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PROTECTED AREAS IN ROMANIA – REGIONAL BENCHMARKS

ABSTRACT

The main objectives of EU biodiversity policy – stopping biodiversity loss by the year 2020, strengthening the NATURA 2000 network (protected areas) and compensating for biodiversity loss, i.e. “stopping global environmental degradation” – have become objectives of national interest for Romania. Over time, certain areas have been designated as protected areas, in order to protect the most important values of biological (threatened species or human communities) and geological biodiversity, as well as exceptional cultural and spiritual values, thus becoming fundamental elements in the development of national and international biodiversity conservation and protection strategies. As any strategy must be based on the analysis of data available at a given moment, this paper aims to point out a few significant aspects of protected areas in Romania – temporal evolution of areas and their number, both at national level (without neglecting the European context), as well as at regional level, while ranking the development regions with the most protected areas and their size.

Key words: Environmental protection, biodiversity, protected areas.

JEL Classification: O13, P48, Q15, Q57, R11.

1. INTRODUCTION

One argument of this paper is, first of all, that 2020 is a target year for EU and international policy in terms of environment and its protection, namely the protection of biodiversity. The priority objectives in this area are/have been to stop biodiversity loss, strengthen the NATURA 2000 network and reverse the trend of biodiversity and ecosystem loss.

Although nature provides everything that is essential to life – food, health and medication, materials, means of recreation and well-being, unsustainable human activities have caused the decline of biodiversity at a faster pace than ever. This “is not only an environmental issue, but also an economic development and global security issue, as well as an ethical and moral issue. It is also a matter of self-preservation” (Almond, Grooten & Petersen, 2020).

The catastrophic events in the year 2020 – forest fires, floods in various places and the COVID-19 pandemic – highlighted the importance of protecting the environment, reiterating the decisive conclusion on the well-being of mankind –

biodiversity is crucial to human life on Earth, its conservation and protection being a priority for strategic investments to maintain human health and safety.

According to Romania's Development Strategy for the next 20 years, in the period 2016 – 2035, biodiversity influences the economic development process, a causality relationship existing between them: when development does not respect the environment, biodiversity undergoes negative transformations.

The protected areas, through their natural value and low degree of human intervention on their territory, are the best examples and models for the natural and semi-natural eco-systems.

The present study intends to outline the protected areas from Romania, at national and regional level, without neglecting the European context, through specific indicators: by categories, evolution of areas and number over time, location, conservation status, etc.

2. MATERIAL AND METHOD

Assessing public data sources, this study highlights national concerns in the field of biodiversity, in relation to protected areas. One of the methods used to prepare the raw analysis material was the personalized query of the official databases available – the results published by NIS in the Environmental Statistics series and by querying the public Tempo Online database, followed by author's own processing of data. Data from EUROSTAT, the UN, the European Environment Agency, FAO, the World Bank were also used to track down the protected areas.

For documentation purposes, national and international literature (treatises, monographs, research projects, articles/papers from established journals), various studies and analyses of nationally and internationally renowned economic institutions were significant benchmarks. National reports, strategies and action plans for the conservation of biodiversity and for Romania's development were also consulted. Information from unofficial analyses, reports and studies, as well as from regional development strategies, was also used.

Another method used in the study was filtering, collecting and analyzing complementary information (Internet, various publications).

3. RESULTS AND DISCUSSIONS

3.1. EUROPEAN UNION BIODIVERSITY STRATEGIES – EVALUATION OF RESULTS, LONG-TERM PLANS

The year 2020 is the target year of *Europe 2020 Strategy* and of *EU 2020 Biodiversity Strategy*. When reaching the time horizon of different strategies,

assessment of the results is needed in terms of the implementation of measures and recommendations included in these strategies.

The European Commission, together with the European Environment Agency, has launched the **first EU – wide ecosystem assessment** (for all ecosystems in the EU member states), pointing out that none of the EU's main objectives have been reached by the year 2020.

Some of the most important conclusions of this evaluation are the following: *unfavourable status of ecosystems in the EU* – most protected habitats, according to Habitat Directives, are in an unfavourable state of conservation (only 3–25% have reached a favourable conservation status); *existence of great legislative gaps in the protection of ecosystems*; *significant drawbacks in terms of EU data availability and of reporting the ecosystem situation* (data collection according to different environmental legislation in each country, reporting of data every 3–6 years makes it impossible to accurately evaluate the trends); *biodiversity should become increasingly important in the strategic policies of the EU*.

The report marks the end of the EU's Biodiversity Strategy to 2020 and the start of **the new EU Biodiversity Strategy** for 2030, the main objective of which is to strengthen the EU's legal framework for nature restoration. This is a long-term plan to stop biodiversity decline, aiming to restore biodiversity by the year 2030, being a key pillar of the **European Green Deal** in terms of sustainable development goals.

Focusing on biodiversity conservation and protection (through the European Green Deal and the EU Biodiversity Strategy 2030) represents the strategy for Europe's growth and for stimulating recovery from crisis¹, providing significant **economic benefits**. At the end of last year, two **important reports on biodiversity** were published: *Global Biodiversity Outlook 5* and *WWF Living Planet Report 2020*, highlighting the decline in biological diversity and the imperative call for firm and urgent action worldwide.

Protected areas in Romania. Declaring certain locations as protected areas (PA) represents the key of policies on biodiversity, biodiversity protection and conservation, as a first step in protecting their value, in terms of plant and animal species, (rare or valuable habitats), landscapes or cultural values in those areas.

The protection and conservation of biodiversity is achieved by imposing strict restrictions on using the resources of such areas, intended to act as a barrier to human activities with a high negative impact on the respective area, yet without constraining the normal life of inhabitants and the economic activities compatible with the protection of these areas.

¹ Ursula von der Leyen, president of the European Commission, “The European Green Deal is our new growth strategy. It will help us reduce emissions and create jobs at the same time”.

European context. The European Union has the largest network of protected areas worldwide, known as Natura 2000, which consists of about 27 thousand sites, being the cornerstone of biodiversity protection in the EU.

In the year 2019, 18% of the total land area of the EU-27 was protected or proposed for protection as Natura 2000 sites (764 thousand km² respectively).

Some member states protect a large part of their national territory as Natura 2000 sites. The member states that have designated 30% and more of their land area as Natura 2000 protected areas are Slovenia, Croatia, Bulgaria and Slovakia, and those that have designated no more than 13% of their land area as Natura 2000 sites are Denmark, Sweden and Latvia. This ranking of EU member states by the land area protected as Natura 2000 sites highlights the fact that biodiversity has declined from south-eastern Europe to the Nordic countries.

The situation nationwide. A larger number and surface of protected areas contributes to increasing biodiversity, through its protection and conservation, with an impact on human well-being.

In Romania, *the total surface included in protected areas* has increased over time, so that at present this protected area has almost tripled (to slightly above 23%), from 8% in the year 2007.

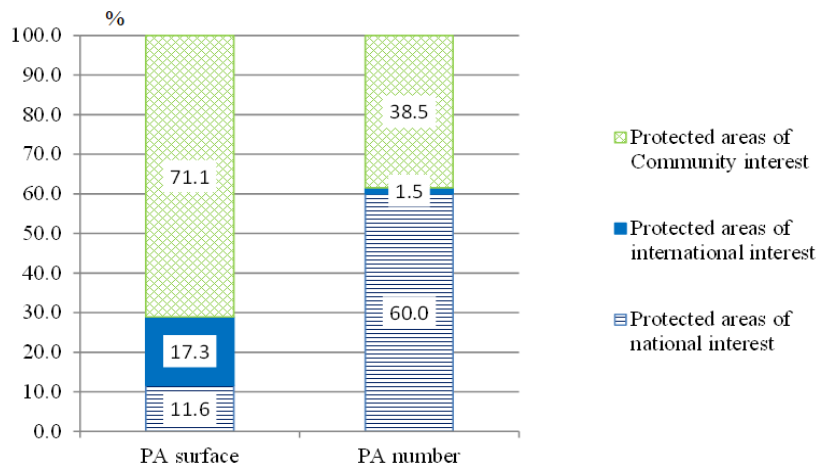
As regards the *number of sites* in Romania, in September 2020, according to the National Agency for Protected Natural Areas, other 23 new sites² were added to Natura 2000 network (declared special avifaunistic protection areas).

The designation of new special avifaunistic protection areas mainly contributes to the conservation of bird species of Community interest; in addition, it offers stakeholders the opportunity to better manage these areas and access EU funds for Romania. At the same time, by designating new protected areas, Romania complies with the requirements of the EU 2020 Biodiversity Strategy target: the completion of the designation of Natura 2000 sites.

Specific indicators that outline and characterize *the protected areas*:

- **number of protected areas** in Romania (Figure 1), almost two-thirds of protected areas in Romania are of national interest, followed by those of Community interest, accounting for 38.5% of total protected areas (only 1.5% are protected areas of international interest);
- **size** (Figure 1), almost three-quarters of the total surface of protected areas are areas of Community interest (area almost equally divided between the two components: special avifaunistic protection areas 32.3% and sites of Community importance 38.8%), the other part are areas of international interest (biosphere reserves, wetlands of international importance, natural sites of the World Natural Heritage) and areas of national interest (scientific reserves, natural monuments, natural reserves, national parks, natural parks).

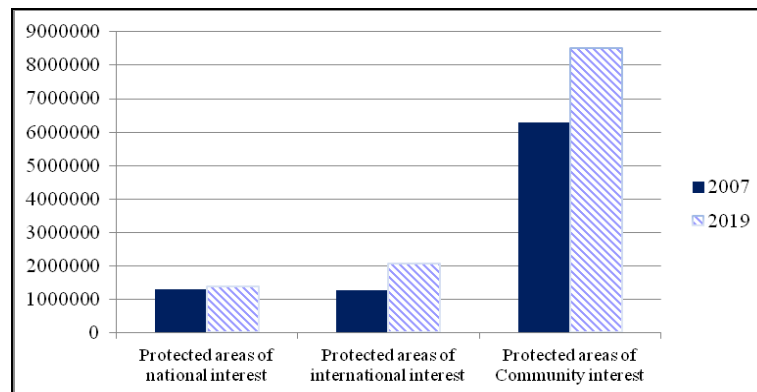
² not included in the data that formed the basis of this analysis, these being data until 2019, inclusively.



Source: author's own calculations based on Tempo Online data

Figure 1. Number and size of protected areas, by main categories, in the year 2019

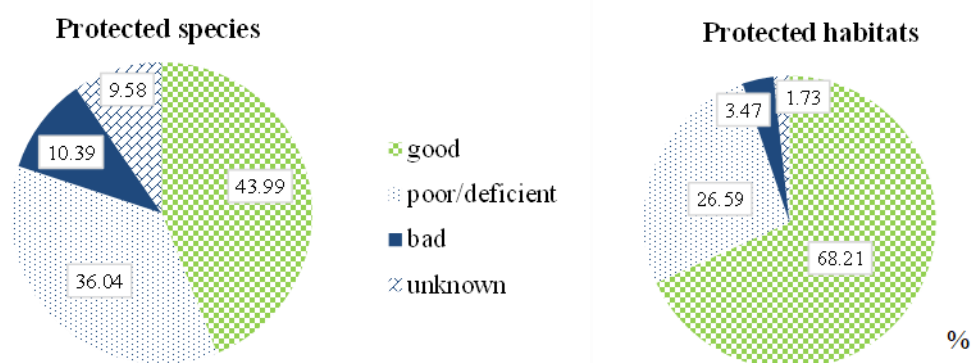
- **correlation between the number, surface and type of protected areas** reveals that a small number of protected areas (of a certain type) may cover a large surface or, conversely, a large number of protected areas cover a relatively small surface. Specifically, the protected areas of national interest (60% of total protected areas) cover a relatively small surface, slightly over one-tenth of the entire surface of protected areas, while the areas of international interest, which account for only 1.5% of the total number of protected areas, cover almost two-tenths of the surface of protected areas. The protected areas of Community interest (38.5%) cover the largest part of the total surface of protected areas (over 70%).
- **dynamics of protected areas** (Figure 2) in the period 2007–2019, the natural protected areas expanded by 35%, an increase determined in particular by the expansion of protected areas of international interest by almost two-thirds.



Source: author's own calculations based on Tempo Online data

Figure 2. Dynamics of protected areas (ha), by main categories, in the period 2007–2019

- **conservation status of protected areas** (Figure 3), more than two-thirds of *protected habitats* have a good conservation status and more than one quarter of these have a lower conservation status.



Source: Biodiversity Information System for Europe

Figure 3. Conservation status of protected areas in Romania

Almost half of *protected species* have a good conservation status and just over one third have a low conservation status. One-fifth of the protected areas have a bad or unknown conservation status.

3.2. REGIONAL BIODIVERSITY PROTECTION AND CONSERVATION

The country report published by the European Commission in 2019 points out that Romania has lagged behind in several other components that affect living standards, such as environmental protection (green infrastructure, adaptation to climate change, risk prevention and disaster resilience, decontamination of old contaminated sites, as well as prevention of floods and other natural hazards). Non-compliance with EU limits on gas emissions is another issue pointed out in the report, followed by the conclusion that nature conservation continues to remain a considerable challenge for Romania.

At the same time, the *analysis at regional level*, included in the report, reveals the maintenance of previously existing regional gaps, in terms of maintaining biodiversity, restoring ecologically affected areas and reducing pollution, mainly in highly sensitive areas.

For a better definition of measures proposed for the next years, in order to implement the **Regional Operational Program 2021–2027** (the strategic programming document, covering several areas: smart specialization and innovation, SMEs, energy efficiency, urban development, mobility and connectivity, protection of nature and biodiversity, educational infrastructure,

tourism and culture/cultural heritage) at the level of development regions, county and thematic meetings were organized with all regional actors involved (representatives of decision makers at regional level, NGOs, universities, representatives of the private sector, as well as of the civil society), working groups on “Environment, energy and climate change” were established, in order to develop a series of measures in the direction of biodiversity objectives and priorities.

The program aims to ensure the continuity of the strategic vision on sustainable and balanced development of each development region, based on the priorities of the Regional Development Plan, specific to each region, for the period 2021–2027. In the year 2020, the first versions of ROP 2021–2027 were developed and submitted for analysis and negotiation to the European Commission, for each region in part, starting from the needs and specificity of each region and taking into consideration the existing EU regulations; the proposed interventions will focus on the 5 main policy objectives of the European Commission:

- a smarter Europe (an innovative and smart economic transformation);
- a greener, carbon-free Europe;
- a more connected Europe (mobility and regional ICT connectivity);
- a more social Europe (implementation of the European Pillar of Social Rights);
- a Europe closer to citizens (sustainable and integrated development of urban, rural and coastal areas, based on local initiatives).

Some of these measures can be quantified using relevant statistical indicators. The quality of life in the urban areas, the inhabitants’ health status respectively, depends on the size of green areas, as the development of cities in each region has focused on the expansion of green areas to a greater or lesser extent.

The surface of green areas per capita in Romania’s municipalities and cities is one of the relevant indicators. At the end of 2019, according to NIS, Tempo Online data, this amounted to 26,958 hectares, i.e. 25.8 m² green areas/inhabitant, up by 5 percentage points from 2012; this indicator continues to be lower than the minimum standard of 26 m²/inhabitant at EU level, and far from the area recommended by the World Health Organization (50 m²/capita).

At regional level, the development Vest, Nord-Vest and Sud-Vest regions Oltenia are above the national average, while the other regions have values below the country average. The most favourable situation, with a green area/inhabitant over 30 m²/inhabitant in the urban area can be noticed in the Nord-Vest regions– 37.8 m²/inhabitant and Sud-Vest Oltenia – 30.9 m²/inhabitant. At the opposite pole, at great distance from the two above-mentioned regions, with only half of the green area of the Nord-Vest region, we can find the Centru Regions, with the most unfavourable situation (19.4 m²/inhabitant) and Sud-Est (22.4 m²/inhabitant).

Due to the variety of geoclimatic conditions (geographical positioning, climate change, altitude variation, diversity of rocks and substrate, soils, flora and

vegetation) existing in each county of each development region, biodiversity in each region is different, being characterized by particular elements in each region, as follows:

Nord - Est Region

- 112 habitats of national interest and 71 areas of Community interest of Natura 2000 Network (52 sites of Community interest and 19 special avifaunistic protection areas);

Sud - Vest Oltenia Region

- 131 natural protected areas of national interest and 42 areas of Community interest covering an area of about 30% of Oltenia Region (28 – sites of Community interest and 14 special avifaunistic protection areas);

Vest Region

- 138 natural protected areas of national importance, 101 areas of Community interest;

Sud - Est Region

- the region with the largest surface of protected areas in total protected areas in Romania (43.8% of total protected areas in Romania);
- the region with the largest surface under natural protected areas;
- 144 natural protected areas of national interest – including a biosphere reserve, a national park and 3 natural parks – as well as 110 sites that are included in Natura 2000 Community network;

Nord - Vest Region

- 170 natural protected areas of national interest (7.37% of the region's total area), 88 protected areas of Community interest (71 sites of Community importance and 17 special avifaunistic protection areas – SPA);

Centru Region

- 188 natural areas of national interest, 57 habitats of Community interest (16 of these are endangered natural habitats);

București Ilfov Region

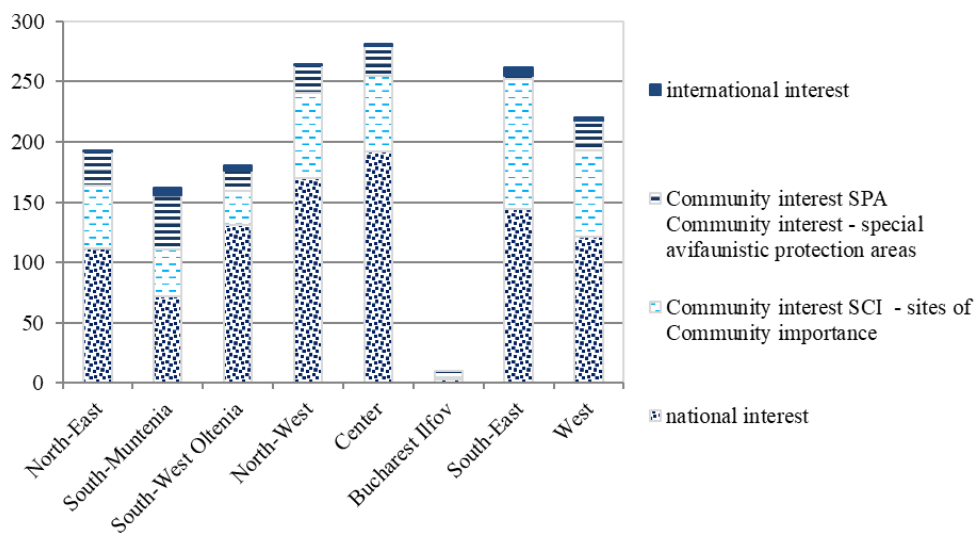
- 3 natural protected areas of national interest and 5 areas of Community interest.

The distribution of protected areas by development regions³, by main categories, is revealed by indicators such as “number of protected areas, by categories, by development regions”, “surface of protected areas, by categories, by

³ The data on natural protected areas, by regions, come from different sources, and some inconsistencies may occur, some of them because, by joining the European Union, Romania had the obligation to inventory and send to the European Union the list with the proposed sites to be included in Natura 2000 network of protected areas, until January 1, 2007. The partial list submitted in the year 2007 includes both protected areas designated according to national legislation (based on scientific and also cultural, historical, archaeological criteria of landscape), as well as new areas, declared Natura 2000 sites, on strictly scientific criteria, according to EU legislation. Later on, the boundaries of existing sites were corrected or extended by new regulations, in 2011, when new sites were added to NATURA 2000 network.

development regions”, “share of protected area in total area of development region”, “share of areas of national/international/Community interest in total area of region” or “land coverage by protected areas in the region”, each of these contributing to the statistical assessment of protected areas.

The latest available data (in the year 2018) reveal the concentration of *areas of national interest* in the regions Centru and Nord–Vest, about one-fifth of total protected areas of national interest each; the regions with the fewest areas of national interest are București - Ilfov (with only 0.3%) and Sud Muntenia (with 7.6%) (Figure 4).



Source: author’s own estimates, based on: <https://biodiversitate.mmediu.ro/romanian-biodiversity/> and <https://natura2000.ro/natura-2000-in-romania/>

Figure 4. Number of protected areas by categories and development regions, 2018.

The protected areas of Community interest are concentrated in the Sud-Est Region, with about one-fifth of their total number, followed by Vest, Nord-Vest and Centru Regions, each with about 15% of total protected areas of Community interest. The protected areas of Community interest are found in București-Ilfov (1.2%) and Sud Vest Oltenia (7.4%).

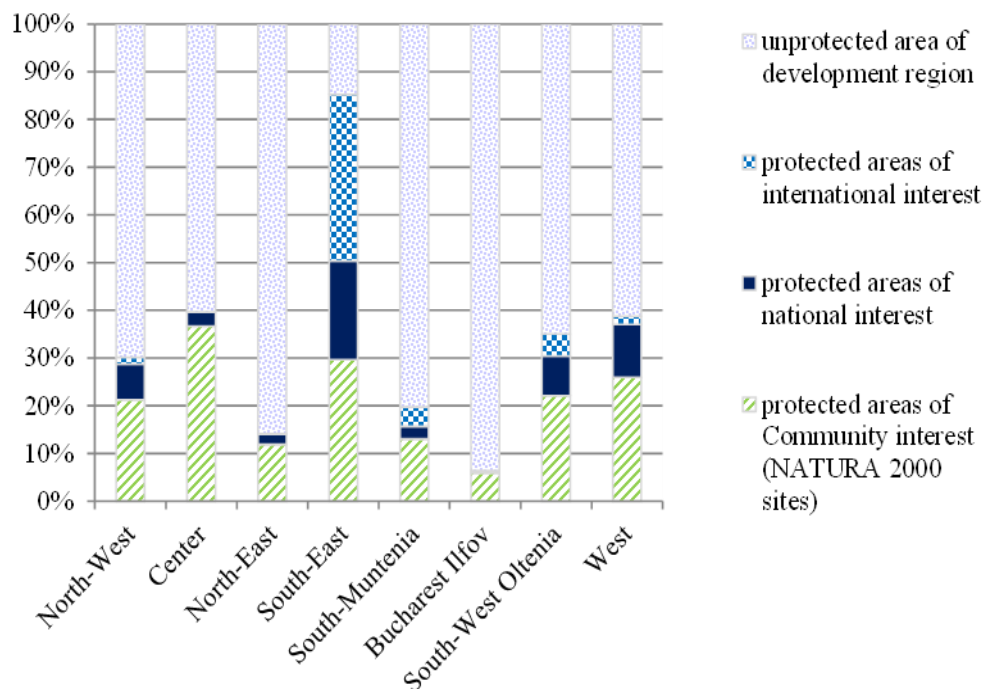
Most protected areas of international interest are found in the Sud-Est, Sud-Muntenia and Sud-Vest Oltenia regions.

The indicator “number of protected areas” is not relevant if it is not correlated with the area of protected land, a specific indicator that indicates the extent to which land is used rationally and in line with environmental protection needs.

The intensification of human activities has constantly threatened biodiversity, by destroying natural habitats, irrational land use, concentrating activities in high

ecological value areas, expanding urbanization, overexploiting natural resources, agricultural development, changing landscapes and ecosystems, uncontrolled tourism, etc. All these have led to the diminution of natural and semi-natural habitats, with negative effects on the number of wild plant and animal species. The conservation and restoration of certain natural ecosystems has thus become a priority issue.

The development region with the largest surface covered by protected areas (over four-fifths of its surface) is the Sud-Est Region, mainly due to the Danube Delta, which has been designated protected area of international interest (comprising both wetlands of international importance and biosphere reserves) (Figure 5).



Source: author's estimates based on data from Romania's Statistical Yearbook 2019, NIS

Figure 5. Share of protected areas in total surface of each development region, by main categories, 2018

About two-fifths of the surface of Centru and Vest Regions is covered by protected areas and one third of the total area of both Sud-Vest Oltenia Region and Nord-Vest Region is covered by protected areas.

At the opposite pole, we have the regions Nord - Est, Sud Muntenia and București - Ilfov, with the largest unprotected areas (over 80%).

In the year 2018, the Centru Region had the most favourable situation, more than one third of its total surface being covered by areas of Community interest (36.72%), followed by the the Sud - Est Region (29.65%). On the other hand, the Nord-Est Region and the Sud Muntenia Region have only a little over one tenth of the total area of the region covered by protected areas of Community interest, i.e. 11.88% and 13.06% respectively.

4. CONCLUSIONS

The evolution of protected areas in Romania reveals that changes have been produced over time, in the sense of consolidation of certain categories of protected areas or designation of new areas, which has resulted in the (significant) expansion of protected areas at national and regional level. Although the available data reveal significant increases in certain main categories of protected areas, in reality there is only a reordering by categories of these areas. However, it is worth noting a logical increase, a continuous significant expansion for each category of protected area, both nationwide and at the level of each development region, demonstrating the understanding of the need to stop destroying biodiversity.

The year 2020 can be considered a turning point in terms of biodiversity: on the one hand, it is a review year of the Europe 2020 Strategy and of the EU Biodiversity Strategy for 2020 and, on the other hand, a year marking the beginning of the new EU Biodiversity Strategy for 2030.

As part of the European Green Deal (adopted in late 2019), by which the EU aims to become the first climate neutral continent by the year 2050 (zero greenhouse gas emissions, stop climate change, reverse the decline of biodiversity and reduce pollution), the new EU Biodiversity Strategy for 2030 aims to put Europe's biodiversity on the path to recovery by 2030, making this a priority goal, decisive for other goals of the sustainable development strategy, with direct benefits for people, climate and planet.

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