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10 December 2015

Online at <https://mpra.ub.uni-muenchen.de/68317/>

MPRA Paper No. 68317, posted 11 Dec 2015 18:07 UTC

# Overview and perspectives of protected natural areas in Romania

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## Abstract

Under the global environmental changes, the impacts of human-induced activities on habitats and ecosystems have become increasingly high, thus the role of protected areas in conserving biodiversity becomes critical. As a result, protected areas are exposed to a variety of pressures (e.g. biodiversity loss, habitat fragmentation, deforestation, pollution, overexploitation of natural resources, land use/land cover changes) posing major threats to ecosystems and their services. Currently, protected natural areas in Romania cover 1,798,782 hectares (7.55% of the national territory). An increased surface of protected areas was a priority of Romania's following the accession to the European Union (2007), thus having to reach a 17% protected surface of the national territory (from 7% as it had previously been before EU accession) by means of other important conservative tools, such as "Natura 2000" European Network. The current study is aiming to provide a general overview on the natural protected areas in Romania, identify and assess the main strengths, weaknesses, opportunities and threats (SWOT analysis) and, ultimately propose a strategic vision, for the next twenty years, based on key scenarios in relation to the measures and management guidelines assumed under the EU and national environmental policies. The research was undertaken in the framework of the project entitled: "Natural resources - strategic reserves, what we use and what we leave to future generations" supported by the Romanian Academy.

Key words: regional development, protected area, sustainable development

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## 1. Introduction

The effects of increasingly intensive human activities on the biosphere, irreversibly affect the natural balance of various ecosystems, natural (soil, water, air) and economic resources. Therefore, since the biodiversity of vegetal and animal species is so important for both the environment and human society, conserving it is an imperative necessity (Bălteanu et al., 2006, Muică et al., 2006, Vlad, 2015).

As living organisms representing renewable raw material and energy sources, protecting nature and its biological diversity, as well as the environment against the ever greater pressure put by human activities, has become one of the major problems of the world today.

Safeguarding biodiversity and geographical landscapes of special importance asked for the establishment of protected natural areas (Buza et al., 2005). Current basic principles of biodiversity conservation proceed from the following assertions: 1. the diversity of vegetal and animal species should be perpetuated; 2. human activity-induced species extinction ought to be prevented; 3. the complex interactions between species and natural communities must be maintained; 4. the evolution of new species must be secured; 5. species diversity is valuable for each individual and for human community as a whole (Geacu, Dumitraşcu, 2006).

In Romania, the task of nature protection was assigned to State or scientific institutions that established protection areas. In line with that, there are several legal acts that stipulate restrictions to forest exploitation (“Pravila” 1843, in Moldavia), hunting practices (Law of hunting police, 1891) and fishing (Law and regulations of fishing, 1897). A first law to protect the monuments of nature was passed in 1930 and the first National Park (Retezat) in Romania was set up in 1935. The first 17 nature reserves, legalised in 1932, (Official Monitor of the Council of Ministers of the Romanian Kingdom) were situated in the then counties of Severin, Cluj, Turda, Bihor, Ciuc, Maramureş, Hunedoara, Sibiu, Cernăuţi, Suceava, Dorohoi and Mureş (Bulletin of the Commission for the Monuments of Nature, 1943). Subsequently, several legal acts issued between 1933 and 2014, declared a great many areas protected. Such areas provide ecological, scientific, educational, recreational, economic and cultural benefits and the extent of protected areas is an indicator of the degree to which biodiversity components are being protected.

Since, at present, we are witnessing visible degradation of biodiversity with irreversible effects and major environmental imbalances, the Romanian Academy has initiated the project entitled “*Natural Resources – Strategic Reserves, What Are We Using and What Are We Leaving to Future Generations*”, emphasizing the main aspects of biodiversity conservation and the situation of natural areas in Romania.

## 2. A synthetic outlook on protected natural areas in Romania

Romania’s geographical position explains the wealth of its biodiversity consisting of 3,700 plant species and nearly 33,800 animal species. Studies

undertaken under the Corine-Biotops Programme led to the identification of 783 types of habitat (marine coast 13, wet lands 89, meadows 196, forests 206, marshes 54, rocks and sands 90, and agricultural 135) (Doniță et al., 2005).

The Carpathian Chain covers 55% of the country's territory, therefore Romania participates, alongside other six Carpathian countries, in "The Carpathian Ecoregion Initiative" International Programme aimed at the integrated conservation of the natural and cultural heritage, as well as the sustainable development of this region. The Carpathian Chain bridges the taiga and the tundra of the North to Balkan-Mediterranean Europe in the South, a favourable migration route for plant and animal species in the conditions of global climate change (UNEP, 2007). The Romanian Carpathians preserve the widest pristine forests (400,000 ha) and the greatest number of large carnivores in Europe (4,000 bears, 3,000 wolves and 1,500 lynx). The Southern Carpathian summits, covered by the largest alpine and sub-alpine meadows on the Continent, boast an impressive biodiversity (Bălțeanu et al., 2006). The largest pristine forests are to be found in Semenic Cheile – Carașului, Cheile Nerei – Beușnița, Domogled-Valea Cernei, Retezat, Rodna Mountains, Cozia, Călimani National Parks, as well as within Bucegi and Apuseni Natural Parks. The Carpathian Mountains and the Danube Delta list on the "Global 2000" WWF among the most important 200 ecoregions on the Globe, actual treasure-houses for the conservations of habitats and biodiversity.

Following Romania's EU membership status, protected natural areas kept increasing. Several Romanian Government Decisions issued over 2004-2010 time span (2151/2004; 1581/2005; 1143/2007; 1066/2010 and 1217/2010) contributed to the gradual expansion of protected natural areas (up to 998 today) of national and international interest (Fig. 1): 79 scientific reserves; 13 national parks; 230 monuments of nature; 661 nature reserves; 15 natural parks; 19 Ramsar sites; 3 Biosphere reserves: Retezat Mts (1979), Pietrosul Rodnei Massif (1979) and the Danube Delta (1991); 1 World Heritage Site: the Danube Delta. Protected natural areas cover 24.84% of the country's territory (protected natural areas: 7% and Nature 2000 sites 17.84%).



administration of national and natural parks and of Nature 2000 network, as well as its management body. The data reported by the National Environment Protection Agency to the European Environment Agency in 2013 (and reconfirmed in 2014) show a number of 969 protected natural areas (besides the 13 national parks, 15 natural parks and the Danube Delta Biosphere Reserve) as scientific reserves, monuments of nature and nature reserves.

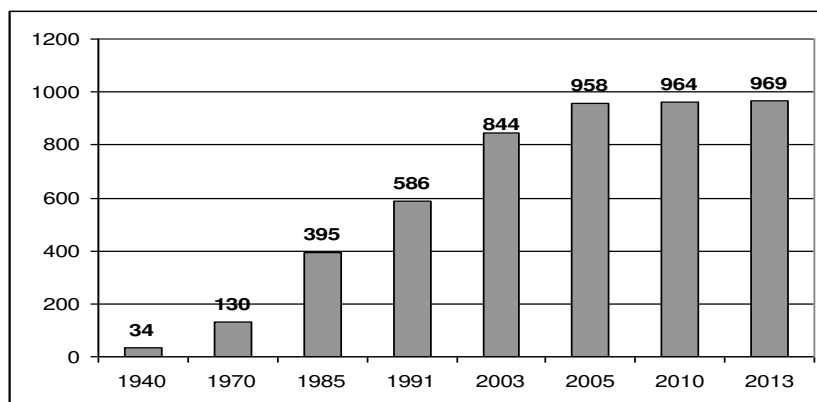


Figure 2. Numerical evolution of protected natural areas (source: [Geacu, Dumitraşcu, 2012](#), updated).

#### 4. The management of protected areas in Romania

Protected areas are managed conformably with the provisions of the Emergency Ordinance of the Romanian Government (No. 57/2007) regarding the regime of protected areas, conservation of natural habitats, wild flora and fauna, sanctioned by Law No. 49/2011, Government Decision (GD) No. 1,000/2012 on the reorganization and functioning of the National Agency for Environment Protection and of the public institutions subordinated to it, and Order of Minister (OM) No. 1,470/2013 authorising the Methodology of assigning the administration and custody of protected natural areas. By the end of 2013, a number of 10 management plans for the following sites had already been approved: “Grădiştea” National Park Cioclovina Hillock, “Măcin” Mts National Park, “Piatra Craiului” National Park, “Porţile de Fier” (Iron Gate) National Park, “Călimani” National Park, “Bucegi” National Park, “Balta Mică a Brăilei” (floodplain lake) National Park; a protected area of national interest is the Mole Rats (*Spalax typhlus*) Reserve at Apahida; Buhuşi-Bacău-Bereşti reservoirs, and Nature 2000 Site at Plopeni. Other normative acts authorised the regulations, scientific and advisory councils of natural and national parks. The strategies, programmes and legislation of protected natural areas are elaborated by several authorities (Table 1).

Table 1: Central bodies involved in the co-ordination of protected natural areas in Romania

Ministry of Environment and Climate Change	Elaborates environment protection natural strategies (Romania's National Climate Change Strategy – up to 2050)
Environmental Fund Administration (EFA)	LIFE+2015
Ministry of European Funds	The main institution granting financial assistance to environment protection projects and programmes; co-ordinated by the Ministry of Environment and Climate Change
Ministry of Regional Development and Public Administration	Elaborates and manages the Large Infrastructure Operational Programme (LIOP) 2014-2020
National Agency for the Land Register and Real Estate Advertising	Elaborates Romania's Territorial Development Strategy

Source: authors compilation

### 5. SWOT analysis of protected natural areas in Romania

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>- Romania, a country rich in biodiversity (about 3,700 plant species and nearly 33,800 animal species) has species of community interest and/or species put on various world heritage protection lists;</li> <li>- Romania has steadily participated in the international environment policy, signing and ratifying all international conventions on the protection of the world's natural and cultural heritage;</li> <li>- Adequate legislation and institutions empowered to act in this domain;</li> <li>- 31 major natural areas (3 biosphere reserves, 13 national parks, 15 natural parks) and 969 nature reserves;</li> </ul>	<ul style="list-style-type: none"> <li>- Absence of Management Plans and effective protection for most nature reserves and Nature 2000 sites (April 1, 2015: management plans approved by the Ministry of Environment and Climate Change only for 3 national parks, 4 natural parks, 2 nature reserves and one Nature 2000 site);</li> <li>- Ever greater human pressure on protected natural areas (e.g. deforestations, tourism, mining exploitations, overgrazing);</li> <li>- Wide expansion of Nature 2000 areas, including terrains for various land uses contrary to protection goals;</li> <li>- Lack of means and norms of law</li> </ul>

<ul style="list-style-type: none"> <li>- Significant national expansion of protected natural areas, mainly by developing a network that covers about 23% of the country's territory;</li> <li>- A GIS data-base integrated at national level (a cadastre of natural protected areas, internal zonation of parks, a Nature 2000 data-base conformable to the requirement of INSPIRE directive) freely available on the site of the Ministry of Environment;</li> <li>- The Romanian Academy's Commission for the Monuments of Nature set up in 1950, the decision-making body on protected natural areas;</li> <li>- The great number of NGOs involved in environmental protection;</li> <li>- Over the past decade approx. 40 major projects on protected natural areas have been implemented (e.g. Global Environment Fund, LIFE, Cross Border Cooperation Programme, South-East European Cooperation Programme) totalling approx. 35mil. EUR;</li> <li>- A great diversity of heritage sites (e.g. monasteries, archaeological sites, churches) in some protected areas.</li> </ul>	<p>enforcement in protected natural areas and their management;</p> <ul style="list-style-type: none"> <li>- Absence of funds for implementing management targets in protected natural areas;</li> <li>- Absence (or scarcity) of the necessary workforce to implement management protection tasks;</li> <li>- Settlements situated close to protected areas are usually little developed and have few future development opportunities; they have limited access to infrastructure, and their population is continually migrating;</li> <li>- Irrational use of natural resources (e.g. forest exploitation);</li> <li>- Excessive use of coastal areas, in disregard of the ecological balance; and substantial progression of sea-shore erosion, the beach area shrinking;</li> <li>- The management of protected areas does not correlate economic and social development targets with conservation goals in the case of the fragile communities of protected area located in isolated mountain or border zones.</li> </ul>
<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>- Important European funding sources for the elaboration of management plans and actions to raise people's awareness of the value of protected areas;</li> <li>- Implementation of projects (e.g. SINCRON) through the National Agency for Environment Protection (NAEP) to achieve efficient management of protected natural areas;</li> <li>- Greater involvement of NGOs, learning and research institutions in the problems and management of protected natural areas;</li> <li>- Subventions earmarked to reducing</li> </ul>	<ul style="list-style-type: none"> <li>- Loss of habitats and habitat fragmentation through urbanisation, infrastructure developments, and exploitation of natural resources, of forests in particular;</li> <li>- Uncontrolled forest exploitation and illegal logging inside protected natural areas;</li> <li>- Draining wetlands or using them to cultivate alochthonous species (cultivated American poplar, acacia) for economic gains;</li> <li>- Abandonment of traditional land-use practices, particularly in the case of</li> </ul>



<p>human pressure on protected natural areas;</p> <p>- Starting with 2015, the Romanian Forest Administration committed to provide national and natural parks under its administration a reasonable annual budget to ensure administrative expenditures, investments, equipments, training and public awareness</p> <p>An important project implemented by the Romanian Forest Administration entitled "Improving the financial sustainability of the Protected Area System", totaling 5.6 mil. USD, funded by the Global Environment Facility (GEF) during 2010 – 2014 aimed at pursuing the economic evaluation of natural protected areas and developing payment mechanisms for the services provided by the ecosystem services, upon which were developed proposals for legislative changes in order to increase the financing of protected areas.</p>	<p>pastures and hay-fields; burning stubbles; overgrazing;</p> <p>- Overexploitation of ecosystems and species through economic activities;</p> <p>- Penetration and expansion of invasive species (e.g. <i>Amorpha fruticosa</i> in the Danube Delta Biosphere Reserve, Mureş Floodplain and Comana Natural Parks);</p> <p>- Environmental pollution affecting biodiversity (e.g. acid rains, eutrophication);</p> <p>- Hydrotechnical installations (e.g. small power-plants);</p> <p>- Uncontrolled waste dumping in protected natural areas;</p> <p>- Building aeolian parks, especially on bird migration routes;</p> <p>- Global environmental change induced by extreme climatic phenomena (e.g. droughts, floods, cold or heat waves)</p>
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Source: [Dumitraşcu et al., 2015](#)

## 6. A vision of the evolution of protected natural areas

Our proposals are conformable to the goals set by the main national and Community documents in the field of biodiversity conservation and protected areas management:

- 2020 EU Strategy on biodiversity,
- Europe 2020 Strategy, European Commission;
- National Strategy for Romania's territorial development -2035 (up to 2050);
- National Biodiversity Strategy and Action Plan 2014-2020;
- Millennium sustainable development goals;
- Romania's National Strategy 2013-2020-2030;
- Strategic National Framework of sustainable development of the agro-alimentary sector and the rural area, 2014-2020-2030;
- Prioritised Action Framework – Habitat Directive for Nature 2000 sites.

In the authors' opinion, the following actions will sustain the current vision:

- an inventory of all the species in order to decide on measures of maintaining/improving species conservation;
- the elaboration of studies to assess and monitor the conservation of species and their habitats;
- economic analyses of the impact of human activity on Nature 2000 sites and on species of EU or international interest;
- prioritising actions according to the importance of situations;
- implementing Management Plans and controlling their implementation;
- identifying invasive species and their penetration routes; controlling/eradicating higher invasive potential species;
- maintaining ecological corridors, species migration corridors, maintaining and/or improving connectivity in protected areas and Nature 2000 networks;
- ecological reconstruction of degraded ecosystems in protected natural areas and Nature 2000 sites.

## 7. Possible scenarios for 2035

Whatever the time-period, territorial planning scenarios should have in view the natural background, beside other elements that may have a direct or indirect influence, on the future evolution of an area. The four scenarios proposed herein could give an overall image of the evolution, state of biodiversity, and protected natural areas in Romania ([Dumitraşcu et al., 2015](#)).

**First scenario** - regions based on knowledge, or which are developing according to the principle of knowledge (in the light of Europe 2020 Strategy). According to this scenario, the regions resort to modern technologies, exchange of information and modern systems of communications in order to identify new solutions to the environmental problems that should be dealt with. At the same time, they rely on the correct information of citizens and their effective participation in the management of the system they live in. In this scenario, research and new technologies are the driving-force that enables sustainable use of all of the region's human capital. The better disseminated information are, the more aware people become of their natural environment, and society as a whole will be more engaged in the management of the area. The three sectors with a decisive impact on the environment – urbanisation, tourism and agriculture – will benefit from a series of inventions and innovations liable to contributing to the protection and maintenance, or rehabilitation of biodiversity.

**Second scenario** -regions based on endogeneous potential (New Economic Geography). These regions are heavily relying on valorising local resources and traditions in order to build a flexible regional economy capable of adjusting to the external environment. This scenario is characteristic of regions promoting long-term projects and making best use of regional and natural advantages. It opposes the market liberalisation trend (also promoted by EU) and the valorisation by any means of the endogenous potential, advocated by the big international companies. The effects of climate change and of unsustainable agricultural policies aimed at maximising profits are detrimental to the biodiversity of protected areas. As environmental conditions are worsening, part of the area's population will emigrate, while the gap between rich and poor will widen. The inhabitants of these areas wish to live in a sustainable social and environment-friendly milieu.

**Third scenario** -regions lying in the so-called red zone (have major environmental problems, a real environment crisis existing there). In these regions, signs of environment impairment, due to uncontrolled human action, are obvious: higher temperatures, less precipitation, or flooding. This scenario shows people being simultaneously confronted with an ecological and economic-social crisis. Biodiversity is increasingly threatened, the use of water is strictly controlled, agriculture returns to growing dryness-adapted crops, tourism is declining, urbanisation is expanding, etc. As a result, ever more investments should be earmarked to the research of green technologies, researchers and NGOs will become important members of the local community. Hence a new sustainability paradigm will emerge.

**Fourth scenario** -the adaptable region has the main features of each of the previous three scenarios. Its underlying principle reads: global knowledge will sustain development and implementation of new technologies in an economic-social-ecological system. According to this scenario, the region will develop ecological agriculture/sylviculture and tourism (compatible sustainable uses), while urbanisation should observe landscape and land-use conditions in protected areas. All of the area's inhabitants, companies, NGOs, public institutions, etc. will be involved in participating, hence elevated territorial social cohesion.

Since human activities (e.g. economic, social, cultural.) cannot be severed from nature, a model of thinking the evolution of protected areas will rely on the principle of conservation framework for development. Thus, in multi-functional landscape areas, future economic and social services can be maintained alongside ecosystem protection practices. In order to preserve biodiversity, it is necessary for ecosystem-related services to be associated with economic activities, man's welfare going hand in hand with environment protection actions.

## Conclusions

Likewise the global economy, biodiversity in Romania and in the other European Union countries undergoes a crisis situation, its quantity and more especially its quality being in jeopardy. In view of it, a good knowledge of the current situation which stakeholders should refer to is imperative. As a matter of fact, numerous strategic documents and action plans do report on the negative effects of human action on nature: world species on the verge of extinction (one-quarter in the EU), many degraded ecosystems, habitats altered by expanding urbanisation, overexploitation of natural resources, introduction and dissemination of invasive species, extreme weather phenomena, landslides, floods, etc. Unfortunately, these reports are overlooked.

In the conditions of global climate-induced environmental change, the conservation of protected areas becomes a national and international strategic priority. Therefore, it is urgently necessary for Romania to promote and implement a strategy of natural area conservation based on real information, integrated development measures and policies, sustainable horizontal-transdisciplinary approach and, as important, the involvement of all of the country's inhabitants to participate in this endeavour.

## References

- Antonescu, Daniela (2013), The regional development policy of Romania in the post-accession period, Postdoctoral Research, [www.ince.ro](http://www.ince.ro);
- Bălțeanu, D., Dumitrașcu, Monica, Ciupitu, D., Geacu, S. (2006), Protected natural areas, în vol. "Romania. Space. Society. Environment", The Publishing House of the Romanian Academy, București.
- Buza, M., Geacu, S., Dumitrașcu, Monica (2005), Die Nationalparks in Rumänien im Kontext der EU-Erweiterung. Ein Überblick, Europa Regional, 13, 3, Leipzig.
- Doniță, N., Popescu, A., Păucă-Comănescu, Mihaela, Mihăilescu, Simona, Biriș, I.A. (2005), Habitatele din România, Editura Tehnică Silvică București, 442 p.
- Dumitrașcu, Monica, Geacu, S., Antonescu, Daniela, (2015), Arii Protejate, în vol. Resursele strategice ale României. Editura StudIS, Iași
- Geacu, S., Dumitrașcu, Monica (2006), Rezervații și parcuri naturale și naționale din România, Mediul Ambient, nr. 4, Chișinău.
- Geacu, S., Dumitrașcu, Monica, Maxim, I. (2012), The evolution of the natural protected areas network in Romania, Revue Roumaine de Géographie, tom 56, nr. 1, The Publishing House of the Romanian Academy, București.
- Muică, Cristina, Geacu, Sorin, Sencovici, Mihaela (2006), Biogeografie Generală, Edit. Transversal, București.
- Popescu, Gh., Pătrășcoiu, N., Georgescu, V. (2004), Ariile protejate din fondul forestier în România, în vol. "Pădurea și omul", Edit. Nord-Carta, Suceava.
- Simionescu B. (coordonator) (2015), "Resursele strategice ale României. Problemele prezentului și provocările viitorului", Coautor Capitol 5: "Arii protejate" (pag. 95-112), ISBN 978-606-775-010-2, Editura StudIS.
- Toniuc, N., Oltean, M., Romanca, G., Zamfir, Manuela (1992), List of protected areas in Romania, Ocrotirea Naturii și a Mediului Înconjurător, 36, 1, București.
- Vlad I. Valentin (coordonator) (2015), "Strategia de dezvoltare a României în următorii 20 de ani (Vol. I), Coautor Capitol 2: "Resurse naturale. Rezerve strategice. Ce folosim și ce lăsăm generațiilor viitoare", Editura Academiei Române, ISBN 978-973-27-2556-9, <http://www.acad.ro/bdar/strategiaAR/doc11/Strategia.pdf>.
- Zaman Gh., Georgescu G. (coordonatori), D. Antonescu, Z. Goschin, F. Popa (2015), "Dezvoltarea economică endogenă la nivel regional. Cazul României", <http://www.grin.com/ro/e-book/304493/dezvoltarea-economica-endogena-la-nivel-regional-cazul-romaniei>, Editura Expert, ISBN 978-973-618-408-6.
- UNEP (2007) Carpathian Environmental Outlook. Geneva. 232 p.

- Vlad, I., V. (coord.) (2015), *Strategia de dezvoltare a României în următorii 20 de ani*, vol. I, Editura Academiei Române, București.
- \* \* \* (1943), *Buletinul Comisiunii Monumentelor Naturii*, nr. 1-4, București.
  - \* \* \* (1973), *Legea nr. 9 privind protecția mediului înconjurător*, București.
  - \* \* \* (1995), *Legea nr. 137 a protecției mediului*, București.
  - \* \* \* (2000), *Legea nr. 5 din 6 martie 2000 privind aprobarea planului de amenajare a teritoriului național, secțiunea III – zone protejate*, București.
  - \* \* \* (2004), *Hotărârea Guvernului României nr. 2151/2004 privind instituirea regimului de arie naturală protejată pentru noi zone*, București..
  - \* \* \* (2005), *Hotărârea Guvernului României nr. 1581/2005 privind instituirea regimului de arie naturală protejată pentru noi zone*, București..
  - \* \* \* (2007), *Hotărârea Guvernului României nr. 1143/2007 privind instituirea de noi arii naturale protejate*, București..
  - \* \* \* (2010), *Hotărârea Guvernului României nr. 1066 /2010 privind instituirea regimului de arie naturală protejată asupra unor zone din Rezervația Biosferei Delta Dunării și încadrarea acestora în categoria rezervațiilor științifice*, București..
  - \* \* \* (2010), *Hotărârea Guvernului României nr. 1217 /2010 privind instituirea regimului de arie naturală protejată pentru Parcul Natural Cefa*, București.
  - \* \* \* (2011), *Ordinul Ministrului Mediului și Pădurilor nr. 2387/2011 pentru modificarea Ordinului ministrului mediului și dezvoltării durabile nr. 1964/2007 privind instituirea regimului de arie naturală protejată a siturilor de importanță comunitară, ca parte integrantă a rețelei ecologice europene Natura 2000 în România*, București.
  - \* \* \* (2011), *Hotărârea Guvernului României nr. 971 din 2011 pentru modificarea și completarea H.G. nr. 1284/2007 privind declararea ariilor de protecție specială avifaunistică ca parte integrantă a rețelei ecologice europene Natura 2000 în România*, București.
  - \* \* \* (2013), *Strategia Națională privind Schimbările Climatice 2013–2020*, Ministerul Mediului și Schimbărilor Climatice, București.
  - \* \* \* (2013), *Strategia Națională și Planul de Acțiune pentru Conservarea Biodiversității 2013-2020*, Ministerul Mediului și Schimbărilor Climatice, București.