CBD Fifth National Report - Romania (English version)

MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE
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PREFACE

Romania's Fifth National Report to the Convention on Biological Diversity has been prepared in accordance with Article 26 of the Convention and decision X/10 of the Conference of the Parties. The structure of the report is based on the Guidelines for the Fifth National Report published by the Convention. The report was prepared by the Ministry of Environment and Climate Changes – Directorate for Biodiversity, with contributions from the relevant stakeholders through written submissions, and inputs on a draft of the report (see Appendix I for further information on the preparation of the report). Thanks go to all those who contributed.

In line with the Guidelines for the Fifth National Report, the report emphasizes synthesis and analysis rather than detailed description, and does not repeat content that was covered in Romania's Fourth National Report. Where appropriate, readers are referred to the Fourth National Report for additional background information.

The present report covers a period of four years from 2009 to 2013, while the Forth National Report ended in 2004. The Fifth National Report to the Convention on Biological Diversity has been prepared in accordance with Article 26 of the Convention and decision X/10 of the Conference of the Parties. The structure of the report is based on the Guidelines for the Fifth National Report published by the Convention. The report was prepared by the Ministry of Environment and Climate Change. In line with the Guidelines for the Fifth National Report, the report emphasizes synthesis and analysis rather than detailed description, and does not repeat content that was covered in Fourth National Report.

The methodology used in preparing the report consisted in collecting all data included in public documents: strategies, sectoral and intersectoral programs, plans and action plans, legislation (laws, government decisions, ordinances, orders, decisions) and from studies (synthesis, reports, scientific publications, presentations at scientific meetings and symposia).

Specialists and decision-makers from central administration and institutions involved in the conservation and sustainable use of biodiversity were consulted.
More details were gathered from the Ministry of Foreign Affairs, National Environmental Protection Agency, Environmental Fund Administration, National Institute of Biology, Regional Environmental Agencies, Local Administration of Bucharest, Ministry of Agriculture and Rural Development, National Water Administration. Many thanks for all who contributed.

PART I: AN UPDATE ON BIODIVERSITY STATUS, TRENDS, AND THREATS AND IMPLICATIONS FOR HUMAN WELL-BEING

As a primordial condition for the existence of human civilization, biodiversity provides the support system for life and for the development of socio-economic systems. Natural and semi-natural ecosystems have established intra- and inter- specific connections that cater for material, energy and informational exchange, thus ensuring their productivity, adaptability and resilience. Such inter-connections are very complex, and it is difficult to estimate the importance of each individual species in the operation of such systems, and the potential consequences of their depletion or extinction in ensuring the long-term survival of ecological systems, the main supplier of resources on which human development and welfare are dependent. Therefore, the maintenance of biodiversity is essential in ensuring the survival of any form of life, including that of humans.

The economic value of biodiversity is obvious from the direct use of its components: non-renewable natural resources – fossil fuels, minerals, etc., and renewable natural resources – species of animals and plants used as food or for the generation of energy or the extraction of substances, such as those used in the pharmaceutical or cosmetics industries. To date, we may not claim that all the potential of any species and how it might be used or accessed in the future are known, so that the loss of any one of them will limit the human development opportunities and the efficient use of natural resources. The role of biodiversity is equally important in ensuring ecological system services such as the regulation of soil and climate conditions, water purification, mitigation of natural disasters, etc.

Romania is located in Central Europe, equally distant from both the North Pole and the Equator and from the Atlantic Ocean and the Ural Mountains, in the Danube watershed and Black Sea basin. The diversity and relatively balanced proportional distribution of the forms of relief - 28% mountains, 42% hills and plateaus, and 30% plains - are unique features for Europe and rare at the global level. The territory of Romania includes the following bio-geographic regions, as established at the European level: Continental, Alpine, Pannonian, Black Sea (Pontic) and Steppic (only present in Romania). The Black Sea bio-region includes not only the coastal platform but also the Romanian territorial waters plus the exclusive economic area, under the EU Framework Marine Strategy (Directive 2008/56/EC). Romania also includes 54% of the Carpathian Mountains range, while 97.8% of the national river system drains into the Danube.

Romania is situated in the geographic center of Europe, half the distance between the Atlantic Ocean and the Ural Mountains, in and outside the Carpathians arch, in the lower basin of the Danube, having a gateway to the Black Sea.

The geographical location, physical-geographic, lithological complexity and the radial distribution of the natural gradients of the forms of relief create a great diversity of meso - micro-climate and soil conditions. This variability of substrate composition and structure and of the abiotic conditions determines the richness, distribution and level of representation of the types of ecosystems and natural habitats across the Romanian territory. In order to fulfill the EU reporting obligation related to the

conservation status of species and habitats according to the Council Directive 2009/147/EC (Birds Directive) and the Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive), Romania has two major projects ongoing: "Monitoring of status of conservation for species and habitats according to art. 17 of Habitats Directive" and "National monitoring system of bird species according to art. 12 of Birds Directive".

The table below gives the number of habitat types and species/subspecies in each Annex of the Habitats Directive by biogeographical and marine regions in Romania, according to the project "Monitoring of status of conservation for species and habitats according to art. 17 of Habitats Directive".

Table no. 1.

Region	**HABITATS**		**SPECIES**					
	Annex I		Annex II		Annex IV		Annex V	
	Non-priority	Priority	Non-priority	Priority	Including those in Annex II	Excluding those in Annex II	Including those in Annex II	Excluding those in Annex II
Number of habitats & species in the MS	60	25	147	15	174	50	35	26
	85		**162**		**174**		**35**	
Alpine	37	11	74	7	94	33	20	18
Black Sea	18	3	25	1	24	11	15	9
Continental	34	17	114	12	140	44	29	21
Pannonian	11	5	49	2	55	20	14	10
Steppic	18	6	64	3	87	39	19	13
Marine Black Sea	6		2		3	1		

1. Species status

High level of diversity of habitats reflects a high diversity of flora and fauna species. Thus, there were identified:

- 3795 species and subspecies of vascular plants, of which 23 species have been declared natural monuments, 5 species are extinct, 250 species are critically endangered, 100 species are critically endangered and 157 species are vulnerable.
- The characteristic grassland species represent approximately 37% of those which are in Romania.
- 979 species of bryophytes, of which 4 species are hornworts, 217 liverworts and 758 mosses. The Red List of vascular plant include 507 threatened species and subspecies.
- In 2012 were published the checklist and the red list of Bryophytes of Romania (Ștefănuț & Goia 2012. Checklist and Red List of Bryophytes of Romania, Nova Hedwigia, 95(1-2): 59-104).

The red lists includes 374 threatened species, 157 species are critically endangered, 113 species are critically endangered and 104 species are vulnerable.

- 600 species of algae.
- 1348 species of lichens, of which 19 species are threatened
- 33,802 species of animals in which 33085 invertebrates and 717 vertebrates.

Among vertebrates, there where identified 191 species of fish (9 endangered species), 20 species of amphibians (9 endangered species), 30 species of reptiles (6 endangered species), 364 species of birds (including 312 migratory species) and 102 species of mammals.

2. Habitats status

The EU has developed a classification system for the European natural habitats, including those in Romania. The concept of "natural habitat" as defined in the Habitats Directive, No. 92.43/ EEC on the conservation of natural habitats and wildlife refers to terrestrial or aquatic areas distinguished by fully natural or semi-natural geographical, abiotic and biotic features, largely similar to the ecosystem concept. Natural and semi-natural habitats encountered at the national level are characteristic of the aquatic, terrestrial and subterranean environment. These are aquatic – marine, coastal and fresh water habitats, terrestrial – forest, meadow and brush, peat bog and wetland habitats, steppe and forest steppe habitats, underground – cave habitats.

Several systems of habitat type classification have been accepted in Romania, with no single system in place. Based on the studies carried out under the CORINE Biotopes Program, 783 types of habitats have been identified in 261 areas cross the national territory.

In 2005-2006, in their paper on "Romanian Habitats", Doniță et al. have tried to establish the similarities between these different classification systems. Thus, they established and described 21 sub-classes of habitats and 357 types of existing habitats in our country, many of which have equivalents in the main classification systems used at the European level:

- 199 habitats have an equivalent in the Natura 2000 classification system;
- 213 habitats have an equivalent in Emerald habitat classification system;
- 170 habitats have an equivalent in CORINE habitat classification system;
- 367 habitats have an equivalent in Palearctic habitat classification system;
- 263 habitats have an equivalent in EUNIS habitat classification system.

Main types of habitats	Number	%
Coastal habitats	13	5.0
Wetlands	89	34.1
Meadows	196	75.1
Forests	206	78.9
Shallow Marsh	54	20.7
Cliffs/ Sands	90	34.5

Farming	135	51.7

Table no. 2 Main types of habitats in Romania and their respective share

No.	Sub-Class	No. of types of habitats present
1	Marine communities	7
2	Sea arms and shores	1
3	Swamps, steppes, brush-land and halophile forests	33
4	Seaside dunes and sand beaches	11
5	Fresh standing water	13
6	Saline and brackish standing water	3
7	Brush-land and woodland meadows in the temperate area	33
8	Xeric and Calcicole steppes and meadows	21
9	Xeric silicon meadows	3
10	Alpine and sub-alpine meadows	19
11	Wet meadows and tall grass communities (sub- alpine moorland)	16
12	Mesophile meadows	4
13	Temperate deciduous forests:	65
14	Temperate conifer forests	18
15	Forests and brush-land of floodlands and swamps	23
16	High peat bogs (moors)	2
17	Riparian vegetation	12
18	Swamps, peat bogs, springs and streams	23
19	Screes	15
20	Continental cliffs and outcrops	23
21	Chinophile vegetation	6
22	Continental sand dunes	5
23	Caves	1
24	Ruderal communities	6
	TOTAL	357

Table no. 3 Subclasses and types of habitats present in Romania

3. Status of protected areas

A differentiated regime for the protection, conservation and use has been instituted in order to ensure the special protection and in situ conservation measures for natural heritage assets, based on the following categories of natural protected areas:

a) of national interest, designated based on the IUCN criteria:
- Scientific reserves – 79 covering 100,574 ha;
- National parks – 13 covering 315,857 ha;
- Natural monuments – 190 covering 18,220 ha;

- Nature reserves – 671 covering 136,537 ha;
- Natural parks – 14 covering 737,428 ha.

b) of community importance or Natura 2000 sites: community interest sites, special conservation areas, special bird protection areas, designated under the community obligations:
• Special bird protection areas – 148 covering 3,554,235 ha;
• Sites of community importance – 383 covering 3,995,252 ha, accepted by the EC and to be designated as special conservation areas.

c) of international interest:
• Biosphere reserves, designated based on the criteria set by the MAB/ UNESCO Committee – 3 covering 664,446 ha: the Danube Delta (1991) Retezat (1979), Pietrosul Rodnei (1979);
• Wetlands of international importance, designated based on the criteria set by the Secretariat of the Ramsar Convention – 19 covering 1,156,448 ha: the Danube Delta (1991), Insula Mică a Brăilei (2001), Lunca Mureşului (2006), Complexul Piscicol Dumbrăviţa (2006), Lacul Techirghiol (2006), Parcul Natural Porţile de Fier (2011), Parcul Natural Comana (2011), Tinovul Poiana Stampei (2011), Confluenţa Olt-Dunăre (2012), Lacul Bistreţ (2012), Lacul Iezer-Călăraşi (2012), Lacul Suhaia (2012), Ostroavele Dunării-Bugeac-Iortmac (2012), Blahniţa (2012), Braţul Borcea (2012), Canaralele de la Hârşova (2012), Confluenţa Jiu-Dunare (2012), Calafat-Ciuperceni-Danube (2012), Dunarea Veche – Bratul Macin (2012).
• Sites of the natural and cultural world heritage, designated based on the criteria set by the Paris Convention– 1: the Danube Delta (1991).

Category	No.	Surface Area	%
National interest	978	1,308,616	7
Community interest	531	7,550,025	22.68
International	16	1,280,017	5.4

Table no. 4 Categories of protected areas in Romania

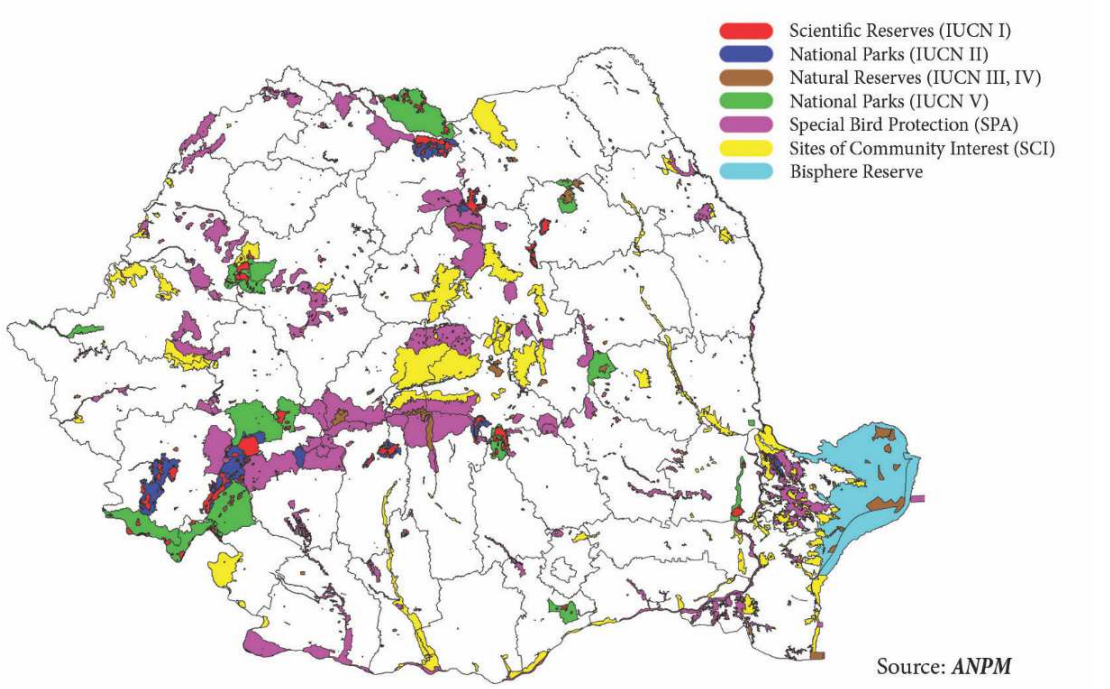


Fig no 1. Protected Area System in Romania

The management of protected natural areas in Romania is carried on in accordance with the provisions of GED no. 57/2007 regarding the status of protected natural areas, the conservation of natural habitats, flora and wild fauna approved through Law 49/2011, with GD no. 918/2010 regarding the reorganisation and functioning of The National Agency for Environmental Protection and of the public institutions under its subordination and with OM no. 1948/2010 regarding the approval of the Awarding Methodology for the custody of protected natural areas which do not need the establishment of administrative structures.

Situation of awarding in administration/custody of protected natural areas at the end of 2012:
• 41 management contracts;
• 302 custody agreements;
• about 450 natural protected areas without management agreements / custody agreements.

Out of the 978 areas of national interest and 531 Natura 2000 sites, up to the end of 2012, more than 50% of the total protected natural areas in Romania were taken in a form of management, administration or custody.

A particular case is that of the Danube Delta Biosphere Reservation, whose management is arranged by the Reservation Administration, a public institution with legal personality, with headquarters in Tulcea city, under the subordination of the central public authority for environmental protection, established in accordance with Law no. 82/1993 regarding the establishment of the Danube Delta Biosphere Reservation with its subsequent amendments and completions.

At the end of 2013, there was a number of 10 management plans approved. Also, normative acts were passed for the approbation of regulations and scientific and consultative councils of natural and national parks.

Within the Integrated Informatics Environmental System (SIM) project, subsystem Conservation of Nature was created, with a module dedicated to the Administration of the Natural Protected Areas Network in Romania.

The database shall contain the following elements that are necessary for the administration the natural protected areas network: category of natural protected area and its management; spread of the natural protected area and ownership of lands and assets included in its perimeter; identification data for administrator/curator, data concerning administration agreements/custody conventions, normative act of NPA (natural protected area) designation, management plan/npa regulation/minimum measures for conservation, accomplishment stage of the management plan/ regulation/minimum measures for conservation, administrator/curator agreement for plans/projects/activities developed in the NPA, projects financed from community funds, developed for the NPA management.

Also, in 2012, NEPA started to implement the project POS Environment Priority Axis 4 "Integrated Management and Awareness System in Romania of Natura 2000 network" – SINCRON that had as a specific goal to improve efficiency in management of Natura 2000 sites by implementing a national registry for the implementation of management plans that would allow the increase of transparency regarding decision making for natural, cultural and historic patrimony protection, adopted by the managers of natural protected areas.

4. Status of water resources from qualitative point of view

Romanian water resources consist of surface waters - rivers, lakes, the Danube River - and ground waters, the main water resources being the inland rivers. The Danube River is the second largest river in Europe that crosses our country for a length of 1075 km. Groundwater resources consist of deposits of water in groundwater aquifers and deep layers.

According to Water Framework Directive (WFD), for the surface water bodies the following categories have been defined:
- Rivers (natural, heavily modified and artificial) – 78,905 km (cadastral rivers);
- Natural lakes – 124 with area > 0.5 km^2 and 5 with area > 0.5 km^2
- Reservoirs - 243 with area > 0.5 km^2;
- Transitional waters – 781.37 km2 (619.37 km^2 marine transitional waters and 162 km^2 Sinoe Lake);
- Coastal waters – 571.8 km^2 (length 116 km).

Since 2006, Romania designed the new Integrated Monitoring System for Water, taking into account the Water Framework Directive and other European Directives requirements in water field, implementation of international conventions and the bilateral conventions with the neighboring countries, that Romania is part of, as well as the requirement of European institutions, followed by its implementation since 1st January 2007

The integrated monitoring system of water is a dynamic and complex process, with a spiral evolution, having some activities with iterative character.

Romanian monitoring water status based on the monitoring programmes established according with Art. 8 (1, 2) from Water Framework Directive is performed by territorial units of National Administration "Romanian Waters". Water Framework Directive stipulates three monitoring programs:

- Surveillance monitoring: shall be carried out to provide an assessment of the overall surface water status within each catchment or sub catchments in order to give information for validating the impact assessment procedure, the efficient design of future monitoring programmes, the assessment of long term changes in water resources, including from widespread anthropogenic activity.
- Operational monitoring shall be carried out for all those bodies of water which on are identified as being at risk of failing to meet their environmental objectives.
- Investigative monitoring shall be carried out for: identifying the reason for any excedance of quality standards, in order to ascertain the causes of a water body or water bodies failing to achieve the environmental objectives respectively where surveillance monitoring indicates that the objectives for a body of water are not likely to be achieved and operational monitoring has not already been established, to ascertain the magnitude and impacts of accidental pollution.

The monitoring process is closely related to water status assessment from qualitative point of view process aiming knowledge and assessment of the ecological status/ecological potential/chemical status of surface waters and groundwater chemical status.

The water body is the basic unit used for establishing, reporting and verifying the achieving of environmental objectives of the Water Framework Directive respectively good status of water.

Surface water body means a discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water.

Groundwater body means a distinct volume of groundwater within an aquifer or aquifers.

Ecological status is an expression of the quality of the structure and functioning of aquatic ecosystems associated with surface waters, classified in accordance with Annex V of WFD.

Ecological potential is the status of a heavily modified or an artificial water body, so classified in accordance with the relevant provisions of Annex V of WFD.

In 2012 there were been monitored and assessed in terms of ecological status/ ecological potential, 739 water bodies for rivers (555 natural water bodies and 184 heavily modified and artificial water bodies), with a length of 31621 km, such as:

- 23115 natural river km, 64.57 % achieved the high and good ecological status, 35.2% achieved the moderate ecological status, 0.05 % were in poor ecological status and 0.18 % in bad ecological status.
- 8506 heavily modified and artificial river km for which the ecological potential was defined, respectively 44.26 % achieved good and above ecological potential and 55.74 % achieved moderate ecological potential.

Concerning chemical status of the surface water there were monitored and assessed 22688 km out of which 84,35% achieved good status and 15,65% were in poor status.

5. Trends in biodiversity

The trends in the species listed in the EU Habitats Directive have been evaluated within the framework of the Article 17 reporting of the Habitats Directive for the period 2008-2013, (see also http://cdr.eionet.europa.eu/ro/eu/art17/envurmdya/). The main goal of the Habitats Directive is to maintain a 'favourable' conservation status of selected species that are assumed to be endangered or rare and Europe should play an important role in their conservation. The evaluation of the conservation status is based on four criteria set down by Europe. These are the range of the species, its distribution, the size of its population and its future prospects.

The trends in habitats have been evaluated within the framework of the Article 17 reporting of the EU Habitats Directive. The main goal of the Habitats Directive is to maintain a 'favourable' conservation status of selected habitats. These habitats are assumed to be endangered and Europe should play an important role in their conservation. Generally they are very specific habitats. The evaluation of the conservation status is based on four criteria set down by Europe. These are the area of the habitat, its distribution, its quality related to structure and function and its future prospects.

The information on which these figures are based are presented in the table below the figures.

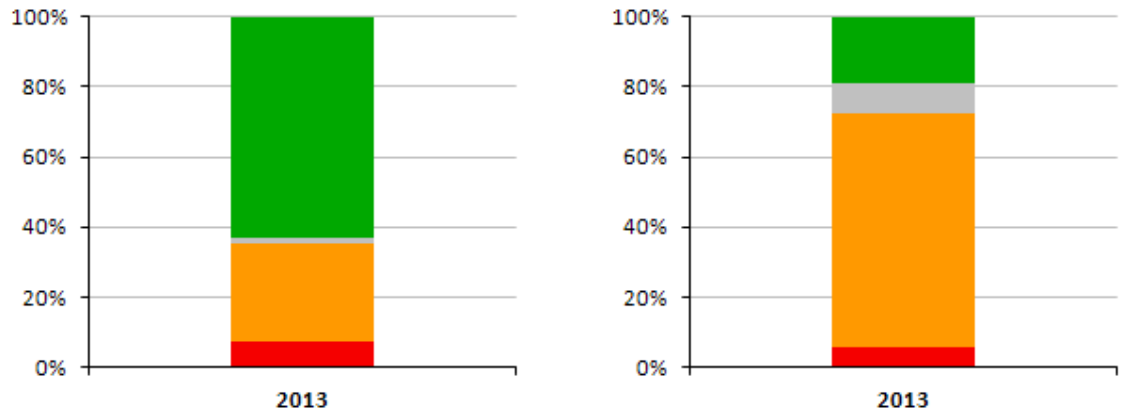


Fig. no. 2. Conservation status of species and habitats of EU interest

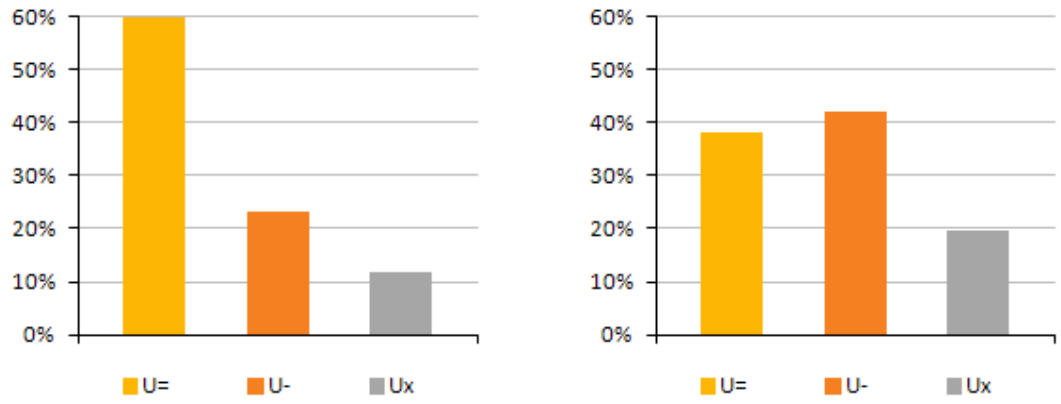
Year of assessment	HABITATS					SPECIES				
	FV	NA	XX	U1	U2	FV	NA	XX	U1	U2
2007										
2013	105		2	47	12	108		48	383	31

Table no. .....[1]

These figures show the proportion of unfavorable assessments (U1 & U2) which are improving, deteriorating, stable or unknown.

According to the draft summary report prepared by European Commission, these figures show the percentage of biogeographical assessments in each category of conservation status for habitats and species, respectively.

The information on which these figures are based are presented in the table below the figures.



Habitats – overall trend in Conservation Status Species – overall trend in Conservation Status

U (+) = unfavorable (inadequate and bad) improving, U (=) = unfavorable stable, U (-) = unfavorable declining, U (x) = unfavorable unknown trend

Fig. no. 3. Conservation status of species and habitats of EU interest

6. Direct threats to biodiversity in Romania

The main anthropogenic factors that have, in recent decades, induced the change of ecological composition and structure and of the yield and support capacity of the Romanian biodiversity were identified in the objectives of socio-economic development strategies and in the means chosen to implement them during 1950-1989. They generated imbalances and discontinuities that have only partly been corrected, under the spontaneous push of the market mechanisms, during 1990-2014:

[1] No evaluation of conservation status was done in 2007, according to art 17 of Habitats Directive

- Expansion and intensification of agricultural production systems by transforming certain natural or semi-natural ecosystems into arable land and developing it or the application of intensive production technologies (20-80% of the floodlands of the main rivers and especially the Danube plain were dammed and turned into intensive agricultural systems; much of the steppe vegetation grasslands and wetlands were turned into arable land, forestry screens and many woodland bodies in the plain zones or expansion riverbeds were cleared, etc.);
- Fast industrialisation through the development of production infrastructure in large units, primarily in the ferrous and non-ferrous metallurgical sectors, of chemical and petrochemical industry, and machine building, triggered an increased consumption of non-renewable (mineral and energy) resources from domestic and foreign sources, and had a massive contribution to the pollution of air, surface and ground waters and soils, compounded by the direct and indirect pollution caused by poor operation or even absence of the control installations in the production units of large scale industry, including in cement, chemical fertiliser and pesticide manufacturing;
- Uncontrolled harvesting of natural forests, resulting in ecological imbalances in many mountain watersheds;
- Implementation of large scale hydrotechnical works to create water reservoirs and provide flood control;
- Increased electricity output capacity, including in large thermopower plants using low grade coal;
- Urban development and transfer of population from the rural environment, accompanied by the destruction of ecosystems in urban areas (reduced green areas, building on greenfield, tree cutting, destruction of nests, etc.) and insufficiently adequate measures for waste and wastewater collection and treatment;
- Development of the transport infrastructure, focused on rail, river and maritime transport, in parallel with maintaining an obsolete and old stock, including off - road vehicles;
- Expansion of open cast mining activities and extension of mining waste land- filling areas without rehabilitation;
- Overuse of renewable and non-renewable natural resources feeding the production processes of the economy;
- Use of precious metal extraction techniques with a significant negative impact on the environment as a whole, on human health and nature (e.g. the use of cyanide in gold extraction);
- Deliberate or accidental introduction of alien species into the natural or agricultural ecosystems;
- Removal of certain plant species (lentils, millet, chick peas, etc.) from human food consumption and focus on mono-crops, on extensive fields.

In the long process of transition towards democratic governance and a functional market economy, political objectives and management types belonging in the old and new development cycles have co-existed in various shares: state and private property, centralized and decentralized administration, intensive and subsistence farming systems. Therefore, the following threats are predominant now.

6.1. Change of land use

Change of land use for the development of urban, industrial, agricultural, tourist or transport infrastructure is the main cause of the loss of biodiversity, leading to the degradation, destruction and fragmentation of habitats and hence to the decline of natural populations.

While the main threat in the past was the change of different types of habitats into farmland for mono-crops, including the destruction of important areas of wetland in the Danube Delta, nowadays, the change of natural habitats continues as a direct threat, especially visible in the following situations:

- Drainage of wet meadows and change to arable land or grazing meadows, even supported with environmental funds;
- Riverbed development and destruction of alluvial ecosystems, even supported with environmental funds;
- Afforestation of low yield meadows and steppe habitats, sometimes excessively considered by the authorities to be “degraded land”;
- Destruction of brush vegetation to extend grazing areas or develop tourism;
- Abandonment of meadows and grasslands, especially in elevated, less accessible areas, to be invaded by forest vegetation.

6.2. Infrastructure development

Intensification of investments for infrastructure development (road, rail and river transport, tourism, energy production and transport, etc.) without appropriate biodiversity impact mitigation/ control measures may be considered an activity that impacts biodiversity, in the context of the current economic development.

An acute problem relates to the development of wind farms, that may affect the population of migratory species (birds and bats) if they are poorly located, in the absence of detailed maps of the species migration corridors and of the areas of wind energy potential. A particular case is that of Dobrogea, an area of very high wind power potential, also crossed by the main migration routes of birds nesting in the Danube Delta or transiting the area.

6.3. Expansion and development of human settlements

Nowadays, it is thought that about 6.5% of the country territory is allocated to housing developments. Habitat fragmentation occurs when there are large housing agglomerations, but also with remote housing, as this requires additional building of roads and utilities. Chaotic development, with no respect for a consistent and coherent urban development strategy, leads to a misguided use of built-on areas and their expansion against natural areas.

Uncontrolled urban and peri-urban development and transfer of population from the rural environment, accompanied by the destruction of ecosystems in urban areas (reduced green areas, building on greenfield, tree cutting, destruction of nests, etc.)

and insufficiently adequate measures for waste and wastewater collection and treatment have considerable negative impacts on biodiversity and the quality of life.

A very important pressure is exercised on the biodiversity of protected areas, of coastal and mountain areas of tourism potential, where residential development is accompanied by the development of buildings of seasonal use.

6.4. Hydrotechnical works

The large Iron Gates Hydropower dam, its head breakers, and lock walls, had a major negative impact on the species of migratory fish or fish that used to have their breeding grounds upstream of the dam, cutting the sturgeon numbers 50 times.

Danube flood control works, bank reinforcements caused the destruction of breeding grounds for species of fish such as carp, which prefer shallow, clear waters of higher temperature, with the result of reducing their numbers 10 times.

Currently, there are no planned developments of large scale hydrotechnical works, but the trend is still to solve flood problems by reinforcing the dikes and building new ones, against maintaining and reconstructing the transition areas and banning the development of human settlements in areas of high flood risk.

Hydrotechnical works implemented in harbour areas have resulted in the discharge of large quantities of sediments into coastal waters, and the siltation of sandy or rocky bottoms, leading to the depletion of entire benthic associations, habitats for species of high ecological as well as economic value.

6.5. Over-harvesting of natural resources

Forest management, as currently practiced, is based on the principle of sustainable use of resources. However, uncontrolled wood harvesting and illegal cuttings are a threat to biodiversity. Such situations are more frequent in forest stocks recently returned to their original owners and that are not currently managed. Uncontrolled harvesting causes habitat fragmentation and causes soil erosion and landslides.

Overgrazing has a significant negative impact on plant associations, causing a decline of vegetable biomass and of the number of species of food value. As livestock numbers have declined considerably since 2004, and the poverty level of the rural population has increased, overgrazing has become an isolated problem.

The most affected plant species include species of special protection status that contain active components and are used for cosmetic, pharmaceutical, food or decorative purposes, and that are illegally harvested and traded.

Over-culling of species of hunting, economic or cultural interest is mainly caused by the overestimation of population numbers or by poaching.

Poaching of game species or species of economic interest occurs in two specific situations:

- On the one hand, it is caused by the poverty of the local population in certain areas, where such animals are used for private consumption, which does not entail a significant impact on the state of conservation of the respective species;
- On the other hand, poaching is caused by the wish to hunt/ capture/ harvest strictly protected species of high black market value. This situation generates significant adverse effects on the state of conservation of the targeted species.

A particular situation is that of fish poaching along the Danube and in the Danube Delta. The most dangerous of the methods used is electric fishing, which not only destroys a large number of young individuals, but also causes sterility in the surviving mature individuals.

In the Black Sea, intensive fishing practiced in the 1960s caused the depletion of large migratory fish species. Moreover, this resulted in the disturbance of marine ecosystems, especially due to the use of bottom trawling, which resulted in adverse functional effects on the live marine resources and their specific habitats, from stirring of sediments and disturbing of organisms that populate the sea bottom. Although such practices have now been banned, illegal fishing is still a problem that affects both fish populations and benthic communities.

About 7% of the cavities are subject to degradation due to unsuitable tourism and pollution from rural households. For the past 15 years, several cavities have become irreversibly degraded as a consequence of illegal activities conducted by treasure hunters and fossil traders. The impact of forest operations and farming in karst areas has not yet been assessed. Such phenomena are on a growing trend, although most habitats are located within protected areas.

6.6. Inappropriate use of non-renewable resources

Ballast and sand extraction from interior riverbeds causes the degradation of aquatic habitats and destroys wetlands, affecting the species that reside in such areas.
Extraction of mineral resources affects biodiversity, either by the total destruction of habitats due to land stripping, or by expansion of tailings and waste rock landfills. In quarries, open pit mining is practised, also requiring soil stripping.

Fossil fuels (coal) are extracted from the ground or from the surface, requiring stripping in the case of open cast mining, and causing pollution of surface waters used in floatation, in both cases. Mine drainage from abandoned galleries, most often acidic and loaded with heavy metals, reach surface waters and affect their biota.

Crude extraction operations may cause accidental oil spills, affecting the vegetable cover as well as the fauna over the medium and long term.

The use of thermal springs for either district heating or spa purposes may affect the biota of the receiving waters on discharge, due to the difference in temperature.

6.7. Invasive alien species

Invasive species may cause major loss of biodiversity, and may sometimes determine the removal of native species that occupy the same ecological niche. When depleted species are of economic concern, such loss of biodiversity is accompanied by substantial economic losses.

Intentional introduction of aliens for economic reasons has significant negative impacts. The best known case is that of Chinese carp replacing the native populations. The impact is higher as cyprinids account for 85% of the national fish stocks. Intentional introduction of exotic fish species in private aquaria may be a risk where such fish may end up in inland waters.

Apart from intentional release, invasive alien species may reach the inland waters of Romania by the natural migration routes, facilitated by habitat changes due to both human intervention and climate change. A real danger is that of *Amorpha fructicosa*, a species that has invaded the floodable areas of the Danube Delta, replacing the indigenous species.

As water is a very good medium for seed dispersal, the watercourses and wetlands are very vulnerable to the penetration of alien invasive species.

The over-harvesting of Black Sea fish resources and the penetration of new species have caused a deep change of the pre-existing associations of organisms. In some cases, the changes have been reflected by the economic environment – dramatic depletion of harvestable fish stocks, practically cutting the fishing industry down to zero in some sectors of the Black Sea. Currently, only 5 species of fish can still be harvested on an industrial scale in the Black Sea, compared to the 26 in the early 1980s.

Three (3) of the invasive marine alien species are considered to have a major impact. The ctenophore *Mnemiopsis leidyi* has caused major and direct disturbance in the pelagic and even in the benthic ecosystem, with fish populations (especially anchovy species) going into actual collapse during the periods of explosive ctenophore development, both because the latter feeds on their larvae and juveniles, and because this migrant is a strong competitor to the feeding of plankton-eating fish. The snail *Rapana venosa* has determined the collapse of native oyster populations, while the Mya arenaria clam caused the destruction of biota of the sandy bottoms of the north-western Black Sea area. Not only has the association of the *Lentidium bivalve*, considered the most productive of the Black Sea, been extremely affected, but the intrusion of the North American bivalve also involved other negative effects: valve size and calcium crystallisation patterns determine, in the long term, the change of beach quality on the northern stretch of the Romanian seashore.

6.8. Climate change

Data of the World Meteorological Organization (WMO) show that the average Earth temperature has increased during 1901 – 2000 by 0.60C. For Romania, according to INMH – Bucharest, this increase is of 0.30C, higher in the southern and eastern regions (0.80C) and lower in the intra-Carpathian regions (0.10C). Climate warming has become stronger after 1961 and especially after 2000 (2003, 2005) as the frequency of tropical days (daily maximum > 300C) has increased alarmingly and the number of

winter days (daily maximum < 00C) has substantially decreased. As a consequence, several regions of our country are at high draught and desertification risk, especially where the average annual temperature is higher than 100C; the sum of annual atmospheric precipitations is less than 350 – 550 mm; precipitations during April – October are less than 200 – 350 mm, and the 0 – 100 cm soil water reserve on 31st March is less than 950 –1500 m3/ ha.
Under the UN Convention to Combat Desertification (UNCDD), the aridity index (annual quantity of precipitation/ potential evapo-transpiration – PET) for dry areas, deserts, is 0.05 and for sub-humid dry areas of 0.65, a threshold beyond which a territory may be considered close to normal. According to this Convention, the PET is 400 – 900 mm of water for steppe and forest steppe and 300 mm of water for the mountain areas.

The 4th Report (2007) of the Inter-governmental Panel for Climate Change (IPCC) for 2020 – 2030 compared to the year 2000 estimates, in an optimistic scenario, a 0.50˚C global rise of the average temperature and 1.50˚C, in a more pessimistic scenario, while for 2030 – 2100 the increase under the two scenarios would range between 2.00˚C and 5.00˚C, which is quite extreme. If we considered the year 2070, with only a 30˚C increase compared to the current level, than 68 % of the Romanian territory, below 500 m elevation, would be subject to desertification, i.e. a more than double the area of the current mountain zone.

An increase of the average air temperature by only 30˚C by 2070, according to the forecasts, would cause more than 30% of the country territory to be affected by desertification and about 38% strong aridisation, to encompass all our plains, up to 85% of the hill region and nearly 20% of the foothills and lower mountain ranges.

A forecasted global warming by 30˚C in our country would create major disturbances in the distribution of vegetation tiers by elevation in the Carpathians, causing an increase of the upper reaches for spruce by 600 m, and the gradual disappearance of the sub-alpine (dwarf pine) and alpine tiers. The maximum yield of forests and natural meadows now located at elevations of 1,000 – 1,200 m asl, will rise to 1,600 – 1,800 m elevation after the global warming.

6.9. Pollution

The constant decline of the industrial sector after 1989 and the harmonisation of domestic and community regulations with regard to pollution control, have gradually reduced the threat of pollution, and occur punctually, in the vicinity of industrial areas that are in the process of complying with the European environmental standards. 358 significant sources of water pollution and 255 areas vulnerable to nitrite pollution from agricultural sources have been identified to date.

A special mention is necessary of the rivers that spring from or cross mining areas, and that are naturally loaded with heavy metals and mineral salts.

Accidental spills are relatively numerous, especially along the Danube and in the Black Sea, due to uncontrolled spillage from boats and/ or naval accidents.

The contribution of significant pollution sources to the total point form discharges inventoried is about 80%. Diffuse pollution sources mainly include chemical fertilisers used in agriculture, pesticides used in pest control and human agglomerations in the rural and urban environment, considering the small percentage of household connection to the sewerage network and to wastewater treatment plants (34.9% in 2005).

Most groundwater drainage from karst areas with localities is biologically and chemically polluted. The main karst areas affected include the Apuseni Mountains and Banat Mountains. Pollution is caused by untreated municipal water discharges from localities, illegal solid household and animal waste dumps.

According to the inventories, during 1992 – 1998, about 5,000 ha were affected by pollution with farm waste. As a consequence of livestock decline, the quantities of pollutants from farming has decreased, and transition to animal farming from large complexes to individual households has reduced, to some extent, the concentration of waste in some points and dissipated it over larger areas, at lower loads. Preliminary data from the latest inventory of polluted lands shows that only an area of 4,973 ha is still affected by animal waste.

The growing volume of industrial and municipal waste raises special problems, related to both the coverage of important land areas, and to the concerns for human health and the environment. The operational tailings dams may affect the surrounding lands, in case of dam failure, in contaminating them with heavy metals, floatation cyanides, other elements in excess (as in the case of Baia Mare, in recent years). The same effect may be caused by tailings dams under conservation (e.g. at Bălan Mine – Fagul Cetății Dam, in Harghita County, where heavy metal polluted soils are actively grazed).

It is appreciated that pollution with waste and inorganic residues affects 844 ha, of which 360 ha are excessively affected. The largest areas so affected are in the counties where mining and metallurgical activities, such as Dolj – 150 ha, Galați – 177 ha, Maramureş – 103 ha, Timiş – 106 ha etc.

Around some industrial areas, such as non-ferrous smelting units (Romplumb Firiza S.A., Phoenix Baia Mare, Sometra Copşa Mică, Iron and Steel Complexes in Galați, Hunedoara etc.), air pollution with suspended particles and gas contaminants occurs, and the impacts of some of these sources are felt even after closure (the case of Ampellum Zlatna S.A.). Important areas are also affected by emissions from fertiliser and pesticide plant sites and oil refineries, as in the case of Bacău County, where 104,755 ha of farmland are slightly-moderately affected, or from binder and asbestos-cement manufacturing plants. In the case of non-ferrous metallurgy (Baia Mare, Copşa Mică, Zlatna) 198,624 ha were affected in different degrees by the heavy metal content and sulphur dioxide emissions, causing disease in humans and animals in surrounding areas, on a 20 – 30 km radius. Soils are impacted by acidification, causing depletion of nutrients, by destructuring, slope processes (erosion and landslides), vegetation drying, etc.

Air pollution with acid rain-generating substances (SO2, NOx, O3, CO2, etc.), such as in the area of chemical fertiliser plant sites, thermopower stations, etc, affects air

quality, especially in the case of non-ferrous metallurgy, which contributes to soil acidification in various degrees, causing vertical leaching of soil bases and a strong decrease of nutrient quantities, especially of mobile calcium and phosphorous.

Another type of pollution with suspended particulate matter is caused by binder and asbestos-cement manufacturing complexes which contaminate the air and cover the plants with calcium-containing dust, which, in the presence of water, forms calcium hydroxide, and causes derangement of the leaf system.

Windblown ash from the landfills of coal-fired thermopower plants contaminate the air, settle onto soil and "enrich" it with alkaline and alkaline-earth metals that may end up in the groundwater, when such landfills are located over shallow aquifers.

According to the preliminary data available to the NEPA, radioactive matter pollution affects 566 ha, of which 66 ha are excessively affected. This type of pollution is manifest in the counties of Arad, Bacău, Braşov, Harghita, Suceava.

Major biodiversity impacts are reflected by a number of significant qualitative and quantitative changes of the ecosystem structure and functioning. From the point of view of the principles and objectives of biodiversity component conservation and sustainable use, the main relevant consequences are:

- An active process of biological diversity erosion, expressed by the extinction of some species;
- Habitat fragmentation for many species and breaking of connectivity longitudinally (by the damming of watercourses) and laterally (by the diking of flood areas, blocking or severely restricting fish migration routes and access to breeding and feeding grounds);
- Restriction or removal of some types of habitats or ecosystems from transition areas (forest screens, treelines, wetlands within large farm complexes or large lotic systems) with severe negative impacts on biological diversity and on the control of diffuse pollution, soil erosion, surface spills and the progress of flash floods, the biological control of pest populations in crops, recharging of groundwater reserves and water bodies;
- Extensive change, sometimes beyond the critical point, of the structural configuration of river basins and watercourses, associated with a significant reduction of the capacity of aquatic systems to absorb the pressure of anthropogenic factors operating in the river basin and an increase of their vulnerability and that of the socio-economic systems depending on them. Many river basins have been affected by runoff erosion;
- Excessive simplification of the structure and multi-functional capacity of the dominant ecological formations or of those made up of intensive farming systems exclusively, and increased dependence on commercial inputs of materials and energy;
- Destructuring and reduced yield capacity of the biodiversity components in the farming sector.

Special attention must be given to the impacts on landscape in each of its 3 components: cultural elements (settlements, infrastructure, buildings, human

activities), biodiversity, the geo-morphological structure (relief, geological, hydrological features). Human interventions with adverse impacts on the landscape, in the order of severity, include:

- Destruction – significant loss in all the three landscape components. This is primarily caused by intensive urban development unsuited to the environment and to the local architecture, changes of land use, forest clearing, radical change in the traditional community structure (inter-building, demolitions, changes of use);
- Degradation – strong changes in the components that do not, however, change its consistency. These are caused by: deterioration of biodiversity (development of urban green spaces using alien species, neglect and abandonment of public spaces in favor of road traffic), cultural loss (change of constructive elements with derogation from the legal provisions in force, intensive, unsustainable urbanism, not based on strategic planning, suburban districts lacking identity, infrastructure and integration with the town body, abandonment of traditions), pollution (waste accumulation, air, water and land pollution);
- Aggression – point-form action with a major impact on all the components. These are caused by business and tourism activities such as quarries, ballast plants, forest operations, ski slopes, etc. - implemented in an unsustainable manner and causing changes in the forms of relief waste accumulation, ecosystem imbalance, lack of continuity in the land use development policies.

The whole of the structural changes that have occurred over a long time, primarily as a result of diversification and increase of human pressures, and have been reflected in the current configuration of the ecological structure of the Romanian natural assets has also caused a diminished yield and support capacity for resource and service demand on the part of the national socio-economic system. This has thus increased the vulnerability of the Romanian territory to geo-morphological, hydrological and climate hazards.

PART II: THE NBSAP, ITS IMPLEMENTATION, AND THE MAINSTREAMING OF BIODIVERSITY

In the letter and spirit of the CBD according to which each Party "is to develop national strategies, plans or programs for the conservation and sustainable use of biological diversity or adapt existing strategies, plans or programs", to date, Romania has adopted two national biodiversity strategies and action plans (NBSAPs), the first in 1996, and the second in 2000 (this in the context of preparing EU accession and the adoption of the Acquis Communaitaire), so that these documents are now the third initiative in the field.

NBSAP - 3 refers to the 2014 - 2020 period and has been developed in consideration of Decision VIII/ 8 of 2005 on the guidelines for updating national strategies and action plans.

Developed under the UNDP/ GEF Project "Support to alignment of NBSAP with CBD obligations and to Development of CHM", the Project Implementation Body being the Ecological University in Bucharest, this political programming document attempts to

establish the strategic actions and priority targets for the next 10 years for the conservation and sustainable management of biodiversity in Romania. As it is, in the opinion of most of those who contributed to its development, the most comprehensive and detailed strategy in this sector to date, it has attempted to assess the current status of species, habitats and ecosystems in Romania. A difficult task, considering the qualitative and quantitative decline of relevant scientific concern and the fact that, although a scientific assessment of the number of species is available, population sizes, as a key parameter in establishing practical conservation measures, are only very loosely established.

Moreover, there has been no detailed and consistent classification of the types of ecosystem types and sub-types in Romania, based on a set of ecologically sound criteria. Knowledge of genetic diversity focuses on species of plants and animals used in agriculture and aquaculture, with practically no data on the genetic diversity of wild species.

Relating the state of biological diversity to the bio-productive capacity of the ecosystems was difficult due to the insufficiency of adequate studies of the economic value of various biodiversity levels. Such issues will need improving under future initiatives.

The methodology used, in compliance with international standards, including the expert, public and stakeholder consultation mechanism, has allowed for the identification of direct threats and of the causes that do or may determine loss of biodiversity, with the necessary prioritizations. On this basis, it allows for the establishment of operational objectives involving the setting of legislative, institutional and economic proposals with clear responsibilities and with performance and impact indicators.

NBSAP - 3 has been acknowledged to be more comprehensive than the previous issues and to set ambitious targets to cover the CBD requirements.

Formally adopted, the strategy and action plan become the national reference framework in the transposition of the CBD objectives and principles in Romania for the following decade, 2014 - 2020. Taking account of the new developments, especially following the Nagoya Agreement (2010), it will be necessary that, by using the Article 6 mechanism, NBSAP - 3 should gradually adapt its content and targets as international and EU adoption of the new Action Plan - 2020 and the Protocol on Access to Genetic Resources progress.

Furthermore, the implementation process will perhaps be even more important. In this respect, unlike the previous efforts, the NBSAP Project has also prepared a range of other support materials and actions for the implementation of the National Biodiversity Strategy and Action Plan in Romania.

Started in March 2008, the UNDP/ GEF NBSAP Project was completed in March 2011, with the following outcomes:

• Development and publication of the NBSAP document for Romania, for 2011 - 2020 (World Biodiversity Decade, launched at the COP in Nagoya, held in October 2010);

• Translation into English and publication of the NBSAP document, for submission to the CBD Secretariat and for international dissemination;

• Development, uploading and implementation of the CHM system for Romania, in the MEF;

• Translation, adaptation, publication and dissemination of the CEPA Toolkit – Communication, Education and Public Awareness of the CBD;

• Development and publication of a Public Information and Sensitization Brochure on Biodiversity (in Romanian and English);

• Development and publication of a compilation of Romanian Examples and Case Studies in the use of communication ways and means in promoting biodiversity and the use of CEPA in such campaigns;

• Development of a draft CEPA National Strategy, based on the transposition of the guidelines into an implementation exercise;

• Development and publication of a CHM promotion prospectus for dissemination;

• Development of a Training Needs Assessment Report and proposed Training Portfolio for Building Human and Institutional Capacity in Romania in NBSAP Implementation;

• Training of ten regional and national CHM operators and registration of countless contributors to the network;

• Involvement and assistance in the training of ten volunteers on biodiversity issues and the implementation of international projects;

• Organization of three regional CEPA and CHM training sessions (West, Centre and South-East, with about 150 representatives from 26 counties);

• Organization of a Press Conference and numerous meetings for the celebration of Biodiversity Day and the Year of Biodiversity;

• Participation in a Regional Workshop for Europe on NBSAP assessment and reporting – organized by the CBD Secretariat, and a CHM Seminar of the European Environment Agency (EU EPA);

• Development of a Country Poster on biodiversity, modelled on CBD International and communication thereof to the Montreal Secretariat.

All these products and services provided by the Project helped meet the Project work plan. More importantly, however, the adoption of the National Strategy and Action Plan by the Romanian Government will help strengthen the responsibilities of the institutions and bodies with specific implementation tasks. Not least, the content of some sections of the Plan needs to be continuously adapted to the higher commitments on the international, European and regional level, without, however, impeding on the current implementation stage.

With the ratification of the Convention on Biological Diversity (CBD), Romania committed to meet the requirements thereof and the country obligations in this regard. Such a primary obligation is to develop a National Biodiversity Strategy and Action Plan (NBSAP) in Romania in accordance with and aligned to the CBD provisions.

While the National Strategy is a choice of a roadmap in meeting the proposed long-term targets, the Action Plan is a reflection of the priority directions and generic measures required for the implementation of the goals and objectives defined in the National Strategy. These measures are then translated into specific Action Plans, specified for each relevant institution responsible for the implementation of the national strategy in its particular field.

This issue of the NBSAP starts with a contextualization of the biodiversity issues, on a global (CBD) and European (EU) level. By then approaching these issues in the Romanian context, the document reviews the specifics of our country's biodiversity pointing out issues of potential risks and barriers in the protection and conservation thereof that will have to be managed

The most serious issues of the increasing human pressure on biodiversity are identified to be: land use change, infrastructure development, overharvesting of natural resources, inappropriate use of non- renewable resources, climate change and, more and more importantly, pollution. They translate into issues of:

- Biodiversity erosion through species extinction;

- Habitat fragmentation resulting inter alia in the blockage or restriction of species migration routes;

- Shrinkage or disappearance of habitat or ecosystem types;

- Excessive simplification of the structure and multi-functional capacity of the ecological functions;

- Destructuring and diminished yield capacity of the biodiversity components

Along these coordinates, the strategic vision regarding Romanian biodiversity, for the 2014 - 2020 horizon is defined as: Biodiversity protection and conservation in all its complexity (including all the key processes and functions of the ecosystems, the interactions between organisms and their living environment, and ethno-cultural diversity) is a key point of reference for the sustainable development of our country, for the long term socio-economic viability in Romania.

1. Question 5: What biodiversity targets are set by Romania?

Four directions of action have been identified for the meeting of such goals:

1. Halting the decline of biological diversity of genetic resources and species;

2. Integrating the biodiversity conservation policy into all the sectorial policies by 2020;

3. Promoting innovative traditional knowledge, practices and methods and clean technologies as support measures for the conservation of biodiversity in the interest of sustainable development by 2020;

4. Improving communication and education in the field of biodiversity by 2020.

These have been transposed into ten strategic objectives:

A. Development of the general legislative and institutional framework and securing of financial resources;

B. Providing consistency and efficient management of the national protected area network;

C. Providing good species conservation status for protected wildlife;

D. Sustainable use of biological diversity components;

E. Ex Situ conservation;

F. Control of alien invasive species;

G. Access to genetic resources and fair share of benefits from the use thereof;

H. Support and promotion of traditional knowledge, innovation and practices;

I. Development of scientific research and promotion of technology transfer;

J. Public communication, education and awareness raising.

For each individual strategic objective, after a review of the current situation, a set of operational objectives have been established.

The meeting of these objectives during the 2014- 2020 interval is detailed in an Action Plan, broken down into 15 sub-objectives and a total 170 recommended measures.

The estimated implementation costs for these actions total EUR 1,508,175,000 accessed from three categories of funding sources: from the implementing institution, from the State Budget and from external sources (from projects sponsored by international donors, global financial mechanisms and/ or local support).

Reference for the advanced financial assessments of the strategy included:

- The experience of similar previous actions in the country or abroad;

- Preliminary calculations based on specific technical-economic indicators.

In the implementation of the strategy and action plan, the stakeholders and relevant responsibilities have been identified, as well as the time frame for implementation. Reporting indicators, organized into 7 groups and 21 classes, have been proposed for the tracking and assessment of success in implementing the strategy and action plan.

As in any such process (of developing and implementing a national strategy and action plan) an evaluation of measures implementation, of their efficiency and, not least, the updating, adaptation of the proposed measures and ongoing improvement in their implementation will be required on a regular basis (annually or every other year).

In parallel with such regular evaluations, further specialist research will also be necessary for a better quantitative and qualitative assessment of the measures and proposed actions. Moreover, it should be kept in mind by all the stakeholders that special attention is needed for at least 2 driving directions for the success of NBSAP implementation:

- Creating the necessary human resources for the relevant institutions, with knowledge of biodiversity, its components, development trends and importance thereof for the maintenance of living conditions of the human species;

- Developing performance indicators for the assessment of biodiversity and of the effectiveness of conservation measures, to match the specific ecosystems in Romania.

In this respect, investment in building individual human and institutional capacity is essential.

Furthermore, development of a strategy and action plan cannot be conceived in the absence of public information, consultation and involvement.

Therefore, the UNDP/ GEF Project provided, alongside the NBSAP document, a proposal for a training portfolio, on biodiversity protection and conservation and resource management, based on sustainable development principles, as well as a Communication, Education and Public Participation

Toolkit (CEPA) and a Clearing - House Mechanism (CHM), the portal to which has been made available on the Romanian Ministry of Environment and Climate Change (MECC) website.

The general objective of the Strategy is to contribute nationally and internationally to the achievement of the 2020 target of halting the loss of biodiversity and the degradation of ecosystem services, and restoring them in so far as feasible, while stepping up our contribution to averting global biodiversity loss.

2. Question 6: How has the NBSAP been updated to incorporate these targets and to serve as an effective instrument to mainstream biodiversity?

3. Question 7: What actions has Romania taken to implement the Convention since the last report and what have been the outcomes of these actions?

3.1. Relevant policy, legislation, institutions, funding and programmes

3.1.1. General legal framework

The implementation of the National Biodiversity Strategy requires a multidisciplinary approach and a great amount of sharing and collaboration between policy makers and central and local administrations, with the support of the academic and scientific world, as well as welcoming stakeholders' requests.

Romania has a complex legislative framework for the conservation, management and sustainable use of biodiversity. The policy and legal framework includes the following key elements (only listing):

- Emergency Government Ordinance 57/2007 regarding the protected areas regime, conservation of natural habitats and wild flora and fauna approved with amendments and completions;
- Law 5/2000 for approval of National planning – section III – protected zone;
- Governmental Decision 230/2003 on the delimitation of biosphere reserves, national parks and nature parks and setting their administrations;
- Governmental Decisions 2151/2004, 1581/2005, 1143/2007 regarding the designation of new protected areas;
- Law 82/1993 with subsequent changes and amendments regarding establishing the Danube Delta Biosphere Reserve;
- Ministerial Order 552/2003 for approval of internal zoning of national and natural parks;
- Ministerial Order 604/2005 for classification of caves and caves sectors as protected areas.
- Emergency Government Ordinance 195/2005 on environmental protection with subsequent amendments and completions;
- Ministerial Order 1710/2007 on the approval of standard documentation for designation of new protected areas of national interest;
- Governmental Decision 1284/2007 on designation of special protection areas as part of Natura 2000 network (updated in 2011);
- Ministerial Order 1338/2008 on the procedure for issuing the Natura 2000 permit (methodology was approved in 2010);
- Ministerial Order 1964/2007 on designation of sites of community's importance as part of Natura 2000 network (updated in 2011).

3.1.2. Legal framework developed in the reporting period

In order to harmonize the national legislation with global and European objectives regarding biodiversity, changes have been made in all major laws and regulations, including the Environmental Protection Act, Biological Diversity Act, Protected Areas Act, Medical Plants Act, Genetically Modified Organisms Act, Forestry Act, Law on Hunting and Game Protection, Law on Fisheries and Aquaculture, Law on the Protection of New Plant Varieties and Animal Breeds and others.

Although there have not been fundamental changes in biodiversity policy in Romania since 2009, some changes or improvements have occurred to strengthen

implementation. Thus, the main inputs on this regard was done on drafting the subsequent laws (by-laws). Key achievements or changes relating to policy and legislation in the last five years include:

- The framework legislation on protected areas and conservation of flora and fauna was approved by the Romanian Parliament in 2011 and several amendments and completions have been made by Law no. 49. The biodiversity framework (EGO 57/2007) was approved initially in 2007 in an emergency procedure in order to ensure the transposition in national legislation of EU legislation on biodiversity, because of Romania joining EU in 2007.
- A new list sites of community interest (SCIs) was approved in 2011 by Ministerial Order no. 2387. The MO 2387/2011 was adopted as obligation in relation to EU Habitats Directive (92/43/EEC) in order to assure a better protection of some species and habitats of community interest and better coherence of SCIs network. Also, by this order was updated the reference list of species and habitats of community interest.
- In parallel, in 2011, was approved a new list of special protection areas by Governmental Decision no. 971. The GD 971/2011 was adopted following the request of EU regarding the harmonization of SPAs list with list of Important Birds Areas. This was done despite the fact that in Romania IBAs are not officially recognized and in 2010 Romania won a juridical dispute with EU on the same topic.
- For supporting the management activities of protected areas administrators in 2012 was adopted Ministerial Order 854. By this was approved the methodology for approval of tariffs for visiting protected areas, commercial photographing and filming or for analysis of some documentations and issuing permits according to current legislation.
- Three new protected areas of national interest were designated in 2010. So, by Governmental Decision 1066/2010 was established Cefa Natural Park (category V IUCN) and by Governmental Decision 1217/2010 were established 2 scientific reserves (category Ia IUCN) inside of Danube Delta Biosphere Reserve.
- For impact assessment in 2010 were adopted 2 ministerial orders. Ministerial Order 19/2010 was adopted as part of transposition of Habitats Directive. The aim of this ministerial order is assessment of potential impact of plans, project and activities on species and habitats of community (EU) interest. The second one, Ministerial Order 135/2010, aim to approve the methodology for assessment of environment impact for projects. Generally, the procedures stipulated by these two ministerial orders are interconnected and are implemented together.
- A significant improvement was made in the implementation of Carpathian Convention. Thus, in 2010 was ratified the Protocol on Conservation and Sustainable Use of Biological and Landscape Diversity to the Framework Convention on the Protection and Sustainable Development of the Carpathians (Law no. 137/2010). This was followed in 2013 and 2014 by ratification of Protocol on Sustainable Forest Management to the Framework Convention on the Protection and Sustainable Development of the Carpathians (Law no. 76/2013), and Protocol on Sustainable Tourism to the Framework Convention on the Protection and Sustainable Development of the Carpathians (Law no. 72/2014).

- As result of amendments done to biodiversity framework law, in 2011 was established the Commission for Speleological's Patrimony (Ministerial Order 1044/2012) for regulation of activities in caves and karst areas.
- The methodology for assignment of custodians and administrators for protected areas has several changes by Ministerial Order 1948/2010 and Ministerial Order 1470/2013.
- A set of conditions to practice the recreational fishing, rules and permit models for recreational fishing were approved in 2011 by common Ministerial Order of Ministry of Environment (MO 159/2011) and Ministry of Agriculture and Rural Development (MO 1266/2011).
- For scientific researches in this reporting period were approved several Ministerial Orders for allowing collection of some protected species.
- An important number of Ministerial Orders and Governmental Decisions have been promoted for approving of some management plans and regulations for protected areas.
- Romanian NBSAP 2014 – 2020 has been approved by Governmental Decision
- Management Plans for River Basins in Romania 2010–2015 have been elaborated.

Their objectives are directly related to the conservation of biological diversity and biological water resources: water and water bodies are protected from depletion, pollution and damage in order to maintain the necessary quantity and quality of water and a healthy environment, conservation of ecosystems, preservation of landscape and prevention of economic damage.

Regulations for the Convention on International Trade in Endangered Species (CITES) were published for implementation in terms of the Biodiversity Act in March 2010, just prior to the CITES 15th Conference of the Parties held in Doha Qatar from 13 to 25 March 2010.

In addition, in reporting period was updated the legislation in different collateral sectors: agriculture, waters, forestry, fishery, hunting etc.

3.1.3. Institutional framework

The **institutional environment** for biodiversity has not changed substantially in the last five years. As it was described in Fourth National Report the ”strong institutional instability (at an organizational level, including environmental structures) also reflected at an individual level” and ”Capacity of institutions to attract financial resources is insufficiently developed” are still current issues. Despite the fact that a National Agency for Protected Areas was created in 2008, in order to support and to coordinate the management of protected areas and to attract financial resources for them, in 2009 this one was dissolved due to financial crisis. All tasks of this agency were taken by the Biodiversity Directorate from the Ministry of Environment. In addition, by decision of Government to cut off the salaries and also to blocking the new employment for entire public sector taken in 2010, conduct to the leaving of employees from public institutions and consequently weakening of institutional system.

Nevertheless, Romania has a set of public sector institutions that are mandated with the conservation and management of biodiversity, including:

- **Ministry of Environment and Climate Change** which is in charge to drafting, updating and coordinating the National Strategy and Action Plan for biodiversity conservation in order to regulate the biodiversity and nature protection sector by developing and approval of the relevant legislation. In this mandate Ministry of Environment and Climate Changes act through **Directorate for Sustainable Development and Nature Protection**[2] **(DSDNP)**. It fulfils its mandate through formulating, coordinating and monitoring the implementation of national environmental policies, programmes and legislation, and through undertaking appropriate research. DSDNP coordinate and follow the correct transposition and implementation of EU Directives, Regulation and Decisions on nature sector. Also DSDNP play a role in coordinator of the management structures of protected areas, and checking management plans and drafting legislation for approval of them.
- **Danube Delta Biosphere Reserve Administration** (DDBRA), which was established in terms of the Danube Delta Biosphere Reserve Act as a management authority mandated to conserve, protect, regulate, control and manage the biggest and most important protected area from Romania. DDBRA is single protected areas administration in direct subordination of MECC.
- **National Environment Protection Agency (NEPA)** is national institution in charge with implementation of environment policy. His mandate is to coordinating and monitoring of implementation of environment legislation in sector of nature conservation and biodiversity. The main tasks of NEPA are designing and hosting the databases designated for biodiversity and preparing the reports for international organization. Also, NEPA is responsible for annual reporting of Common Database of Designated Areas.
- **Local Environment Protection Agencies**, for each of Romanian's 42 counties and Bucharest. Their mandate is to coordinate the environment activities at local level by running the procedure of strategic environmental assessment, environmental impact assessment and appropriate assessment for plans, programs, projects, etc. which can have a negative impact on protected areas and biodiversity and implementation of nature conservation legislation at local level. Also, LEPAs have management attributions for protected areas without custodians or administrators.
- **National Environment Guard**, it is a public institution in charge to control the application and implementation of environmental legislation. In field of biodiversity his mandate is to control:
    - ✓ of any activity's compliance (including plans, projects etc.) with legislation regarding protected areas, conservation of natural habitats, flora and fauna and aquaculture;
    - ✓ the compliance of activities with the conditions from the environment permit;
    - ✓ the activities with impact on the natural habitat areas, conservation of ecosystems, flora, wildlife and aquaculture;
    - ✓ the compliance of management measures taken in order to maintaining or restoring of some terrestrial and aquatic surfaces, with particular emphasis Danube Delta Biosphere Reserve

[2] Note: the name of institution, directorate and rules of functioning were changed few times in reporting period.

- ✓ the activities of capturing, harvesting, purchasing and trade of wild flora and fauna on the domestic and foreign markets;
- **Local government (municipalities)**, which mandate for management (including designation) of protected areas of local interest.

Beside this, one of the most important achievements of the current reporting period is the strengthening of the administrative system in Natura 2000 sites, resulting from establishment of management structures. According to Romanian's legislation the management of protected areas is outsourced (externalized) to custodians for small sized protected areas and administrators for large protected areas (e.g. national parks, national parks and others). These custodians could be public institutions and companies, universities, research institutes, NGOs etc. Their mandate is mainly to assure the management of protected areas, establish the rules and drafting management plans in agreement to local stakeholders and conservation objectives of each protected area. Currently are signed 329 agreements for protected areas management. Based on these agreements in current reporting period has started an intensive work on drafting management plans, for most of the protected areas being first management plan.

In addition, a number of other organs of state have a direct role in managing natural resources, and thus impact on biodiversity, including:

- **Romania's Waters**, with mandate for formulation and interpretation of policy governing the water sector, especially by managing the water bodies and associated infrastructure (e.g. artificial lakes, flood prevention dikes, canals etc.). Also, Romanian's Waters manages the infrastructure for hydrological surveillance and monitoring of water quality, including monitoring of species and habitats associated with water.
- **National Forest Administration – Romsilva (RNP – Romsilva)**, with mandate for managing the public forest property according to rules of forest management and norms of forest regime. Also, under subordination of RNP – Romsilva there are administrations for 23 national and natural parks, being in this respect the most important administrator of protected areas, especially in areas where state property have significant percentage.
- **Ministry of Agriculture and Rural Development**, as institution responsible for coordination of agriculture sector, have also a mandate in relation to biodiversity, through making policy for protection of conservation and/or sustainable use of species and habitats associated with agriculture activities.
- **Department of Water, Forestry and Fishery**, created in 2013 by reorganizing the Government, is central public institution with responsibilities for coordination of water, forest and fishery being in charge with making policies and strategies in these sectors. All these sectors are direct and indirect connections with biodiversity conservation and assure of favorable status of conservation for species and habitats.
- The most active public research institutes on biodiversity issues are: Forestry Research and Management Institute, Danube Delta National Institute for Research and Development, National Institute for Biology, "Grigore Antipa" National Museum of Natural History, other universities.

Key **intergovernmental structures** relevant to biodiversity include:

- **The Technical Consultative Committee for Rural Development, Agriculture and Fishery**, which bring together all relevant institution and key stakeholders in order to draft and approve the National Program for Rural Development 2014-2020, document which have also measures and financial support for maintaining some species and habitats associated to agriculture lands.
- **The National Infrastructure for Spatial Information Council (INIS)**, it is intergovernmental structure established in order to ensuring aligned implementation of EU INSPIRE Directive (Directive 2007/2/CE).
- In addition, according to legislation on strategically environmental assessment (SEA), for each major program or strategy are established an intergovernmental structure for environmental impact assessment.

Non-Governmental Organizations (NGOs) play a vital role in the biodiversity sector in Romania, including through corporate funding which would not be possible for government to access. NGOs are able to innovate and be flexible, and often work in partnership with the public sector. Most of the relevant NGO's are associate in a common platform named Coaliția Natura 2000 (The Natura 2000 Coalition). Some of the key biodiversity-related NGOs active in Romania include:

- Milvus Group;
- Romanian Hunting Association, affiliated with FACE
- Romanian Ornithological Society (SOR) affiliated with Bird Life International;
- World Wide Fund for Nature – Danube and Carpathians Programme;
- Local IUCN (International Union for Conservation of Nature) members (Earth Voice, UNESCO Pro Natura and Exploratorii Reșița).

From 2013 Fauna and Flora International has an active presence in Romania, being involved in a LIFE+ project in cooperation with the Ministry of Environment and Climate Change, Romanian Gendarmerie and Zarand Association

3.1.4. Financing nature conservation in 2007-2013

Biodiversity conservation is mainly funded via different EU funds and state budget, but also from other sources: Swiss Funds, Norwegian Funds. Romania has completed the Prioritized Action Framework for Natura 2000 network. Also, recently Romania has signed the Partnership Agreement with the European Commission for the period 2014 – 2020. Since 2007, the EU has significantly increased funding for biodiversity funding.
Another modification with respect to the previous reporting period was a significant increase in the amount of financial resources allocated to biodiversity conservation. Biodiversity conservation measures have been financed from the following programs and funds:
• Rural Development Programme
• Operational Programme Environment
• Operational Programme Fisheries
• LIFE + Programme.

3.2. Areas of significant progress in the last five years

Significant progress is achieved in the implementation of the national targets for biodiversity, objectives of the Convention on Biological Diversity and the Strategic Plan for Biodiversity 2011–2020, such as:

- Expanding the National Ecological Network of protected areas including Natura 2000 sites and improving their management;
- Improving the scientific basis and monitoring of biodiversity, protection of species and habitats;
- First national assessment of conservation status of species and habitats of EU interest, which provides a comprehensive database of wild fauna and flora in Romania (including distribution and range maps and status of conservation) ;
- Support and recovery of species and habitats;

Reintroduction of extinct species (*Bisonus bonasus*, *Castor fiber*), etc. Five exemplars of *Bisonus bonasus* were reintroduced into wilderness. This species was considered extinct in wilderness and the reintroduction process was a long process that started in 2003 and was materialized in 2012. The chosen location is a remote place of 5.000 ha in Chițele area inside of Vânători Neamț Natural Park. Each exemplar has a radio-colar, and already there are collected data related to habitat usage and movement within the territory. Also, the preparing steps for reintroduction of *Bisonus bonasus* in another location (Muntele Mic - Țarcu) started and the reintroduction is planned to be materialized in 2014.

For Castor fiber, species reintroduced in early 2000s, the monitoring process is on-going. Currently the habitat used by this species was enlarged and several Natura 2000 sites has been designated along Olt, Mureș and Ialomița rivers.

Protected areas of national interest

At the time when the new protected areas law was adopted in 2000, the provisions for designation of new protected areas and IUCN categories become available facts which made the process of designation very clear and easy to understand. This has resulted in a very dynamic process of designation, with more than 120 new protected areas, included in all IUCN categories. This process was decreasing in late 2000's, mainly because entering into force of Natura 2000 which became first priority, but also because changing in protected areas law, done in 2007 and in land property regime, done in 2005.

Nevertheless, this period were designated three protected areas of national interest: Cefa Natural Park (category V), Prundu cu Păsări Island and Ceaplace Island (both inside Danube Delta Biosphere Reserve and category Ia). All these protected areas were results of 2 conservation projects. The total of national protected areas declared by Romania are: Danube Delta Biosphere Reserve; 13 national parks; 15 natural parks, out of which two geo-parks; 925 scientific reserves, natural reserves and natural monuments.

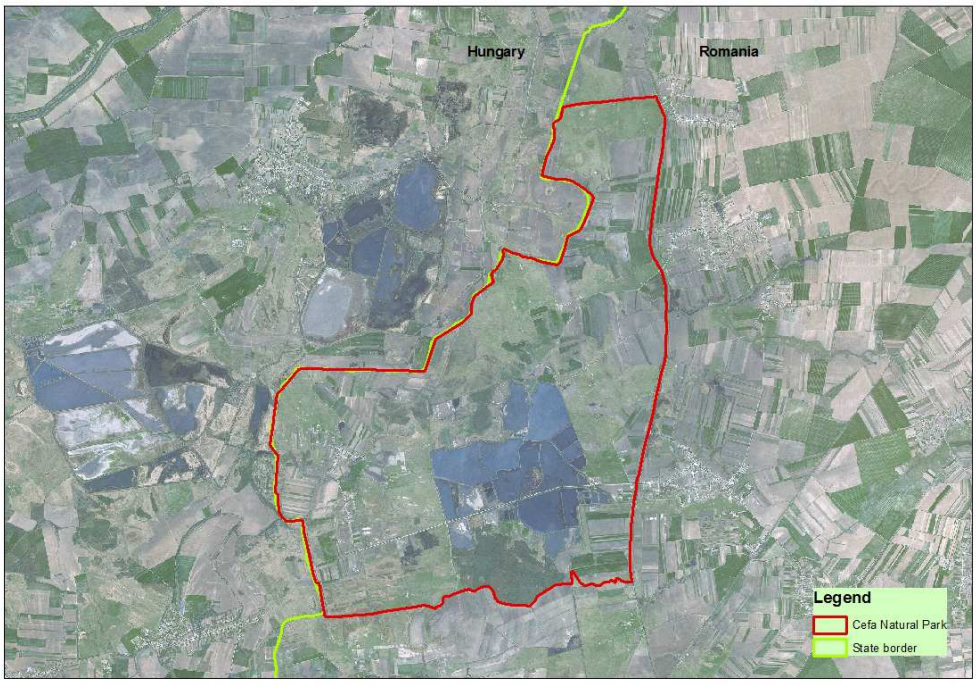


Figure no. 04. Cefa Natural Park

Natura 2000 network

As a Member State of the European Union, Romania has to establish and strength the Natura 2000 network on the Romanian territory (Natura 2000 areas cover 22.7% of Romanian territory, 383 sites of community importance - SCI and 148 special protection areas - SPA being designated at the national level).

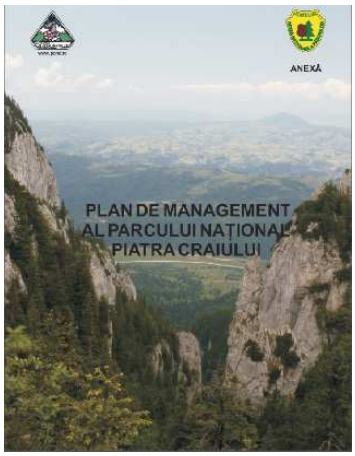
Improving the management of protected areas

One of the most important achievements of the current reporting period is the strengthening of the management system in Natura 2000 sites. Even if capacity of public authorities are decreasing, especially in term of staff, the management of protected areas has been improved by involving the administrators and custodians. These are represented by different stakeholders, and have obligation to ensure the management of protected areas according to legislation and draft management plans. At the end of current reporting period the MECC had signed 43 contracts and 289 custodian conventions for administration of protected areas with different custodians and administrators.

Management plans for protected areas and Natura 2000 sites

In line with the EOG 57/2007 on nature conservation, a management plan is the basis documents for conservation planning in Romania's protected areas. The plan is written for a 5-year period, and have to be drafted in 2 years (for national and natural parks) and one year (for rest of protected areas), from starting administration. The management plans are obligatory for all categories of protected

areas. In the cases when a Natura 2000 site overlaps with one or more category of protected areas (for ex. National Park and Site of Community Importance) the management has to reflect the most restrictive category.



Currently 11 management plans were adopted (for natural parks Grădiștea Muncelului – Cioclovina, Iron Gates, Bucegi and Small Island of Brăila, national parks Călimani, Măcinului Mountains and Piatra Craiului, natural reserves Muzeul Trovanților and Rezervația de orbeți de la Apahida, and Natura 2000 sites Plopeni and Lacurile de acumulare Buhuși-Bacău-Bereşti). The management plans of protected areas of national interest included also management measures for Natura 2000 sites that are overlapped.

Through EU Structural funds for 2007-2013 period, 240 management plans are to be developed by the end of 2015. Currently the projects cover producing the management plans for 272 protected areas, more than target indicator, especially due to overlapping of different categories of protected areas. These has to be produced by administrators or custodians of protected areas.
Unfortunately this is the most problematic issue in the management of protected areas and drafting the management plans mainly because of the overlapped protected areas have different borders (see fig no. 05).

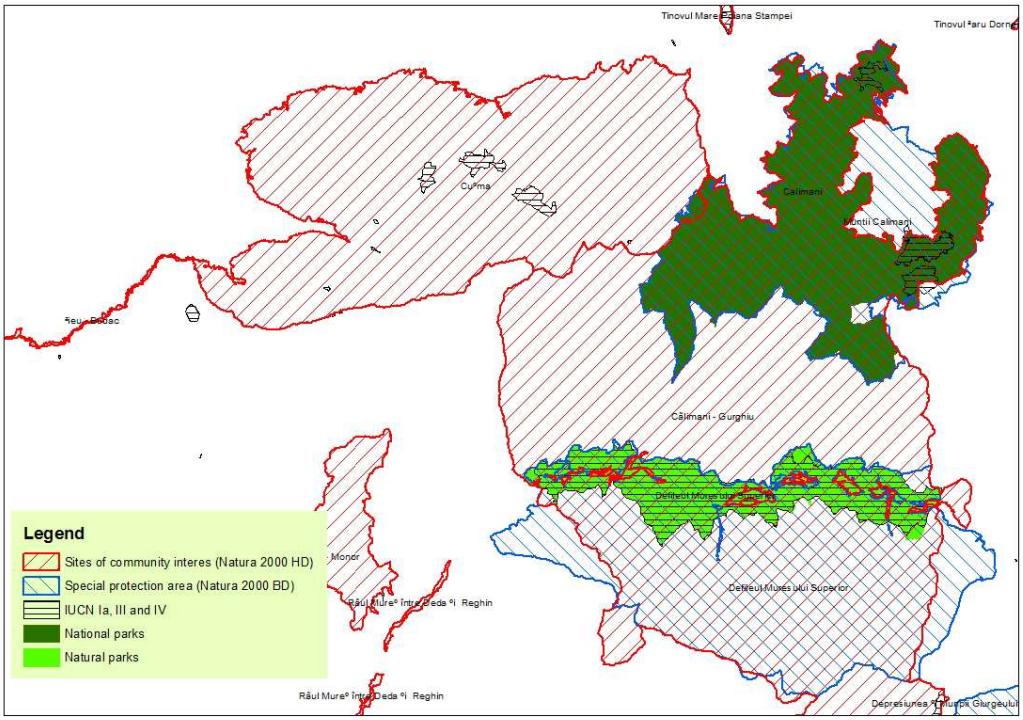


Fig. no. 05. Example of overlapping for different categories of protected areas

This problematic issue generate difficulties in elaboration of management plans and in their approval.

In order to fulfil the obligations arising from the Habitats and Birds Directives, in period 2010-2012 a new project "Integrated Management System and Awareness of Natura 2000 in Romania" was developed. In this project new guidelines for management plans for protected areas were elaborated. These new guidelines reflect the characteristics of all protected area categories in Romania and focus on conservation measures for species and habitats. Another task of this project was the development of an IT application for management plans. The purpose of this application is to centralize all management plans while using the same template. The IT application and the guidelines were tested by developing 9 management plans for 9 Natura 2000 sites (3 SPAs and 6 SCIs). The sites were selected from a list of Natura 2000 sites without any management measure or management institution in place. The basic structure of management plan is:

Introduction (short description of the management plan; short description of site; legal framework of site and of management plan; the management plan development process);

- The site description (general information; abiotic environment; biotic environment; socio-economic and cultural information; activities with the potential impact; pressure and threats);
- Assessment of the conservation status of species and habitat types;
- The purpose and objectives of the Management Plan (the purpose of the management plan; overall objective; general measures; specific measures and activities);
- The implementation activity plan;
- Plan of the monitoring of activities;
- Communication, education and awareness raising;
- Bibliography and References;
- Annexes (Natura 2000 Standard Data Form, Maps).

Action plans for species

There are several action plan for species in the development stage and the action plan for bats has already been approved in 2013. Also, there has been approved the action plan for *Pelecanus crispus*, *Aquila pomarina*.

Marine protected areas

The network of marine protected areas was significantly increased in 2011, by designation of two Sites of Community Interest and enlargement of another one (Vama Veche – 2 Mai). Nevertheless, the marine protected areas are located mainly in shore areas, with only one site located off-shore.

Fig. no. 06

Education and raising public awareness

Target group oriented communication is of central importance to achieving the biodiversity conservation targets and successfully implementing a strategy as complex and ambitious as the National Strategy on Biological Diversity.

3.3. Key challenges

Key challenges witnessed after IV National Report

The start of EU membership has imposed new conditions in the application of legislation and policies related to biodiversity. There have been a number of difficulties and challenges associated with:

- Lack of preparation and real work on mapping of the areas of the European ecological network Natura 2000 in the pre-accession period; missing management plans for a number of nature parks; welded systemic problems in approving

investment projects and plans with gaps against the requirements of environmental legislation, especially along the Black Sea coast.
- Lack of environmental investment projects of municipalities and other potential beneficiaries in the biodiversity sector under the Operational Programme 'Environment 2007–2013' and a large delay in the launch and implementation of the program funds.
- Major policy gaps on climate change/lack of a National allocation plan for allocation of allowances for greenhouse gas emissions trading for participation of Romania in the European greenhouse gas emission allowance trading scheme, lack of a national scheme for "green" investments, lack of an administrative unit responsible for climate change policy.

Obstacles to implementation

The achievements above notwithstanding, several challenges and obstacles remain. These include:

▫ Bringing the biodiversity sector as a whole along with the shift in messaging developed through the Making the Case project (see earlier discussion on communicating the benefits of biodiversity). In many cases, organisations and individuals in the sector revert to "doom and gloom" messaging, which tends to result in apathy rather than action on the part of the target audience.

▫ Limited human capacity, for example to work more systematically with municipalities and the agricultural sector. As a range of key strategies and policy tools are due for revision, it also becomes a challenge to find sufficient human capacity and time to devote to these revisions (e.g. NBSAP, National Biodiversity Framework, National Protected Area Expansion Strategy, list of threatened ecosystems)

▫ Limited financial resources, for example for protected area management, integration of biodiversity in land-use planning and decision making, mainstreaming of biodiversity in a wider range of sectors). The UNDP's recently initiated Biodiversity and Finance Initiative (BIOFIN), in which South Africa is participating, may help to quantify and address this issue.

4. Q8: How effectively has biodiversity been mainstreamed into relevant sectoral and cross-sectoral strategies, plans and programmes?

4.1. Tools used for mainstreaming

Several practical tools have supported Romania's mainstreaming work discussed above. The following ones stand out in particular:

Protected areas maps

Protected areas maps are probably one of the key element which underpin much of Romania's biodiversity mainstreaming work. Having a short experience in using maps, these become more popular and useful in recent years.

Key characteristics of the protected area maps include that they are based on best available documentation, which supported designation of protected areas. Also, almost all protected areas have maps drafted in GIS (geographical information system), being easy to use for all stakeholders.

The receiving environment for these maps is often in flux, as policies, laws and institutional arrangements in various sectors change and evolve. It has proved tremendously powerful to have a stable, agreed map of biodiversity priority areas that the biodiversity sector can feed into a range of multi-sectoral planning and decision-making processes.

From technical and juridical point of view, there are some differences related to protected areas maps. So, for protected areas of national interest the maps were drawn using old documentations of protected area. Unfortunately some documentation were missing and process for drawing the maps was difficult, and requested a lot of consultation. Further, few protected areas designated long time ago (e.g. 50's-60's) were not identified in the field, so most probably they are lost. As result of mapping was identified the difference between surface from designation laws and real surfaces. This issue was not accepted by some institution, and not solved yet from legal point of view. Nevertheless, it is a mutual acceptance of these maps. On the other hand, the maps of the Natura 2000 sites have officially agreed by designation laws.

It has proved tremendously powerful to have a clear and agreed map of protected areas that the biodiversity sector can feed into a range of multi-sectoral planning and decision-making processes.

Online access to information

Making the maps freely available online is essential for facilitating their use and uptake. The protected area section of MECC web portal provide access to different information. Also, there is implemented a viewer section which show protected areas with other support maps (e.g. administrative units borders, water bodies etc.) and background images (e.g. topographical maps, satellite images etc.).

Scientific data related to species and habitats of EU interest, are available through a online application accessible to everyone on specific procedure.

Offline access to information

Many stakeholders, including public institution, need information to use in their project. For this reason, the protected area maps are available for downloading without any restriction and free of charge.

4.2. Synergies with other conventions

Convention on Wetlands of International Importance (Ramsar Convention)

Romania is a contracting party to the Ramsar Convention. Nineteen (19) Ramsar sites have been designated in Romania, fourteen of them in the last five years. Nineteen of

these Ramsar sites are formally protected in terms of the Protected Areas Act, mostly in provincial nature reserves. All Romania's Ramsar sites are overlapping with other protected areas. Of the 19 Ramsar sites, one is peat bog, and rest of them are large aquatic ecosystems. See Question 7 for more on the management of Romania's Ramsar sites.

4.3. Transboundary co-operation

Romania has established good relations in the field of nature protection and is involved in a number of bilateral and trilateral agreements with the neighboring states: Romanian – Hungary Joint Commission, Trilateral Agreement Romania – Moldova – Ukraine.

PART III: PROGRESS TOWARDS THE 2020 AICHI BIODIVERSITY TARGETS AND CONTRIBUTIONS TO THE RELEVANT 2015 TARGETS OF THE MILLENNIUM DEVELOPMENT GOALS

1. Q10: What progress has been made by your country towards the implementation of the Strategic Plan for Biodiversity 2011-2020 and its Aichi Biodiversity Targets?

1.1. Target 1: by 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably

Work has been carried out in Romania in many areas to increase public awareness of the values of the biological diversity. Most of the European funds projects have a raising awareness component. Additionally, Romania has implemented in 2010 – 2013 a dedicated project, "The national campaign to promote the awareness and the importance of Biodiversity through Natura 2000 Network in Romania" with the objective of raising awareness of the importance of biodiversity and Natura 2000 network in Romania.

1.2. Target 2: by 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems

The Direction no. 2 of Romanian NBSAP 2014 – 2020 aims to "Integrate the biodiversity conservation policy into all the sectorial policies by 2020". In order to achieve this goal the Strategic Objective D "the sustainable use of biological diversity components" has the overall goal to integrate biodiversity in other sectorial policies. Also, biodiversity has been duly integrated in the Partnership Agreement 2014 – 2020 with the EU and will be taken into account in the preparation and development of the Operational Programs.

1.3. Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions

In order to achieve this target the Strategic Objective D "the sustainable use of biological diversity components" has the overall goal to integrate biodiversity in other sectorial policies. One of the operational objectives is the "Identification and inclusion of incentives for the sustainable use of biodiversity components and removal of those with a negative impact". There are no specific national indicators developed to evaluate overall realization of the Target 3. Incentives related to Target 3 can be viewed as part of nature protection policy itself but as its integration into sectoral policies. Financial compensations for Natura 2000 sites on a voluntary basis and EU payments for management of the biologically valuable grasslands and Natura 2000 forests for land owners are part of activities dedicated for the Target 3.

1.4. Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

Strategic documents deals with sustainable production and consumption only to some extent but the impact of resource use on biodiversity and ecosystem services is not yet covered as it should. The implementation of Aichi Target 4 thus appears to be one of the biggest gaps in the present biodiversity conservation at the national level as it is not sufficiently covered by national strategic documents.

1.5. Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

As a MS of the EU, Romania has to establish and strength the Natura 2000 network on the Romanian territory (Natura 2000 areas cover 22.7% of Romanian territory, 383 sites of community importance - SCI and 148 special protection areas - SPA being designated at the national level). Other national protected areas declared by Romania are: Danube Delta Biosphere Reserve; 13 national parks; 15 natural parks, out of which two geo-parks; 925 scientific reserves, natural reserves and natural monuments. Also, according to the national monitoring report 105 out of 166 habitats (63%) and 108 out of 57 species (19%) are in a favorable conservation status. Current

funds (horizon 2014-2020) will contribute significantly to the establishment of more - cohesive - natural landscapes, and to prevent further fragmentation and natural destruction of natural habitats.

1.6. Target 6: By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

The marine environment of the Black Sea has been the focus of environmental policies (particularly in the Danube Basin) for the past 20 years and has experienced a slow but continuous recovery:

- reduced nutrient inputs has resulted in a reduction of algal bloom but this phenomena is still present;
- benthic species biodiversity has improved, increasing from 20 (in the 1990s) to almost 40 at present;
- zooplankton has been recovered particularly in offshore area, but is still vulnerable in the shallow;
- fish fauna is still in a critical situation (sardines, blue mackerel, bonito fish etc.) even if the Romanian fishing capacity decreased tremendous after 1990.

Romania aims to support the fishing sector and related activities in reducing its environmental impact in line with the reformed Common Fisheries Policy. The use of selective fishing tools, gears and methods will contribute to the preservation of the aquatic habitat, accompanied by measures to strengthen the administrative capacity (especially activities regarding data collection, inspection and control in order to deter IUU fishing and to protect the environment).

Even if Romanian fisheries produces a low number of unwanted catches and discards, in order to further diminish the unwanted catches, measures to support sustainable fishing activities are still needed.

1.7. Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

In Romania, forest management is based on the sustainable management principles established by the Forestry Law – Law No. 46/ 2008 as subsequently amended, as follows:
a) Promote practices that ensure the sustainable management of forests;
b) Ensure the integrity of the forest stock and forest permanence;
c) Increase forest coverage;
d) Stabilize long-term forestry policies;
e) Ensure the appropriate level of legal, institutional and operational continuity in forest management;

f) Primordiality of ecological objectives in forestry;
g) Enhanced role of forestry in rural development;
h) Promote the fundamental natural forest types and ensure the biological diversity of forests;
i) Harmonise forestry relations with other areas of activity;
j) Support to the forest owners and incentives for their association;
k) Prevent irreversible degradation of the forests caused by human action and destabilizing environmental factors.

53% of the Romanian forests (Total area of the Romanian national forest is 6,519,470 ha and represents 27.7% of the country - National Institute of Statistics) are protected and different forest management regimes are applied according to their function. Measures need to be developed to enhance the value of forest protection function. Also, measures for the integrated management of mountain forests and watercourses need to be established (torrents correction, landslides mitigation, avoiding clogging of water course). In the same vein is needed to use sustainable forest management (SFM) approaches for sequestering carbon, such as sustainable management of production forests, sustainable management of protection forests - protected areas, and afforestation.
Out of 2,4 million ha of the High Nature Value (HNV) grassland identified, 1,2 million ha have been protected under the current Rural Development program by granting financial compensation to farmers who undertook commitments to apply management requirements. Besides HNV grassland protection, agricultural land management measures were designed and implemented with European funds financially support, covering an area of aprox. 84,000 ha, to protect a number of 4 threatened farmland bird species and 4 subspecies of butterflies.
With regard to aquaculture, both the preservation of aquatic eco-systems and the application of safety measures to prevent escapes from farms that could affect wild species biodiversity are taken into consideration.

1.8. Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

The extension and modernization of the water and wastewater infrastructure continue to be one of the most important priorities in improving Romanian living standards, especially in rural areas. Waste management is still far short of European standards with low levels of re-use, recycling and energy recovery. Concerning water pollution from agriculture, the use of agricultural fertilisers and pesticides decreased, leading to an improvement in the quality of the surface waters. However, given the levels of nitrates accumulated (Romania's territory designated as Nitrate Vulnerable Zones, increased from 58% to 100% of the territory), particularly in groundwater, further soil and water conservation measures will be needed, particularly by implementing good agricultural practices. This will be particularly important in the context of the transition to more intensive agriculture, agricultural practices underway in some parts of the sector foreseen in the next period.

1.9. Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

There is no clear national record of the number of invasive species, with the only summary of data and information provided to the European database, the Pan-European Inventory of Alien Species – DAISE) on a voluntary basis, by the researchers. According to the data in this database, the number of invasive species in different taxonomic groups is as follows: (18 species of fungi, 3 chromista, 2 bryophyte species, 275 vascular plant species, 7 species of Araneae, 2 arthropod species, 132 species of insects, 2 species of birds, 7 species of mammals and 1 species of reptiles.

Romania is trying to finalise this year a national black list of invasive species, through a project in partnership with Fribourg University form Switzerland.

At the national level, a number of research programs have been conducted, among which Invasive Species Monitoring and Early Detection System – 2010 and Identification of Alien Invasive and Potentially Invasive Plants in Romania and Assessment of Their Impact on Natural and Semi-Natural Habitats in View of Initiating Prevention and Control Measures and the most recent - Alien plants in Danube Delta; risk assessment and management – which was finalized in 2011.

The National Biodiversity Strategy and Action Plan 2014 – 2020 identifies the following strategic and operational objectives directly related to IAS:
Strategic Objective F – Control of Invasive Species
Operational Objectives for the Control of Invasive Species:
1. Prevent the intentional and unintentional introduction of alien species;
2. Early detection and identification of new potential invaders before penetrating the national territory;
3. Early response to the penetration of alien invasive species;
4. Management of naturalised species and of the expanding area thereof in view of eradication, limitation and control.
In regard to alien species, the Romanian legislation is still in an incipient stage. There are, however, some bases to include IAS in a suitable legal framework, which were created under the ratification of international treaties and agreements, as well as under internal regulations. Order of the Minister of Environment No. 979/2009 on the introduction of alien species, intervention on invasive species, and the re-introduction of indigenous species provided in Appendices No. 4A and 4B to GO No. 57/ 2007 on the regime of natural protected areas, the conservation of natural habitats, wild flora and fauna, as amended, was adopted in 2009.

1.10. Target 10: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

The objective no. 7 from the NBSAP 2014 – 2020 "Reduce pressures due to climate change, pollution and soil erosion" is dedicated to mitigation of climate change. Also, Romania has adopted The National Climate Change Strategy for 2013-2020 in July 2013. However, Romanian territorial waters do not contain coral reefs or similar ecosystems and the target is of less relevance to the country.

1.11. Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascape's.

As a MS of the EU, Romania has to establish and strength the Natura 2000 network on the Romanian territory (Natura 2000 areas cover 22.7% of Romanian territory, 383 sites of community importance - SCI and 148 special protection areas - SPA being designated at the national level). Other national protected areas declared by Romania are: Danube Delta Biosphere Reserve; 13 national parks; 15 natural parks, out of which two geo-parks; 925 scientific reserves, natural reserves and natural monuments.

At this moment Romania has 8 natural protected areas (SCIs and SPAs) which covers approximatively 33% of national coastal and marine waters.

1.12. Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

The implementation of activities under this objective is in line with the Direction for action 1 "Halt the decline of biological diversity in genetic resources, species, ecosystems and landscape and restore degraded systems by 2020" from NBSAP 2014 - 2020.
Red lists are an accepted instrument to validate the threat status over time. The Romanian red lists includes 374 threatened species, 157 species are critically endangered, 113 species are critically endangered and 104 species are vulnerable.

Among vertebrates, there were identified 191 species of fish (9 endangered species), 20 species of amphibians (9 endangered species), 30 species of reptiles (6 endangered species), 364 species of birds (including 312 migratory species) and 102 species of mammals.
Regarding the results of the Article 17 report of the Habitat Directive and Article 12 of the Bird Directive see Part 1.1. In addition to the species of EU interest, a number of other species are also protected at a national level.

1.13. Target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

The implementation of activities under this target is in line with the Strategic Objective "Sustainable use of biological diversity components" from NBSAP 2014 - 2020. *Ex situ* conservation for agriculture in Romania is provided by the Gene Bank in Suceava, that has acquired genetic resources considered valuable for agriculture, under governmental programs and bilateral agreements with different countries. Through the Gene Bank in Suceava, Romania participates with strands and hybrids of Romanian crop plants in community programs for the conservation of genetic resources. Before 1989 there were a number of institutions nationally with the necessary facilities for the conservation of various native breeds and strands, but nowadays, some 90% thereof have been closed down, with the irretrievable loss of many native breeds and strands.

In a disorganised fashion, and only thanks to the preservation of traditions, Romanian farmers have expressed the willingness to practice *on farm* conservation, for the products and services they provide.

1.14. Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

The implementation of activities under this target is in line with the Strategic Objectives "Sustainable use of biological diversity components" and "Providing Consistency and Efficient Management of the National Protected Area Network" from NBSAP 2014 -2020.
So far there has been no assessment at national level of the impact of biodiversity loss and the loss of ecosystem services. Nevertheless, several EU funded projects were implemented in this field. For example, Fundatia ADEPT's work in the **Târnava Mare** area won the prize for the best project in Europe for bringing **Socio-Economic Benefits to farmers in protected Areas (Natura 2000 sites).** Fundatia ADEPT's project as 'an impressive example of Natura 2000 providing economic growth and sustainable livelihoods in rural areas. The project enables farmers to make a better living by working sustainably on High Nature Value farmland, while also preserving a unique landscape with rich biodiversity. Thanks to the project, 2300 farming families in the region generate income of more than €2.5 million annually, and similar ideas are now being applied in other parts of Romania'. Also, a Norwegian funds funded project regarding the assessment of ecosystem services was already approved in 2013 and it is expected to start at the end of 2014. The objective of this project is to realize the national mapping and biophysical assessment of selected ecosystems and ecosystem services (ES) in accordance with the *Mapping and Assessment of*

Ecosystems and their Services (MAES) process ongoing at the level of the European Union in order to achieve Phase 1 (biophysical baseline mapping and assessment of the state of major ecosystems and of defined ES) of Target 2.
Regarding the results of the Article 17 report of the Habitat Directive and Article 12 of the Bird Directive see Part 1.1.

1.15. Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

It is a reality that a region with a high climate change impact can become moderately vulnerable if it is well adapted to the anticipated climate changes. For this reason action concerning adaptation to climate change will be developed in the framework of The National Climate Change Strategy for 2013-2020, adopted in July 2013 and to be complemented by the National Action Plan for Climate Change. The strategy encompasses a comprehensive overview and proposes key measures and actions for various sectors falling under mitigation and adaptation objectives and has two main directions for action:

- Reduction of greenhouse gas emissions and depletion of the soil carbon stock;
- Adaptation to the negative effects of climate change through actions at national and sectoral level.

Adaptation to climate change will be also addressed in agricultural sector by a range of actions related to improve knowledge transfer and information on: energy efficiency in agricultural equipment, adaptation tools, including environmentally sustainable new practices, climate change risks information.

1.16. Target 16: By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

Romania has signed the Nagoya Protocol in 2011 and its ratification is expected by the end of 2014 or in 2015.

1.17. Target 17: By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.

Romania has adopted the NBSAP 2014 – 2020 in 2013. For further information about the NBSAP, see Part II of the report.

1.18. Target 18: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

The implementation of activities under this target is in line with the Strategic Objective H "Support and promotion of traditional knowledge, innovation and practices" from NBSAP 2014 -2020.

Romania has not implemented Article 8 j as such. However, certain aspects related to traditions and, in particular, to traditional knowledge on food are now covered by some regulations developed by the Ministry of Agriculture and Sustainable Development and the National Animal Health and Food Safety Authority. Unfortunately, these regulations make no reference to the protection of traditional knowledge inherited by the local communities from their ancestors, but require compliance with the community legislation on food, without providing specific amendments on practicing traditions and traditional knowledge.
We may stress that contemporary Romanian society has preserved valuable traditional knowledge and practices that underpin the modern branches of biology, pharmacy, medicine, agriculture, livestock management, ethnology, physiology, ecology.

1.19. Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

The implementation of activities under this target is in line with the Strategic Objective I "Development of scientific research and promotion of technology transfer" from NBSAP 2014 -2020.

Romanian research is currently supported by the National Research, Development and Innovation Plan II, for 2007-2013, under Government Decision No. 475/ 2007 amended by Government Decision No. 705/ 2008, but the latter does not include a special direction dedicated to biodiversity conservation. However, there have been a number of projects developed under national and international programs which do not follow a given strategic line.

In the National Research, Development and Innovation Strategy for 2007-2013, biodiversity conservation and reconstruction are some of the priorities for public investment in research and development.

The priority areas of the National Research, Development and Innovation Strategy for 2007-2013 included the Environment. The objectives for this area look at overall

sustainable development and specifically include requirements for the strengthening and conservation of biodiversity, as follows:

- Establishment of cleaner product and process technologies, especially applicable to transport and energy generation, and of economic and social implementing mechanisms;
- Establishment of new, efficient technologies for waste disposal, using the product lifecycle analysis in assessing the environmental impacts;
- Building of the scientific and technological support to the conservation, reconstruction and strengthening of biological and ecological diversity;
- Development of knowledge in land use development by pointing out the phenomena, the impacts of various policies and identifying approaches.

Also, in order to fulfill the EU reporting obligation related to the conservation status of species and habitats according to the Council Directive 2009/147/EC *on the conservation of wild birds (Birds Directive)* and the Council Directive 92/43/EEC *on the conservation of natural habitats and of wild fauna and flora (Habitats Directive)*, Romania have two major projects ongoing: "Monitoring of status of conservation for species and habitats according to art. 17 of Habitats Directive" and "National monitoring system of bird species according to art. 12 of Birds Directive". Those are the first two comprehensive project at a national level regarding the species and habitats assessment and will be the base on which Romanian biodiversity knowledge will be built.

Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.

After Romania's accession to the EU, Post-Accession funds have become accessible, including, for biodiversity conservation, primarily funds from the EFRD under the SOP Environment – Priority Axis 4 and from the EFARD, through the PNDR. Other operational programs that may be used for infrastructure projects to preserve biodiversity include the ROP (e.g. the building of tourism infrastructure) and the SOP Transport (e.g. the construction of culverts, passages, tunnels, and etc. allowing fauna crossing). After accession, the access rate for biodiversity conservation from these funds was extremely low. For the SOP Environment, of a total allocation of about MEUR 24 for 2007 - 2008, only about MEUR 1 was used, but at the end of 2013 the rate of absorption has increased dramatically and all the money allocated has been spent. Under the PNDR, the agri -environment payments have become available (Measure 214), bringing direct benefits to biodiversity conservation through the good management of grazing meadows, the practice of traditional agriculture and maintenance of meadows of high natural value. One of the most important financial tools for the environment, and especially for biodiversity conservation, is the LIFE+

Programme of the European Commission. Another funding source is the Environment Fund. Currently, however, the amount of financing for biodiversity conservation projects and the management of protected natural areas is low. The non-governmental sector is very active and has the necessary expertise in biodiversity conservation, but is currently limited by the too strict rules for accessing the available funds (eligibility, reporting, co-financing, pre-financing of project activities, covering of non-eligible costs (VAT), etc. After accession, the large corporations and companies in Romania have become more careful about environmental problems, including aspects of biodiversity conservation, and developed and funded corporate social responsibility projects. Annually, several million EUR are invested in such projects that may become an important future source of funding biodiversity conservation projects. The banks have also become receptive to funding opportunities in the form of loans or guarantee for whoever accesses EU funding.

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ANNEXES AND APPENDICES

Annex I. Contact information for reporting party

Contracting Party	**ROMANIA**
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S U B M I S S I O N	
Signature of officer responsible for submitting national report	
Date of submission	

Process of preparing the national report

The report was prepared by the Ministry of Environment and Climate Change. In line with the Guidelines for the Fifth National Report, the report emphasises synthesis and analysis rather than detailed description, and does not repeat content that was covered in Fourth National Report.

The methodology used in preparing the report consisted in collecting all data included in public documents: strategies, sectoral and intersectoral programs, plans and action plans, legislation (laws, government decisions, ordinances, orders, decisions) and from studies (synthesis, reports, scientific publications, presentations at scientific meetings and symposia).

Specialists and decision-makers from central administration and institutions involved in the conservation and sustainable use of biodiversity were consulted.

More details were gathered from the Ministry of Foreign Affairs, National Environmental Protection Agency, Environmental Fund Administration, National Institute of Biology, Regional Environmental Agencies, Local Administration of Bucharest, Ministry of Agriculture and Rural Development, National Water Administration. Many thanks for all who contributed.

Annex II. List of institutions, organizations and individuals who provided information for the report

Institutions and organizations

Ministry of Foreign Affairs, National Environmental Protection Agency, Environmental Fund Administration, National Institute of Biology, Regional Environmental Agencies, Local Administration of Bucharest, Ministry of Agriculture and Rural Development, National Water Administration.

Specialists

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