

Romania

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Key Statistics

Terrestrial area (km ²)/% of EU-28*	238 369/5.5%
Marine waters (km ²)/% of EU-28	29 560/0.6%
Population density (p km ²)/% of EU-28*	84/73%
GDP per capita (€)/% of EU-28	7 391/28%
Land cover (CORINE land cover classes 2018)	AGR 57%, FOR 30%, ART 6%, OSN 5%, WET 3%
Biogeographical regions	ALP, BLS, CON, PAN, STE, MBLS
Number of HD Annex I habitats/%*	87/38%
Number of HD Annex II, IV and V species/%*	245/20%
Number of BD Annex I bird taxa/%*	104/59%
% HD UCS and decreasing habitats/ % unknown	7%/2%
% HD UCS and decreasing species/ % unknown	15%/9%
% breeding BD Annex I birds decreasing/% uncertain and unknown	?/?

* Excluding MAC and MMAC biogeographical regions.
Sources and codes. See Table 1.1.

26.1 The Natural History and Characteristics of Romania

Romania is located in central eastern Europe and has an ecological identity defined by the Carpathian Mountains (28% of the country), the Danube River (38% of its length is in Romania, including most of the Danube Delta), the Black Sea (5% of its total shoreline) and the Steppic biogeographical region (17% of the country). Romania is the only country in the EU with part of its territory in the Steppic biogeographical region. It has a varied topography, with about 48% comprising mountains, and 30% lowland plains, including the Danube

Delta. Its highest point is 2 544 m in the Făgăraş Mountains. The climate varies regionally, but is generally temperate continental.

Romania is the only EU country with territory in five European terrestrial biogeographical regions: Continental (53% of the country), Alpine (23%), Steppic (17%), Pannonian (6%) and Black Sea (1%) (Primack *et al.*, 2008). These have distinctive assemblages of species and habitats, which contribute to Romania's varied biodiversity. In terms of EU biodiversity, the Steppic and Black Sea bioregions are especially important, as they hold more unique species and habitats when compared to the Continental and Alpine bioregions, which are more widespread in Romania and Europe overall. The Steppic biogeographical region is located in south-east Romania and characterised by grasslands (with *Stipa* and other short grasses) and locally *Artemisia* steppe. The Black Sea bioregion includes the Danube Delta, the second largest delta in Europe, with huge expanses of reed (*Phragmites*), as well as a diverse range of other habitats (including 29 HD habitats) (Gâştescu and Ştiucă, 2008).

The country's natural conditions and habitats have been significantly changed by human interventions over millennia. Until relatively recently (i.e. the beginning of the nineteenth century), much of the natural forest was intact. The rest of the country had widespread distinctive traditional cultural landscapes and High Nature Value (HNV) farming systems (Hartel *et al.*, 2020). These include extensive semi-natural pastures (HNV type 1), mainly in the uplands, and small-scale mosaics of pastures, meadows, rotational arable crops, scrub, pastoral woodlands and orchards (HNV 2) (Page *et al.*, 2012). The original natural forests were more widely felled for timber and for agriculture, such that by the beginning of the twentieth century, forest cover was reduced to less than 25% of the country, and less than 10% in lower-lying regions (Primack *et al.*, 2008). From the early twentieth century, wetlands, such as within the Danube floodplain, underwent widespread conversion to agriculture (Habersack *et al.*, 2016; Tănăsescu and Constantinescu, 2020). During the communist era (1947–1989), the most important pressures on biodiversity were reforestation using native and non-native species (including coniferous species), agricultural expansion and intensification (nearly all in state or collective farms, except

in the mountains), conversion of the Danube floodplain into arable land (80% of wetlands were lost), construction of large-scale infrastructure projects (such as the Iron Gates I and II dams on the Danube), industrialisation and urbanisation. Because of its fertile soil, the steppe has mostly been converted to arable agriculture. Since 1990, the country's conversion to a market economy has led to other detrimental pressures on biodiversity, including uncontrolled urbanisation, illegal logging, poaching, and further widespread agricultural intensification, with abandonment of traditional agricultural practices (Ioja *et al.*, 2010, 2011). As further described later, habitats and species have also been impacted by the spread of invasive alien species (e.g. *Amorpha fruticosa*, *Ailanthus altissima*, *Ambrosia artemisiifolia*, *Lepomis gibbosus*, *Rapana venosa*, *Mnemiopsis leidyi*), hunting and fishing, persecution of some predators, and other pressures.

Despite the detrimental human impacts, Romania remains one of the most biodiverse countries in Europe as natural and semi-natural habitats still cover about 47% of the country, mostly comprising forests and pastures (especially in the Apuseni and Carpathian Mountains) and the Danube Delta (Popovici *et al.*, 2016). Of particular importance are Romania's forests, about 78% of which have a high degree of naturalness, with 840 km² (1.5%) of these pristine or quasi-pristine forests (National Forest Inventory of Romania 2013–2018).¹ It has been estimated that up to two-thirds of the virgin forests of Europe are located in Romania, mostly beech–fir–spruce and mountainous spruce forests in the Carpathians (Veen *et al.*, 2010). Such relatively large continuous areas of untouched primary forests are very rare in Europe. Furthermore, the country has a large proportion of the total area of some HD forest habitat types (e.g. 91V0 Dacian beech forests, 91X0* Dobrogean beech forests, and 91Y0 Dacian oak and hornbeam forests).²

The country also retains some of Europe's largest areas of traditionally managed grasslands, including hay meadows, and other forms of HNV farming (Page *et al.*, 2012; Dahlstrom *et al.*, 2013). The EEA estimated in 2012 that 36% (52 000 km²) of Romania's agricultural area still consisted of HNV farmland. However, this was based on 2006 CORINE land-use data, so the current area is likely to be significantly lower than this. The main types of remaining HNV farmland include upland semi-natural grasslands (HNV 1), such as semi-natural dry grasslands and scrubland facies on calcareous substrates with important orchid sites (6210*), mountain pastures with *Nardus* spp. (6230*) and mountain hay meadows (6520) (e.g. Brinkmann *et al.*, 2009). HNV type 2 mixed farming systems primarily remain in the Transylvanian basin and north-east, with scattered areas in the predominantly arable farmland elsewhere. They are important for their lowland hay meadows

(6510), but also their relatively high species richness and landscape diversity. In the south-east, along the Black Sea coast, the arable farmland supports large numbers of migrating and wintering waterbirds (HNV type 3), including the Red-breasted Goose (*Branta ruficollis*).

Romania also has almost 170 km² of wooded pastures, which is the largest national area of this biodiverse habitat in central eastern Europe, and the third largest in Europe (Plieninger *et al.*, 2015). These wooded pastures are important elements of the ecological and cultural identity of Romania and can contain high densities of large old trees (Hartel *et al.*, 2018).

These extensive areas of habitat are in turn able to support large populations of some species that are rare elsewhere in Europe. Most notably, Romania has the highest populations of large carnivores in Europe: Brown Bear (*Ursus arctos*), Wolf (*Canis lupus*) and Eurasian Lynx (*Lynx lynx*) (Popescu *et al.*, 2019). The huge and diverse habitats of the Danube Delta are especially important for their threatened fish species, including sturgeons (*Acipenser* spp.) and the globally Endangered Danube Salmon (*Hucho hucho*), and breeding, passage and wintering waterbirds, particularly wintering ducks and geese (Muntean, 2000). For example, the Delta holds two-thirds of the European breeding population of the Ferruginous Duck (*Aythya nyroca*) and about 10% of the Dalmatian Pelican (*Pelecanus crispus*) (BirdLife International, 2017), both of which are globally Near Threatened. The Delta and Black Sea coast are also important for other migrating birds, such as raptors, as it lies on one of the most important migration corridors for birds in Europe (the Via Pontica).

In the Steppic biogeographical region, the natural steppe vegetation (including HD habitat 62C0 – Ponto Sarmatic steppe) only remains in fragmented patches, mainly in protected areas such as the Macin Mountains National Park in the Dobrogea region (Sărbu *et al.*, 2009). These areas are of high importance for a number of steppe species, such as the Common Tortoise (*Testudo graeca*) and Marbled Polecat (*Vormela peregusna*), both of which have a globally Vulnerable threat status. The Romanian Hamster (*Mesocricetus newtoni*), which is Near Threatened globally, can be also found there, as well as on the arable lands of Dobrogea. Romania is a stronghold for the globally Endangered European Souselik (*Spermophilus citellus*), which inhabits most of the Steppic region and parts of the Continental and Pannonic regions.

26.2 The Status of Nature

Although scientific information on various species and habitats has been collected since the early nineteenth century, this has not been compiled and there are few systematic reports on the status of nature in Romania prior to EU accession in 2007. Accession led to more active biodiversity surveying and monitoring, including to identify sites for the Natura 2000 network and to prepare national reports on the status of BHD habitats and species as required under Article 12 of the Birds Directive

¹ <http://roifn.ro/site/rezultate-ifn-2/>

² Numbers in brackets are HD Annex I habitat codes (see Appendix for full names). * Indicates a priority habitat.

Table 26.1 Short-term trends (c. 2007–2018) in Habitats Directive Annex I habitats and Annex II, IV and V species with an unfavourable conservation status in Romania.

	Poor (unfavourable–inadequate)				Bad (unfavourable–bad)			
	Imp	Sta	Dec	?	Imp	Sta	Dec	?
HD Habitat assessments								
Number	2	32	10	2	0	3	2	1
%	4%	70%	22%	4%	0%	50%	33%	17%
HD Species assessments								
Number	13	127	54	33	0	6	38	9
%	6%	56%	24%	15%	0%	11%	72%	17%

Key. Imp = improving, Sta = stable, Dec = decreasing, ? = unknown.

Source. Based on Member State HD Article 17 reported data as presented on the EEA national summary dashboard (2021).

and Article 17 of the Habitats Directive.³ This chapter is therefore mainly based on the information gathered for these reports. However, Romania's first reports were not required until 2014 (for 2007–2013), and trends are only based on short-term assessments. Furthermore, the authors of this chapter consider that these 'official results' should be treated with some caution as many of the habitats and species have not yet been adequately assessed in practice.

26.2.1 Habitat Status and Trends

The most recent report submitted by Romania (2013–2018) based on the 173 assessments carried out across the biogeographical regions shows that 68% of the habitat assessments showed a favourable conservation status, 27% a poor status, and 3% a bad status. For three assessments the habitats' status was reported as unknown. There was relatively little variation in the status of the habitats across the five terrestrial biogeographical regions, but there was marked variation in the proportion of broad habitats with a favourable status. The situation is especially concerning for HD bogs, mires and fens, as 83% of the assessments revealed an unfavourable status. A significant proportion of assessments were also unfavourable for heath and scrub habitats (56%), forests (44%), dunes (40%) and marine coastal habitats (37%).

Of particular importance is whether those habitats with an unfavourable status have improving or deteriorating trends. As indicated in Table 26.1, many of the habitat assessments that reported an unfavourable status also reported a decreasing trend, including 33% of those with a bad status.

26.2.2 Species Status and Trends

The most recent HD Article 17 report submitted by Romania (2013–2018) indicates that, over 621 species assessments, 46% were considered to have a favourable conservation status, 37%

Table 26.2 Short-term trends (c. 2007–2018) in Birds Directive Annex I taxa in Romania.

	Breeding				Wintering			
	Inc	Sta/Flu	Dec	?	Inc	Sta/Flu	Dec	?
Number	10	8	5	60	1	0	4	15
%	12%	10%	6%	72%	5%	0%	20%	75%

Key. Inc = increasing, Sta = stable, Flu = fluctuating, Dec = decreasing, ? = uncertain and unknown.

Source. Based on Member State Article 12 reported data as presented on the EEA national summary dashboard (2021).

a poor status and 9% a bad status. Another 9% had an unknown status. Most alarmingly, 72% of those with a bad status were also decreasing, as were 24% of those with a poor status (Table 26.1).

Of the HD species groups, it is clear that the situation for fish is particularly concerning, as only 11% out of 111 assessments were favourable. Moreover, 24% had a bad status, the most important ones including five sturgeon species and the endemic and Critically Endangered Romanian Darter (*Romanichthys valsanicola*).

The BD Article 12 report from Romania for 2013–2018 indicates that the short-term population trends of most birds, including Annex I listed taxa, are uncertain or unknown (Table 26.2). The declining breeding Annex I species include two species of raptor that have relatively important European populations in Romania: Lesser Spotted Eagle (*Clanga pomarina*) and Red-footed Falcon (*Falco vespertinus*).

26.2.3 Drivers and Causes of Change

Over the last few decades, pressures on biodiversity in Romania have rapidly increased, largely as a result of economic development and changes in land ownership. As further described in the following paragraphs, the most significant have been widespread agricultural intensification, abandonment of grazing in

³ See Section 1.3 for background on monitoring under the Nature Directives, status categories and data sources.

some regions, inappropriate forest management, increasing urbanisation and infrastructure, inappropriate renewable energy projects, unsustainable hunting and fishing, and increasing uncontrolled tourism in natural areas. Alongside these pressures, Romania faces the common threats of invasive alien species (IAS), climate change and pollution (especially in aquatic ecosystems).

Economic drivers, as well as social trends, have especially affected land use and land management practices, causing the expansion and intensification of arable agriculture in many areas. For example, agriculture has become increasingly large-scale and intensive in western Transylvania and southern Romania, with land consolidation as one of the main drivers (Szocs and Miklos, 2015). Despite EU CAP measures to limit grassland losses, they are still happening and affecting natural and semi-natural habitats. In remaining grassland areas, agricultural practices that were highly beneficial for biodiversity, such as traditional haymaking, are now being replaced by less 'nature-friendly' methods. This is threatening the special biodiverse grasslands of Romania (Feurdean *et al.*, 2018) and their species, including ground-nesting birds such as the Corncrake (*Crex crex*) (Bellebaum *et al.*, 2018). A further problem has been that in many cases CAP payment agencies have misinterpreted payment conditions and required farmers to remove shrubs and trees from their land for them to receive their direct income support payments (Beaufoy *et al.*, 2015). At the same time, inappropriate use of state funding for animal husbandry, combined with a lack of efficient governance of community grasslands, has led to a significant increase in sheep farming, replacing traditional cattle herding in many areas, with significant detrimental impacts on semi-natural grassland habitats (Manolache *et al.*, 2020).

In remote and less productive farming areas, land primarily functions as a means of subsistence, mainly due to the extremely small land holdings (averaging 2.15 ha per household) and correspondingly low numbers of livestock (2–4 cattle and 10–12 sheep) (Membretti and Iancu, 2017). In addition, many young people are migrating from rural to urban areas, reducing the workforce available to maintain subsistence farming (Maanen *et al.*, 2006). The marginal economic value of these systems, along with social drivers, is resulting in widespread agricultural abandonment, which leads to scrub encroachment and a decline in the extent and quality of biodiverse semi-natural habitats (Angelstam *et al.*, 2013; Loos *et al.*, 2016). This is apparent in hilly and mountain areas, and is affecting the valuable cultural landscapes of Transylvania and Bucovina. Grasslands in northern and central parts of Romania have some of the highest risks of abandonment in the EU (Hatna and Bakker, 2011).

Low productivity land and steppic habitats, as well as some other lowland grasslands, are being affected by afforestation, encouraged by national and local authorities, especially when privately funded (Feurdean *et al.*, 2018).

Another important driver has been the major change in land ownership following the land restitution process initiated in 1991. Most of the agricultural land is now in the private

ownership of individuals and various legal entities (74%), whilst most of the forest land remains owned by the state (48%) and public authorities (16%) (Ministry of Waters, Forests and Environmental Protection, 2019). Significant impacts have occurred where forests have changed from large-scale management based on centralised state interests to smaller private forest management units (ranging from less than one to several thousand hectares per owner). Such impacts include the loss of mature forests to legal and illegal logging. Evidence of the scale of illegal logging comes from National Forest Inventory data, which show that the average timber harvest has been around 38 million m³ per year, whilst the annual allowance has varied between 18 and 20 million m³ (Romanian Forest Research and Management Institute, 2018). The additional harvesting may have occurred both in forest habitats and wooded pastures.

Many sensitive forest habitats are inappropriately managed, such as those that fringe alpine pastures. These used to be considered of high importance for soil protection and were strictly protected until about 2005; since then some under private management have been lost, affecting species that depend upon them, such as the Capercaillie (*Tetrao urogallus*). At the same time, the high fragmentation of land ownership has led to more human disturbance in most of the forests, with fewer and fewer undisturbed areas, affecting many wild species and generating human–wildlife conflicts.

Wetlands and rivers have been subject to serious pressures from hydropower production, fisheries and fish farming, or direct water use. The main causes of declining fish populations have been habitat degradation, because of infrastructure development on rivers, and unsustainable exploitation over recent decades. The drainage and conversion of wet meadows to agriculturally improved grassland or arable land was a national policy in the twentieth century, and is still considered an important strategy to increase the extent of productive land. National policies on flood prevention have also promoted the commercial extraction of sand and gravel from riverbeds, significantly damaging river ecosystems, ironically sometimes with the support of the National Environmental Fund – even in Natura 2000 sites (e.g. Lower Siret).

As regards future threats, pressures are increasing to allow more economic activities in protected areas. Conservation management objectives are considered to be secondary to socio-economic objectives associated with mining activities, such as for limestone (e.g. Buila-Vânturarița) and granite (e.g. Măcin Mountains). National strategies are being promoted for mass tourism investments without prior assessments of their potential impact on high biodiversity areas, especially in the remaining wilderness areas (e.g. the Făgăraș Mountains). Even though more emphasis is being given to the implementation of environmental legislation, there is still weak enforcement of these requirements, largely due to poor-quality impact assessment studies (Nistorescu, 2012).

Political changes also have to be considered as major drivers of biodiversity change in Romania, with some

Table 26.3 Key nature conservation developments in Romania.

1904	First Nature Reserve – Codrul Secular Slătioara
1930	First nature protection law – Law no. 213/1930 on the natural monuments protection from Romania
1973	Environmental Protection Law
1996	First <i>National Strategy for Biodiversity Conservation</i> Establishment of the first protected area administration, for the Danube Delta Biosphere Reserve
1998	Biodiversity Departments established within each Environmental Protection Agency at county level
2000	Second <i>National Strategy for Biodiversity Conservation</i> List of national protected areas in the <i>National Master Plan</i> First Protected Area Law and legal documents with the list of protected areas to date ⁴ First administration teams for the management of National and Natural Parks established within the National Forest Administration
2001	The first contracts for delegated protected area management signed by the ministry responsible for the environment with NGOs and other entities
2004	Expansion of the national protected area network, first detailed description of the limits and zoning of National Parks and Natural Parks
2005	Protected area management (administration) teams established for most of the National Parks and Natural Parks
2007	EU accession – required adaptation of the environmental and protected areas legislation to the Nature Directives and WFD, as well as SCI and SPA designation
2013	Third <i>National Strategy for Biodiversity Conservation 2013–2020</i>
2016	Total ban on hunting strictly protected large carnivore species, but without comprehensive human–wildlife conflict mitigation measures Legal framework approved for the Establishment of the National Agency of Natural Protected Areas (ANANP)
2018	Actual establishment of ANANP Changes in the Protected Area Law led to ANANP taking over protected area management
2020	Total ban on hunting for all migratory bird species – as a result of a court ruling initiated by NGOs

See Table 3.3 for signatory dates of international conventions.

decisions having high impacts on biodiversity conservation and protected areas management. For example, the prioritisation of economic interests with inadequate consideration of biodiversity conservation requirements in many domains (e.g. hunting, forestry, agriculture, urbanisation and mining), delayed decisions related to protected areas (e.g. management plan approvals) and the ongoing refusal to allocate state funds to protected area management are all strongly influenced by the political situation (Hossu *et al.*, 2017, 2018).

26.3 Nature Conservation Governance, Actors, Legislation and Policies

26.3.1 Overview of Nature Developments in Romania

Table 26.3 provides a summary of some of the most important nature conservation developments in Romania, which are further described in this section.

26.3.2 Policies and Legislation

Nature conservation can be said to have started at the very beginning of the twentieth century, with the designation of the first Nature Reserve in 1904. This was followed in 1930 by the first nature protection law, issued at the initiative of pioneering naturalists (e.g. Emil Racoviță, Alexandru Borza and Andrei Popovici-Bâznoșanu), and the establishment of the Commission for the Protection of Natural Monuments, within the Romanian Academy, at the same time. Almost 15 000 ha were protected in 36 protected areas (including Retezat, the first National Park), and 15 plants and 16 animals were declared strictly protected as ‘Natural Monuments’. Efforts to extend the protected area network apparently continued in the communist period, with the number and extent of registered protected areas showing a significant increase (Toniuc *et al.*, 1992). However, these initiatives had little practical value during these times, as

⁴ Law no.5/2000 on the approval of the National Spatial Planning Plan – Section III – protected areas.

most, if not all, the protected areas were ‘paper protected areas’ in that they had no management authorities or defined objectives, and no active management measures were taken within them. Some general references to protected areas and biodiversity conservation were included in the Environmental Protection Law (1973), but with limited efforts for implementation during the communist times.

The situation started to change during the mid-1990s, when the first *National Strategy for Biodiversity Conservation* was adopted in 1996, reflecting CBD objectives (Ministry of Environmental Protection, 1996). Based on it, the first projects were funded by the World Bank through the Global Environmental Facility (GEF). As a result, the Danube Delta Biosphere Reserve Administration was established in 1996, and the first three National and Natural Park administrations were established in 1999/2000 and served as models for 19 new management bodies for National and Natural Parks established in 2004/2005 by the National Forest Administration, Romsilva.

The first *Biodiversity Strategy* also triggered the development of the first Romanian law for protected areas and biodiversity conservation⁵ and the official recognition of the existing protected areas through a dedicated section of the *National Territorial Plan*, approved in 2000. Official recognition was thus provided for 17 areas designated as Biosphere Reserves, National and Natural Parks, as well as 827 Nature Reserves and Natural Monuments, covering 4.1% of Romania in 2004.

In 2000, the second *National Strategy for Biodiversity Conservation* was developed, having as one of its key objectives the harmonisation of the national legislation with the Nature Directives and the WFD (Ministry of Environmental Protection, 2000).

In 2013, a *National Strategy and Action Plan for Biodiversity Conservation for 2014–2020* was developed, with support from a UNDP/GEF project (Ministry of Environment and Climate Change, 2014). Ten strategic objectives were considered, of which the most relevant to nature conservation discussed here were: (1) developing the legal and institutional framework and ensuring financial resources; (2) ensuring consistent effective management of protected areas; (3) ensuring a favourable conservation status of protected wildlife species; (4) control of invasive species; (5) supporting and promoting knowledge, innovations and traditional practices; (6) communication, education and public awareness. Even though less than 40% of the actions planned through the Strategy were actually implemented, they led to considerable progress in biodiversity conservation legislation in Romania.

Romania ratified all the main global agreements on biodiversity conservation (see Table 3.3). Romania has also taken part in some regional initiatives for biodiversity conservation, such as the *EU Strategy for the Danube Region*, the *Strategic Action Plan for the Black Sea Region*, the Convention on the

Protection and Sustainable Development of the Carpathians and the Alpine Convention.

26.3.3 Public Institutions Involved in Biodiversity Conservation and Governance Arrangements

Institutions

The existing institutional framework for biodiversity conservation is relatively new. During the communist era, the central authority for the environment delegated its responsibilities to county-level Environmental Protection Agencies (EPAs). In 2004, a National Environmental Protection Agency (NEPA) was established under the ministry responsible for the environment, to coordinate the activity of these agencies as preparation for the implementation of EU legislation (Hossu *et al.*, 2017).

The central public authority for environmental protection, which now is called the Ministry of Environment, Waters and Forests, is the body responsible for implementing international environmental legislation and developing national policies for biodiversity conservation, including the management of protected areas. The EPAs have responsibilities for collecting and analysing biodiversity data, compiling biodiversity reports for various national and international bodies, and analysing potential impacts of programmes and projects on biodiversity (EIAs and/or HD Article 6(3) appropriate assessments). Until 2018, county EPAs were also responsible for protected areas that did not have designated management bodies.

Currently, and for most of the last 30 years, the central authority for environmental protection has been combined institutionally with both the forest management authority Romsilva and that responsible for waters, as part of the same ministry. To some extent, this has helped with the harmonisation of environmental, forest and water related policies and programmes. Even so, this has been a challenge: many gaps remain and a more integrated legal framework is needed. For example, there is a clear legal requirement for harmonising projects and plans (including natural resource management plans) with the protected area management plans. Whilst the required adaptation of forest management plans has started in some protected areas, the process is very slow and far from being a regular practice. There is significant reluctance in the forest sector to accept that harvesting operations require clearance from protected area managers and environmental authorities to prevent negative impacts on the environment, including on biodiversity. Indeed, changes were made in the environmental legislation to ‘clear the way’ for forest harvesting operations, which are no longer subject to approval from protected area managers and that of environmental agencies.

Some sector-related biodiversity conservation functions also reside with the Ministry of Agriculture and Rural Development, which coordinates agricultural policy and manages the CAP payment schemes. This ministry has a key role in planning and implementing Natura 2000 payments, but the

⁵ Emergency Ordinance no. 236/2000 on the regime of protected natural areas, conservation of natural habitats, wild flora and fauna.

process of developing the framework is very slow, with only a few active pilot payments (for further information, see Section 26.7).

In 2001, the Environmental Guard was established, a governmental agency responsible for environmental law enforcement, with an important role in regulating and preventing illegal activities with impacts on biodiversity. The Romanian Police have a specialised Forest and Water Resource Protection Service, whose main objective is to 'protect the natural ecosystems' of the country, but with most activities focused on illegal timber harvesting.

The regional Forest Guards – governmental agencies established in nine regions in 2004 and responsible for forest law enforcement – also have an important role in biodiversity conservation by controlling forest management measures established through protected area management plans. In addition, these agencies have played an important role in the process of including pristine and quasi-pristine forest areas in the National Catalogue of Pristine and Quasi-pristine Forests⁶ for strict protection.

In 2016, a new governmental agency was created – the National Agency for Natural Protected Areas (ANANP).⁷ Its original main responsibilities were to develop and coordinate the implementation of national strategies and management approaches to achieve an effective and efficient protected area network, and to supervise those protected areas that were not subcontracted to third parties. As further described later, its functions changed in 2018.

The only dedicated protected area management authority established and funded by the state is the Danube Delta Biosphere Reserve Authority, which was established in 1996 with GEF World Bank support. For all other protected areas, the national environmental authority has delegated their management to various entities through a system established in 2001 (see online Annex RO.1 for details).⁸ Until 2018, there were two forms of delegating management responsibilities: (1) administration teams with associated stakeholder platforms in a participatory governance system for large Natura 2000 sites, National Parks and Natural Parks (i.e. IUCN categories II and V); and (2) custodianships for the other protected areas (i.e. mainly IUCN categories I, III, IV and some V). EPAs were responsible for overseeing protected areas without dedicated management teams or custodians.

From 2004 to 2018, Romsilva, the state company managing all state forests across the country, had the responsibility, delegated by the environmental public authority, for the management of 12 National Parks, 10 Natural Parks, and 63 Natura 2000 sites. Romsilva was thus the main administrator of protected areas in Romania during that period. It has since

retained responsibility for the National and Natural Parks. One National Park is managed by a county council.

The delegated management system had not been fully functional, partly because the delegated entities lacked state financial support for their protected area responsibilities (Popescu *et al.*, 2014; Rozyłowicz *et al.*, 2017, 2019), and because there was no functional coordinating entity in place, nor a functional system for evaluating management effectiveness. The relative inefficiency of the delegated management system led between 2014 and 2017 to 134 cancelled management contracts. This reflected both a weak selection system for the delegated entities and a lack of monitoring and assessment of their activities and performance.

Although delegating protected area management to various private entities had been a trend within other former communist European countries (Stanciu and Ioniță, 2014), Romania made significant changes in its legislation in 2018 and changed the approach to a predominantly centralised protected area management system. The newly established ANANP became the main management entity for protected areas – a major change by the government without any consultation and transparency that has imposed a centralised protected areas governance system in which NGOs and other private entities have no influence over economic interests. The change also resulted in more than 1 000 people engaged in the delegated protected area management system being replaced with fewer than 400 newly hired ANANP staff, most of whom had no experience in protected area and conservation management. Despite the problems that occurred with some custodians, as described above, most were carrying out substantial management activities in the field and secured some project-based or voluntary support. In contrast, ANANP has very limited resources and was not set up to manage individual protected areas.

A challenge related to all public institutions in Romania has been their very limited capacity generally, as well as their limited ability and willingness to collaborate with other relevant stakeholders for the sustainable management of natural resources (Hossu *et al.*, 2017) and to solve environmental conflicts in protected areas (Iojă, 2017; Hossu *et al.*, 2018).

26.3.4 Stakeholder and Public Involvement

At the beginning of the twentieth century, nature conservation was primarily led by scientists, especially those associated with the Romanian Academy. Later, in communist times, wider interest grew amongst the research institutes and universities through their research. Civil society, represented by NGOs, became active after 1990, with a growing contribution to biodiversity conservation across the country.

There are currently 1 233 NGOs that work in environmental protection in Romania, ranging from conservation of biodiversity to environmental awareness, waste management, monitoring of public institutions, and public involvement in the decision-making process and in conservation biology.

⁶ www.mmediu.ro/categorie/paduri-virgine/207

⁷ Agenția Națională pentru Arii Naturale Protejate.

⁸ All annexes are free to access online at CUP: www.cambridge.org/natureconservation

Although most are focussed on projects at the local/regional level, several are active at the national level and have made significant contributions to both policy making and implementation of conservation projects. Some of the most prominent NGOs actively involved in nature conservation are: the Romanian Ornithological Society, ADEPT Foundation (HNV farmed landscapes of Transylvania), WWF Romania (protection of pristine forests, freshwater wetlands, ecological corridors, Natura 2000 network and protected area management), Fauna & Flora International (landscape-level conservation, and human-wildlife conflicts), Greenpeace (forest management and pristine forest conservation), Foundation Conservation Carpathia – FCC (e.g. forest conservation, land acquisition and wild fauna management), ProPark Foundation for Protected Areas (capacity building and participatory management planning), MILVUS Group Bird and Nature Protection Association, Association for the Conservation of Biological Diversity (large carnivore management, research and conservation activities), Romanian Bat Association, Romanian Herpetological Society, Society of Oceanographic Explorations and Protection of the Marine Environment-Oceanic Club and Mare Nostrum (marine environment conservation activities), EKE Satu Mare (protected area management and watchdog role), Planting Good Deeds (reforestation activities), and the Romanian Ecotourism Association. A special role is played by organisations that are raising and managing funds for conservation projects (i.e. the Romanian Environmental Partnership Foundation and the Civil Society Development Foundation).

Conservation projects have been developed and implemented by a number of research institutions, some of which are described later.

In 2003, 55 biodiversity conservation NGOs joined efforts and established the Natura 2000 NGO Coalition. The coalition contributed significantly to the designation of the Natura 2000 sites and had an instrumental role in increasing the area of the network proposed by the ministry. Subsequently, members of the coalition contributed to management planning and management of the protected areas. The coalition also has a watchdog role, with some successful court cases on record in Natura 2000 sites, as a result of which some potentially harmful projects were stopped.

26.4 Species Protection and Conservation Measures

26.4.1 Hunting Regulation

The 45 years of the communist era adopted restrictive measures that provided a high level of protection for species. In particular, legislation aimed at poaching and trafficking of trophy species, such as Brown Bear, Northern Chamois (*Rupicapra rupicapra*), Red Deer (*Cervus elaphus*) and Capercaillie was highly efficient. There were also measures that protected the habitats of game species, such as specific

measures for forests important for Capercaillie, or non-disturbance zones in forests for certain game species. In the first years after 1989 there was a relaxation in hunting legislation, with quotas increasing for most species.

Since 1997, when Romania became a party to the Bern Convention, the management of game species has improved and quarry species have been grouped into (1) game species with general management provisions and (2) game species that require special management (i.e. species with hunting restrictions). With the first Protected Areas, Habitat and Wild Species of Flora and Fauna Law issued in 2000, Romania transposed the species conservation requirements from the Nature Directives into national legislation, as well as giving protection to some species of national interest.⁹

Wildlife management and related hunting activities are planned and implemented at the level of the game management unit (GMU) (Salvatori *et al.*, 2002, 2020), defined as the basic administrative unit for game management according to the national hunting legislation. There are over 2 100 GMUs in Romania (National Parks and the Danube Delta are not included), covering approximately 92% of the country's surface (Cazacu *et al.*, 2014). Hunting quotas for each game species are established annually by the responsible national authorities, based on population abundance reports made by game managers (Salvatori *et al.*, 2020). For strictly protected species, derogations are established by the central authorities, mainly with the declared goal of preventing human-wildlife conflicts, but this system also allows commercial hunting.

The most well-known and debated derogations are those given by the central authorities for hunting Brown Bears and some birds of conservation interest. Between 1955 and 1989 about 85 bears were hunted per year, with an increase to about 212 individuals in the following years until 1996, when Romania joined the Bern Convention, but with no rules implemented for conservation purposes. From 1997 until EU accession (2007), an average of 163 bears were shot per year, with special licences for reducing human-wildlife conflicts. After 2007, even though commercial hunting of this strictly protected species was officially stopped, 'intervention quotas' were approved for about 277 bears per year. Although the officially declared purpose of the quota was only to address conflict situations, trophy hunting took place. No 'intervention quotas' have been approved for this species since 2016.

Hunting quotas for bird species were challenged by environmental NGOs (Asociația Alianța pentru Combaterea Abuzurilor, Milvus Group and OTUS) because these were not based on scientific data and there is no information regarding the potential impact on the populations. In 2019, hunting was banned for four bird species: Skylark (*Alauda arvensis*), Redwing (*Turdus iliacus*), Scaup (*Aythya marila*)

⁹ Ordonanța de Urgență nr. 236 din 24 noiembrie 2000 privind regimul ariilor naturale protejate, conservarea habitatelor naturale, a florei și faunei salbatice.

and Goldeneye (*Bucephala clangula*).^{10,11} In 2020, the hunting quotas for 36 migratory bird species were invalidated by a court ruling (Brasov County)¹² based on the lack of monitoring results for these populations, hence it was not possible to demonstrate that hunting is not damaging the populations. A subsequent ruling from another court (Tg. Mures county) also invalidated the quotas for Greater White-fronted Goose (*Anser albifrons*) and Greylag Goose (*Anser anser*). Although these two species were already included in the first case, the ruling is important as it shows that two independent courts came to the same conclusion. Consequently, now only two resident bird species can be hunted: Pheasant (*Phasianus colchicus*) and Grey Partridge (*Perdix perdix*).

26.4.2 Species Conservation Initiatives

Today, the main conservation management measures for species remain protection of nesting areas for birds, limiting illegal killing, limiting supplementary feeding of mammals (e.g. Wild Boar (*Sus scrofa*) and Red Deer) and compensation payments for wildlife damage from protected species. Supplementary feeding has increased game abundance in some regions, but also led to habituation of animals to humans, leading to more human-wildlife conflicts in the context of increased disturbance and habitat fragmentation (Pop *et al.*, 2018; Popescu *et al.*, 2019). A further problem is that the compensation payment scheme is linked to a very bureaucratic procedure that results in delayed payments and to lower acceptance of wildlife species, especially predators, by local communities.

Interest in large carnivore conservation grew following EU accession, and all the biogeographical populations of the Wolf, Brown Bear and Eurasian Lynx were reported as having a favourable conservation status over 2013–2018. Nevertheless, they are threatened by habitat degradation and fragmentation, livestock grazing, feral dogs, poaching, loss of food resources and conflicts with humans (Iojă, 2017). Furthermore, the present management framework for large carnivores (as well as other mammals and birds) is a result of an unhealthy combination of inadequate ecological information (due to limited resources and biased data) and policymakers taking decisions in response to demands with inadequate consideration of the species' ecology. Decision makers and the other stakeholder groups, including the general public, need appropriate ecological, social and economic studies to integrate management measures, and the necessary resources for efficient implementation (Rozyłowicz *et al.*, 2017).

As a result of concerns amongst the general public and professional groups, there is pressure on the authorities to

implement proper management solutions, and new objectives and conservation measures for the Brown Bear and Wolf have been discussed (Popescu *et al.*, 2019). In 2018, Romania approved action plans for the Brown Bear and Wolf, developed under EU LIFE projects.¹³ In September 2021, the Ministry of Waters, Forests and Environment in partnership with the Kronstadt Local Public Forest Administration, the National Forest Administration and the National Forest Research and Development Institute Marin Dracea started a project¹⁴ on the genetic estimation of the Brown Bear population, as required in the action plan. Some efforts are being made to improve reactions related to habituated bears,¹⁵ but no effective solutions have been found yet. Nevertheless, as a result of the activity of Romanian conservationists, international conventions and the Nature Directives, steps are being made to base large carnivore management policies on scientific data.

A few other species now have management plans, including the Lesser Spotted Eagle, Pygmy Cormorant (*Microcarbo pygmeus*), Ferruginous Duck, Dalmatian Pelican and some bat species (*Rhinolophus ferrumequinum*, *Rhinolophus hipposideros*, *Myotis myotis*, *Myotis oxygnathus*, *Myotis bechsteinii*, *Barbastella barbastellus* and *Miniopterus schreibersii*). However, there are no coordinated efforts and no resources are allocated for their implementation. CAP-funded Rural Development Programme (RDP) agri-environment schemes have implemented conservation measures for *Maculinea* butterflies, Corncrake, Lesser Grey Shrike (*Lanius minor*), Red-footed Falcon, Red-breasted Goose, Lesser Spotted Eagle, Great Bustard (*Otis tarda*) and common birds of arable farmland, but the funds offered through these schemes are generally inadequately taken up by farmers and therefore are not contributing as much to the conservation of the species as intended.

26.5 Protected Areas and Networks

26.5.1 Protected Area Types and Their Coverage

As described earlier, Romanian biodiversity conservation essentially began in the 1930s through the establishment of protected areas. By 2000, the surface of terrestrial protected areas was about 4% of the country's area and increased to almost 8% by 2007 (Iojă *et al.*, 2010). In 2007, the legislation for protected areas and biodiversity conservation was revised to ensure full harmonisation with the Nature Directives.

¹⁰ <https://milvus.ro/ciocarla-de-camp-sturzul-viilor-rata-cu-capul-negru-si-rata-sunatoare-au-scapat-de-vanatoare-incepand-de-azi/>

¹¹ Case 502/64/2019 and https://portal.just.ro/64/SitePages/Dosar.aspx?id_dosar=640000000017586&id_inst=64

¹² Cases 326/64/2020, 452/64/2020 and 565/64/2021.

¹³ LIFE FOR BEAR (LIFE13NAT/RO/001154) and WOLFLIFE (LIFE13NAT/RO/000205).

¹⁴ www.mmediu.ro/app/webroot/uploads/files/2021-09-03_comunicat%20proiect%20estimare%20populatie%20urs.pdf

¹⁵ Governmental Emergency Ordinance 81/2021 regarding immediate intervention methods for preventing and stopping Brown Bear attacks on people and goods in inhabited areas – responsibilities for solving conflictual situations are transferred to the local authorities.

Table 26.4 The number and extent of protected areas in Romania.

	IUCN category	Number	Area (km ²)
Designated under global and non-EU international legislation			
Ramsar Sites	–	20	17 777
Natural World Heritage Sites	–	2	4 009
Biosphere Reserves (exc. buffer and transition zones)	–	1	7 322
Designated under the Nature Directives			
SCIs (terrestrial + marine)	–	435	40 310 + 6 188
SPAs (terrestrial + marine)	–	171	37 118 + 1 630
<i>Natura 2000 terrestrial area</i>			54 214
<i>Natura 2000 marine area</i>			6 362
Designated under domestic legislation			
Scientific Reserve (Rezervatie stiintifica)	I	32	166
National Parks (Parc national)	II	13	3 174
Natural Monuments (Monument al naturii) and Nature Reserves (Rezervatie naturala)	III, IV	916	2 921
Natural Parks (Parc natural)	V	14	7 694

Sources. See Section 1.3. Based on data from: Ramsar Convention and UNESCO websites (December 2021); EEA Natura 2000 Barometer, Natura 2000 as at end 2021; domestic protected areas, ANANP (2021).¹⁸

The current protected area system in Romania is summarised in Table 26.4. In addition to the Natura 2000 sites, and other international sites, the following types of protected area of national interest are designated according to the Protected Area Law¹⁶:

- **Scientific Reserve** (IUCN category I), provides strict protection of natural ecosystems.
- **National Park** (IUCN category II), aims to conserve natural ecosystems and maintain natural processes, with limited human interventions in core areas, allowing only for sustainable tourism, education and traditional use of grazing areas for local communities. Core area coverage is less than 75% in most National Parks.
- **Natural Monument** (IUCN category III), designated to conserve exceptional natural features (spectacular rocks, gorges, lakes, fossils sites, caves, waterfalls, etc.).
- **Nature Reserve** (IUCN category IV), established for the conservation of natural and semi-natural habitats and valuable species that need active conservation management measures. This type includes marine reserves.
- **Natural Park** (IUCN category V), established for the conservation of natural and cultural landscapes and to promote responsible use of natural resources for the sustainable development of local communities.

¹⁶ Emergency Government Ordinance No. 57/2007 on the regime of protected natural areas, conservation of natural habitats, wild flora and fauna, with further amendments.

In combination, the national protected areas cover 8% of the national terrestrial area, with National Parks covering 3.2%, National Parks 1.6%, Natural Monuments and Nature Reserves together 1.2%, and Scientific Reserves 0.07%.¹⁷ Less than 1% of Romanian sea areas are under national protection.

Romania has designated a large number of Natura 2000 sites, which at the end of 2020 totalled 60 577 km², covering 22.7% of its land area and about 21.5% of its marine waters. Many of the terrestrial protected areas of national interest overlap with the Natura 2000 sites. Before the Natura 2000 site designations, only small parts of the marine area were included in one relatively small Strict Reserve and partly in the Danube Delta Biosphere Reserve.

Taking into account the overlaps between sites, the total protected area¹⁹ was estimated to amount to 58 225 km² on land, and 6 866 km² in the marine environment according to the WDPA in December 2021. This equates to 24.4% coverage of the land and 23.2% of Romania's marine waters.

Despite the relatively large Natura 2000 area, SCI coverage has minor–moderate insufficiencies for many HD habitats and species. The coverage of SPAs is also considered insufficient in relation to Important Bird Areas (IBAs). To address this, specialist organisations and institutions (SOR, Milvus and the National Danube Delta Institute for Research and Development) prepared proposals in 2012 for new SPAs, but these have not been designated so far.

¹⁷ <http://ananp.gov.ro/ariile-naturale-protejate-ale-romaniei/>

¹⁸ <http://ananp.gov.ro/ariile-naturale-protejate-ale-romaniei/>

¹⁹ Although this excludes the Biosphere Reserve, there is a high level of overlap with other sites.

It is important to note that, whilst the protected area network currently exceeds the CBD's Aichi terrestrial and marine coverage targets, there are problems with the effectiveness of its protection and management in practice, as further discussed in Section 26.6.4.

26.5.2 The Coherence of Protected Areas and Ecological Networks

The coherence of the Natura 2000 network has been evaluated by Rozyłowicz *et al.* (2019), who identified network hubs (protected areas that are critical for the coherence of the entire network), module hubs (protected areas that are important for coherence at the bioregion level), connector sites and peripheral sites. The authors concluded that there is an obvious need for prioritisation of conservation measures in key SCIs/SPAs that constitute the backbone of the network. However, there is insufficient information about the coherence of the wider protected area and ecological network, and an integrated assessment is needed.

There have been several conservation initiatives that have aimed to improve the coherence of the broader range of protected areas in some parts of Romania and the wider region, including initiatives for large carnivores and the Lower Danube Green Corridor. These and some supporting studies are described in online Annex RO.2. Despite these initiatives, and a legal requirement in the protected area law for the identification of ecological corridors in Romania, no corridors have been officially designated so far, nor management measures approved.

26.5.3 Approaches to Protection and Levels of Protection

According to the Protected Area Law, the management of a protected area should be based on a management plan (described further in Section 26.6.4) that is developed by the manager and approved by the ministry, or based on conservation measures approved by the ministry for target species and habitats. For areas that have multiple and/or overlapping designations, integrated management plans have to be developed, defining harmonised management measures. Once the protected area management plan is approved, landowners and other stakeholders have to harmonise management activities that might impact biodiversity values with the management plan.

Since 2001, the law has provided for, and defined, a zoning system for National and Natural Parks. Zoning is an important management tool for promoting the rules established for the protected areas and for preventing and controlling pressures and threats. Strictly protected zones are defined for areas where natural processes are to prevail, within which no activities other than research, education and visitors are allowed. Zones with 'integral protection' are defined for areas where no commercial harvesting and use is allowed for natural resources, but subsistence activities (collecting wild berries

and fruits) and grazing by livestock owned by locals are allowed. Buffer zones are defined where the sustainable use of natural resources is allowed, and sustainable development zones for areas included in settlements or in tourism resorts or where more intensive land management practices are allowed. The internal zoning of the existing National and Natural Parks was legally approved in 2004. Zoning is being re-analysed in the management planning process and has to be revised with stakeholder participation.

Before 2004, the ministry responsible for the environment and local EPAs were responsible for the management of protected areas. Capacity limitations led to inadequate management, sometimes with damaging development projects implemented even in the strictly protected core zones. Some of the most notorious examples include an illegally built monastery in the core area of Ceahlău National Park (2006) and illegal infrastructure development in the core area of the Rodna National Park, affecting an alpine lake (2005).

The situation improved when the first Protected Areas Law was approved and with the establishment of the first three National and Natural Park management teams by the National Forest Administration (Romsilva), followed by the development of management plans for three under the 1999–2004 GEF Biodiversity Conservation Management Project. Thus, a partly decentralised (delegated) protected area management system was established for the National and Natural Parks. This system was gradually extended to some of the Nature Reserves and Natura 2000 sites and various entities were delegated to manage them (as described in online Annex RO.1).

After EU accession in 2007, the requirement for HD Article 6 (3) appropriate assessment procedures was included in the Protected Area Law. Hence, given that the majority of the protected areas of national interest are included in the Natura 2000 sites, a stronger level of legal protection was secured for the sites due to the Nature Directives. Any projects or plans that might have a negative impact on a Natura 2000 site have to undergo an appropriate assessment and be approved by ANANP, based on the official agreement of the protected area administrator. As a result, the impetus for economic development in the core zones of domestic protected areas, which overlap greatly with Natura 2000 sites, has declined, especially in National Parks.

However, there are still unresolved issues related to the Natura 2000 network, mainly because of the limited capacity of ANANP as well as the need to designate all SCIs as SACs, based on the approval of the management plans and the updated Natura 2000 standard forms. Also, many of the impact assessments of proposed economic developments have been either superficial or their recommendations have not been followed. In some cases, active interventions by NGOs were needed to provide proper assessments, for example in the case of some proposed micro-hydropower plants on rivers with HD species (Iojă, 2017; Hossu *et al.*, 2018). Therefore, it is necessary to improve the transparency and quality of impact assessment studies, to limit and mitigate conflicts between stakeholders and to build trust in the EIA procedures (Nita *et al.*, 2015).

26.5.4 Approaches to Managing Protected Areas

The framework for the management of protected areas is established through the management plans, which have to be developed in a participatory process, involving the Scientific and Consultative councils, for the large and complex protected areas (IUCN category II and V). Local environmental agencies and relevant ministries are involved before the ministry responsible for environment approves the management plan. Public consultation is mandatory in the process and is carried out by the environment agencies as part of the SEA procedure (required for all strategic planning documents, including protected area management plans) but with limited influence on the management plan content. The level of stakeholder participation (e.g. public institutions, NGOs and landowners) in the planning process varies, with only a few examples of good practice. According to Hossu *et al.* (2017), problems in the consultation process have included: (1) poorly organised consultations by managers and/or public authorities; (2) limited stakeholder interest or understanding of the real impact of conservation measures; and (3) limited conflict management capacity.

The main approaches to implementing management measures in protected areas can be grouped as follows: (1) *active* management, when the managing entity has the capacity and the resources (mainly from conservation projects, e.g. LIFE projects, or those funded by the Norwegian or Swiss governments) to implement management actions; (2) *participatory* management, when a transparent approach and well-defined procedures enable the involvement of various stakeholders in the protected area's management, and help designated managers carry out active management; (3) *passive* management, where pressures and threats remain unaddressed to avoid conflicts and the protected area staff focus on educational or other, non-conflicting, activities.

As of 2021, 307 management plans have been approved, mostly developed with EU funds, for 286 Natura 2000 sites (205 SCIs, i.e. 47%, and 81 SPAs, i.e. 47%)²⁰ and overlapping protected areas of national interest (i.e. National and Natural Parks and Nature Reserves). In many cases, links between the biodiversity values and pressures and threats are not clearly indicated in the management plan, hence the proposed management measures are rather general. In 40% of the management plans, measures for species and habitats of conservative interest are established, but only in a few cases are these sufficiently detailed to include practical measures to maintain or improve their conservation status. Management plans have also been developed for five of the 12 marine protected areas, but knowledge on marine species, habitats, pressures and threats is even more limited, and there is a critical need for further data collection and monitoring (Teampău, 2020; Văidianu *et al.*, 2020). International management of Black Sea natural resources is an important challenge that needs substantial involvement from state authorities.

²⁰ http://ananp.gov.ro/wp-content/uploads/Anexa-8-Planuri-de-management_specii-aprobate-1.pdf

According to the national legislation, landowners and natural resource managers have the responsibility to implement conservation measures as established through management plans or the approved list of conservation measures. However, there are no supporting funds available from the state budget for management measures, other than compensation payments to private forest owners (see Section 26.6.2). Therefore, implementation of conservation measures is very challenging, especially on private land. Some EU funding is available through the CAP RDP measures, and the voluntary agri-environment schemes have helped to maintain some species and habitats of conservation interest (see Section 26.7), but the RDP Natura 2000 payment measure has not been used to compensate for conservation management measures imposed on private landowners. The delay in developing and implementing the Natura 2000 payments is seriously hindering conservation management measures. For landowners whose forests are included in the core zones of national protected areas, some compensation payments from the state budget are available for non-intervention management or if forest activities are limited by nature conservation objectives or other objectives.

Similar problems occur for managers of public land, such as the National Forest Administration, Romsilva. Romsilva has obligations to manage state forest in a profitable way and to allocate financial resources for the management of protected areas in its jurisdiction. It does not receive any financial support for the management of protected areas from the government, but it can access EU funds that can contribute to Natura 2000 management.

The Protected Area Law requires all relevant sectoral plans to be harmonised with the protected area management plans (i.e. for them to reflect conservation management measures) and implemented in their daily activities. However, the only sectoral legislation that is harmonised with the Protected Area Law is for forestry, which specifically requires harmonisation of forest management plans with protected area management plans.

Since 2018, when ANANP ostensibly replaced the custodians (described in Section 26.3.3), implementation of management plans has stagnated and EU funds allocated for the management of Natura 2000 sites have been used only to a small extent. A notable exception is that of the National and Natural Parks and two Natura 2000 sites that are still delegated to Romsilva and some other entities, which are continuing to implement their management plans.

26.6 General Nature Conservation Measures

26.6.1 Development Planning and Impact Assessment

Romania's national planning policy was influenced by the communist legacy, EU accession and the recent global economic crisis. During the communist period, Romania had a top-down planning system under the total control of the state authorities. For a few years after the fall of the communist

regime the void in the legal framework slowed down the transfer to a decentralised approach. Then the EU accession process, which started in 2000, triggered several institutional and legislative reforms. A first law on territorial planning was adopted in 2001, clarifying the responsibilities of national and local public authorities. Furthermore, stricter environmental legislation was adopted, influencing territorial planning activities. However, the governance system remained somewhat centralised (Grădinaru *et al.*, 2020).

Under the EU's influence, administrative decentralisation gave additional land-use decision-making powers to local authorities, but the local authorities lacked the knowledge and human resources to carry out planning and implementation. Concomitantly, strong global economic growth, coupled with capital inflows due to the increase in Romania's attractiveness for foreign investments, amplified the expansion of built-up areas, resource extraction and urbanisation. It soon became clear that the planning system could not keep up with the growing demand for new housing and service areas and the pressure of private interests. Furthermore, the territorial planning was not integrating transport, environment or social aspects. Uncontrolled development, including in protected areas, started to become an issue (Iojă *et al.*, 2010).

After EU accession in 2007, the EU exerted a strong influence over domestic policies and practices, particularly at the national level. Over recent decades, the development planning system in Romania has been adapted to fulfil EU obligations. Thus the importance of EIA in the administrative process of development planning increased, especially in protected areas where environmental policy limited development plans (Grădinaru *et al.*, 2020). At a local level, spatial planning increasingly integrates relevant provisions from the protected area management plans. The main issue is the lack of resources for renewing territorial plans for all of the administrative units within the new legal framework, hence in some protected areas there are still conflicting provisions regarding development projects.

26.6.2 Habitat Management and Restoration

Habitat management is one of the main challenges in Romania for a number of reasons, some of which have been discussed previously, including the governance system and legislation that lead to sectoral and centralised approaches to land management, as well as the complex issues related to land ownership. The same factors also constrain habitat restoration, even when promoted by national authorities and when funds have been secured through, for example, LIFE projects. Illustrative examples of particular importance in Romania are given in the following paragraphs from a range of habitats.

Coastal Habitats and the Danube Delta

Nature conservation in the Danube Delta, and other areas of the Romanian coast, is both particularly important and challenging, because of the sensitivity of their distinct habitats and numerous rare species, and the high social and economic

importance of the area (Tănăsescu and Constantinescu, 2020). The main challenge is to find a balance between tourism infrastructure development and the need to conserve existing natural habitats. Because the area is increasingly targeted by infrastructure developers, property values have become over-inflated, reaching levels that cannot be matched by potential compensation mechanisms that would aim to promote conservation measures. Besides anthropogenic pressures, a further challenge arises from the natural dynamics of the delta and coastal system, which constantly change the habitats through erosion, accretion and changes in water salinity (Gómez-Baggethun *et al.*, 2019).

Many of the conservation measures for coastal habitats have focussed on the Danube Delta due to its unique biodiversity and landscape values (Teampău, 2020). It has also been a place of conflict between stakeholders looking for profitable investments in commercial fishing, tourism or agriculture, and local communities whose livelihoods have been threatened as a result. Management efforts have focussed on developing a pressure and threat monitoring system, awareness-raising actions and tourism infrastructure development.

The Danube Delta Biosphere Reserve is one of the areas where the need to integrate biodiversity conservation measures and support and benefit-sharing with local communities is urgent. Stand-alone, short-term conservation projects, even if well-planned and funded, do not have a long-term impact if social and economic issues are not properly addressed. Currently, the Danube Delta is the largest Biosphere Reserve in Romania, a key Ramsar Site and a UNESCO World Heritage Site; however, all management efforts undertaken in the Danube Delta are still far from being able to demonstrate effective biodiversity conservation. The development of new housing and tourism facilities with negative impacts on the environment (e.g. destruction and fragmentation of habitats, waste and wastewater management), the increased attraction as a tourist destination, the widespread impact of invasive species, along with bird poaching and overfishing, continue to contribute to the decline of species and habitats in this region (Teampău, 2020).

Grassland and High Nature Value Farmland

As discussed in Section 26.1, Romania has some of the most extensive and best-preserved HNV farmland in Europe, including semi-natural pastures and meadows, and diverse mosaics of traditional croplands, orchards and pastoral woodlands. As well as being of exceptional biodiversity importance (Page *et al.*, 2012), they are also high cultural value farmlands (Rolo *et al.*, 2020), because their management practices entail local knowledge, values and cultural ingredients that are inextricably linked to the farming landscapes.

The ADEPT Foundation is a leading Romanian NGO that promotes the HNV farmland concept and works closely with authorities and local communities to help conserve and increase the social, economic and environmental values of Europe's most important HNV farmed landscapes by

encouraging the sustainable use of natural resources (ADEPT Transilvania *et al.*, 2016). Finding ways to maintain traditional farming systems is critical not only for securing the survival of vibrant rural communities and high-quality food production systems, but also for conserving species, habitats and ecosystems services.

Despite the efforts of some organisations, during the last programming period of the CAP many grasslands were converted into arable land or were abandoned and are now gradually turning into scrub and forests.²¹ There are no official detailed data on grassland transformation to arable land, or how many hectares have been abandoned, but a recently started project²² aims to collect such information. At the same time, some of the arable land has been abandoned and is starting to go through natural succession.

Forests

Forests cover 65 920 km², 28% of Romania's territory, with 48% being state forests, 18% owned by local authorities and 34% private forests (e.g. individuals, communities, schools and churches).²³ Whilst there are valuable forest habitats in various parts of the country, the Romanian Carpathians have retained the largest tracts of natural broadleaf and mixed forests, including relatively large areas of old growth and virgin/quasi-virgin forest. The Romanian forest management system is based on ecologically sound forestry practices, which has resulted in the relatively good conservation status of forest habitats, especially in the Alpine bioregion (Strat and Mihăilescu, 2017).

The national forest management system, applicable to both state and private forests, incorporates measures to secure the continuous delivery of forest ecosystem services, including measures for biodiversity conservation, mainly by separating forests managed for timber from 'protective forests', that is, forests that are managed mainly to deliver ecosystem services and for biodiversity conservation (Environmental Ministry Order 3397/2012). Protective forests comprise 66% of forest land.²⁴

Habitats and species targeted in protected area management plans have also to be considered in the forest management plans (required for all state forests and for private forests over 100 ha), and conservation measures must be implemented by forest managers in all forests – not only in the protective forests, but also in the 'production forests' (i.e. those managed

mainly for timber). Conservation measures aim to reduce the frequency and intensity of logging activities and include recommendations for the conservation of forest-dependent species (e.g. rules/management measures for raptor nesting sites, or for retaining minimum amounts of deadwood).

In the early 2000s, the Forest Stewardship Council (FSC) voluntary certification scheme was introduced and promoted in Romania and was adopted by the National Forest Administration and private forest managers. The FSC scheme contributed to forest ecosystem conservation, especially through identification of high conservation value forests (HCVFs) and by providing management recommendations for maintaining/restoring them – recommendations that are included in the forest management plans. HCVFs include forests that have a high biodiversity and/or social value, for example forest habitats that are rare or endangered or have a high importance for rare species, or have an important role for protecting unique water sources for local communities. Recently the Programme for the Endorsement of Forest Certification (PEFC) system has been promoted, with the expectation that it will support responsible forest management by owners of small areas of forest.

The same management system²⁵ is applied to both public and private forests, but there are intense debates about adapting the management system to increase possibilities for private owners with small areas of forest to use the forest resources. One important measure contributing to the conservation of valuable forest habitats and species is the compensation payment scheme from the state budget. This applied for a brief period in the late 1990s and has been reactivated since 2016 for strictly protected forests and for those where only very limited interventions are allowed. The restrictive measures are applicable to private forests that are critical for maintaining biodiversity and/or environmental services. The scheme is available for about 3% (223 200 ha) of the total area of managed forests, owned by private persons or private owner associations. Additionally, a voluntary Forest Environment and Climate Scheme is being implemented with funds allocated from the European Regional Development Fund (ERDF), encouraging designation of non-disturbance areas and using non-intrusive collection methods for the harvested timber. However, this scheme has had limited impact, mainly because of low interest amongst forest owners and/or because it has not been promoted properly.

Despite the generally nature-friendly management approaches required by the forest legislation, Romania has faced a major challenge in recent decades from high levels of uncontrolled and illegal logging (as discussed in Section 26.2.3). To address this issue, efforts are being made to improve the wood tracking system and reduce illegal logging. Starting in 2014, the government activated a timber transport survey tool for citizens, with a mobile app named Forest Radar

²¹ About 46 000 ha, according to Eurostat, as calculated within the 'Working Together for a Green Europe' project, based on information provided by Eurostat and FAOSTAT.

²² Working Together for a Green Europe – implemented by Milvus Group in partnership with the Transylvanian Carpathia Society Satu Mare with funds from the Active Citizens Fund Romania, a programme funded by Iceland, Liechtenstein and Norway through the EEA Grants 2014–2021.

²³ www.mmediu.ro/categorie/starea-padurilor/209

²⁴ www.mmediu.ro/categorie/starea-padurilor/209

²⁵ The Forest Law – Codul Silvic, Law no 46/2008.

(linked to the Emergency Call Service 112); this was upgraded in 2016 to a more transparent mobile app and a new satellite alert system signalling forest disturbances (Forest Inspector). This tool allows public involvement in identifying and reporting illegal harvesting and timber transport, with relatively good impacts. For example, a Greenpeace report on illegal logging in Romanian forests²⁶ found that 42% of the officially registered incidents of illegal timber transport were reported by citizens. Although it seems that there is a large community of citizens and organisations involved in this process (the Facebook Forest Radar group has more than 10 000 members), these tools only tackle a small proportion of illegal logging.

Only an integrated approach will solve the illegal logging problem, with solutions derived from a thorough analysis of the drivers and integrated into strategic planning in the relevant sectors (e.g. forest management, energy and construction). For example, one of the main drivers of illegal logging is the lack of firewood on the market: only about 50–60% of the need is currently met. This has to be addressed both through forest management-related measures, and by considering energy sources and energy efficiency-related aspects.

It is also important to have as soon as possible a formal recognition of the importance of large old trees (in and outside forests) as well as better integration of forestry and isolated large tree protection and CAP measures. For example, the CAP payment condition GAEC 7 (Section 4.3.8) recognises the biodiversity and wider environmental value of scattered trees on farmlands. However, as implemented in Romania, GAEC 7 allows the removal of scattered trees with the permission of the forestry authorities. Foresters favour the removal of large old trees that are often perceived as looking ‘unhealthy’ with their holes and dead branches.

26.7 Nature Conservation Costs, Benefits and Funding Sources

26.7.1 Nature Conservation Costs

The overall costs of nature conservation in Romania have not been estimated. However, the costs of implementing the Natura 2000 network have been estimated through the development of Prioritised Action Frameworks (PAFs). According to the PAF for 2014–2020, the required budget was €301 million per year (MoE, 2013). The total financial needs for implementing Natura 2000 for 2021–2027 are estimated to be €544 million per year averaged over the period, of which 28% are for one-off costs and the remainder are running costs (MoE, 2019). These annual costs cover general cross-cutting measures for the network (26%), habitat maintenance and restoration measures (57%), green infrastructure to support

the Natura 2000 network (14%) and additional species-specific measures (3%).

26.7.2 The Economic Benefits of Nature Conservation

There are no comprehensive evaluations of the economic benefits of nature conservation in Romania. The *NATURE4DECISION-MAKING (Demonstrating and promoting natural values, to support the decision-making process in Romania) – N4D* project, implemented by NEPA in 2015–2016, provided resources for mapping and biophysical evaluation at a national level of ecosystems and their services, as part of the EU Mapping and Assessment of Ecosystems and their Services (MAES) initiative. However, the results have not been used so far to determine the economic benefits of nature conservation.

The National Centre for Sustainable Development developed a methodology for rapid assessment for ecosystem services in protected areas in the *EcoServNat* project (Adamescu *et al.*, 2016). This methodology was initially applied in three Natura 2000 sites and then extended to another 10, but the project had limited impacts on other protected areas. Recommendations were developed for ecosystem service payment mechanisms for several sectors: agriculture, forestry, energy and tourism.²⁷

26.7.3 Funding Sources for Nature Conservation

Table 26.5 provides an overview of the main sources of funding (primarily during the 2014–2020 funding period) that have been used for nature conservation in Romania, as described in the following paragraphs.

Until recently, Romania did not have a dedicated state budget for biodiversity conservation, other than funding for salaries of staff with specific responsibilities in public institutions and agencies, and an annual budget for the Danube Delta Biosphere Reserve Administration. Since 2018, some funding has been allocated for the newly established ANANP, but only for salaries and basic administrative needs. The National Forest Administration covers the costs for the administration of the 12 National Parks and 10 Nature Parks under its management, and one county council provides some budget for one National Park. These funds do not cover practical conservation management needs. For example, the variable annual budget, averaging c. €3.2 million over 2011–2015 for the management of the Danube Delta Biosphere Reserve has been insufficient to carry out practical management, monitoring and enforcement activities for this large (c. 500 000 ha) and complex area (Rozyłowicz *et al.*, 2019). Entities that were responsible for protected areas based on custodianship contracts from about 2004 to 2018 had to secure financial resources for management planning and for

²⁶ www.greenpeace.org/static/planet4-romania-stateless/2019/07/4d0a0d0c-4d0a0d0c-raport-taieri-ilegale-2016.pdf

²⁷ <http://valueecoserv.cndd.ro/rezultate/>

management activities, mainly from EU project funds and private donors.

External funding for conservation has been available from the 1990s through the GEF support for key conservation actions up until 2016 (totalling €630.6 million – not included in Table 26.5) (MoE, 2013). The actions included the development of the protected area legislation, and the first protected area management teams, management plans and management activities. Since then, EU funds have helped to develop national databases for species and habitats, elaborate management plans for protected areas, develop action plans for species, manage and restore habitats, increase public awareness, and develop support for biodiversity conservation. The ERDF has been particularly important for Natura 2000 over the two funding periods since Romania became a Member State, with €215 million allocated for 2007–2013 and €344 million for 2014–2020 (see online Annex RO.3 for further details).

Although much lower, the funding for LIFE projects has also been very important and effective, with an investment of €66 million (€33 million from the EU) supporting 46 nature and biodiversity projects in Romania since the first in 1999 (further described in Annex RO.3). There have also been multinational LIFE nature projects that have involved Romania. The European Social Fund was used, through a SIPOCA project²⁸ over 2007–2013 (€3.4 million), to support capacity development in the ministry responsible for the environment, to improve the implementation of biodiversity policies.

Funding for active habitat conservation management, inside and outside Natura 2000 sites, has mainly been provided by the European Agricultural Fund for Rural Development (EAFRD). As discussed in relation to species conservation in Section 26.4.2, the agri-environment-climate measure has been used to fund practical conservation measures for several threatened species, as well as HNV farmlands. However, these measures are voluntary for farmers and have not been widely taken up. The schemes also only cover the ecological needs of a few BHD habitats and species. A relatively small proportion of RDP funding has been allocated to forest-environment-climate measures, and take-up has also been low. A further problem has been that Romania has not yet used the RDP Natura 2000 payments measure to compensate landowners for necessary restrictions on the use of their land, such as those identified in management plans, which has been a major constraint on their implementation. By far the largest proportion of RDP funding has been allocated to areas with natural constraints, which was extended during the 2014–2020 programming period, and used half of the budget. Although this

probably helps to reduce abandonment of HNV farmland and covers a large proportion of Natura 2000, its nature conservation benefits are uncertain.

26.8 Surveillance, Monitoring, Reporting and Applied Research

The most comprehensive national-level inventory and monitoring efforts have been developed as a result of the surveillance and reporting obligations under the EU Nature Directives. These have been supported by a number of past and ongoing EU ERDF projects, coordinated by the ministry responsible for the environment. These projects have developed monitoring guidelines, carried out field surveys and prepared the necessary reports. The monitoring and reporting (2013 and 2020 reports) on HD habitats and species were carried out by a consortium of public institutions led by the Romanian Academy's Institute of Biology, with the fieldwork carried out by individual experts, research institutes and specialised NGOs subcontracted by the project beneficiaries. A Monitoring Information System for Species and Habitats of Community Interest (SIMSHAB) was also developed through the same project, but it is not open for public access.

The monitoring and reporting on the conservation status of birds were managed by the ministry responsible for the environment in partnership with the National Centre for Sustainable Development Foundation, with the fieldwork carried out by specialised NGOs (Romanian Ornithological Society, and Milvus Group Bird and Nature Protection Association).

Besides the national monitoring activities, site-level monitoring plans have been developed and are being implemented through EU co-funded projects, assessing mostly the conservation status of BHD species and habitats within the individual Natura 2000 sites.

These monitoring actions, carried out due to EU obligations, do not fully cover the biodiversity monitoring needs of Romania. There is no integrated surveillance and monitoring system for biodiversity. Some Natura 2000 sites and domestic protected areas have developed local surveillance and monitoring systems, with some data collected in national or regional monitoring projects and included in an Integrated Biodiversity Information System (IBIS) database. However, most of the existing information is only available on request from the national authority. There are also NGOs (e.g. Romanian Ornithological Society, Milvus Group Bird and Nature Protection Association, Romanian Society of Herpetology, Association for Biological Diversity Conservation) that are carrying out local and regional monitoring of certain taxa, some allowing restricted access to their databases.²⁹ The Romanian Ornithological Society and Milvus coordinate a few national monitoring programmes that have been running

²⁸ Ministry of Environment (2016–2020), Developing the administrative capacity of the Ministry of Environment to implement biodiversity policy (SIPOCA 22), [Proiectul "Dezvoltarea capacității administrative a Ministerului Mediului de a implementa politica în domeniul biodiversității" | Ministerul Mediului.](#)

²⁹ The Milvus database is open to the public: <https://openbirdmaps.ro>

Table 26.5 Funding sources for nature conservation in Romania.

Source and period	Measure/category	Average annual allocation (RON m)		Average annual allocation (€ m)		Comments
		EU + national	EU	EU + national	EU	
EU funding instruments						
EAFRD Rural Development Programme measures – allocations to Priority 4 (restoring, preserving and enhancing agriculture and forest ecosystems) 2014–2020	M13 Areas facing constraints	1 114.6	929.6	226.4	188.8	
	M10 Agri-environment–climate	589.4	491.7	119.7	99.9	
	M11 Organic farming	177.1	147.6	36.0	30.0	
	M15 Forest environment climate	63.4	52.8	12.9	10.7	
	M1 Knowledge transfer, etc.	0.4	0.3	0.1	0.1	
<i>RDP Priority 4 subtotal</i>		<i>1 944.8</i>	<i>1 622.1</i>	<i>395.1</i>	<i>329.5</i>	
ERDF/Cohesion Fund 2014–2020	Cat. 4.1 Enhancing biodiversity conservation	221.7	188.5	45.0	38.3	For N2k, etc.
EMFF 2014–2020	M11.10 Aquaculture providing environmental services	35.0	17.5	7.1	3.6	Compensation in N2k
Interreg	Relevant to biodiversity conservation	16.9	14.3	3.4	2.9	14 projects
LIFE Programme 1999–2020	Nature and biodiversity projects	14.8	7.4	3.0	1.5	46 projects only involving Romania
European Social Fund 2014–2020	Measure 119. Investments in institutional capacity	2.3	1.9	0.5	0.4	For Ministry of Environment
<i>EU funding instruments sub-total</i>		<i>2 235.5</i>	<i>1 851.7</i>	<i>454.1</i>	<i>376.2</i>	
National public funds within 2014–2020			Additional non-EU* (RON m)		Additional non-EU* (€ m)	
National Forestry Administration 2014–2020	Administration of 22 protected areas	15.8		3.2		
ANANP 2017–2020	Staff and administration	10.3		2.1		Range: €0.6 in 2017 – €4.3 in 2020
Danube Delta Biosphere Reserve 2011–2015	Staff and administration	c. 15.8		c. 3.2		Range: €2.1 in 2012 – €4.5 in 2015
Others						
European Economic Area grants 2009–2014	RO02 Services for biodiversity and ecosystems	12.5		2.5		
Swiss Romanian Cooperation Programme 2009–2014	Grants for environmental NGOs	0.3		0.06		
<i>Additional national and others subtotal</i>		<i>54.6</i>		<i>11.1</i>		
<i>National total including co-financing of EU instruments</i>		<i>425.7</i>		<i>86.5</i>		
Total		2 290.1		465.2		

Notes. Currency conversion rate (29 May 2021): €1 = RON 4.93. 'For N2k etc.' indicates funding relevant to Natura 2000, related green infrastructure and BHD species (based on PAF). * Excludes co-financing of EU funds unless indicated. The subtotals and totals are only approximate indications of the average annual levels of funding as they are based on annualised data from differing periods.

Sources. Based on data from: RDP data from European Commission ESIF funds database (23 October 2020); RDP allocations to Natura 2000, ERDF, EMFF and national funding from 2021 to 2027 PAF (MoE, 2019); Romania LIFE factsheet, European Commission (updated February 2021). See Section 1.3 for further details.

for more than 10 years and now collect information annually.³⁰ Although these schemes are based on the joint efforts of a small number of volunteers, they provide valuable information about many bird species.

Independently from the monitoring of species and habitats of EU and national nature conservation interest, some monitoring is carried out by natural resource managers and public authorities to set quotas. This includes annual monitoring of game species by game managers, and fish stocks in the Black Sea and Danube by research institutions. Most of these monitoring results are not available to the public, and most NGOs consider the methodologies and the results to be unreliable.

Databases compiled through the various monitoring activities need consistent development and standardisation to be considered as part of a national surveillance system of biodiversity (Popescu *et al.*, 2016).

26.9 Future Developments

Despite the progress made in the last two decades, there are still many challenges for nature conservation in Romania. One of the key challenges is related to the legal framework for biodiversity conservation (i.e. harmonisation of sectoral policies and effective law enforcement). SACs need to be designated by the ministry responsible for the environment, although there is still no government strategy in this direction. A new Biodiversity Strategy should also be developed within the framework established by the *EU Biodiversity Strategy for 2030*.

Strengthening and further developing a transparent, delegated, participatory governance and management system for biodiversity conservation inside and outside protected areas is key for achieving or maintaining the favourable status of BHD habitats and species, as highlighted in the *Vision for Protected Areas in Romania* (Coalitia Natura 2000, 2020). Building the capacity of entities actively involved in, or influencing, biodiversity conservation is also key for effective stakeholder involvement and conflict resolution. ANANP should become the key player in the development and implementation of a coherent vision and strategy for the protected area system, in close cooperation with various entities at local and national levels. Allocating the resources needed by this agency and to support the development of substantial institutional and human resource capacity is of critical importance.

Steps also must be taken to increase the network's resilience to climate change and other threats and to harmonise economic development plans with biodiversity conservation objectives.

The state budget allocation has to be secured, and additional funding sources identified, most likely from EU funds allocated for the sustainable management of protected areas. Funds are needed not only to implement management measures defined through the management plans (including

restoration work), but also to compensate private landowners whose economic interests are affected by conservation measures. Natura 2000 payments should be activated as soon as possible.

The surface of strictly protected areas and strictly protected zones within the core areas of existing protected areas has to be increased to meet the 10% EU target. Speeding up the strict protection of the remaining pristine forests is critical and will contribute to achieving this 10% target. Another important step is to develop and implement short- and medium-term strategies to increase the core areas in National Parks to 75% of their area, as recommended by IUCN (Dudley, 2008).

Efforts to designate and properly manage ecological corridors have to be intensified, starting with the clarification of the legal framework needed for effective ecological corridors.

A national plan for ecological restoration should be developed to prioritise this type of conservation work, as was required under Target 2 of the *EU Biodiversity Strategy to 2020*. Restoration should target the most endangered types of habitats, including lowland grasslands (mostly steppic and pannonic) and riverine forests. There is also a need to establish a few protected areas of national interest in the lowlands and in the hilly areas, because these areas are generally very biodiverse and less represented in the protected area network. Restoration of degraded arable land and artificial forests should also be included in the plan.

An integrated scientific approach for managing and monitoring biodiversity conservation should be initiated by the ministry responsible for the environment through long-term collaboration with research institutes, universities, museums and specialised NGOs. These efforts would ideally result in the development of a national biodiversity database, including the information needed for the EU reports. In addition, establishing and implementing a well-defined monitoring programme, able to detect changes and trends in the status of populations and habitats, will enable authorities to act in a timely manner to prevent further species declines or habitat degradation.

Biodiversity conservation must be integrated with social and economic development plans and must become one of the key concerns for natural resource managers. EU support tools (e.g. agro-environment packages) are key for this process and continuous efforts are required to improve and further develop such tools using the management plans.

26.10 Conclusions

Romania has an outstanding biodiversity, with a great diversity of natural and cultural landscapes, large tracts of wilderness, pristine forests and biodiversity hotspots such as the Danube Delta. This has been subject to increasing pressures, especially after 1989.

The legal framework for nature conservation significantly improved through its harmonisation with EU legislation. Progress is being made also in terms of concrete conservation actions, especially since Romania is an EU Member State.

³⁰ <https://milvus.ro/en/birds/monitoring/>

However, further steps are needed to harmonise and strengthen the implementation of sectoral legislation with the Protected Area Law and other relevant legal provisions, which the European Commission could play an important role in driving and supporting. Whilst the institutional framework changed to some extent with the establishment of ANANP, the management of individual protected areas has worsened significantly since this agency was appointed to manage an important part of the protected area network. The highly decentralised protected area management system, although underfunded, worked reasonably well until 2018. Returning to delegated management of protected areas would allow a highly participatory system, with important professional and financial contributions from various entities such as NGOs, universities, research institutes, local authorities or natural resource managers and landowners.

The obligation to designate the Natura 2000 network and the decision of the Romanian government to consider them as protected areas led to a significant extension of the protected area system, with good coverage of BHD habitats and species. Future improvements in protected area coherence and representativity, as recommended in the *EU Biodiversity Strategy to 2030*, should consider carefully also species and habitats of national interest and ecological corridors.

Through the management planning processes initiated mainly due to the European Commission requirements to prepare SAC designation, important progress was made in habitat and species inventories and monitoring, as well as in establishing management measures to maintain and improve their conservation status, but most remain unimplemented due to a lack of funding.

Over the last few years, progress has been made in protecting large carnivore species, both through legal protection and by identifying management measures through pilot projects funded mainly by the EU. This EU support is still very much needed for the implementation of the recently developed national action plans for the protection of Brown Bear and Wolf, especially identifying solutions for the increasing human-wildlife conflicts.

Although the Romanian research institutes and universities are making efforts to initiate and implement applied research projects, a coherent strategy for prioritising research needs and coordinating activities with those of the conservation management organisations would contribute significantly to further nature conservation work.

The EU's financial support has provided, and continues to provide, the most important sources of funding for conservation actions, enabling species and habitat inventories and monitoring, management planning, some practical habitat management and species measures, awareness raising, education and community outreach, with some financial contribution from Romania's state budget. However, Romania has not taken full advantage of the available funding. In particular, it needs to use more RDP funds for nature conservation, including by developing an efficient Natura 2000 payment system.

There are also opportunities to use other funding lines relevant for land use and natural resource management or for encouraging sustainable development of communities whose livelihoods are still very much dependent on natural resources.

During the past decades Romania has concentrated much of its biodiversity conservation efforts on establishing the protected area network. Whilst it is vital to maintain and improve this network, authorities/decision makers and civil society have to recognise as soon as possible that biodiversity conservation is not only about protected areas. Biodiversity conservation has to become a national priority, that is, it has to be considered important by all relevant sectors to have a country that offers conditions for a high quality of life. To achieve this aim, it is of paramount importance to improve the legal framework and law enforcement, increase funding, monitor and report in a transparent way the status of biodiversity, harmonise sectoral policies and economic development with nature conservation measures, and secure conditions for highly professional, experienced public servants in the biodiversity sector, as well as in key sectors managing natural resources.

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