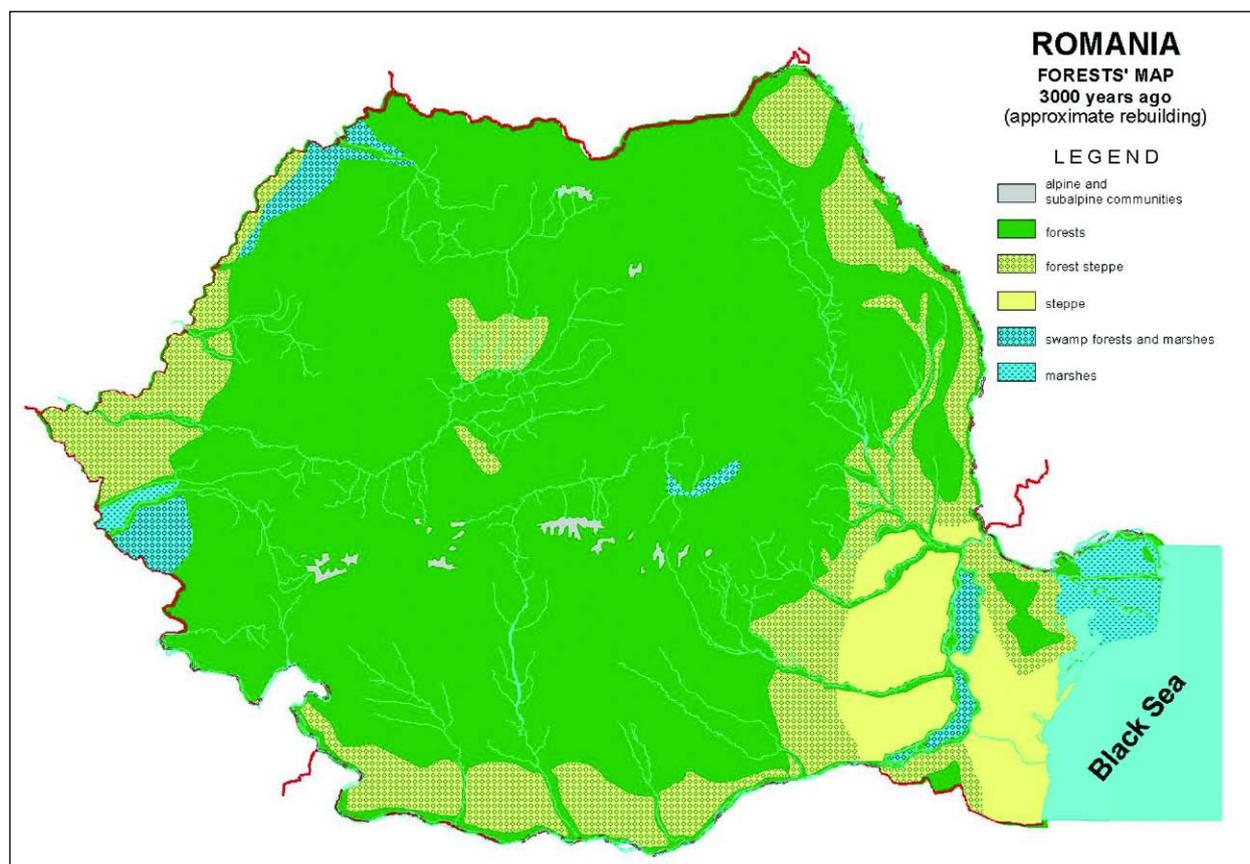
The influence of these physical and geographical features result in Romania being on the western limit of the Eurasian steppe with forest vegetation that is characteristic of Western Europe. Therefore, only 80 % of the Romania territory is considered suitable for forest vegetation (with different degrees of suitability). The remaining 20 % of the land area is composed of steppe meadows (15 %) and alpine, subalpine, aquatic

and marshy vegetation (5 %). However, research has shown that about 3,000 years ago, forests comprised about 78-80 % of the present territory of the country and had the following composition: *Quercus* spp. based forests and forest steppe with *Quercus* spp. communities (56 %), beech forest (18 %), marshes and flooded plain forests (10 %), mixed beech and coniferous forests (Norway spruce, European fir, Scots pine and larch) (8 %), pure Norway spruce and mixed coniferous forests (8 %).

Forests make a remarkable contribution to the maintenance of the ecological balance in Romania, i.e. biodiversity conservation, soil erosion prevention, landslide prevention, restraining desertification and steppe expansion, water flow regulation, flooding prevention, etc. In addition, they provide aesthetic and recreational functions. Consequently, the first protected areas in Romania were forests. The Romanian foresters have also made an important contribution to the development of legislative, institutional and scientific background for nature protection in the country.

The official definition of forests in Romania is given in the Forest Code (law no. 26/1996). Areas of

Figure 1:
Romanian forests during the Neolithic age (approximate reconstruction) (Donita in Giurgiu et al. 2001)



forest vegetation are considered forests if they have a surface area of more than 0.25 ha, the height of trees exceeds 5 m and are included in the national forest fund. The first article of the Forest Code defines the national forest fund as “the ensemble of forests and areas designated to forestations, lands destined to forest administration and production and unproductive lands included in the forest management plans, irrespective of the nature of property”.

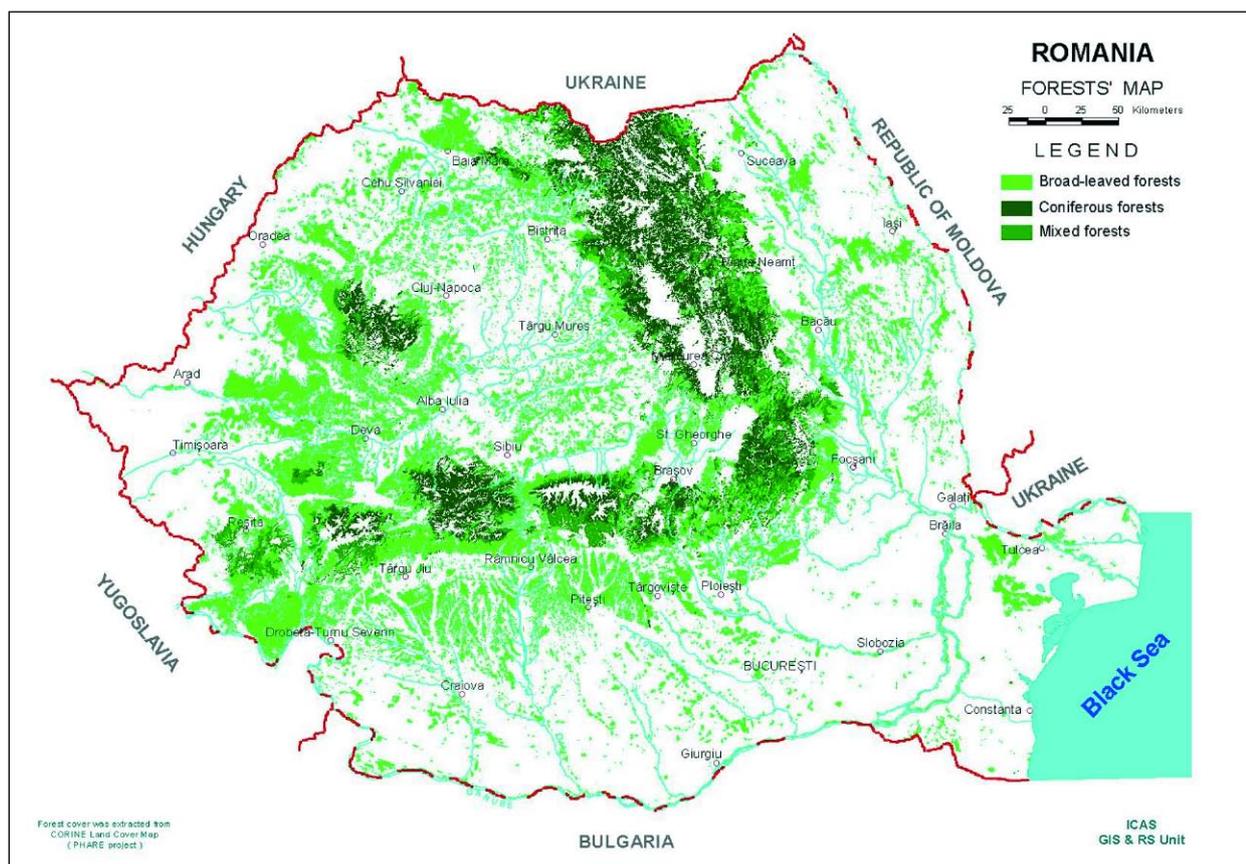
Besides the forest fund there is also forest vegetation amounting to approximately 400,000 ha, that consists of (6th article, Forest Code):

- wood pastures
- belts for agricultural land protection
- forest plantation on degraded land
- forest plantations in the areas with hydrotechnical works or along the rivers and irrigation channels
- shelter belts along transportation ways
- green areas around localities and public gardens and parks
- sub-alpine dwarf pine communities and forest steppe shrubbery.

The protective forests, also called forests with special protection functions, are those forests that provide hydrological protection, soil and land protection against erosion, protection against climatic phenomena or industrial damages, social functions or biodiversity conservation functions. These forests were identified using the “Criteria of functional zoning and management of the forests” which became the official regulation by the adoption of the Ministry Council Decree no. 14/1954. Today the obligation of functional zoning and management of forests is stipulated in the Forest Code. From the point of view of forest activities, the forests with special protection functions have been included in four management types. In the first type forest activities are forbidden, in the second type only hygienic cuttings are allowed, while the third and fourth types allow wood harvesting with some degree of restrictions concerning the treatments used, the size of felling areas, etc.

The Romania forest fund comprises 6,367,000 ha (26.7 % of the country’s territory) (Figure 2), 98.6 % of which is forests and land designated for afforestation. Table 1 contains some general information on Romania and its forests.

Figure 2:
Forest cover in Romania



Forest distribution differs in both the historical provinces of Romania (61 % in Bucovina, 47 % in Banat, 41 % in Transylvania, 39 % in Oltenia, 24 % in Moldavia, 14 % in Dobrogea and 13 % in Wallachia) and in accordance with the landforms (52 % in the mountain area, 37 % in the hill and plateau area and 11 % in the plain area).

The percentage areas of the main tree species and the main forest communities of the forest fund are shown in Table 2 and 3 respectively. Table 4 shows the national forest fund according to the ownership.

Table 1:
General information on Romania and its forests

Index	Value
National territory area	23,835,800 ha
National forest fund area	6,367,000 ha
The area of forest vegetation unincorporated in the national forest fund	≈ 400,000 ha
Population	22,456,000
Afforestation share	26.7 (29.6) %*
Forest area per capita	0.28 ha/cap (0.30 ha/cap)*
* considering also the vegetation unincorporated in the forest fund	

Table 2:
The share of main tree species

Species	Area (%)
<i>Fagus sylvatica</i>	31
<i>Picea abies</i>	22
<i>Quercus petraea</i>	9
<i>Carpinus betulus</i>	6
<i>Abies alba</i>	5
<i>Quercus cerris</i>	2
<i>Robinia pseudoacacia</i>	2
<i>Quercus robur</i>	2
<i>Salix alba</i>	2
<i>Quercus frainetto</i>	2
<i>Tilia cordata</i> , <i>T. tomentosa</i> , <i>T. platyphyllos</i>	1
<i>Populus alba</i> , <i>P. nigra</i> , <i>P. tremula</i>	1
<i>Pinus sylvestris</i> , <i>P. nigra</i>	1
Others	14
Total	100

With regard to the forest composition, 69 % are naturally regenerated with species corresponding to the natural potential vegetation type, 10 % are naturally regenerated partially or totally with species other than those corresponding to the natural potential vegetation type and 21 % are artificially regenerated stands with species corresponding to the natural potential vegetation type or other types. An important feature of Romania is the existence of over 300,000 ha of virgin forests.

Table 3:
The share of main forest communities

Type	Area (%)
Pure Norway spruce communities	11.3
Mixed Norway spruce, silver fir and beech communities	25.8
Pure beech and mixed beech-sessile oak communities	34.2
Pedunculate and sessile oak dominated communities	8.5
Turkey and Hungarian oak dominated communities	12.6
<i>Quercus pedunculiflora</i> and <i>Q. pubescens</i> dominated communities	4.8
<i>Populus sp.</i> and <i>Salix sp.</i> dominated communities	2.8
Total	100

Table 4:
The national forest fund according to the ownership

Ownership	Area (%)		
	1947	1948 - 1990	2004
State	29.0	100	69.8
Communes, cities, public institutions, foundations, churches, etc.	27.2	-	12.5
Communities	20.5	-	7.7
Private owners	23.3	-	10.0
Total	100	100	100

2. History of Protected Forests in Romania

At the beginning of the Neolithic Age, forests represented about 80 % of the present Romanian territory. These forests were preserved in their primary state until the end of the Iron Age when deforestation commenced. The first stage of this decrease occurred between 100 BC and 105 AD during the flourishing Dacian Kingdom ruled by Burebista and Decebal and afterwards during the Roman governance (centuries II-III AD). The second stage of massive deforestation took place during the Ottoman domination of the Moldavia and Wallachia provinces between 13th and 19th century, and particularly after the liberalisation of foreign commerce for Romanian Principates as a result of the Treaty of Adrianopole (1829). The situation is relatively similar to that of Transylvania's or Bucovina's domination by the Habsburg Empire. At the end of the 19th century the area of forests was reduced to 40 % of the land area. The third stage of massive deforestation was between the two world wars (1918-1940). It was the most 'aggressive' stage and reduced the forest area to 28 %. During the communist period (1947-1989) the forest area remained relatively constant (27 %). However, during the last two centuries important structural changes have taken place as a result of intensive management (harvesting, grazing, extent of resinous, black locust, hybrid poplar compared to indigenous species).

The first official measures for forest protection were taken in the 14th century by means of the so called "carti de paduri oprite/letter of the forbidden forests", which stipulate the protection of "branisti" (Sabau 1946, p.32). The word "branisti" originates in the ancient Slavonic language and was used since the 6th century to designate those forest reserves in which nobody had the right to cut trees, mow hay, graze cattle, hunt, fish or pick fruits, etc. without the owner's permission. Normally these forests ("branisti") belonged to principles, monasteries or the nobility. As an institution "branisti" has ancient origins, even older than the 6th century, and probably date back to the Daco-Roman period where it was a custom known as "obiceiul pamantului/habitual practice".

A "regular forest service" came into being in the Banat province in 1739 (Oarcea 1999). The first regulation concerning the use of forests was given in Transylvania in 1781. The first Romanian Forest

Code was enacted in Bucovina in 1786 and was called "Oranduiala pentru padure/Provisions for forests". This law dealt with ideas regarding forest protection, forest management planning, forest continuity and natural regeneration. Similar regulations followed in Moldavia in 1792 and in Wallachia in 1793. All these first regulations concerned the use of the forests by the owners and gave recommendations for forest management including the harvesting age, species for afforestation, prohibition of grazing cattle, etc.

After the Treaty of Adrianopole (1829) the cultivation of cereals increased and resulted in extensive deforestation, especially of oak forests on the plains. Consequently, regulations regarding the prevention of forest destruction were adopted in Wallachia and Moldavia in 1842 and 1843 respectively.

In 1852 Transylvania and Bucovina were components of the Austrian Empire and adopted Austrian forest law. This law was one of the first in Europe that put the forests under a protection regime, in accordance with a management plan. Some instructions adopted in 1873 distinguished between protected forests and forests that protect themselves, other forests or land (protective forests). Transylvania adopted a new (Hungarian) forest law in 1879, while in Bucovina the Austrian law was maintained until the 17th of June 1923 (Sabau 1946). After the unification of the three Romanian provinces (1918) the old Forest Code from Wallachia was extended to the entire Romanian territory (1923). The Hungarian law was influenced by the German laws and proposed a conservative regime preventing massive clearings and fellings and a restrictive treatment of those forests providing functions such as soil protection against erosion, avalanche control, protection of transportation ways (Sabau 1946).

The law of hunting was enacted in Romania in 1872 and it regulated the hunting or the prohibition of hunting over some species like the capercaillie (*Tetrao urogallus*) (Oarcea 1999).

The first Romanian Forest Code, inspired by the French one, was adopted in 1881, revised in 1910 and extended to the entire country in 1923. This new law contained strong measures regarding forest protection. It introduced forest norms and standards in all the forest belonging to the state, communities, churches, public institutions or private owners. Forests providing hydrological functions, soil protection against erosion, protection of transportation ways and forests from the boundary area were put under protection regime. Clearing was only possible with

royal permission decree on a maximum area of 25 ha. Forest exploitation is only allowed according to a management plan prepared by three forest engineers and approved by a royal decree. The management plan should ensure forest conservation and the afforestation of lands. Grazing cattle inside the forests was forbidden.

Romania's entrance under the influence of the Soviet Union (1948) determined deep social and conceptual transformations in the forestry sector. The Law for Forest Patrimony Protection (1947) stipulated the adoption of forest management plans for the entire country (Rucareanu 1962). The abolition of monarchy (1947) and the forest nationalisation (1948) made this action easier but the requirement for plans ended in 1956 (Rucareanu & Leahu, 1982). However, massive exploitation of the forests occurred after World War II to cover the debts imposed on Romania by the Soviet Union. The forests were saved by the Decision of the Ministry Council no. 114/1954 for the legalisation of functional zoning and management of forests. This decision was founded on research coordinated by professor I. Popescu-Zeletin and summarily characterised as a "major historical event in the evolution of forest economy" (Popescu-Zeletin 1954). In 1999 54 % of the Romanian forests have been included in the group of forests with special protection functions and the remaining 46 % in the group of forests with protection and production functions.

The political changes in December 1989 have caused major modifications in the legislative and institutional framework of the forestry sector and determined the restitution of forests to the former owners or their inheritors and also the harmonisation of Romanian legislation with that of the EU.

Professor Petre Antonescu, forestry engineer and pioneer of nature protection in Romania, underlined in 1881 the great importance and landscape beauty of the Letea and Caraorman Forests (in the Danube Delta) and the opportunity to protect them. Influenced by an Austrian model, Petre Antonescu gave, in 1908, the first Romanian definition of a natural monument, i.e. "formations unaltered by human beings, from the surface or beyond the ground, such as trees, rocks, stones, water sources and flows, caves, virgin forests, habitats with rare flora and fauna species, etc.". He was an active militant for nature protection "that keeps the integrity and beauty of the natural treasures of our country" (in "Legislative measures for landscape protection and nature monuments conservation", 1908).

The Old-growth Slatioara Forest (Codrul Secular Slatioara) was the first nature reserve in Romania. The members of the Romanian Orthodox Fund of Bucovina initiated it in 1904 (Seghedin 1983). Iulius Roëmer elaborated in 1908 a very well documented and extensive list of the natural and cultural protected sites in Barsa region (Transylvania), which were annexed to the law concerning the protection of natural and cultural heritage in Transylvania. Forestry engineer V. Golescu requested in 1912 "the creation of national parks in Romania on the model of those from the United States but obviously on a smaller scale". Professor Petre Antonescu elaborated a forest programme with 29 actions that included "the promulgation of a law concerning the inventory and protection of natural monuments and of nature reserves which have to include samples of virgin forests in order to transfer these natural treasures to the next generations in good condition" (Antonescu 1915). Some of the first regulations protected 30 natural monuments through a ministerial disposition, 14 of which were located in the forest fund under the authority of state forest administration (Borza 1930).

The protection of certain species and representative samples of terrestrial and aquatic ecosystems as natural monuments has been made easier by the enactment of the "Law of natural monuments protection" (1930), the "Law of protection forests" (1935) and the establishment of The Commission of Nature Monuments (CMN) under the Ministry of Agriculture and Domains. The law of forests protection defines eight categories of protected forests, including forests declared natural monuments and forest reserves designated by the Forest Research Institute, and gives clear management guidelines.

The first nature reserve officially declared on a legal basis was Niculitel Forest with "King Ferdinand I Glade" and "Queen Maria Wild Pear Tree" (Grintescu 1927).

Between 1932-1944 the Retezat National Park and another 55 protected areas were established, 30 of which were PFA.

Forestry engineer Zeno Oarcea proposed in 1974 the establishment of "a system of national parks" and in 1997 C. Stoiculescu and Z. Oarcea proposed the set up "of a national unitary system of protected forest areas located in the forest fund" (Stoiculescu 1999). So, during the previous eight decades the concept of protected areas evolved from the term of "natural monuments" to that of "national unitary system of protected forest areas located in the forest fund".

Dimitrie Cantemir illustrated in “Descriptio Moldaviae (1717)” the impressive forest biodiversity of the Romanian territory (1717), also rendered on the Column of Trajan in the Antiquity. Thanks to our farsighted forefathers Romania was one of the first European countries to firmly engage in nature protection (Täuber 1980).

The nature conservation activity throughout almost 80 years can be divided into three distinct periods as follows:

- Before 1944. The establishment of Retezat National Park (1935, about 10,000 ha of which 7,500 ha is forest) and 55 small-protected areas (about 5,515 ha) of which 30 are PFA (approximately 4,352 ha).
- Between 1944 and 1989. The Retezat National Park is extended to about 22,500 ha (20,000 ha in the forest fund), with a strict protected area of 9,600 ha. The number of small-protected areas increased to 75 with a total surface area of 64,196 ha, 40 of these areas are located in the forest fund with an area of 21,702 ha.
- Post 1990. The number of large protected areas increased to 13 in 1994, with an area of 397,000 ha, and then to 17 due to the law no. 5/2000. The number of small-protected areas located outside of the large areas totalled 693 (about 102,000 ha). The 17 large protected areas consist of:
 - 11 national parks with a total area of 300,544 ha (221,263 ha is forest), having 49 strict protected areas (60,119 ha) of which 46 are PFA (52,977 ha);
 - 5 natural parks with a total area of 251,632 ha (181,000 ha of forests), having 74 strict protected areas (17,866 ha) of which 65 are PFA (11,108 ha);
 - 1 Biosphere Reserve with a total area of 580,000 ha (17,539 ha of forest), having 19 strict protected areas (52,160 ha) of which 3 are PFA (5,125 ha).
 Of the 693 small-protected areas situated outside of the large protected areas, 344 are located in the forest fund. Most of them are PFA and their total area is approximately 41,483 ha (Stoiculescu 2004).

3. Current state

3.1. Main types of PFA, responsible organisations and procedures

The categories of protected areas included in the national system of protected areas are regulated through the Urgent Governmental Ordinance regar-

ding the regime of the natural protected areas, conservation of natural habitats and of wild flora and fauna species (OUG no. 236/2000). It was approved by the Romania Parliament in the law no. 462/2001. According to this law the Romanian system of natural protected areas is organised in accordance with the first five IUCN categories, namely scientific reserve, national park, natural monument, nature reserve and natural park.

I. *Scientific reserve*

The scientific reserves are those protected areas designated to protect and preserve the natural terrestrial and aquatic habitats, including elements of flora, fauna, geological, speleological, palaeontological and pedological formations, representative from the point of view scientific interest. The management of scientific reserves ensures a severe protection regime in order to keep the habitats as unaltered as possible. Only activities agreed by the scientific bodies may be carried out within these areas.

II. *National Park*

The national parks are those protected areas with the purpose of protecting and preserving representative elements of the national biogeographic space including valuable natural elements of flora, fauna, or of hydrological, geological, palaeontological, speleological, or pedological formations, elements of interest from the scientific point of view or from the educational, tourism or recreational point of view.

The management of national parks aims to keep the natural conditions of the physical-geographical framework, protecting the ecosystems, preserving the genetic resources and the biological diversity in stable ecological conditions, excluding any kind of irresponsible use of the natural resources of the lands for purposes other than those for which it was initially set up. The management regime is governed by regulations and proper plans of protection and preservation approved by the central public authority for biodiversity conservation and protected areas. Within their perimeters the ecosystems should be altered as little as possible by human activities. The valuable elements existing in national parks may be enclosed and put under a strictly protection regime as scientific reserves. The national parks generally cover large areas. Only traditional activities practiced by the communities in the vicinity of national parks are permitted inside them. These activities are regulated by the national park management plan.

III. *Natural monument*

The natural monuments are those natural protected areas aiming to protect and preserve some natural elements having ecological, scientific and landscape related value and significance, represented by plant and animal species that are wild, rare, endemic or threatened by extinction, monumental trees, flora, fauna communities, geological phenomena - caves, quays, rivers, cascades and other geological forms and formations, fossil deposits as well as other natural elements having a natural patrimony value due to their unique or rare character. If the natural monuments have not been included in other areas existing under a protection regime, compulsory protection areas will be set up to ensure their integrity, irrespective of the use and owner of that land. Management of the natural monument is according to a severe protection regime to preserve the specific natural characteristics. Depending on their vulnerable character, public access may be limited or forbidden.

IV. *Natural reserve*

The natural reserves are those natural areas aiming to protect certain species of flora, fauna and/or significant natural habitats, forests, with significant value from hydrologic, speleologic, palaeontologic and pedologic point of view. Their sizes are determined in accordance with the area necessary to provide the integrity of the protected elements. The nature reserves are managed in different ways depending on their specific features, by real management measures for preserving the habitats and for protecting some species, groups of species or biotic communities. Besides the scientific activity, if appropriate, touristic or educational activities may be organized. Activities for a sustainable use of some natural resources are also permitted. Land uses or resources exploitation that could affect the set up objectives are forbidden. The nature reserves may have a prevalent botanic, zoological, forestry, geologic, palaeontologic, speleologic, landscape, wetland, marine land or genetic resource character depending on the purpose for which these have been assigned.

V. *Natural park*

The natural parks are those natural protected areas aiming to protect and preserve some landscape, where the interaction of human activity with nature has ultimately created a distinct area with a significant landscape and / or cultural value and often of a large biological diversity. Management of the natural parks aims to keep a harmonious interaction

between man and nature by protecting the habitats and the landscape diversity, keeping traditional land uses, encouraging and strengthening the activities, practices and traditional culture of the local population. Recreational and tourism possibilities are offered and scientific and educational activities are encouraged.

Categories of protection through international or EU legislation

Besides the categories of protected areas included in the national network of protected areas Romania recognises the categories of protection stipulated through international or EU legislation:

- Biosphere Reserves;
- Ramsar Sites – Wetlands of International Importance;
- World Heritage Natural Sites
- NATURA 2000.

NATURA 2000

According to the Position Document concerning the negotiation of Romania's accession to the EU (chapter 22/Environmental Protection/5. Nature protection), Romania has agreed to finalise the list of proposed sites of community importance (SCIs) by the date of accession and to take the protection measures specifically mentioned for these sites. An action plan for implementing the Birds and Habitats Directives (92/43/EEC and 79/409/EEC) has been designed. The estimated cost for 2003-2006 is about ? 30 millions and it is envisaged that the NATURA 2000 sites will cover approximately 10 % of Romania's territory (Manoleli et al. 2003).

Implementing the NATURA 2000 network in Romania is rather difficult due to the lack of trained experts, data availability and/or their chaotic dispersion. At the governmental level difficulties consist of budget constraints, human resources limitations and insufficient experience concerning protected areas management and monitoring requirements. Difficulties at the local and county level include limited integration of environmental issues, less importance given to biodiversity and interests focused mainly on economic development.

The main achievements concerning the implementation of NATURA 2000 network in Romania are:

- 1) elaboration of proposals regarding new habitats (10) and species (12) to be included in the annexes of Habitats and Birds Directives
- 2) selection and description of 7 EMERALD sites, the future NATURA 2000

- 3) a habitats and species inventory for 3 biogeographical regions of Romania (i.e. Pannonic, Steppe, Pontic)
- 4) the beginning of preparations concerning the proposals for the national list of NATURA 2000 sites. This process is based on the reevaluation of the Romanian protected areas in accordance with Habitats and Birds Directives, on the identification of new potential sites for habitats protection insufficiently represented in the national network of protected areas and additional sites proposed in over 20 projects financed by LIFE-NATURA Programme of EU.

Statistics for PFAs in Romania

The Romanian categories of protected areas are divided into two main groups: large-scale protected areas that include natural parks, national parks and biosphere reserves and small-scale protected areas that include the scientific reserves, natural monuments and nature reserves.

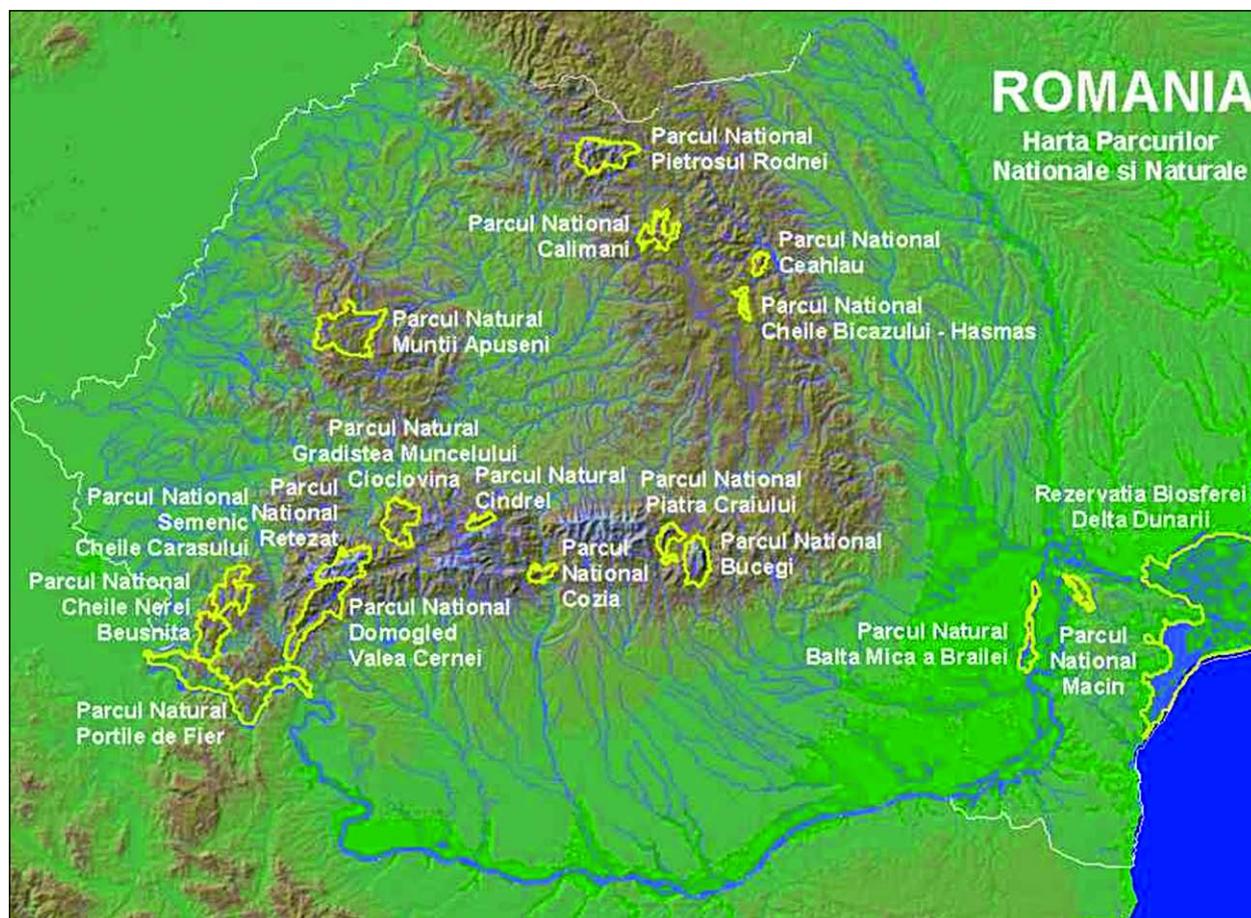
A. Large-scale protected areas

Statistics for the large-scale protected areas in Romania are presented in Table 5 while Figure 3 presents the large-scale protected areas in Romania.

Table 5:
Large-scale protected areas in Romania and the share of PFAs inside of them

Protected area category		No.	Area (ha)		Strict protected areas (special conservation zones)			
Romanian system	IUCN		total	of which forests	total		of which forests	
					No.	Area (ha)	No.	Area (ha)
Biosphere Reserve	-	1	580,000	17,539	19	52,160,0	3	5,125,0
National Parks	II	11	300,544	224,173,4	?	126,059,0	?	96,909,0
Natural Parks	V	6	326,300	174,239,7	?	53,627,6	?	33,756,2
Total		18	1.206,844	415,952,6	~134	231,846,6	~90	135,799,2

Figure 3: Large scale protected areas in Romania



In the case of national parks (i.e. Calimani, Ceahlau, Cheile Bicazului-Hasmas, Cheile Nerei-Beusnita, Cozia, Domogled-Valea Cernei, Muntii Macinului, Piatra Craiului, Retezat, Rodna, Semenic-Cheile Carasului) and of natural parks (i.e. Apuseni, Balta Mica a Brailei, Bucegi, Gradistea Muncelului-Cioclovina, Portile de Fier, Vanatori-Neamt) forest ecosystems comprise over 60 % of their area. Forests cover a similar percentage in the special conservation zones of the large-scale protected areas.

Forests located in the special conservation zones are under strict protection - no active intervention is accepted, only minor intervention in the case of natural disturbance (e.g. fire, wind throw, massive insect attacks) is allowed by the Commission of Natural Monuments of Romanian Academy (MCPFE classes 1.1/1.2).

There are also restrictions regarding the forest activities in the forests situated outside the special conservation zones of the large-scale protected areas. Only hygienic cuttings are accepted, forest conservation works and treatments with selective cuttings and natural regeneration (MCPFE class 1.3).

In conclusion the area of protected and protective forests located in large-scale protected areas according to their management objective is the following:

- 1) MCPFE class 1.1/1.2: 135,799.2 ha
- 2) MCPFE class 1.3: 280,153.4 ha

B. Small-scale protected areas

From the 827 small-scale protected areas listed in the annex of 'law regarding the approval of national territory management planning' (no 5/2000), 134 are included in the special conservation zones of the national/natural parks or of the biosphere reserves. The remaining 693 are located outside of the large protected areas (Table 6). Figure 4 presents the distribution of small-scale protected areas in Romania, and figure 5 the entire national network of protected areas existing in 2003.

In 344 small-scale protected areas over 94 % of the area (39,068.9 ha) is located in the forest fund. In 2002 over 96 % (37,385 ha) of the 39,068.9 ha were located in the state forest fund with the remainder (1683.9 ha) in the private forest fund. The restitution process of the forests to their previous owners may

Figure 4:
Small-scale protected areas in Romania

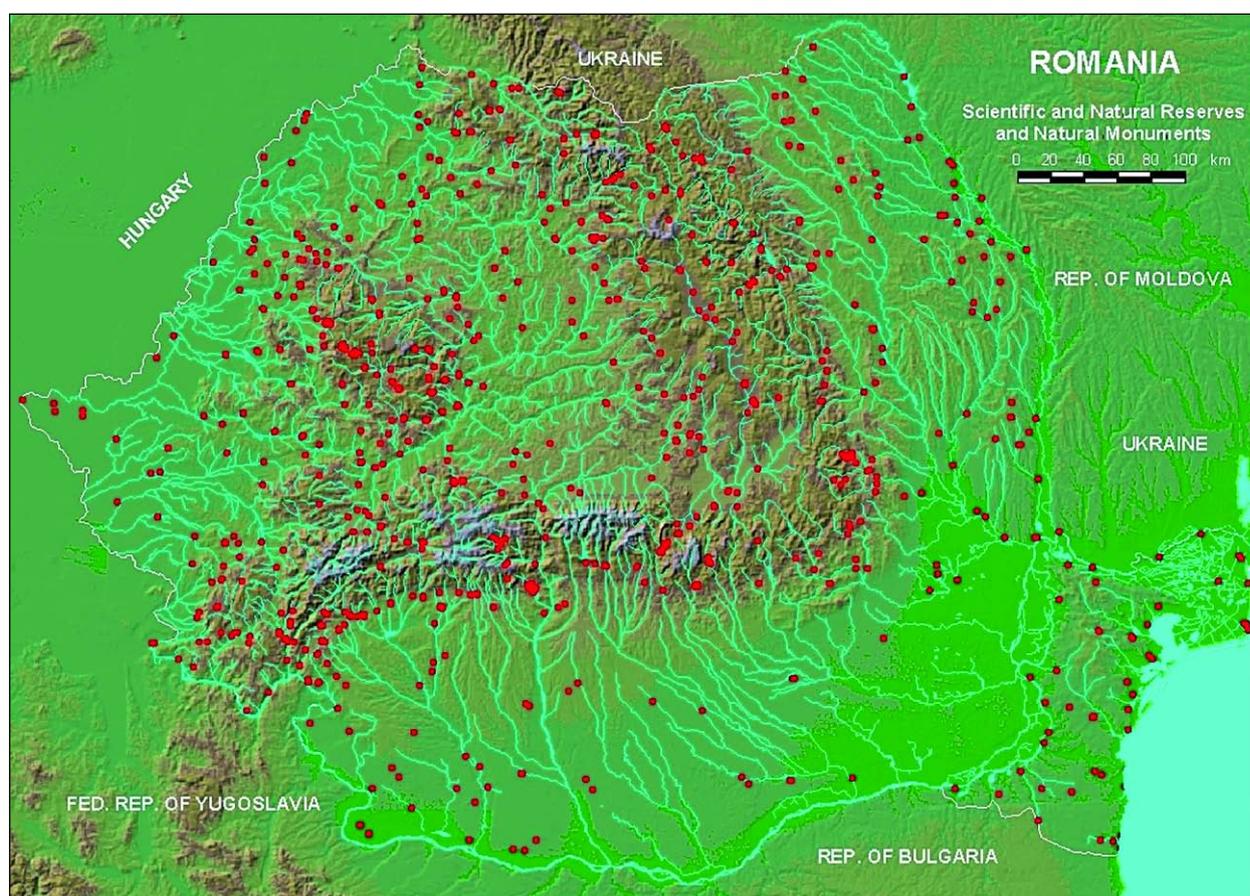


Table 6:
Small-protected areas in Romania

Small-scale protected areas	No.	Area (ha)	Observations
Small scale protected areas in Romania	827		According to law no./2000
Small-scale protected areas located in special conservation zone of large-scale protected areas	134	231.846,6	According to Ministry Decision no.552/2003
Small-scale protected areas located outside of large scale protected areas of which:	693	84.275,3	According to law no. 5/2000
- in national forest fund (total or partial)	344	41.483,5	39.068,9 in national forest fund
- in the outside of national forest fund	349	42.791,8	

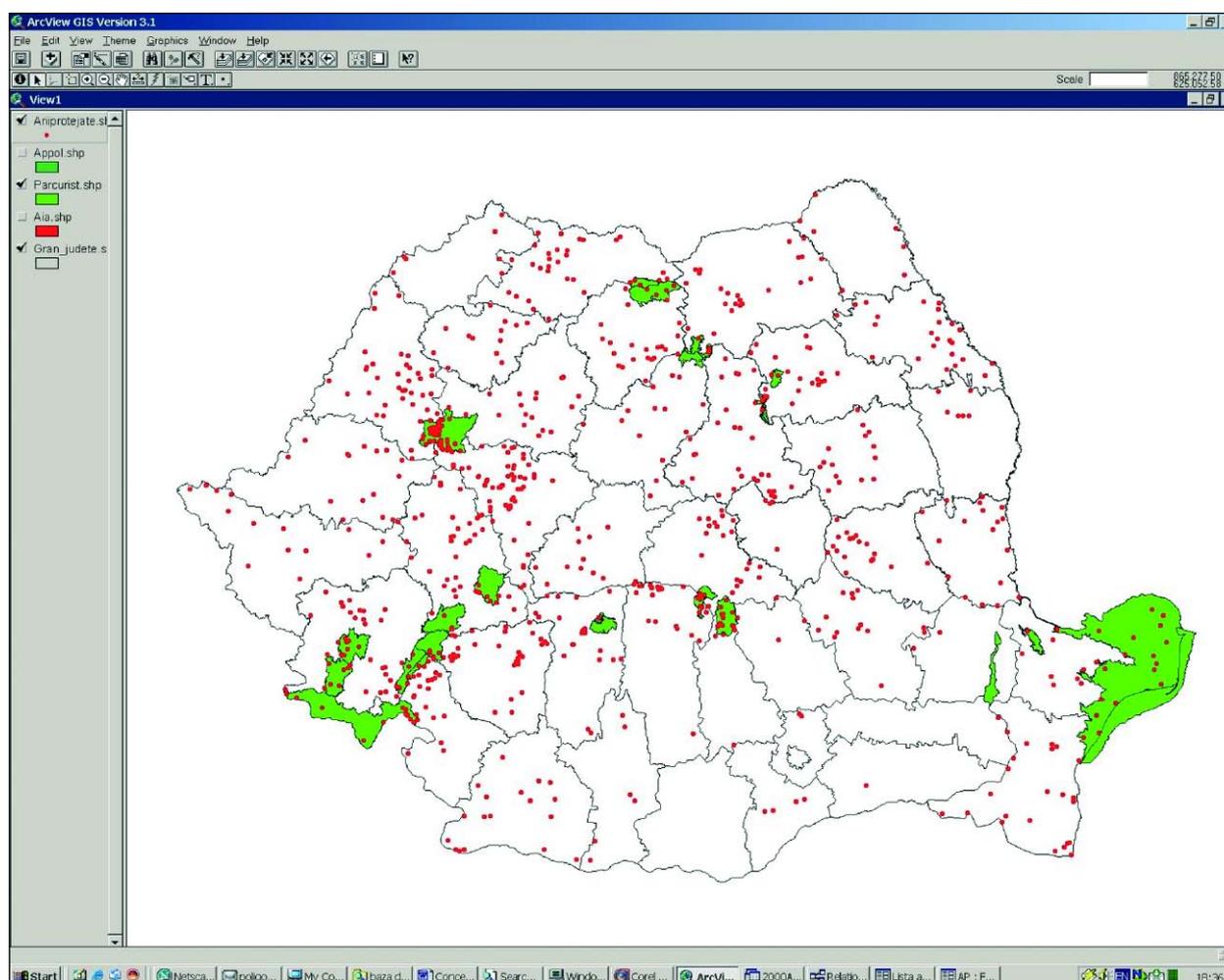
increase the area of the small-scale protected areas located in the private forest fund.

At present, the BIMS project is revising the management objectives and limits of small protected areas. The classification of the 344 small protected areas according to their management objectives results in 3 scientific reserves (category I IUCN), 63 natural monuments (category III IUCN) and 278 nature reserves (category IV IUCN). The percentage area of the scientific

reserves (category I IUCN), natural monuments (category III IUCN) and nature reserves (category IV IUCN) –is <1 %, 4 % and 95 % respectively.

According to the Romanian classification system of small-scale protected areas, adopted by the law concerning the environment protection (no. 9/1973), small-scale protected areas are included in the following types (on the basis of the nature of the protection objective) (Table 7):

Figure 5:
The map of national network of protected areas in Romania



- Botanical reserve (b);
- Forest reserve (f);
- Geological and/or geomorphologic reserve (g);
- Landscape reserve (l);
- Palaeontological reserve (p);
- Speleological reserve (s);
- Zoological reserve (z);
- Mixed reserve (m).

*Table 7:
Distribution of small-scale protected areas in the national forest fund according to the protection objective*

Type	No.	Area (%)
Botanical reserve	43	13
Forest reserve	62	18
Geological and/or geomorphologic reserve	35	10
Landscape reserve	20	6
Palaeontological reserve	15	4
Speleological reserve	38	11
Zoological reserve	6	2
Mixed reserve	101	29
Unassigned	24	7
Total	344	100

It should be noted that from the management objectives the total area of the small-scale protected areas located in the national forest fund (39,068.9 ha) belongs to the MCPFE class 1.2.

Forests with special protection function (Protective forests)

According to the Romanian functional zoning system the Romanian forests are divided into two functional groups - forests with special protection function (protective forests) and forests with protection and production function. At present over 50 %

*Table 8:
Forest areas with special protection functions*

Functional group	Area (%)
Forests with water protection functions	15
Forests with land and soil protection functions	21
Forests with protection functions against damaging climate and industrial factors	3
Forests with recreation functions	6
Forests of scientific interest and for the protection of the gene fund and ecofund	5
Total protected forests by a special management regime	50
Total forest fund	100

of the Romanian forests are included in the first group (3,210, 390 ha) (Table 8).

The Directorate for Pollution Control, Atmosphere, Soil and Nature Protection and for Biodiversity Conservation of the Ministry of Environment and Water Management (MEWM) is the central public authority responsible for protected areas. Its aim is to develop legislation, to establish and apply the strategy in the field of nature conservation, to develop the national network of protected areas and to update the protected areas database.

The recently established National Agency for Environment Protection (ANPM) (Governmental Decision no. 1625/2003), is subordinated to the central public authority for the environment protection. It coordinates the local authorities for environment protection from the technical point of view. ANPM has the following responsibilities in the field of protected areas and biodiversity conservation:

- 1) to coordinate the inventory of the protected sites at the national level
- 2) to monitor the implementation of those laws concerning environmental protection in the country
- 3) to monitor expenditures related to environment protection
- 4) to implement programmes and projects and coordinate studies and research in the environment field
- 5) to coordinate the National System of Integrated Monitoring of Environmental Factors.

ANPM has eight subordinate regional agencies corresponding to Romania's eight regions of development with 42 branches at the county level and Bucharest. Among other responsibilities, these structures supervise and monitor the management of protected areas.

The Commission of Natural Monuments of the Romanian Academy (CMN) is the scientific body with the highest authority in the field of protected areas and biodiversity conservation. According to the present legislation this commission must approve all the proposals concerning the establishment of new protected areas, the modification of size or the management regime of these protected areas.

The Ministry of Environment and Water Management also coordinates the Danube Delta Biosphere Reserve and three research development institutes with objectives regarding protected areas and biodiversity conservation (National Research – Development Institute Danube Delta, National Institute for

<i>Table 9: Organisations responsible for selecting, designating and enforcing the protection of PFAs in Romania</i>		
Name of organisation	Responsibility for PFAs	Web link
Governmental		
Directorate for Pollution Control, Atmosphere, Soil and Nature Protection and Biodiversity Conservation	central public authority for protected areas; develop legislative framework; develop strategy and coordinates its implementation in the field of nature conservation; approve the management plans for PFA.	www.mappm.ro
National Agency for Environment Protection	coordinates the inventory of protected areas; monitor the implementation of laws concerning environmental protection; monitor the expenditure of environmental protection; coordinate programmes and research projects in the field of environment; coordinate the National System of Integrated Monitoring of Environment.	www.anpm.utcb.ro
Regional Agencies for Environment Protection (Bacău, Galați, Pitești, Craiova, Cluj – Napoca, Sibiu, București)	The same responsibilities as National Agency for Environment Protection but at regional level	www.arpmbc.ro www.arpmgl.ro www.ipmtm.ro www.ipmsb.ro
Agencies for Environment Protection (42)	Control the management of protected areas; control the fulfilment of the management plan of protected area; elaborate proposals for new protected areas.	www.anpm.utcb.ro/apm.htm
Commission of Natural Monuments of the Romanian Academy	Approve the proposals concerning the establishment of new protected areas; offer scientific expertise to the central public authority in the field of biodiversity conservation and protected areas.	www.acad.ro
Danube Delta Biosphere Reserve Administration	Ensure the management of DDBR.	www.ddbra.ro
National Forest Administration – Romsilva	Administer the 16 national and natural parks; administer over 70% of scientific reserves, natural monuments and nature reserves located in forest fund; elaborate and implement PFA management plans.	www.rosilva.ro
Forest Research and Management Planning Institute	Offer consultancy in the field of PFA; make proposals concerning new PFA; carry out studies and research regarding forest biodiversity and its conservation.	www.icas.ro
National Research – Development Institute Danube Delta	Offer consultancy in the field of protected areas; make proposals concerning new protected areas; coordinate the biodiversity information management system (BIMS).	www.indd.tim.ro
The Institute of Biology of Romanian Academy	Offer consultancy in the field of protected areas; elaborate proposals concerning new protected areas; elaborating studies and research regarding biodiversity.	www.ibiol.ro
National Museum of Natural History, Grigore Antipa”	Offer consultancy in the field of protected areas; make proposals concerning new protected areas; carry out studies and research regarding biodiversity.	www.antipa.ro
National Institute for Marine Research and Development	Offer consultancy in the field of protected areas; make proposals concerning new protected areas; carry out studies and research regarding biodiversity.	www.rmri.ro
Non – Governmental		
UNESCO Pro Natura	Offer consultancy in the field of protected areas; make proposals for new protected areas; public awareness for protected areas.	www.pronatura.ro
Romanian Ornithology Society	Offer consultancy in the field of bird species; coordinates the implementation of Bird Directive; make proposals for new protected areas; develop educational programmes and public awareness campaigns for protected areas.	www.sor.ro

Marine Research and Development, National Research – Development Institute for Environment Protection).

The Ministry of Agriculture, Forests and Rural Development (MAFRD) and its Forest Department are also responsible for the implementation of regulations regarding the protected forest areas. MAFRD coordinates the National Forest Administration-Romsilva (NFA-Romsilva), which is the main administrator of the state forests and the private forest administrators. NFA-Romsilva controls over 4.2 millions ha of forests and has a department that coordinates the activity of the protected forest areas and of other types of protected areas under its administration. NFA-Romsilva has administrative structures for 16 national parks and natural parks and controls the greatest proportion (over 70 %) of scientific reserves, natural monuments and nature reserves located in the forest fund. According to law the large protected areas (biosphere reserves, national parks and natural parks) have a scientific board with consultative role. The scientific board is made up of scientists recognised for their activity in the field of nature protection and biodiversity conservation and other stakeholder representatives. It approves the management plan, monitors its application and collaborates with the administration to ensure good management of the PFA.

The Forest Research and Management Planning Institute play an important role in coordinating and carrying out studies and research concerning the extension of the national network of PFA and designing a unitary system of national and natural parks. The NGOs have become increasingly active in the field of environment protection, biodiversity conservation and ecological education. The most active NGOs in the field include the Romanian Ornithology Society, UNESCO Pronatura, Romanian Speleological Society, Romanian Rangers Association (Table 9).

3.2. Selection Criteria and Representativity

Romanian legislation on protected areas does not refer explicitly nor does it stipulate distinct criteria for selecting new protected areas. However, both the “Law of Natural Monuments Protection” (1930) and the “Law of Protection Forests” (1935) stipulate the necessity of well-documented studies for establishing a protected area, carried out by professionals. The Commission of Natural Monuments proposed a set

of recommendations as guidelines for selecting new protected areas. These guidelines have no official status and were general.

The criteria concerning the functional management and zoning of forests adopted in 1954 contain references to the selection and establishment of protection forests areas and PFA. This system was adopted by the technical prescripts/standards for forestry management and, with some updates, it is still used today. The criteria refer to the proper selection of ‘those forests of scientific interest and for the conservation of gene pool and eco-pool’ and stipulate their exclusion from the wood harvesting process.

The main criteria concerning the selection of forests of scientific interest and for biodiversity conservation refer to the naturalness (the virgin status of stands), the occurrence of some endemic, rare or endangered species of flora and/or fauna, the presence of some geological, geomorphologic, hydrological or pedological peculiarities and the presence of representative habitats/ecosystems. These technical prescriptions for forest management also contain recommendations that every PFA have some clear natural boundaries, if possible, some buffer zones and a minimum area at least equal to that of an elementary forest management unit.

CMN, the scientific authority that approve all the proposals regarding the selection of new protected areas proposed a standard data form. The Directorate for Pollution Control, Atmosphere, Soil and for Nature Protection and Biodiversity Conservation improved this data form and since 1995 it is known as the “standard data form for protected area description”. This standard data form resulted in more objective decisions in the selection of proposals concerning new protected areas. The standard data form is identical for all categories of PFAs.

The principal criteria in this standard data form refer to:

- ecosystems naturalness rendered by several indices (i.e. phytocoenotic integrity, composition, structure and functioning of the ecosystems, etc.)
- representativity, rarity, uniqueness of the habitats/ecosystems. The representativity indicates if habitats/ecosystems are characteristic of the ecological region. In the case of forest ecosystems there are two important reference books namely “Ecological Zoning of Romanian Forests” (Donita et al. 1980) and “Types of Romanian Forest Ecosystems” (Donita et al. 1990).
- biological diversity rendered by species richness

- presence of endemic, rare and endangered species. This is an important criterion in establishing scientific reserves, natural monuments and nature reserves.
- structure and functioning of the forest ecosystems. A higher priority is given to those stands with complex diversity, the occurrence of trees with impressive size and age and the occurrence of dead wood are also important indices.
- forest cover continuity over time. This criterion indicates that the evolution of an area occurred under the influence of natural factors, without major human disturbances.
- old-growth continuity over time. This criterion also indicates the lack of human and natural disturbances
- the minimum area. This criterion has been used in the selection of large-scale protected areas. In Romania a minimum area of about 5,000 ha has been accepted, without a rigorous scientific basis. For small scale protected areas a minimum area at least equal to the elementary forest management unit is accepted
- PFAs environment and buffer area. If possible, it is essential that the PFA limits coincide with natural boundaries (valleys, gorges, edges, steep slopes, etc.) or permanent artificial limits (roads, administrative borders, etc.). These limits represent buffer areas for the PFAs.

Other selection criteria for PFAs are:

- peculiarities of the physical and geographical conditions (geological, geomorphological, pedological, hydrological, climatic features)
- juridical regime concerning property and land use category. Preference has been given to state lands included in the national forest fund when proposing new PFAs.
- educational and scientific value of the new PFAs.

The main reasons for rejecting a proposal concerning new PFAs are:

- strong human impact on the ecosystems (exploitation of resources, grazing, fires, etc.)
- frequent natural disturbance factors contributing to the degradation of the ecosystems
- high degree of artificial fragmentation of the forest
- activities with negative impacts in the neighbouring areas
- lack of a minimum area necessary for good protection of the zone or the lack of clear limits or buffer areas.

According to the Romanian legislation, a PFA can be declared on the initiative of the owner or of the administrator of the area, as well as on the initiative of governmental organisations, NGOs or natural persons (clarify meaning).

Standard declaration procedures consist of the following steps:

- 1) the initial intention/proposal of a new PFA agreed in principle by its owner/administrator;
- 2) establishing the boundaries of the proposed PFA and the PFA description according to the standard data form. This is made by the specialists of Forest Research and Management Planning Institute, by the NFA-Romsilva or their subunits and by other institutions/organisations;
- 3) submission of the documents to the Commission of Nature Monuments of the Romanian Academy for approval
- 4) the accepted proposals are submitted to the MEWM to give them a legal basis. Rejected documents can be resubmitted and the procedure is repeated. The situation, whereby the proposed areas do not fulfil the requirements to be declared PFAs also occurs.
- 5) MEWM ascribe the PFA to be administrated by a legal person.

3.3. Inventories and Monitoring

Currently, at the national level, there is no forest inventory to collect information and data regarding PFAs. There is also no monitoring programme for the forest reserves based on long-term permanent plots.

Since 1950, studies concerning forest management planning have been produced for all Romania's forests and they contain detailed descriptions of forest sites and vegetation, at the level of every elementary management unit (Table 10). These studies are updated every 10 years. At present the 6th study of all Romania's forests is ongoing.

Three national forest inventories were produced (between 1960-1985) taking into account the data collected in the forest management planning studies.

Under the coordination of the Directorate for Biodiversity Conservation and Protected Areas, the Biodiversity Information Management System (BIMS) was established in 2000. BIMS is a national network for biodiversity data management. Its main role is to develop national standards in the field of

*Table 10:
General data contained by the forest management planning studies related to PFAs*

Name of inventory	Forest management planning studies
Description of what is recorded	For every elementary management unit the following data and information are recorded: owner, area, functional zoning classification, site / biotope conditions (soil type, forest site type, land form, altitude, slope, exposition, type of organic layer, other data regarding the ecological factors), stand parameters (composition, proportion of tree species, type of species mixture, average diameter, average high, density, increment, growing stock), degree of naturalness, ground vegetation type, occurrence of shrub species, state of regeneration, erosion, accessibility by forest roads, protection state
Reference area	National forest fund
Treatments of PFAs	No special treatment
Assessment technique	Field observations and measurements
Based on sampling in a national grid / permanent plats	No
Responsible Organisation	National Forest Administration – Romsilva for state owned forests. Public and private owners and associations of owners for private forests
First survey	1950 – 1956
Frequency	10 years.
Maps available	Yes, with restricted access.

biodiversity databases and to provide the necessary information and tools to decision makers and stakeholders to make the best decisions in relation to the national network of protected areas and for nature protection in general.

BIMS brings together representatives of the MEWM–Directorate for Biodiversity Conservation and Protected Areas, specialists of research institutes, academic staff, professional associations and NGOs. PFAs are one of the main components of the BIMS. The cadastre of PFAs has been elaborated within the BIMS framework, GIS interfaces for the species distribution and a PFA database have also been developed. At present, BIMS is looking for the most efficient solutions to ensure that operations work well.

3.4. Landscape, Spatial and Other Considerations

In Romania the management of both state and private forests is made in accordance with the provisions of forest regime (Forest Code 1996). The forest regime consists of a system of forest technical, economic and juridical prescripts concerning the forest management and its main aim is the sustainable management of forest ecosystems (Forest Code, Article 9). Additional information concerning the application of the forest regime is given by the 'law of forest regime and of the administration of national forest fund' (Law no 266/1999). The provisions related to forest management according to the

forest regime are stipulated in the forest management planning studies (Forest Code, Article 16). The forest management plans also contain some provisions regarding the PFA that is part of the management unit.

Besides the forest legislation mentioned above other important provisions concerning PFAs are included in the environment legislation (i.e. the law of environment protection - no 137/1995, the law of protected areas regime and of conservation of natural habitats, wild flora and fauna species - no 462/2001, governmental decision regarding the delimitation of biosphere reserves, national and natural parks and their administration – no 230/2003, ministerial disposition concerning the internal zoning of national and natural parks, from the point of view of conservation necessity – no 552/2003). The last disposition stipulates the permitted activities in the special areas of conservation located inside the national and natural parks and also the activities allowed in the buffer areas. The provisions of these dispositions are also mentioned in the forest management plans for every PFA.

Both the Strategy of Sustainable Development of Romanian Forests and the National Forest Programme (NFP) contain references to biodiversity conservation in the forest ecosystem and to PFAs. Therefore, two of the 13 strategic objectives of the NFP refer to:

- integration of representative forest ecosystems in the national network of protected areas
- biodiversity conservation of the forest ecosystem and development of a proper institutional framework.

The following actions will contribute to the fulfilment of these objectives by 2010:

- identification of the forest ecosystem types valuable from the point of view of biodiversity
- inclusion of all representative forest ecosystem types in PFA
- identification and delimitation of ecological corridors for preventing fragmentation of ecosystems
- conservation of virgin forests
- restoration of dwarf pine communities and their inclusion in the forest fund
- inventory of endemic, rare, endangered species
- elaboration of projects regarding biodiversity conservation and the improvement of protected area management.

The 18 large-scale protected areas comprise more than 70 % of the total PFAs, whereas 344 smaller scale PFAs comprise less than 30 %. Consequently, the national and natural parks represent the skeleton of the national system of protected areas in Romania. Taking into account the proposals for new national and natural parks, 90 % of all PFAs will be part of the large-scale protected areas in the future. These sites are almost exclusively located in the Carpathian region, in the Danube Delta and in the Danube Flood Plain. These regions are characterised by a higher degree of afforestation (more than 60 % in the mountain areas and over 25 % in the Danube Flood Plain and Delta), a lower degree of forest fragmentation and a higher degree of naturalness of forest ecosystems. These facts allow the adoption of large areas for the national and natural parks (from 7,000 ha to 580,000 ha) with beneficial effects on biodiversity conservation. The implementation of the national system of large-scale protected areas (about 30 national and natural parks) designed by specialists in nature conservation and forest engineers will have beneficial results on forest biodiversity conservation at all levels (species, communities, structural and functional), including the maintenance of a high degree of compactness of forests. This approach is less suitable for hill and plain areas where the forest fragmentation is higher and afforestation is lower (8-25 %).

This unequal distribution of forests in the country's regions, also results in an unequal distribution of PFAs. The sub-alpine dwarf pine communities, Norway spruce open wood, Norway spruce communities, mixed Norway spruce, European fir communities, mixed coniferous communities (Norway spruce, European fir, Scots pine, arolla pine, larch),

mixed beech and coniferous communities, mountain pure beech communities, and flood plain forest are well represented in PFAs. On the other hand, the forest communities characteristic of hill areas (i.e. mixed beech and sessile oak communities, pure sessile oak communities, mixed oak species based communities) and of the plain areas (i.e. pedunculate oak communities, mixed pedunculate oak and other broad leaves communities, Hungarian oak communities, Turkey oak communities, mixed Hungarian and Turkey oak communities, Greyish oak based communities, pubescent oak based communities, ash tree communities, elm tree communities, lime tree communities, etc.) are less represented in PFAs. Therefore small-scale protected areas have been established for these areas without special consideration for the landscape. At present the unanimously accepted ideas that efficient biodiversity conservation should be at the level of the landscape, that the protected areas should include the entire ensemble of representative ecosystems of the landscape and not small-scale protected areas for each ecosystem has gained ground.

In Romania to date no system to connect the existing PFAs has been designed. However, projects such as 'The Design and Implementation of a Regional Ecological Network in the Romanian Carpathians' and 'The Design and Implementation of Lower Danube Green Corridor' are in progress. These projects will offer a scientific basis for the connection of the protected areas of the Romanian Carpathians in an ecological network and for the restoration of the green corridor of the lower Danube.

In the PFAs a series of economic activities are forbidden or allowed with some restrictions (e.g. wood harvesting, grazing, hunting, etc.) and this is the cause of frequent conflicts between the administration of PFAs and other stakeholders. In the case of large-scale PFAs, the local communities from inside the areas or from the neighbourhood argue that their access to the natural resources (that belonged to them in the past) is now limited and the alternative solutions have not succeeded in covering their needs. Reserved opinion has been manifested by certain forest owners or administrators in declaring/establishing new PFAs. On the other hand, there is a series of initiatives for new PFAs, mostly for inaccessible forests or for forests with lower productivity, promoted by forest engineers and forest administrators.

The prohibition of hunting inside the PFAs has raised numerous protests from the hunters' associa-

tions that have invoked economic and ecologic objections.

Although legislation contains provisions concerning certain compensation for private forest owners for the losses incurred in forests with special protection functions, the owners consider these provisions insufficient and there are cases where the provisions have been no benefit. There are also cases where the administrations of PFAs have supported the development of some alternative activities for the local communities to obtain new income sources (e.g. tourism, traditional activities and customs, etc.). More information concerning the conflicts of interest with landscape and the solutions in Romanian PFAs can be found in the study “Natural areas for livelihood improvement of local communities in Romania – Piatra Craiului National Park” produced by (Kim Dekkers and Rutger de Wolf 2003).

According to Romanian legislation (Ministry Disposition no. 859/2003), the central public authority for the environment can ascribe the administration or the custody of PFAs to the following:

- administrative structures subordinated to the Ministry of Environment and Water Management
- governmental institutions (e.g. NFA-Romsilva, Agencies for Environment Protection, local councils, etc.)
- legal persons (NGOs, professional associations, research institutes, companies, etc.)
- natural persons (Clarify meaning somewhere in the document).

At present, 16 of the large scale PFAs are under the administration of NFA-Romsilva. It has created administrative structures for each national park and natural park in their administration. Also, more than 70 % of 344 small-scale protected areas located in the forest fund are in the custody of NFA-Romsilva. The difference of about 30 % is managed by foundations, NGOs and professional associations (e.g. Romanian Ornithology Society, Romanian Speleological Society, etc.).

Protected Forest Areas and forest biodiversity conservation will have the following major objectives in the near future:

- development of a national system of PFAs in accordance with the forest biodiversity conservation needs and their sustainable management
- implementation of the Habitat Directive and the Birds Directive by establishing the NATURA 2000 sites in the forest fund.

In order to achieve these objectives the main priorities will be:

- increasing the share of PFAs from the present 2.5 % to 10-12 % by 2010, inclusive of NATURA 2000 sites
- clarification of PFAs cadastre as a result of forest restitution process
- thorough analysis of the protection objective for each PFA and the degree in which the PFA corresponds to its initial purpose
- harmonisation of forest technical prescripts concerning PFAs with the legislation in the field of protected areas
- production of management plans for PFAs, which ensure efficient biodiversity conservation
- development and improvement of administrative structure of PFAs.

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