PRIORITISED ACTION FRAMEWORK (PAF)
FOR NATURA 2000 in ROMANIA
pursuant to Article 8 of Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive)
for the *Multiannual Financial Framework* period 2021 – 2027

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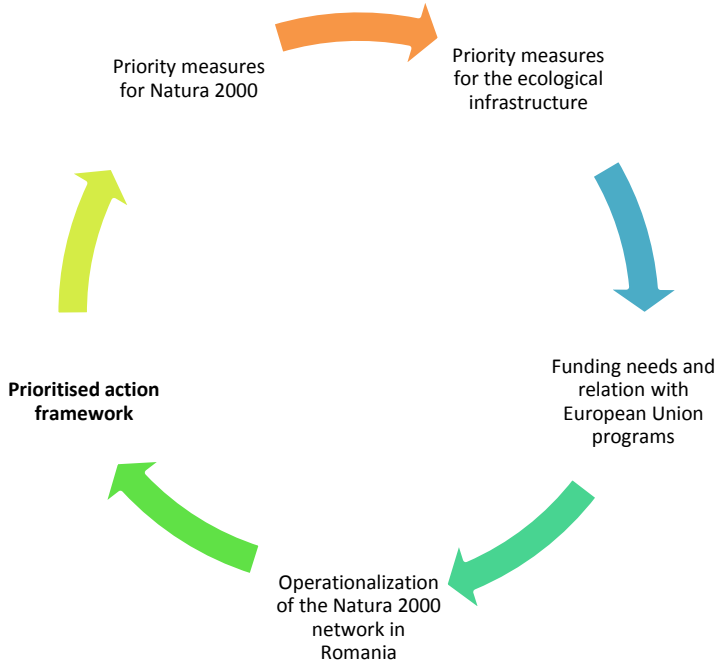
A. Introduction

A.1 General introduction

The priority action Framework for NATURA 2000 in Romania for the 2021 - 2027 period of the multiannual financial framework (CAP) is the multiannual strategic planning instrument, which aims to provide a comprehensive overview of the necessary measures for the implementation of the Natura 2000 network at Romania's level and its associated ecological infrastructure, specifying the financing needs of these measures and correlating them with the corresponding EU funding programs.



In accordance with the objectives of the Habitats Directive, the identified measures are in particular *„measures developed to maintain or restore, at an appropriate stage of conservation, the natural habitats and species"* of community importance, while taking into account economic, social and cultural conditions, as well as regional and local characteristics.

The legal basis of the PAF is Article 8 (1) of the Habitats Directive, which obliges Member States to send to the European Commission, estimates of the level of co-financing from European Union, aspect ncecessary to fulfil its the following obligations in relation to Natura 2000:

• Adopting the necessary conservation measures;

• Establishing the appropriate administrative documents or contractual clauses in accordance with the ecological needs of the natural habitat types found in Annex I or the species found Annex II and existing whithin the borders of Natura 2000 sites.

PAF focuses on identifying those needs and funding priorities that are directly linked to the specific conservation measures established for the Natura 2000 sites, in order to achieve the conservation objectives at the site level for those species and natural habitats for which the sites have been designated. Additional measures and their financial needs, relating to a more extensive ecological infrastructure, are also presented.

A.2 Structure of the current PAF format

The PAF structure fully respects the format recommended by the European Commission and includes three main components:

• Overview of the situation of Natura 2000 network level in Romania (spatial distribution, administration, categories of natural habitats and species of conservative interest with regard to threats and their state of preservation, specific relationships with local communities)

• Highlighting the way in which European funds and other categories of funding have been used in connection with Natura 2000 Network (EAFRD, EFRD, EMFF, LIFE, other categories of funds)

• Financing priorities for the 2021-2027 period.

The breakdown of conservation and restoration measures relating to Natura 2000 network and ecological infrastructure was carried out by large categories of ecosystems. The MAES classification was used, which was established as a conceptual basis for an EU-wide ecosystem assessment.
Also, for the priority measures and costs of the PAF we made a clear distinction between operating costs (e.g. staff costs for managing sites, annual payments to farmers agri-environment measures on grasslands, etc.) and specific expenses (nonrecurring actions, such as habitat restoration projects, large investments in infrastructure, purchase of long lasting goods, etc.).

A.3 Introduction to the specific PAF of ROMANIA

The Natura 2000 ecological network is one of the most ambitious projects promoted by the European Union in the field of environmental protection, aimed at reducing biodiversity loss, maintaining the favourable conservation status of species and habitats, improving the unfavourable conservation status of species and habitats and the smart use of ecosystem services on the European continent.

A.3.1. Information on administration and organisation of Natura 2000 network

The existing institutional framework is a relatively new one, its development beginning in the '90, with the establishment of the central public authority for environmental protection. Its development has been progressively achieved over the last 20 years, continuing with an adaptation process. The general development line had an ascending direction, following the clarification of the responsabilities, avoiding competences conflict, a clear differentiation of central structures with a major role in coordination and the establishment of policies, strategies and structures responsible for implementation and control, as well as the decentralisation of the decision-making process.

The institutional framework for biodiversity conservation has not changed semninficatively in recent years, but was enhanced with two new institutions: the Forestry Guard, a control body, and the National Agency for Protected Natural Areas, which are institutions designed to better focus on some aspects considered important in the current context, such as forest protection through more decisive action against illegal forest exploitation and a stricter supervision of protected areas management. The institutions dealing with issues related to the management and conservation of biodiversity in the Natura 2000 sites of Romania are:

The institutions dealing with issues related to the management and conservation of biodiversity in Natura 2000 sites of Romania are:

A. The Ministry of Environment, which is the body responsible for carrying aut national policy in biodiversity conservation context, and has the role to manage the protection of nature and biodiversity through the development and adoption of relevant legislation. The responsible structure within it is the Direction of Biodiversity, with authority to formulate, coordinate and monitor the implementation of national environmental policies, programs and legislation, and to collect adequate data on this aspect. It also coordinates and seeks to eficiently and correctly transpose European legislation related to biodiveristy and nature protection. The Direction of Biodiversity has an important role in coordinating the management structures of protected areas, evaluating management plans and preparing the legislation for their approval.

B. The National Agency For Protected Areas is an institution established in 2016, in the subordination of the central public authority for environmental protection, and takes over all the rights and obligations arising from contracts, conventions, agreements, and protocols concerning the administration of protected natural areas. It ensures the administration of protected natural areas. The main tasks are:

- suggest and develop strategies for protected natural areas, species of protected flora and fauna;
- checking and endorsing conservation measures, management plans and regulations for protected natural areas;
- coordinate and verify the implementation of management plans and activities related to protected natural areas, ensuring specific monitoring of natural capital through a unitary and informational system, managing and updating electronic databases;
- establishing and implementing the performance criteria for evaluating administrators and custodians of protected natural areas;

- providing technical support needed for the foundation of normative acts, strategies and policies on protected natural areas, as well as harmonization with the acquis communautaire, conventions, agreements and treaties to which Romania is a party.

C. The administration of the Danube Delta Biosphere Reserve (ARBDD) was established with the designation of the Danube Delta Biosphere Reserve (1990) and is the institution responsible for managing the natural patrimony of the national reserve, as well as for the relocation and protection of physico-geographic units here. It is directly subordinated to the Ministry of Environment.

D. The National Environmental Protection Agency (NEPA) performs its mission by carrying out its strategic environmental planning tasks; monitoring environmental factors; authorizing activities with environmental impact; implementing environmental legislation and policies at national and local level; reporting to the European Environmental Agency on protected areas. NEPA has the responsibility to provide technical support for the foundation of normative acts, harmonizing environmental strategies and policies with the acquis communautaire, implementing environmental protection legislation, coordinating activities of implementing environmental strategies and policies at national, regional and local level, authorising activities with potential environmental impact and ensuring compliance with legal provisions, coordinating the achievement of the Sectoral Action Plans and the National Environmental Protection Plan. It is also responsible for the development of databases relating to protected natural areas. It has a subordination of 42 environmental protection agencies for each county, which performs the agency's powers in the field of environmental protection at local level.

E. The National Environmental Guard is a public institution, with the task of controlling and applying legislation in the field of environmental protection. In the field of biodiversity, it controls:

- the legality of any actions (plans, projects, activities) related to protected areas, conservation of natural habitats, flora, fauna and aquaculture;
- the compliance with the provisions of all regulatory acts as defined by the Government Ordinance No. 195/2005 with subsequent modifications for any plan/project/activity requiring such documents;
- the application of management measures adopted in order to maintain or restore terrestrial or aquatic areas;
- the endorsement of activities related with catching, harvesting, acquiring and marketing wild flora and fauna both internally, and the export - import activities.

F. **National Agency of Forestry – Romsilva** is a public institution with the main task of assuring the forests management and of additional ressources in Romania. ROMSILVA assures the management of 12 national parks and 10 natural parks, being the main administrator of the natural protected areas in Romania after National Agency for Natural Protected Areas.

G. The Forestry Guard generally aims to ensure compliance with the forestry regime and the hunting regime, the legality of the circulation of woody materials, the prevention of illegal tree cutting, prevention and combating of poaching, ensuring the application of forestry documents, ensuring the the security of the Forestry Fund and the Hunting fund, ensuring the legality of forest products on the market. It has authority of control concerning the observance of the forestry regime, the hunting and the traceability of woody materials and the instructions on the harvesting of non-woody products.

It is also worth mentioning **the management system of protected natural areas**, which is outsourced to the administrators through administrative structures. National and natural parks, Natura 2000 sites of larger size and whose conservation objectives are more complex, as well as the Danube Delta Biosphere Reserve require its own management structures. As a result of adopting the Ordinance No. 75/2018 for the modification and completion of some normative acts in the field of environmental protection and the regime of foreigners, the management of Natura 2000 sites cannot be managed through custody anymore.

A.3.2. Biogeographic regions

The following biogeographic regions established at European Union level are found on Romania's territory: Continental (CON), Alpine (ALP), Pannonian (PAN), Pontic (BLS) and Steppic (STE). The Steppic bioregion is present only in Romania, and the Pontic bioregion is present in Romania and also Bulgaria. The Black Sea bioregion comprises the coastline and Romanian territorial waters, and the Black Sea Marine Region (BSMR) comprises the exclusive economic zone, according to the European Union's framework strategy for the Marine Environment (Directive 2008/56/EC).

A.3.3. General aspects related to natural habitats and seminatural in the Natura 2000 network

Natural habitats are classified in aquatic habitats – marine habitats, coastal and freshwater; terrestrial habitats – forest habitats, grassland and scrubland, peat and swamp habitats, steppe habitat; underground habitats – cave habitats. The Habitats Directive integrates 233 habitats of community interest, of which 73 are considered as priority habitats.

In the case of Romania, habitats of community interest must meet the following conditions: they must be present in Romania, are listed in the annexes of the Habitats Directive, are contained in the annexes of OUG No. 57/2007, approved by Law No. 49/2011, with subsequent amendments and additions, as well as present in the reference list of Annex 4 of O.M.. 2387/2011 (which modifies O.M. No. 1964/2007).

In OUG No. 57/2007 there are 95 habitats mentioned, of which 26 are considered priority habitats. The reporting of Romania on the basis of Article 17 of the Habitats Directive for the 2007-2012 period was carried out for 87 habitat types from Annex I, of which 3 habitats are subject to scientific reserve, the other 85 being distributed by biogeographic regions as follows:

- Alpine: 11 priority and 37 non-priority,
- Continental: 17 priority and 34 non-priority,
- Pannonian: 5 priority and 11 non-priority,
- Stepic: 6 Priority and 18 non-priority,
- Pontic: 3 Priority and 18 non-priority,
- Marine Black Sea region: 6 non-priority.

The most well represented priority habitats in the Natura 2000 network in Romania are: 91E0 (in 93 Natura 2000 sites), 91I0 (44) and 9180 (43), and the least represented are 1150, 2340 and 31A0 (one occurrence).

Habitat code	Category	Total number of appearances in Natura 2000 sites
91E0	9	93
91I0	9	44
9180	9	43
40C0	4	39
40A0	4	37
62C0	6	37
1530	1	32
6240	6	32
91D0	9	25
6230	6	24
91AA	9	24
4070	4	23
7110	7	23

Habitat code	Category	Total number of appearances in Natura 2000 sites
7220	7	18
6110	6	16
91H0	9	10
6120	6	8
8160	8	7
7240	7	5
7210	7	4
9530	9	2
2130	2	2
91X0	9	2
31A0	3	1
2340	2	1
1150	1	1

In the case of non-priority habitats, most well represented habitats are 6430 (in 100 sites Natura 2000), 9110 (90), 9130 (88) and 91Y0 (85), and the least represented are 1160, 1210, 1310, 1410, 2110 and 6420 (all with one occurrence).

In the Natura 2000 network, the distribution of natural habitats is presented as follows:

- 9 habitats (of which 3 are priority habitats) are present in a single SCI;
- 6 habitats (of which 3 are priority habitats) are present in 2 different SCIs;
- 21 Habitats (of which 5 are priority habitats) are present in 3-10 different SCIs;
- 27 habitats (of which 7 are priority habitats) are present in 10-30 different SCIs;
- 13 Habitats (of which 7 are priority habitats) are present in 30-50 different SCIs;
- 11 Habitats (of which 1 is a priority habitat) are present in more than 50 different SCIs;

For the 87 habitats (of which 26 are priority habitats), Romania has made reports, detailing the conservation status of habitats of community interest. The conservation status, by habitat groups according to the IBIS database, is:

-Habitats in favorable condition: 6261 (61.5%) – for example 1130, 1310, 3140, 3160, 3220, 4070, 6120, 6150, 6190, 8160, 8210, 9110, 9120, 9150, 91V0, 91K0, 9530

-Habitats in unfavourable bad condition: 3357 (33%) – for example 1140, 1150, 1210, 3240, 6240, 6250, 62C0, 7110, 91H0, 92D0

-Habitats in unfavourable inadequate condition: 384 (3.8%) – for example 2110, 6250*, 6420, 7120*, 7150*, 7210, 7220, 7230, 91AA*, 91I0*, 9260

-Habitats with unknown status: 38 (0.4%).

Thus, considering the unfavourable conservation status and the poor representation in the Natura 2000 network in Romania the most important priority habitats are: 7210*, 91AA* and 91I0*, as well as the non-priority habitats 2110, 6250, 7150, 7210 and 7220. The list is completed by the following priority habitats 1150, 2130, 2340, 31A0, 91X0 and 9530 with very little representation at the network level.

Of the habitats to which the improvement conservation status is necessary we mention the following: 1140, 1150, 1210, 2130, 2340, 3240, 3260, 4080, 6240, 6250, 6260, 7110, 7150, 7210, 9410, 62C0, 91D0, 91F0, 91G0, 91H0, 91Y0, 91Z0, 92A0 and 92D0.

Habitat code	Category	Total number of appearances in Natura 2000 sites
6430	6	100
9110	9	90
9130	9	88
91Y0	9	85
91V0	9	73
9410	9	64
9170	9	61
6520	6	52
91M0	9	51
92A0	9	51
6510	6	47
4060	4	44
91F0	9	41
6210	6	35
8210	8	34
3220	3	31
6440	6	30
6410	6	29
9150	9	27
3150	3	26
8310	8	26
3270	3	25
8120	8	23
3260	3	23
3230	3	23
6170	6	22
8220	8	20
7140	7	20
3240	3	20
6150	6	16
3130	3	15
8110	8	15
7230	7	14
6190	6	14
4080	4	13
91L0	9	13
9420	9	10
3160	3	10
1310	1	9
91Q0	9	9
1110	1	9
3140	3	8
4030	4	7
1170	1	7
8230	8	7
91K0	9	7
1140	1	6
7120	7	6
1180	1	5
9260	9	4
92D0	9	4
2190	2	3
7150	7	2
2160	2	2
8330	8	2
2110	2	1
1160	1	1
1130	1	1
1410	1	1
6420	6	1
1210	1	1

A.3.4 General aspects related to plant and animal species

In Romania, 3795 species and subspecies of plants were registered (more exactly 623 cultivated species and 3136 spontaneous species) (Campbell, 2000), 965 species of bryophytes (mosses) (Ştefănuţ, 2008; Sabovljević & al., 2008), 8727 species of fungi (mushrooms), over 600 species of algae of which 35are marine. 37% of plant species are found in grassland habitats, and more than 700 plant species arel located in marine and coastal areas. 4% of plant species are endemic, 75% of which are in the mountain area.

As far as fauna is concerned, a number of 33802 species of animals have been identified so far, of which 33085 are invertebrates and 611 vertebrates. Among vertebrates, 103 species of fish were identified, 19 species of amphibians, 23 species of reptiles, 364 species of birds (of which 312 are migratory species) and 102 species of mammals (mentioned in the Red Book of Vertebrates in Romania).

Of the species mentioned in the Habitats Directive, 271 are also found in OUG No. 57/2007 in Annex 3, 108 in Annex 4a, 204 in Annex 4b, 26 in Annex 5a, 22 in Annex 5b, 45 in Annex 5c, 4 in Annex 5d and 15 in Annex 5e, 5c, 5d. Some species are mentioned at the taxonomic group level, so their number cannot be estimated from the Habitats Directive or OUG No. 57/2007, with specific additions and changes.

Under the OUG No. 57/2007 with specific additions and changes, a number of 18 species in Annex 3, 10 in Annex 4a, 1 in Annex 4b, 2 in Annex 5a, 22 in Annex 5b, 45 in Annex 5c, 4 in Annex 5d and 15 in Annex 5e are considered as priority species.

The representation of species of plants and animals in Natura 2000 sites in Romania is presented as follows:

-Invertebrates (54 species): the most well represented are *Lucanus cervus* (with appearance in 77 Natura 2000 sites), *Lycaena dispar* (53) and *Cerambyx cerdo* (49), and the less represented are *Glyphipterix loricatella* (2), *Graphoderus bilineatus* (2), *Buprestis splendens* (2), *Leucorrhinia pectoralis* (2), *Vertigo moulinsiana* (2), *Oxyporus mannerheimii* (1), *Stephanopachys substriatus* (1), *Stenobothrus Eurasius* (1) and *Isophya Harz* (1);

-Fish (26 species): the best represented are *Barbus meridionalis* (87) and *Sabanejewia aurata* (86), and the least represented are *Cobitis elongata* (2), *Eudontomyzon vladykovi* (2), *Rutilus pigus* (1) and *Romanichthys valsanicola* (1);

-Amphibians (6 species): the most well represented are *Bombina variegata* (187), *Triturus cristatus* (146) *and Bombina bombina* (105), and the least represented is *Triturus dobrogicus* (27);

-Reptiles (6 species): the best represented species is *Emys orbicularis* (96), and the worst represented *Vipera ursinii* (4) and *Vipera ursinii rakosiensis* (3);

-Birds (310 species): the most well represented are *Ciconia ciconia* (165), *Circus aeruginosus* (138), *Anas platyrhynchos* (138), *Lanius collurio* (123) and *Aythya nyroca* (113), and the least represented are *Falco naumanni* (1), *Cettia cetti* (1), *Stercorarius longicaudus* (1), *Stercorarius parasiticus* (1), *Panurus biarmicus* (1), *Xenus cinereus* (1), *Numenius tenuirostris* (1), *Bubulcus ibis* (1), *Cygnus columbianus bewickii* (1), *Tichodroma muraria* (1), *Plectrophenax nivalis* (1), *Glareola nordmanni* (1), *Passer hispaniolensis* (1), *Phalacrocorax carbo sinensis* (1), *Eremophila alpestris* (1), *Otis tarda* (1), *Aquila nipalensis* (1), *Calidris canutus* (1), *Oenanthe hispanica* (1), *Certhia brachydactyla* (1), *Podiceps auritus* (1) and *Tetrao tetrix tetrix* (1).

-Mammals (28 species): the most well represented are *Lutra lutra* (163), *Ursus arctos* (127) and *Canis lupus* (126), and the least represented are *Tulipa hungarica* (1), *Thlaspi jankae* (1), *Centaurea pontica* (1), *Saxifraga hirculus* (1), *Ferula sadleriana* (1), *Gladiolus palustris* (1), *Astragalus peterfii* (1) and *Stipa danubialis* (1);;

-Plants (46 species): the best represented are *Iris aphylla ssp. Hungarica* (46), *Echium russicum* (45) and *Campanula serrata* (36), and the less represented are *Microtus tratricus* (2), *Bison bonasus* (1) and *Mustela lutreola* (1);

The reporting of 2013 was made in conjunction with the presence of species in SCIs and SPAs, respectively at the level of 383 Natura 2000 sites, for a total area of 41365 km^2, of which 39794 km^2 was terrestrial surface and 1571 km^2 marine area. The reporting of Romania on the basis of Article 17 of the Habitats Directive for the 2007-2012 period was made for the species present in the annexes, 162 in Annex II, 174 in Annex IV and 35 in Annex V, distributed by biogeographic regions.

In accordance with the European reporting document, Romania's report was based on the general assessment matrix of the conservation status for species of Community interest. As a result, 608 reports were drawn up for 251 species, representing the conservation status.

Table 1 Distribution of species of Habitats Drective annexes by biogeographic regions

Biogeographic region	Species						Observations
	Annex II		Annex IV		Annex V		
	Priority	Non-priority	Also included in Annex II	Not included in Annex II	Also included in Annex II	Not included in Annex II	
Alpine	7	74	94	33	20	18	The range of species can overlap several biogeographic regions
Continental	12	114	140	44	29	21	
Pannonian	2	49	55	20	14	10	
Steppic	3	64	87	39	19	13	
Pontic	1	25	24	11	15	9	
Black Sea	0	2	3	1	0	0	
Subtotal	15	147	174	50	35	26	
Total	**162**		**174**		**35**		

The conservation status, by groups of species, according to the data in the final report made on the basis of Art. 17 of the Habitats Directive, December 2013, is presented in the table below:

Table 2 Conservation status of plant and animal species from Romania

Species group	Unfavourbale bad (U2)	Unfavourable inadequate (U1)	Favourable (FV)	Unknown (XX)	Not evaluated	Total Reported evaluations
Plants	7	44	40	2	0	93
Invertebrates	4	114	13	13	3	144
Fish	17	73	5	0	1	95
Amphibians	0	34	3	17	0	54
Reptiles	3	44	7	1	0	55
Mammals	1	77	43	15	0	136

The reporting on the basis of article 12 of the Birds Directive was carried out at national level, and it took into account the distribution of species and their characteristics (migratory species, resident species, etc.).

The final report for 361 species of birds contained 2467 evaluations, of which 860 were recorded with unknown conservation status, and for a species there was no reporting. The reporting was made for 145 species present in Annex I of Birds.

A.3.5 Natura 2000 key sites for the conservation of species and habitats

Linked to the importance of Natura 2000 sites for conservation of habitats, the situation of SCIs is as follows:

- 93 SCI-Fi preserve a single habitat;
- 69 SCI-fi preserve two habitats;
- 53 SCI-Fi preserve three habitats;
- 30 SCI-fi preserve four habitats;
- 74 SCI-uri conserve 5-9 habitats;
- 41 SCI-uri conserve 10-19 habitats;
- 17 SCI-uri conserve 20-29 habitats;
- 1 SCI-fi preserves over 30 habitats;

Most habitats of community interest are preserved within ROSCI0002 (39 habitats), ROSCI0069 (36 habitats), ROSCI0206 and ROSCI0065 (29 habitats), ROSCI0122 (28 habitats), ROSCI0124 and ROSCI0125 (26 habitats), ROSCI0128 and ROSCI0019 (25 Habitats).

In the case of priority habitats:

- 120 SCIs does not conserve a single priority habitat;
- 122 SCIs protect a single priority habitat;
- 61 SCIs protect two priority habitats;

• 37 SCIs protect three priority habitats;

• 15 SCIs protect four priority habitats;

• 10 SCIs protect five priority habitats;

• 7 SCIs protect six priority habitats (ROSCI0013, ROSCI0031, ROSCI0035, ROSCI0087, ROSCI0099, ROSCI0125, ROSCI0226);

• 5 SCIs protect seven priority habitats (ROSCI0019, ROSCI0065, ROSCI0124, ROSCI0206, ROSCI0227);

• 1 SCI protects nine priority habitats (ROSCI002);

• 1 SCI protects 11 priority habitats (ROSCI069).

By species groups, the most important Natura 2000 sites, in terms of number of species of conservative interest included in the site, are:

• For invertebrates: 209 Natura 2000 sites protect invertebrates, the most important being ROSCI0069 (22 species), ROSCI0206 (18 species) and ROSCI0227 (15 species);

• For amphibians: 268 Natura 2000 sites protect amphibians, of which 19 preserve 4 species (e.g. ROSCI0071, ROSCI0295);

• For reptiles: 111 Natura 2000 sites protect different species of reptiles, of which 19 preserve 4 species (e.g. ROSCI0071, ROSCI0172)

• For fish: 162 Natura 2000 sites protect different species of fish, the most important being ROSCI0162 (32 species), ROSCI0065 and ROSCI0022 (17 species included)

• For birds: 162 Natura 2000 sites protect different species of birds, the most important being ROSPA0031 (283 species), ROSPA0062 (215 species), ROSPA0022 (186 species) and ROSPA0037 (181 species)

• For mammals: 280 Natura 2000 sites protect different species of mammals, the most important being ROSCI069 (24 species included), ROSCI0036 (22 species), ROSCI0019, ROSCI0194 and ROSCI0206 (20 species included)

• For plants: 164 Natura 2000 sites protect different plant species, the most important being ROSCI0206 (13 species), ROSCI0019 and ROSCI0124 (10 species each)

Overall, in SPAs, most species of conservative interest are found, but only from the bords group (ROSPA0031 - 283 species, ROSPA0062 - 215 species, ROSPA0022 - 186 species and ROSPA0037 - 181 species). Of all SCIs, the largest number of species are protected in ROSCI0206 (68 species), ROSCI0069 (60 species), ROSCI0019 (53 species) and ROSCI0214 (50 species).

A.3.6. Pressures and threats to biodiversity

The main pressure and threat for biodiversity in the Natura 2000 sites is related to tland use change. At national level, in the year 2014, Romania's land fund consisted of 14630 thousand hectares of agricultural land (61.3% of the country's surface), 6734 thousand hectares of forest (28.3%), 831.5 thousand hectares of land occupied with waters and wetlands (3.5%), 758.3 thousand hectares of land covered by construction (3.2 %), 389.8 thousand hectares of land occupied by roads and railways (1.6%) and 495.4 thousand hectares of degraded and non-productive lands (2.1%) (National Institute of Statistics, Tempo-Online).

At the level of Natura 2000, 54.4% of the area of SCIs and 40.3% of the area of SPAs is occupied by forests, and the institution responsible for their management is represented by the National Forest-Romsilva and other various private structures. After the inclusion of forest areas in the Natura 2000 network, the owners had to adapt their forest activities management, in particular by integrating and taking into consideration the conservation objectives of natural habitats and species of flora and fauna of conservative interest. This meant a reorientation towards biodiversity conservation, rather than forest production.

The forest areas are followed by areas with shrub vegetation and grasslands (18.5% in SCIs and 19.8% for SPAs). In these areas, pastoral use has a high conflict potential with conservation activities. In the same case, arable land (5.4% in SCIs and 14.5% in SPAs), where the diversity of owners and the small size of the properties make it difficult to reconcile conservation objectives with those of production.

At the same time, in areas such as Dobrogea or Bărăgan monocultures and intensive agricultural activities prevail, aspect that led to the destruction of landscape and grassland habitats, with a significant impact on species of conservative interest.

Table 3 The situation of land use categories of Natura 2000 sites in Romania

Land use categories	% in SCI	% in SPA
Forests	54.40	40.28
Shrub vegetation	9.58	14.52
Grasslands	9.05	12.36
Wetlands	6.28	7.43
Arable land	5.48	7.09
Coastal waters	5.41	5.83
Continental waters	4.06	5.38
Heterogeneous agricultural areas	3.43	4.55
Urban areas	0.73	0.95
Permanent crops	0.67	0.74
Low-vegetation areas	0.62	0.48
Coastal wetlands	0.13	0.15
Construction areas, mines and landfills	0.08	0.12
Industrial, commercial and transport zones	0.07	0.1
Built areas	0.02	0.02

The natural and seminatural ecosystems that attract the attention are wetlands (16.2% in SCIs and 18.1% in SPAs), which also include coastal areas. Although theoretically they have a higher tendency to support conservation objectives, they have become the subject of numerous debates, related to their use for electricity production, fisheries and fish farming, or direct water use.

Even if industrial areas are not important (0.12%), their activity has been affected by the designation of Natura 2000 sites. Such examples are: limestone exploitation (ROSCI0015 Buila-Vânturarița), ballast exploitation (ROSCI0393 Someşul Mare, ROSCI0362 Gilort River, ROSCI0123 Lunca Siretului Inferior), granite exploitation (ROSCI0253 Trascău).

If in the past, the main threat to biodiversity was the conversion of different types of habitats into agricultural land for monocultures, also by destroying important areas of wetlands in the Danube Delta, nowadays, the conversion of natural habitats is maintained as a direct threat, particularly visible in the following cases:

• Extending agricultural land and built- up land as opposed to forests and natural meadows;

• Excessive fragmentation of agricultural land, degradation of productive services for agriculture and quality degradation that led to an increased land vulnerability to extreme climatic phenomena and a lower adapation capacity;

• Draining wet meadows and converting them to arable land or pastures. These actions were supported even with environmental funds;

• Rivers management and alluvial ecosystems destruction, also supported with environmental funds;

• Afforestation of grasslands with low productivity and of steppic habitats, sometimes considered by the authorities as "degraded" land;

• Destruction of shrub vegetation for extending the areas of pasture or for the purpose of developing tourism;

• Ploughing of natural grasslands for the expansion of arable land;

• Abandoning meadows and pastures, especially in the hardest-to-reach areas, which will be invaded by forest vegetation.

Table 4 Frequency of threats in Natura 2000 sites in Romania

Threat	Frequency
Grazing	247
Forestry activities	247
Hunting	189
Urbanized areas, human housing	151
Traps, poisoning, poaching	146

Roads, highways	141
Household waste/wastes from recreational bases	138
Forestry exploitation without replanting or natural cultivation	107
Cultivation	102
Use of biocidal products, hormones and chemicals	72
Removal of dry or drying trees	71
Pollution of surface waters (terrestrial, marine and brackish)	69
Forest clearance	67
Fire and combating fire	62
Erosion	58
Motor vehicles	57
Mowing/cutting of pastures	56
Sand and gravel exploitation	53
Livestock breeding	52
Sand and gravel extraction	51
Other impacts caused by tourism and recreation, which were not mentioned above	50

Alongside the land use change, infrastructure development, inadequate exploitation of natural resources, invasive species, climate change and pollution are represented as significant threats.
According to the updated information from standard forms, the most important threats are: grazing and forestry activities (247 Natura 2000 sites are affected), hunting (189) and urbanization. (151).
Most threats occur in the following Natura 2000 sites: ROSPA0004 (55), ROSCI0122 (50), ROSCI0069 (45), ROSPA0035 (43), ROSCI0085 (40), ROSCI0013 (37), ROSCI0005 (36), ROSCI0006 (33), ROSCI0031 (31), ROSCI0206 (31) and ROSCI0076 (30).

The major consequences for biodiversity that these threats generate have a significant effect for the structure and functioning of ecosystems. From the perspective of principles and objectives of conservation and sustainable use of biodiversity components, the main relevant consequences are:

• Increasing tendency to lose biodiversity, including in Natura 2000 sites;

• Fragmentation of habitats of many species and interruption of longitudinal (by the confinement of water courses) and lateral connectivity (by artificializong water courses, blocking or drastically restricting the migration routes of fish species and their places for reproduction and feeding).

• Restriction or elimination of habitat types or ecosystems in transitional areas (forest curtains, tree alignments, wetlands from large agricultural holdings or large lake systems) with profound negative effects on biological diversity and control functions of diffuse pollution, soil erosion, surface runoff and flood control, biological control of pest populations for agricultural crops, reloading of water and groundwater bodies.

• Ample modification, sometimes beyond it's critical threshold, for the structural configuration of river basins and water courses, associated with significant reduction in the capacity of aquatic systems to absorb the pressure of anthropogenic factors and increasing the vulnerability of socio-economic systems depending on them.

• Excessive simplification of the structure and multifunctional capacity of the ecological formations dominated or formed exclusively from intensive agricultural ecosystems and the increase of their dependence on commercial material and energy inputs.

• Destructuring and reducing the productive capacity of biodiversity components in the agricultural sector, including the decline of farmland birds.

All structural changes are reflected in the current configuration of the natural capital of Romania. These occurred during a longer time, primarily as a result of the growth and diversification of anthropogenic pressure and has led to the diminishing of its productive capacity and support for the resources and services requirements of the national socio-economic system.

A.3.7. Environmental conflicts in Natura 2000 sites

The identification of environmental conflict concentration areas in Natura 2000 sites network was based on information recorded in mass-media, at national level. There have been 1390 conflicts/problems identified within sites of community importance and 282 conflicts/problems in the special protection areas (excluding those SPAs whose surface overlap that of SCIs).

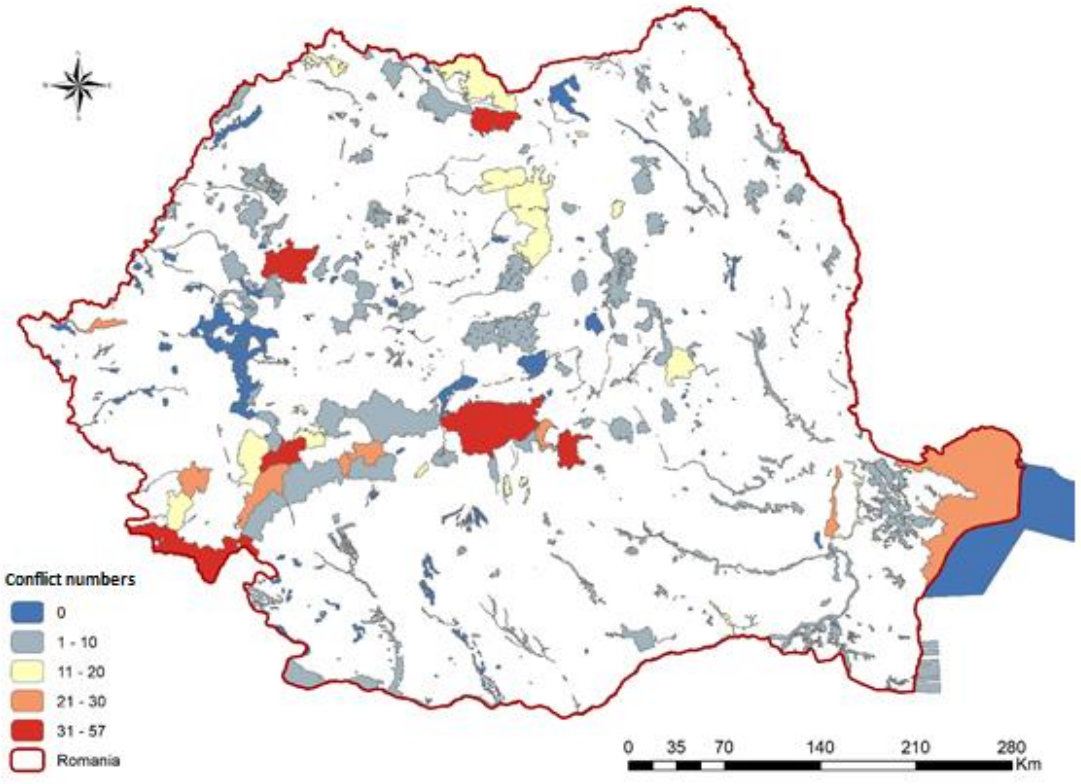


Figure 1 Number of conflicts presented in mass-media in Sites of Community Importance in Romania (2007-2017)

Of the 435 SCIs currently existing in Romania, for 169 of them (39%) there was no environmental conflict in presented in the media. Of these, 53 SCIs were recently designated, and in 81% of them (43 protected areas) no conflict was identified. This is primarily due the fact that these particular protected areas were recently dseignated. The largest number of conflicts was recorded in the following Sites of Community Importance: Retezat (57), Făgăraş Mountains (47), Iron Gates (46), Apuseni (41), Bucegi (40) and Rodnei Mountains (40), all of which were also declared as national or natural parks, in year 2000.

A.3.8. Information about the national/regional bodies involved in the PAF drafting and the consultation process

The factors involved have played a very important role in providing information for the achievement of the Priority Action Framework (PAF) and are presented in the following table:

Table 5 Actors involved in PAF development

Actors	The role in providing information	Funding programs dedicated to the Natura 2000 network
Ministry of Environment	Information/Documents on protected natural areas that have management plans, approved management plans, action plans for species, information on projects financed from European funds reported to the Natura 2000 network, etc.	LIFE+, POIM, POCA, Environment Fund, EEA Grants, PODCA – SIPEVAL, Integrated control of nutrient pollution
Ministry of Agriculture and Rural Development	Information on payments made by PNDR on Natura 2000 sites; Information on projects that include Natura 2000 sites	Operational Program for Fisheries and Maritime Affairs (POPAM) 2014-2020, National Plan for Rural Development (PNDR). We took into consideration the total allocation for a measure reported in the current allocation for the relevant shares or Submeasures for Natura 2000, ex: M4 investments in physical assets, M7 basic services and renewal of villages

Actors	The role in providing information	Funding programs dedicated to the Natura 2000 network
		in rural areas, M8 investments in forest areas, M10 agri-environment and climate measures, M12 payments for Natura 2000, M13 payments for areas facing natural constraints or with other specific constraints, M15 services of forest, climate services and forest conservation, other measures.
Ministry of European Funds	Information on projects that include Natura 2000 sites, funded by POS Environment, POIM, EEA and Norwegian grants, INTERREG EUROPE program. Information on projects financed by POS Environment 2007 – 2013 whose purpose was the development of management plans for protected areas and POIM 2014-2020 projects under implementation aimed at developing and implementing management plans	POS Environment 2007-2013, POIM 2014-2020, EEA and Norwegian grants, INTERREG EUROPE program
Ministry of Regional Development and Public Administration	Information on funded projects that include Natura 2000 sites	POR (ITI Danube Delta)
Ministry of Tourism	Information on funded projects that include Natura 2000 sites	INTERREG, START-Danube Region Project Fund, Joint Operational Program on Black Sea 2007-2013
Environmental Fund Administration	Information on funded projects that include Natura 2000 sites	Monitoring, studies, research and development in the field of climate change
Ministry of Water and Forests	Information on funding sources/management plans approved until now/PM in the course of approval for the natural areas in their administration; Information on projects that include Natura 2000 sites;	INTERREG, Danube Region Strategy, Integrated control of nutrient pollution
National Agency for Protected Natural Areas	Information on active conservation measures; Information on projects that include Natura 2000 sites;	POIM , POCA
National Agency for Environmental Protection	Consultation on the application of measures provided in the management plans of protected areas; Consultation on compensatory measures applied in the Natura 2000 network; Legislative aspects and dynamics of legislative acts Information on projects that include Natura 2000 sites;	Twinning 2004 -2006
National Environment Guard	Legislative aspects and dynamics of legislative acts Information on projects that include Natura 2000 sites;	INTERREG, EEA Grants
Administrators, National Forest Management, Administration of the Danube Delta Biosphere Reserve and	Information on projects that include Natura 2000 sites;	POS Environment, POIM, The EEA and Norwegian grants, INTERREG EUROPE, LIFE, POCA, Danube Region Strategy, Integrated control of nutrient pollution, POR (ITI Danube Delta)

Actors	The role in providing information	Funding programs dedicated to the Natura 2000 network
custodians who have had several areas protected in custody		
NGOs with activity in the field, other than those who are custodians, county councils administering protected natural areas	Information on projects financed from European funds, located in Natura 2000 network, debates dedicated to establishing conservation measures and financing requirements for protected areas for which there is no management plan	POS Environment, POIM, The EEA and Norwegian grants , INTERREG EUROPE, LIFE

Detailed opinions were offered by the National Forest Institute – Romsilva – Protected Areas Authority, WWF Romania Danube-Carpathian program (WWF-DCP) and Romanian Ornithological Society.

The consultation process was managed by the Ministry of Environmental Protection, together with the consultants that realise the PAF. The stakeholder's consultation included:

- Workshop, organised by the Ministry of Environmental Protection, where it was presented the main objectives of the PAF and proposed measures for different kind of habitats and species. At workshop participated the representative of the Ministry of Agriculture, Ministry of Water and Forests, Ministry of Regional Development, National Agency for Natural Protected Areas, Romsilva, NGOs (e.g. WWF), academia (e.g. Romanian Academy, University of Bucharest, National Institute of Biology)
- Written feedback of stakeholders (governamental agencies, NGOs) on draft version of PAF;
- Written feedback of the experts on specific habitats and species (e.g. coastal and marine habitats, forests habitats, grasslands, freshwater habitats, large carnivores, sturgeons).

All relevant suggestions, corrections and remarks have been included in the final version of PAF, after the validation by the experts involved in the PAF elaboration.

A.3.9. Existing national strategies with regard to ecological infrastructure

The most important document in the field of biodiversity conservation in Romania is the National Strategy and Action plan for biodiversity conservation, between 2014-2020. According to this document, Romania proposes the following general directions:

• Action direction 1: Halting the decline of biological diversity represented by genetic resources, species, ecosystems and landscape and the restoration of degraded ecosystems until 2020.

• Action direction 2: Integrating policies on biodiversity conservation in all sectoral policies, target year 2020.

• Action direction 3: Promoting traditional innovative knowledge, practices and methods and clean technologies as support measures to conserve biodiversity and to promote sustainable development, target year 2020.

• Action direction 4: Improving communication and education in the field of biodiversity, target year 2020.

For the fulfilment of these targets on biodiversity conservation and the sustainable use of its components following the analysis of the general context at national level and of threats to biodiversity, to ensure conservation "in-situ "and" ex-situ" and for the equitable sharing of the benefits of using genetic resources, the following strategic objectives have been established:

A. Developing the general legal and institutional framework and ensuring financial resources

B. Ensuring consistency and effective management of the national network of protected areas

C. Ensuring a favourable conservation status for protected wildlife species

D. Sustainable use of biological diversity components

E. Ex-situ conservation

F. Control of invasive species

G. Access to genetic resources and equitable sharing of benefits deriving from their use

H. Supporting and promoting knowledge, innovations and traditional practices

I. Development of scientific research and promotion of technology transfer

J. Communication, education and public awareness

A.3.10. Information about any specific challenges in the process of completing PAF

One of the most important challenges in the completion of PAF was related to the inexistence of a common pool of information relating to Nature 2000. Thus, funding is achieved through quite diverse instruments and the results of projects implementation are only found at beneficiaries. In addition, the statistics carried out do not allow an overall assessment of the way in which funding was distributed in financial year 2014-2020, considering the categories of expenditure set out in the PAF (part B).

Also, reporting made on art. 12 and 17 are quite outdated, and the information would have required an update in view of the fact that there is new information on the conservation status of species and habitats of conservative interest.

B. Summary of priority financing needs for the period 2021-2027

		Priority financing needs 2021-2027	
1.	**Horizontal measures and administrative costs related to Natura 2000**	Annual running costs (Euros / year)	One-off / project costs (Euros / year)
1.1.	Site designation and management planning	60.617.143	45.028.572
1.2.	Site administration and communication with stakeholders	14.350.000	1.200.000
1.3.	Monitoring and reporting	300.000	4.340.000
1.4.	Remaining knowledge gaps and research needs	2.200.000	5.810.000
1.5.	Natura 2000-related communication and awareness raising measures, education and visitor access	1.250.000	7.500.000
	Sub-total	**78.717.143**	**63.878.572**

2.a	**Natura 2000 site-related maintenance and restoration measures for species and habitats**	Annual running costs (Euros / year)	One-off / project costs (Euros / year)
2.1.a	Marine and coastal waters	5.340.000	1.950.000
2.2.a	Heathlands and shrubs	2.005.000	0
2.3.a	Bogs, mires, fens and other wetlands	15.450.000	7.450.000
2.4.a	Grasslands	91.550.000	24.100.000
2.5.a	Other agroecosystems (incl. croplands)	82.700.000	1.550.000
2.6.a	Woodlands and forests	36.935.000	12.050.000
2.7.a	Rocky habitats, dunes & sparsely vegetated lands	265.000	785.000
2.8.a	Freshwater habitats (rivers and lakes)	18.000.000	11.290.000
2.9.a	Others	-	-
	Sub-total	**252.245.000**	**59.175.000**

2.b	**Additional "Green infrastructure" measures beyond Natura 2000 (further improving coherence of the Natura 2000 network, including in a cross-border context)**	Annual running costs (Euros / year)	One-off / project costs (Euros / year)
2.1.b	Marine and coastal waters	8.400.000	1.200.000
2.2.b	Heathlands and shrubs	1.000.000	0
2.3.b	Bogs, mires, fens and other wetlands	6.750.000	350.000
2.4.b	Grasslands	14.675.000	2.365.000
2.5.b	Other agroecosystems (incl. croplands)	6.700.000	1.600.000
2.6.b	Woodlands and forests	12.540.000	320.000
2.7.b	Rocky habitats, dunes & sparsely vegetated lands	0	50.000
2.8.b	Freshwater habitats (rivers and lakes)	10.000.000	8.450.000
2.9.b	Others (caves, etc.)	-	-
	Sub-total	**60.065.000**	**14.335.000**

3.	**Additional species-specific measures not related to specific ecosystems or habitats**	Annual running costs (Euros / year)	One-off / project costs (Euros / year)
3.1	Species-specific measures and program not covered elsewhere	120.000	10.700.000
3.2.	Prevention, mitigation or compensation of damage caused by protected species	2.550.000	1.900.000
	Sub-total	**2.670.000**	**12.600.000**

	Annual total	**393.697.143**	**149.988.572**
	Total (2021-2027)	**3.805.800.005**	

C. Current state of the Natura 2000 network

C.1. Area statistics of the Natura 2000 network

In Romania, the 606 Natura 2000 sites (435 SCIs and 171 SPAs) occupy a total area of 60586.81 km^2, representing 22.8% of the national territory, as well as 4.42% of the area of SCIs and 5.04% of the area of SPAs at EU28 level (6.66% from the surface of terrestrial SCIs, 1.38% of marine SCIs, 6.75% of the surface of terrestrial SPAs and 0.75% of the marine ones). The area of SCIS is 46501.81 km^2, and the SPAs occupy 38746.45 km^2, overlapping them on an area of 24668.49 km^2.

Thus, the area receiving protection increased from about 4% in the year 2000 (941 national and natural parks, natural and scientific reserves and biosphere reserves) to 19.29% in 2010 (382 Natura 2000 sites, which were added to existing national protected network) and to 22.8% in 2018 (606 Natura 2000 sites).

Also, an important component is related to the declaration of SACs, which must be carried out after the approval of management plans and after updating the Natura 2000 standard forms. Only after this process, degree of completeness of the Natura 2000 network on the territory of Romania can be estimated. This is necessary because there are still inconsistencies between reports and the reality in the field, both by overestimation and by underestimating/disregarding the presence of species and habitats of conservative interest.

As regards to the establishment of ecological infrastructure, important are the results of the COREHABS-Ecological corridors for habitats and species in Romania project, which developed a system of methodologies needed to establish ecological corridors at national, regional and local level by identifying critical areas in Romania with a view to creating the scientific, technical and administrative framework for the efficient definition of an ecological corridor system and Its long-term monitoring.

The 2014-2020, Partnership Agreement (PA) reiterates the need to promote Green Infrastructure giving ecological corridors, green bridges and eco-passages as examples to reconnect artificially fragmented natural areas. Similarly, corridors or other landscape features could be maintained to establish a functional protected areas network. Connectivity through Green Infrastructure is a priority action also under the European Strategy for the Danube region. The PA has identified the following funding sources in conformity with Thematic Objective 6 – Conservation and protection of the environment and promotion of efficient use of resources: National Rural Development Programme (EARDF, amounting overall to EUR 1.12 billion) for restoring, conserving and extending agriculture and forestry dependent ecosystems; and Large Infrastructure Operational Programme (ERDF, amounting overall to EUR 0.61 billion and CF amounting overall to EUR 1.7 billion) for protecting biodiversity by elaborating management plans and investments in renovation and conservation measures. In addition, the Hungary-Romania Cross-Border Cooperation Programme aims at identifying relations between landscape, habitats quality and ecosystem services as perceived by local communities.

Examples of funds that support GI initiatives in Romania are:

1. European Structural and Investment Funds:

- "Protection of biodiversity through the development and implementation of management plans/ conservation measures/ species action plans, development of general conservation measures for all SPAs and SCIs and investment in conservation actions and ecological restoration of degraded ecosystems, including Natura 2000 sites, in order to achieve EU Biodiversity Strategy 2020 and Habitats/Birds Directives targets;"
- "Preserving and enhancing ecosystems dependent on agriculture and forestry through promoting organic farming, environmental and climate actions on agricultural and forest land including in High Nature Value farming and Natura 2000 areas;"
- "Implementing measures to tackle the causes of abandonment of agricultural activities through payments granted to farmers in areas facing natural or other specific constraints, (…) measures that will also contribute to soil preservation, carbon sequestration or other environmental benefits. Nature protection and conservation through a coherent and functional Natura 2000 network;"
- "Protecting and sustainable valorisation of natural sites including measures for urban environment through rehabilitation of unused and/or degraded public spaces and buildings."

In addition, EUR 2 billion have been allocated to the thematic objective "promoting climate change adaptation, risk prevention and management", which may also include actions related to GI implementation.

2. The **European Environmental Agency (EEA) and Norway Grants** support GI implementation through the programme on environment, climate change adaptation and ecosystems (in 2014-2021, the programme grant amounts to EUR 20 million and co-financing is EUR 3.5 million). COREHABS has developed the methodology to establish ecological corridors, designation criteria and identification of critical areas at national level. The project provided technical expertise for relevant authorities to apply the developed methodology in accordance with national and EU legislation. Furthermore, it support the Natura 2000 connectivity objectives as well as climate change mitigation, mentioned in the EU biodiversity action plan.
3. **The LIFE project**: Connect Carpathians – Enhancing landscape connectivity for brown bear and wolf through a regional network of NATURA 2000 sites in Romania (LIFE12 NAT/UK/001068) aims to enhance landscape connectivity within an ecological corridor located in Western Romania. This corridor consists of a network of Natura 2000 sites situated between the Apuseni Mountains and the Southern Carpathians and is the only route through which flagship species such as bears and wolves can move between the two areas. The project runs from September 2013 to February 2019. Project activities aimed at enhancing functional connectivity include: building capacity of responsible agencies and Natura 2000 site administrators in landscape scale conservation; involving local stakeholders in connectivity management; securing land to develop linkage corridors; managing corridors to create carnivore-permeable landscape (Connect Carpathians, 2014).
4. The Lower Danube Green Corridor (LDGC) aims to coordinate national efforts and cross-border cooperation among the Lower Danube countries for the protection and restoration of wetlands and floodplain habitats. The governments of Romania, Bulgaria, Ukraine and Moldova committed in 2000 to establishing a large-scale ecological corridor of up to 1 million ha of existing and new protected areas and 223,608 ha of areas was proposed to be restored to natural floodplains (Trinomics et al., 2016).

Several objectives of the Carpathian Convention (adopted by the Czech Republic, Hungary, Poland, Romania, Serbia, Slovak Republic and Ukraine) relate to GI: the conservation, sustainable use and restoration of biological and landscape diversity, ensuring a high level of protection and sustainable use of natural and semi-natural habitats, their continuity and connectivity, maintenance of semi-natural habitats, the restoration of degraded habitats, develop an ecological network in the Carpathians, integration of conservation and sustainable use of biological and landscape diversity into sectoral policies (Carpathian Convention, 2003).

The SURF-Nature project (2010 - 2012) was a partnership of 14 public bodies from 10 EU countries (including Romania) responsible for implementing ERDF funds. The overarching goal of the project was to improve regional policies and practices for nature conservation and biodiversity by increasing the financing of respective measures through the ERDF and increasing their impact. As one of the focus topics of the project was GI, the project involved the creation of an expert and stakeholder network, identifying and highlighting best practices, analysing success factors for ERDF-funded biodiversity and conservation projects, and providing trainings for capacity building and experience sharing.

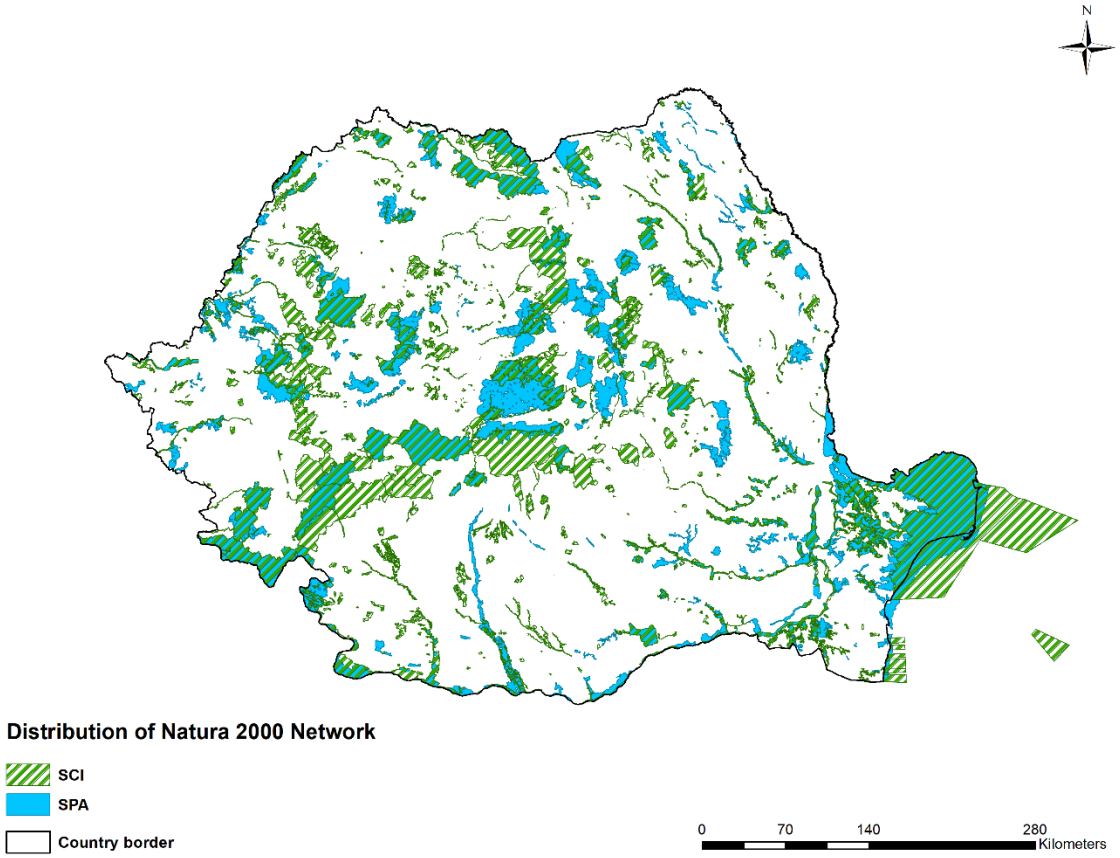
A methodology for identification of migration corridors for large carnivores in the Carpathian countries was developed in ConnectGreen project[1] (funded by DTP) with input from relevant Romanian institutions such as Ministry for Regional Development and Public Administration. The existing methodologies shall be discussed in an expert group at national and a Strategy/Action Plan for designation and mapping of ecological corridors according to Gov Decision 57/2007 should be elaborated and approved by the Government. In the Action plan, specific measures and the estimated funding needs shall be covered. Moreover, after approval, the protected natural areas and ecological corridors must also be compulsorily highlighted by the National Agency for Cadastre and Real Estate Advertising in the national, regional and local plans for spatial planning and urban planning, in the cadastral plans and in the land books, according to the National Strategy and Action Plan for Biodiversity Conservation. These actions will contribute to implementation of EU nature legislation, including Article 10 of the Habitats Directives which calls for the Member States to consider in the land–use planning and development policies the management of features of the landscape which are of major importance for wild fauna and flora.

Specific measures can be related to:

- Enhancing access to, and use and quality of Information and Communication Technologies (to enable the considerable data monitoring, interconnection and modelling that is necessary to operate green and blue infrastructure). GI mapping is particularly demonstrated to enhance nature protection and biodiversity beyond protected areas, to deliver multiple ecosystem services, to prioritise measures for defragmentation and restoration and find trade-offs of land allocation involving all sectors;
- Enhancing institutional capacity of public authorities/stakeholders and efficient public administration;
- Also, in the Danube Floodplain[1] DTP project a map will be developed on flood risk mitigation, improvement of ecological status of water courses, and aquatic species and habitats based on the comprehensive methodology covering hydrological, ecological and socio-economic criteria (with deadline end of 2020). Potential zones (not yet decided) are Bistret, Potelu, Suhaia, Cotul Pisicii, Garla Mare (with Vrata) and Danube Delta.

	Natura 2000 area data per EU Member State (in km²)						**Proportion (in %) of the land area covered by:**		
	Terrestrial			**Marine**					
Name of region	**SCI**	**SPA**	**N2K**	**SCI**	**SPA**	**N2K**	**SCI**	**SPA**	**N2K**
Romania	40452.36	37261.94	54356.13	6056,34	1491,45	6230,68	16.9	15.3	22.8
Total	40452.36	37261.94	54356.13	6056,34	1491,45	6230,68	16.9	15.3	22.8

C.2. Map of the Natura 2000 network in ROMANIA



2. EU and national financing of the Natura 2000 network during the period 2014 – 2020

This section provides a comprehensive overview of the funding allocated to Natura 2000, protection of species of EU interest and green infrastructure during the period 2014-2020. This data should help the Commission and national/regional authorities assess to what extent the financial needs of Natura 2000 are currently met and what the funding gap is.

D.1 European Agricultural Fund for Rural Development (EAFRD)

Total allocation from the EAFRD to the Member State/region: **9.644.992.671 euro**

Measure	Total current allocation for the NPRD measure -euro-		Current allocation for the relevant actions or Submeasures for Natura 2000 -euro-		Current expenditure with relevant shares or submeasures for Natura 2000 -euro-		Comments (relevance, experience so far, challenges for the next period)
	UE (EAFRD)	National (State budget)	UE (EAFRD)	National (State budget)	UE (EAFRD)	National (State budget)	
M4 Investing in physical assets	Submeasure 4.1 Investments in agricultural holdings						The requirements of the common monitoring and evaluation system established at EU level a common set of indicators to be collected and reported by Member States in the area of rural development do not provide for a distinct allocation of specific expenditure/actions of Natura 2000. Thus, in addition to the column on 'current expenditure with the relevant actions or Submeasures for Natura 2000 ' relating to these measures, we have used the expenditure incurred under these measures for investment projects located in mountain areas, i.e. areas facing specific constraints, which are considered to be the most relevant in the context of Natura 2000 distribution. *http://www.madr.ro/docs/dezvoltare-rurala/programare-2014-2020/Masura-10-si-Masura-13-Anexe-zone-eligibile.pdf*
	799.553.424	141.045.452			48.170.047	7.825.246	
	Submeasure 4.1 Investment in orchards						
	260.000.000	50.941.307			851.376	167.260	
	Submeasure 4.2 Investments for processing/marketing of agricultural products						
	420.585.600	82.603.954			1.991.082	354.467	
	Submeasure 4.2 Investment in processing/marketing of fruit sector products						
	40.000.000	8.147.042			0	0	
	Submeasure 4.3 Investments for the development, modernisation and adaptation of agricultural and forestry infrastructure						
	570.024.069	105.354.964			27.758.265	5.255.542	
M7 basic services and the renewal of	Submeasure 7.2 Investments in the creation and modernisation of small-scale basic infrastructure						
	935.505.962	173.626.285			110.713.756	19.865.084	

villages in rural areas	Submeasure 7.6 Investments associated with the protection of cultural heritage						
	165.089.287	31.921.712			24.305.674	4.453.868	
M8 Investing in forest areas	105.695.160	21.106.472			0	0	Contracts have not yet been signed, although two project submission sessions were conducted in 2016 and 2017.
M10 Agri-environment and climate	909.964.916	159.032.069			258.113.794	29.991.014	The Agency for payment and intervention for agriculture does not have information on the amount of payments made at the Natura 2000 sites level because the method of calculating the amounts corresponding to farmers is carried out at the payment group level. The areas taken into consideration when calculating the payments shall not take into account the positioning within or outside the protected areas and therefore an amount cannot be determined relating to the areas of Natura 2000. However, in addition to the column relating to 'current expenditure with the relevant shares or Submeasures for Natura 2000', we have mentioned all the expenditure incurred under this measure, which is considered relevant in the context of Natura 2000 distribution. The areas eligible for the implementation of the component packages of measure 10 overlap with more than approx. 85% of Natura 2000 sites designated at national level.
M12 Payments for Natura 2000							Regarding financial compensation for restrictions in Natura 2000, we note that Romania does not currently implement the measure 12 - payments for Natura 2000 and payments related to the Water Framework Directive (M12) through NPRD 2014-2020. However, the Agriculture and Rural Development Ministry took into account the need for biodiversity conservation in both Natura 2000 and outside areas, implementing measure 10 – Agri-environment and climate, but this is a voluntary measure and it is not mandatory, as it was the case with measure 12. It comprises of 11 packages aimed at preserving biodiversity through widespread application of generally extensive agricultural methods, which meets the conservation needs specific to a wide spectrum of species or grassland habitats (e.g. those present in HNV areas).

							The implementation of measure 10, through which extensive agricultural practices are promoted, can contribute to a certain extent to achieving the objectives of conservation of specific biodiversity areas of Natura 2000, but it does not cover all the conservation needs for the entire Natura 2000 network. Similarly, the Measure 15 Forest-environment was advanced to contribute to forest protection and forest biodiversity, but this is also a voluntary measure and it does not meet all conservation needs for forest biodiversity.
M13 Payments for areas facing natural constraints or other specific constraints	Submeasure 13.1 Compensatory payments for mountain areas						The Agency for payments and intervention in agriculture does not have information on the amount of payments made at the level of Natura 2000 sites because the method of calculating the amounts corresponding to farmers is carried out at the payment group level. The areas taken into consideration when calculating the payments shall not take into account the positioning within or outside the protected areas and therefore an amount cannot be determined relating to the areas of Natura 2000. In addition to the column relating to "current expenditure with relevant actions or submeasures for Natura 2000" we have mentioned all expenditure incurred within mountain areas and areas facing specific constraints in the context of Natura 2000 distribution. It should also be mentioned that the measure M13 is a general measure, with indirect potential effects on the Natura 2000 network, and it is considered by the international environmental NGO community as a measure with a very low positive impact for the network.
	461.469.364	66.027.415			264.123.558	29.939.420	
	Submeasure 13.3 Compensatory payments for areas facing specific constraints						
	42.579.467	6.814.170			18.411.747	1.881.315	
M15 Forest services, climate services and forest conservation	58.415.000	11.732.754			0	0	In this measure, no contracts have yet been signed although a project submission session was conducted in 2017.
Other measures - M6 Development	878.690.544	111.007.981			120.309.410	12.564.153	Measure 6 "Development of holdings and enterprises" was also considered relevant, and all expenditure incurred in mountain areas, i.e. areas facing specific constraints, are reported, as explained in Measures 4 and 7.

of holdings and enterprises							
TOTAL	5.647.572.793	969.361.577			874.748.709	112.297.369	

Table 6 Allocation of compensatory payments for the application of agri-environment and climate measures with relevance to the conservation of different species

Submeasure 10.1 – agri-environment and climate	**Amount of payment**
Package 1 – Grasslands with high natural value (HNV)	*142 €/ha/year*
Package 2 – Traditional agricultural practices (applied only in combination with package 1)	-
Alternative 2.1 – Manual labour on permanent grasslands used as meadows	*100 €/ha/year*
Alternative 2.2 – Labour with lightweight machines on permanent grasslands used as meadows	*21 €/ha/year*
Package 3 – Important grasslands for birds	-
Sub-Package 3.1 – Crex Crex	-
Alternative 3.1.1 – Manual labour	*310 €/ha/year*
Alternative 3.1.2 – Labour with lightweight machines	*231 €/ha/year*
Sub-package 3.2 – Lanius minor and Falco vespertinus	-
Alternative 3.2.1 – Manual labour	*159 €/ha/year*
Alternative 3.2.2 – Labour with lightweight machines	*80 €/ha/year*
Package 6 – Important grasslands for butterfly (Maculinea sp.)	-
Alternative 6.1 – Manual labour	*410 €/ha/year*
Alternative 6.2 – Labour with lightweight machines	*331 €/ha/year*
Package 7 – Arable land important as feeding areas for the red neck goose (*Branta ruficollis*)	*250 €/ha/year*
Package 9- Important agricultural lands as feeding areas for the lesser spotted eagle (*Aquila pomarina*)	-
Sub-package 9.1 – Arable land important as feeding areas for the lesser spotted eagle	*200 €/ha/year*
Sub-package 9.2 – Important permanent meadows as feeding areas for the lesser spotted eagle	-
Alternative 9.2.1 – Manual labour on major meadows for the lesser spotted eagle	*269 €/ha/year*
Alternative 9.2.2 Labour with lightweight machines on important meadows for the lesser spotted eagle	*190 €/ha/year*
Package 10 - Ecological refugee on arable land for common bird species associated with agricultural land	*92 €/ha/year*
Pachetul 11 - Agricultural land important for the great bustard (*Otis tarda*)	-
Sub-package 11.1 – Arable land important for the great bustard	-
Alternative 11.1.1 – Converting arable land into meadows	*255 €/ha/year*
Alternative 11.1.2 – Area of protection for the great bustard on arable land	*100 €/ha/year*
Sub-package 11.2 – Important grasslands for the great bustard	-
Alternative 11.2.1 – Manual labour on major meadows for the great bustard	*269 €/ha/year*
Alternative 11.2.2 – Labour with lightweight machines on important meadows for the great bustard	*190 €/ha/year*
Alternative 11.2.3 – Labour with heavy machinery on important meadows for the great bustard	*169 €/ha/year*

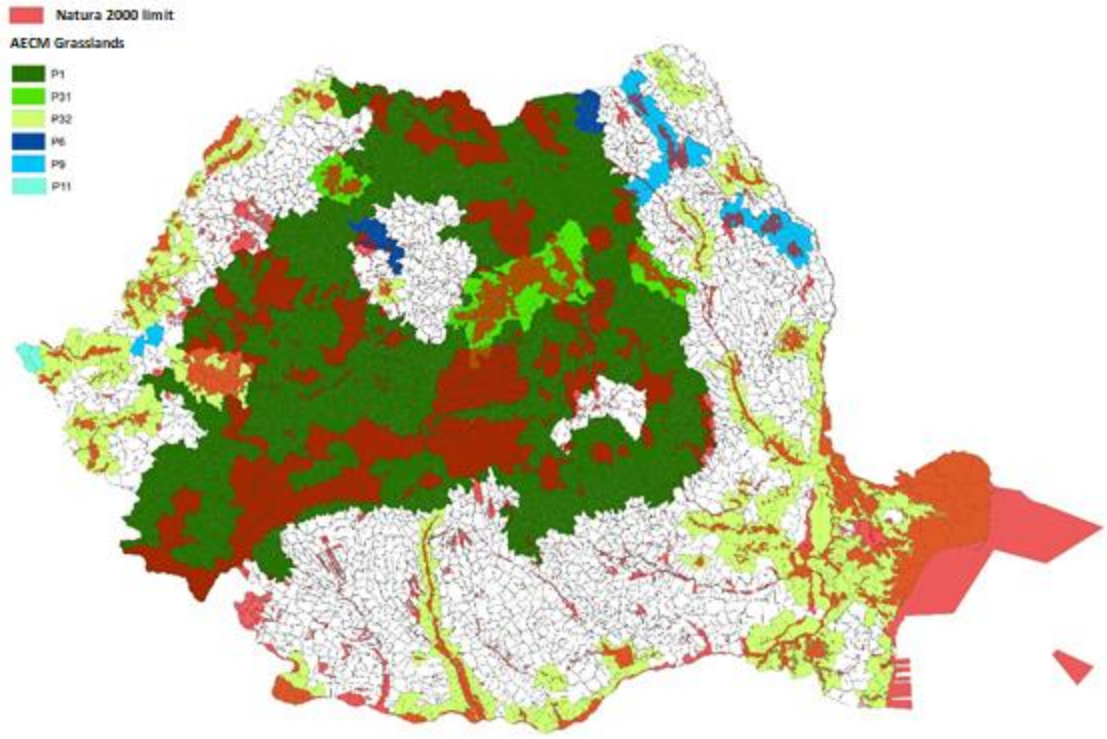


Figure 2 Areas of grasslands in Natura 2000 sites that can access different agri-environment payments

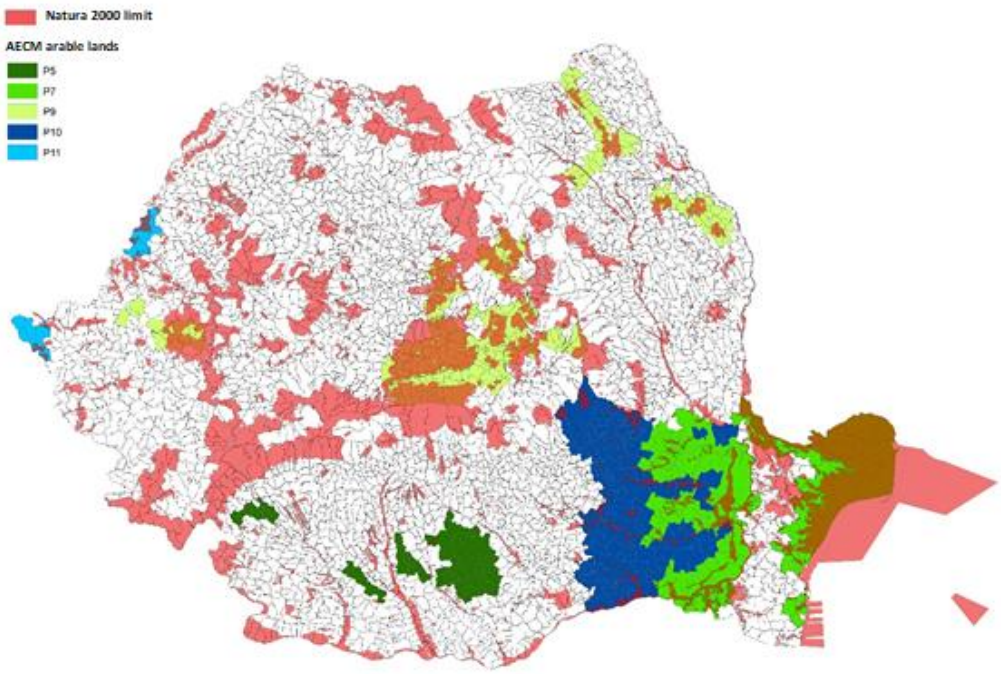


Figure 3 Areas of arable lands in Natura 2000 sites that can access different agri-environment payments

D.2 European Regional Development Fund (ERDF) / Cohesion Fund (CF)

Total allocation from ERDF to the Member State/region: 12.951.834.742 euro
Total allocation from Cohesion Fund to the Member State/region: 8.158.819.975 euro

Category of intervention	Allocation to measures relevant for Natura 2000		Current spending on measures relevant for Natura 2000		Comments (relevance, experience to-date, challenges for the next period)
	EU	National	EU	National	
Total					
A. Elaboration of management plans	38,101	6,724	49,308	8,179	A number of 50 projects aimed at developing management plans for protected natural areas have been signed and implemented. 89 management plans will be developed.
B. Implementation of measures presented in the management plans	148,978	26,290	6,948	1,226	4 projects have been signed and in process of implementation of, aiming at implementing activities related with the measures presented in management plans of protected natural areas. The reopening of the project call must be ensured in order to streamline the implementation of conservation, the challenge consisting in redefining the eligible entities for financing, taking into account the new context regarding provisions on the administration of protected areas. More specifically the vast majority of duties on the management of natural areas protected was taken by the National Agency for Protected Areas.
C. Actions to improve the level of knowledge on biodiversity and ecosystems	17	3	13,977	1,427	A project aimed at "improving the level of knowledge on biodiversity by implementing the monitoring system for the conservation status of bird species of Community interest in Romania and reporting on the basis of Article 12 of the Birds Directive 2009/147/E" was signed. Romania has also started implementing the follosing project: “Management of invasive species in Romania, in accordance with EU Procedure 1143/2014 on prevention and management of the introduction and spread of invasive alien species” The challenge for the very close future is signing the financing contract and starting implementing the monitoring system for the conservation status of habitats and species of Community interest in Romania,

					in order to ensure the reporting on the basis of article 17 of the Habitats Directive 92/43/EEC.
D. Maintaining and remaking degraded ecosystems and provided services (afforestation, ecological corridors, etc.), situated outside protected areas, in line with European objectives in the field, including relating with marine environment	63,92	11,28	0	0	The funding guide for this category of shares is in the process of consultation with the management authority, while the launch of a project call being the main priority.
Subtotal	267,999	47,294	70,233	10,832	
TOTAL	315,293		81,065		

The Operational Program Large Infrastructure (POIM), which includes the Priority Axis 4 - Protection of the environment through biodiversity conservation measures, air quality monitoring and decontamination of historically polluted sites, through specific objective 4.1. Increasing the protection and biodiversity conservation through appropriate management measures and restoration of degraded ecosystems, dedicated to biodiversity conservation.

This objective promotes biodiversity conservation measures in line with the priority action framework for Natura 2000, the European Strategy for Biodiversity 2020 and the National Strategy and the Action Plan for Conservation Biodiversity 2014 – 2020, approved by GD No. 1081/2013, regarding the approval of the Natuional Strategy and the Action Plan for Biodiversity Conservation 2014-2020.

Through specific objective 4.1 the following types of actions are presented:

• Elaboration of management plans/sets of conservation measures/action plans for protected natural areas (including those located in marine environments) and for species of Community interest not covered by previous projects – with an allocation net of 44,825,412 Euro;

• Implementation of management plans/sets of conservation measures/action plans for protected natural areas and of approved community interest species (including in marine environments) – with a net allocation of 175,268,705 euros;

• Actions to improve the level of knowledge on biodiversity and ecosystems (monitoring and evaluation of species and habitats, knowledge on pressure factors exerted on biodiversity, including invasive species, etc.) – with a net allocation of 20 million Euro;

• Maintaining and restoration of degraded ecosystems and provided services (afforestation, ecological corridors, etc.), situated outside protected natural areas, in line with the European objectives in the field, including in marine environments.

Financed by the European Social Fund, an important project is the project Development of the Ministry of Environment administrative capacity to implement biodiversity policy (measure 119-Investments in institutional capacity and efficiency of administrations and public services at national, regional and local level, with a view to achieving reforms, better legislation and good governance), worth 16,063,251.90 RON (of which 13,490,539.45 RON was the European Union's contribution). The aim of the project was to strengthen the administrative capacity of the Ministry of Environment through the development of systems and standards to optimise the process of public policies in the field of biodiversity protection, in agreement with SCAP.

D.3 European Maritime and Fisheries Fund (EMFF)

Total allocation from the EMFF to the Member State: **ROMANIA:** 164,8 million euro

Measure	Allocation to measures relevant for Natura 2000		Current spending on measures relevant for Natura 2000		Comments (relevance, experience to-date, challenges for the next period)
	EU	National	EU	National	
Measure: II.10 Aquaculture providing environmental services	18.653.944,85	6.217.981,62	18.653.944,85	6.217.981,62	Annual compensation for income losses caused by the management requirements/restrictions present in the environmental authorisation resulting from the designation of sites Natura 2000, or in the national legislation which transposes the provisions of Directive 92/43/EEC and Directive 2009/147/EC. So far, 45 financing contracts are signed, worth 24,778,192.73 euros, of which 23,913,138.36 euros were paid.
Subtotal	24.871.926,47	24.871.926,47			
TOTAL	24.871.926,47		24.871.926,47		

The measure is directed towards entrepreneurs in the field of aquaculture, for the purpose of their guidance in accessing non-refundable financing and also through the Operational Program for Fisheries and Maritime Affairs (2014-2020), Union Priority No. 2 - Stimulating sustainable aquaculture in terms of environment, resource-efficient, innovative, competitive and knowledge-based actions. The Union Priority No. 2 comprises four specific objectives and 10 measures, including the measure II. 10 - Aquaculture providing environmental services as referred to in article 3 (1); 54 paragraph (1) (a); A) of regulation (EU) no 575/2013; 508/2014 on the European Fisheries and Maritime Affairs Fund.

The specific objective of measure II.10 is the promotion of aquaculture with a high level of environmental protection and the promotion of animal health, as well as public safety and health. The EFMAF supports the development of aquaculture that provides environmental services and environmental protection. Applicants eligible to access non-refundable funds under this measure are economic operators holding fisheries facilities, located in Natura 2000 sites and have experienced loss of income due to management requirements or restrictions present in the environmental authorisation, relating to sites Natura 2000. Annual compensation for income losses caused by management requirements/restrictions present in the environmental authorisation resulting from the designation of Natura 2000 sites, or in the national legislation which transposes the provisions of Directive 92/43/EEC and Directive 2009/147/EC.

The entire measure is earmarked for Natura 2000 sites and works as a compensating measure for the restrictions imposed by conservation measures.

The intensity of the public aid shall be 100% of the amount of compensation, in accordance with the provisions of Article 95, paragraph 1. (2), letter E) of Regulation (EU) no 2200/96. 508/2014

D.4 LIFE Program

Type of project or financing instrument	Current allocation to measures relevant for Natura 2000		**Comments** (number of projects, relevance, experience to-date, challenges for the next period)
	EU	National	
Traditional projects	23.695.948	12.960.839	45 projects were financed in the period 1999-2017.

Integrated projects	27.335.584,7*	8.327.288,3*	5 projects were financed in the period 1999-2017.
Others (NCFF etc.)	0	0	
Subtotal	51.031.532,7	21.288.127,3	
TOTAL	72.319.660		

In the period 1999-2017, 60 LIFE projects were financed, of which 45 were applied entirely in Romania and 15 in partnership with external institutions. Of these, 30 were implemented between 2007-2017 (17 projects applied entirely in Romania) the total value of the projects fully implemented in Romania was 36,656,787 euro (of which 23,695,948 Euro was co-financed by the European Union), from which 24,171,018 euro (of which 15,983,109 Euro was co-financed by the European Union) were established between 2007-2017. It is important to mention that the number of integrated projects submitted in the period 2007-2017 increased, but none of them had Romania as coordinator. 73% of the projects had complementary objectives with the Habitats Directive and 31% with the Birds Directive (20% only the Birds Directive), and 10% with both directives.

76% of LIFE Nature projects financed conservation measures promoted for species of Community interest, 42% for habitats of Community interest and 22% for both.

The most frequent measures promoted through LIFE projects aimed at establishing management plans and other planning documents (45 projects), education promotion, information and public participation (all projects), promoting measures of active conservation, including through ecological restoration (36 projects), assessment of the conservation status of species and/or habitats (44 projects) or investments in enterprise infrastructure (16 projects).

Table 7 Projects funded under the LIFE program during 1999-2017

Year	Entirely on Romania's territory			Partially on Romania's territory		
	Number	Totally financed (euro)	Co-financind EU (euro)	Number	Totally financed (euro)	Co-financind EU (euro)
1999	7	1252595	863201	1	475160,99	200930,7
2000	4	1745406	1061647	0	0	0
2001	0		0	0	0	0
2002	3	1051188	700841	0	0	0
2003	3	1395520	697760	0	0	0
2004	2	1471798	1103849	0	0	0
2005	6	4022890	2512355	1	1546580	772190
2006	2	1546372	773186	0	0	0
2007	1	546159	273079	2	3899567	2746892
2008	4	4627399	3148436	0	0	0
2009	1	356330	259515	1	4032828	3006470
2010	1	1272540	954405	0	0	0
2011	4	9602172	5051355	1	770.836	384.143
2012	1	3264811	2448608	0	0	0
2013	4	4100057	2617907	2	3385852	5945504
2014	1	401550	333468	1	2881243	2160932
2015	0	0	0	2	2362235	1414138
2016	1	1497826	896336	2	9453668	5999724
2017	0	0	0	2	6854903	4704661
Total	45	36.656.787	23.695.948	15	35.662.873	27.335.584,7

Considering the projects implemented between 1999-2013, Rozylowicz et al (2014) evaluated that there are 85 national and international organisations involved (median on project = 3), of which 50.6% are national, regional or local public administrations, 24.7% are NGOs, 15.3% scientific research institutions, 5.9% administrations of protected areas and 3.5% national public companies or industrial entities. Based on the assessment of the degree

of centrality, it was concluded that the Romanian Ornithological Socitey (SOR) has the highest number of partnerships developed in LIFE projects (8), followed by research organisations (University of Bucharest, Romanian Academy, Institute of Forestry Research and Planning), NGOs (WWF Romania, Carpathian Danube Geoecology Centre), and public authorities (Ministry of Environment, Caraş Severin Environmental Protection Agency, Vrancea Environmental Protection Agency).

Most projects targeted the continental, alpine and Pannonian bioregions. Moreover, the Continental bioregion, the most extensive region, has had the most Natura 2000 funded sites and the highest funding level. By geographical regions, the Carpathian area (with higher values in the Eastern Carpathians) is an important area, both from the number of projects point of view and also from the value of attracted funds. The lowest values are recorded in the case of Moldavian Plateau and Getic Plateau.

On Natura 2000 sites, most projects were attracted in ROSCI0208 Putna-Vrancea and ROSCI0013 Bucegi. The most important funds were attracted for the following sites: ROSCI0122 Făgăraş Mountains, ROSCI0217 Retezat, ROSCI0006 Balta Mică a Brăilei, ROSCI0013 Bucegi, ROSCI0227 Sighişoara-Târnava Mare, ROSCI0115 Satchinez, ROSCI0206 Iron Gates and ROSCI0208 Putna-Vrancea.

Natura 2000 sites ROSCI0206 Iron Gates, ROSCI0208 Putna-Vrancea, ROSCI0115 Satchinez and ROSCI0227 Sighişoara-Târnava Mare have benefited from more than one LIFE project.

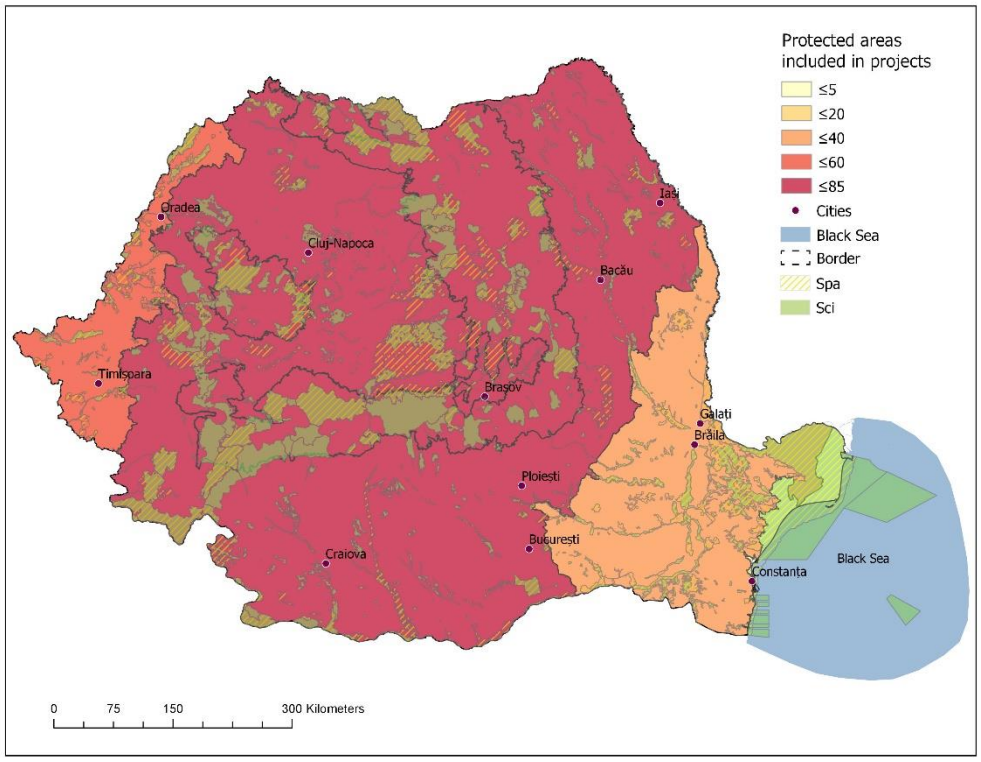


Figure 4 Number of LIFE projects per biogeographical regions

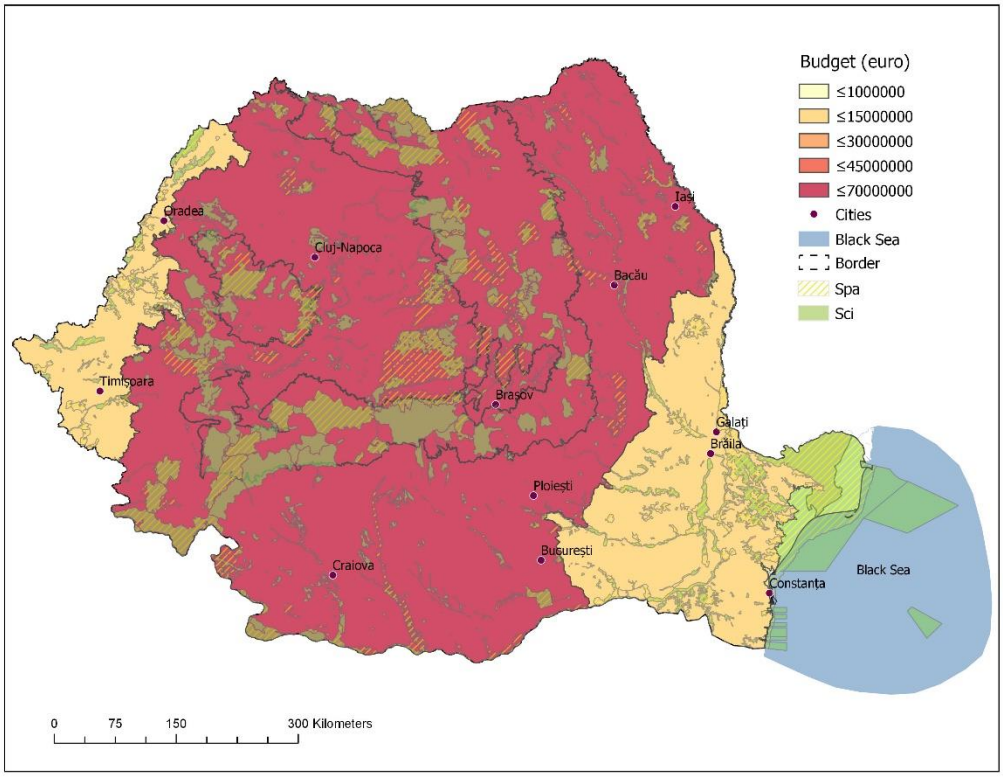


Figure 5 Funds attracted through LIFE projects per biogeographical regions

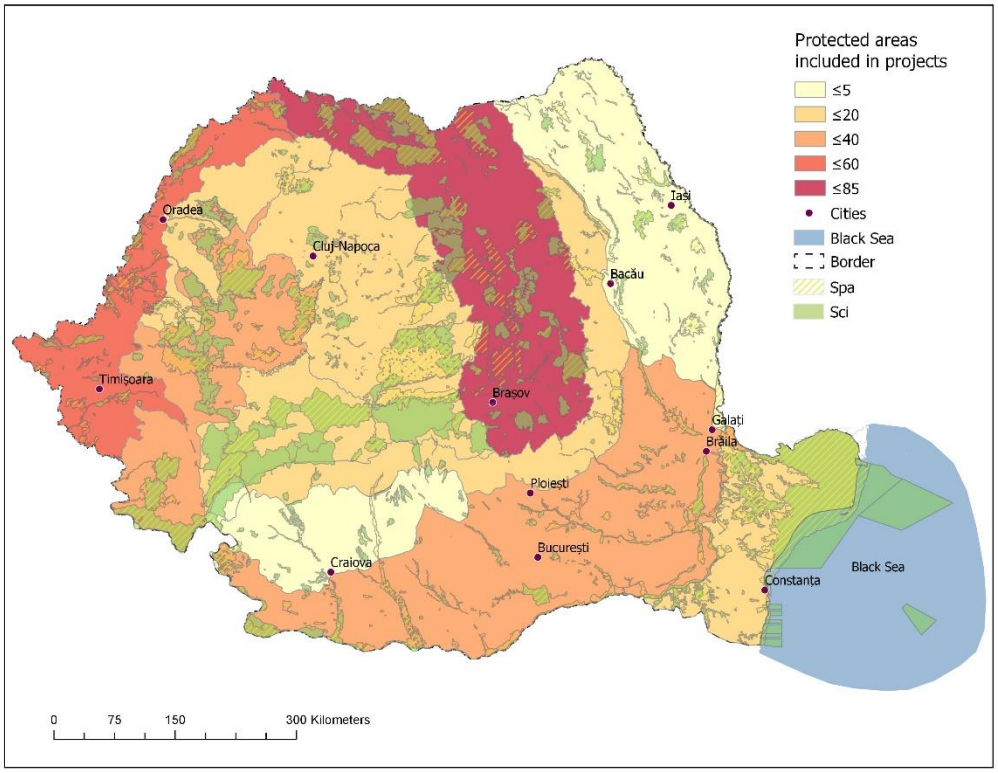


Figure 6 Number of LIFE projects per geographical regions

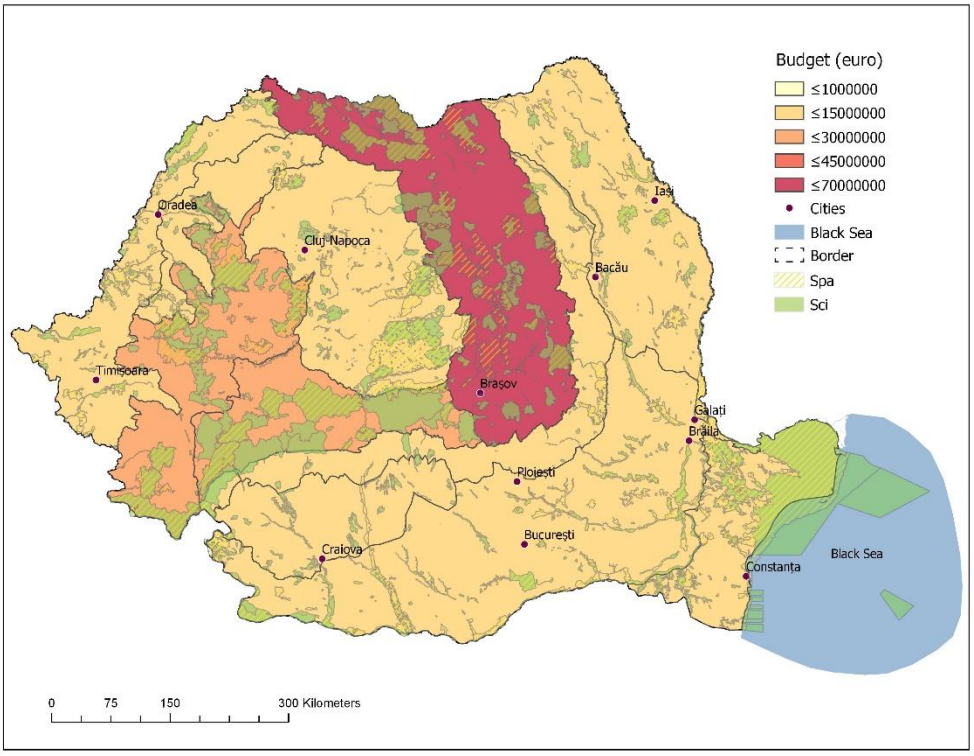


Figure 7 Funds attracted through LIFE projects per geographical regions

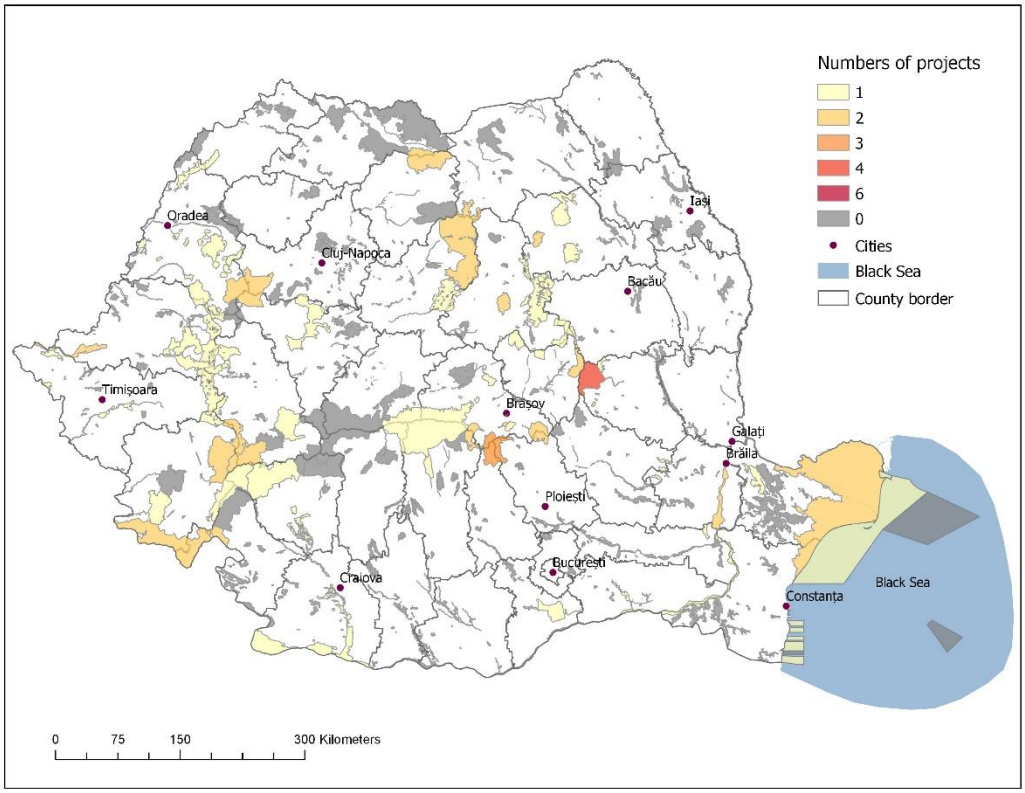


Figure 8 Number of LIFE projects per SCIs

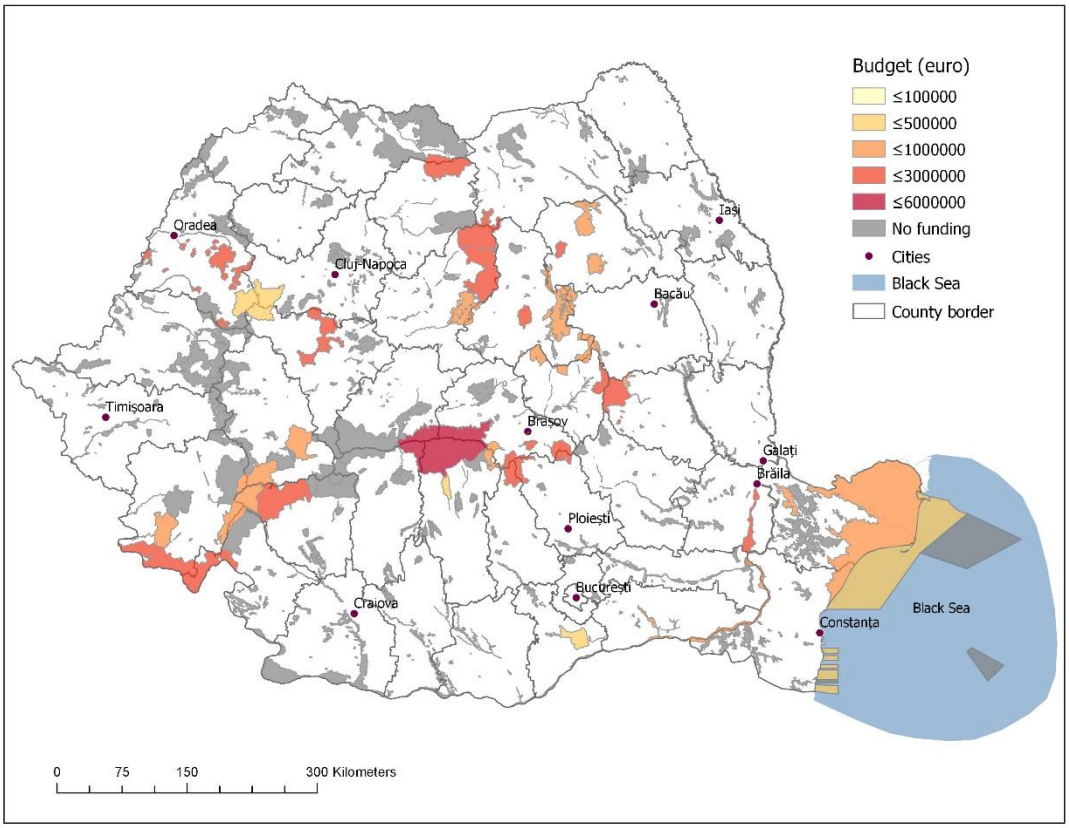


Figure 9 Funds attracted through LIFE projects per SCIs

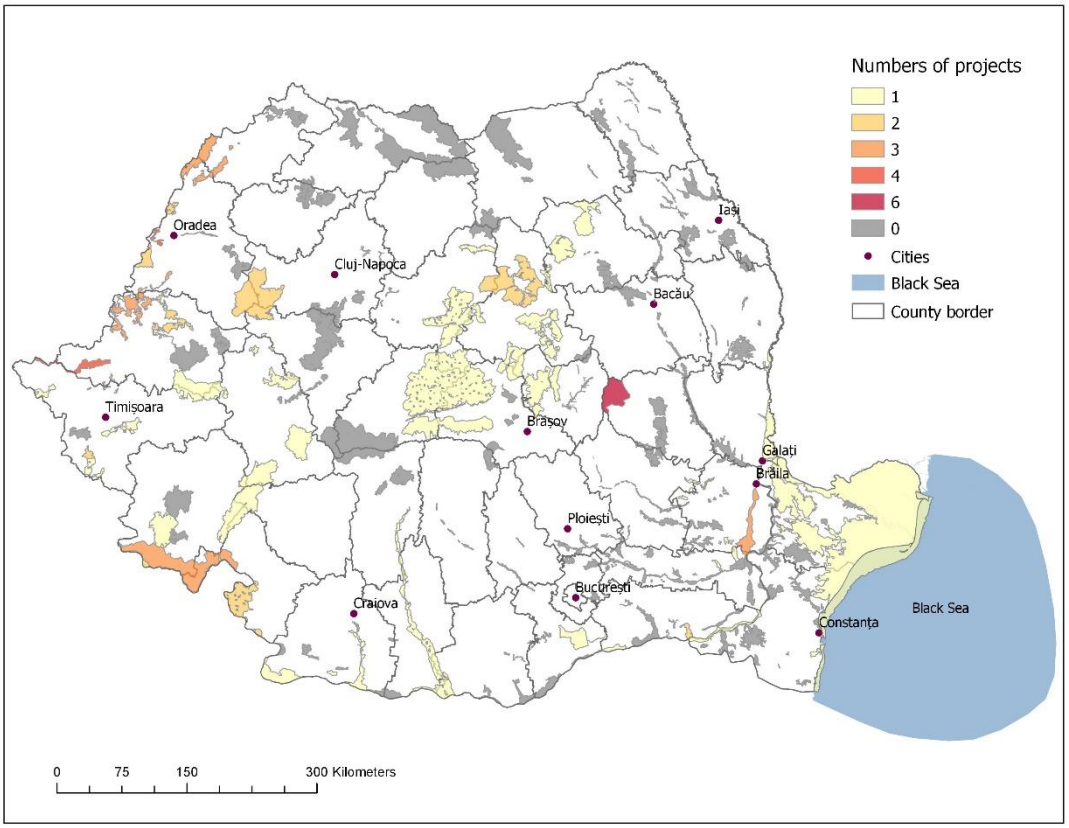


Figure 10 Number of LIFE projects per SPAs

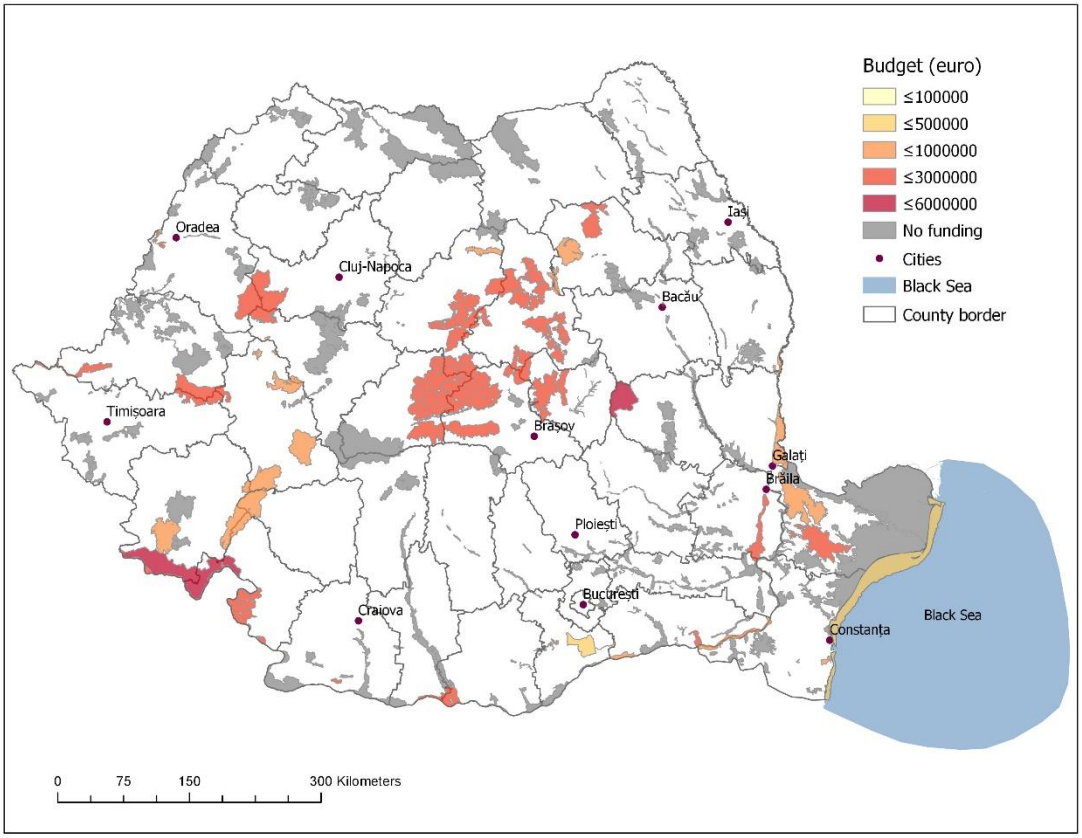


Figure 11 Funds attracted through LIFE projects per SPAs

D.5 Other EU funds, including Interreg:

Total EU co-funding allocated from other EU program for the implementation of EU nature policy and associated green infrastructure in the Member State/region: ROMÂNIA **total allocation for the region is 359 millions euro**

Total national/regional funding allocated for the co-funding of these measures: **41302036,18 euro**

Interreg

At the level of INTERREG projects, only 14 projects, which are relevant to biodiversity conservation, with a total value of 23999058.62 euros (of which 20399199.3 Euro from co-financing) were contracted for the period 2014-2020.

Of these, the most advanced ones are those contracted on the Interreg Romania-Hungary program, where there are 10 projects in progress, with a total value of 16194347.21 euros, of which 10286530.18 euro where from the Romanian side. These are:

1. ROHU68 - Creating a joint tourist destination in the crossborder area of Lugaşu de Jos and Komádi, through cross-border protection of natural heritage values along the Crişul Repede Valley (904905.47 euro, of which 769169.64 euro was EU's contribution and 489934.87 euro was Romania's contribution)
2. ROHU103 - Joint protection of cross border natural values Carei-Nyiradony (665714.00 euro, of which 565856.90 euro was EU's contribution 272000.00 euro was Romania's contribution)
3. ROHU29 - Conservation and protection of ecosystems endangered by lack of thermal and freshwater in crossborder area Nyiradony (1346941.55 euro of which 1144900.31 euro was EU's contribution and 863112 euro was Romania's contribution)
4. ROHU14 - Conservation, protection and promotion of the natural values from the Salonta-Békéscsaba crossborder area (2997387.86 euro of which 2547779.68 euro was EU's contribution and 1659858.75 euro was Romania's contribution).

5. ROHU53 Conservation and protection of the cross border natural heritage of Bihor - Hajdú-Bihar counties (2835216.60 euro, of which 2409934.10 euro was EU's contribution and 2608455.73 euro was Romania's contribution)
6. ROHU79 Joint Conservation Management and Development of Information Infrastructure of Protected Areas along the Romanian and Hungarian Course of Tur River (643759.50 euro, of which 547195.57 euro was EU's contribution and 276709.85 euro was Romania's contribution)
7. ROHU115 - From One Bridge to another - De la un pod la altul – Hídtól hídig (1,611,547.26 euro, of which 1369815.16 euro was EU's contribution and 958558.06 euro was Romania's contribution)
8. ROHU62 Borderless green corridor (1025642.00 euro, of which 871795.70 euro was EU's contribution and 688547.3 euro was Romania's contribution)
9. ROHU126 - Nature preservation, protection and promotion on both sides of the Romainian-Hungarian border (2500000.00 euro, of which 2125000.00 euro was EU's contribution and 1846245.45 euro was Romania's contribution)
10. ROHU35 - Greening Footprints (1663232.70 euro, of which 1340577.23 euro was EU's contribution and 623108.17 euro was Romania's contribution).
To these are added four other projects:
INTERREG VB Danube DTP2-003-2.1-reducing the flood risk through floodplain restoration along the Danube River and tributaries (3672655.88 euro, of which 3121757.5 euro was EU's contribution)
INTERREG VB Danube DTP2-072-2.3-Restoring and managing ecological corridors in mountains as the green infrastructure in the Danube Basin (2462923.49 euro, of which 2093484.97 euro EU contribution)
INTERREG V-A Romania – Bulgaria Innovative and collaborative management of Natura 2000 sites in the Danube border region 1162818.31 Euro, of which 988395.56 euro EU contribution
INTERREG V-A Romania – Bulgaria Joint resources and initiatives dedicated to the Environment 506313.73 euro, of which 430366.67 euro EU contribution
Note that there have not yet been contracted projects relevant for the calls of Romania-Moldova, Romania-Ukraine and Romania-Serbia.
The financial mechanism of the European Economic Area (EEA) 2009 – 2014 has proposed to contribute to the reduction of economic and social disparities in the EuropeanEconomic Area and to strengthen cooperation relations between Donor States (Member States of the European Union (EU) and 3 of the EFTA States - Norway, Iceland and Liechtenstein) and Beneficiary States through the proposed priority sectors. Within this mechanism there is the program for funding RO02 Services of biodiversity and ecosystems, which aims to halting the loss of biodiversity and has had a budget allocation of 15 million euros. The program financed projects that will deliver results on:

- Improving the capacity and management of ecological corridors;
- Developing methodologies for establishing ecological corridors;
- Reports necessary for the implementation of methodologies;
- Mapping ecosystems;
- Identification of payment mechanisms for ecosystem services

In addition to a predefined project implemented by the National Agency for Environmental Protection (presentation and promotion of natural values to support decision making in Romania - N4D, the following project calls have been launched:
 Call for project proposals No. 1: "Studies and training on the contribution of natural ecosystems to the main economic sectors" in which 8 projects were carried aut, totalling 3292820.4 euro;
 Call for proposals No. 2: "Increasing capacity for the management and monitoring of ecological corridors" in which two projects were carried aut, totalling 2124381.12 euro;
 Call for project proposals No. 3: "Vast ecosystem restoration schemes" in which 5 projects were carried out, totalling 7,165,259.15 euro;
Total budget contracted under the program: 15202977.56 euro (12922530.92 euro from grants and 2,280,446.63 euro from co-financing).
Swiss-Romanian Cooperation program (EEA) 2009-2014 through:

 The thematic Fund for the involvment of civil society, carried out in the 2012-2016 period a grant scheme for NGOs having an Environment component, with funding released in 2012 of 600000 CHF and in 2015 of 1 million CHF in which a component is represented by the conservation of natural values;
 NGO funds in Romania - Component 3 - Sustainable development whose objective is to support sustainable development and improve the state of the environment in Romania, through the contribution of NGOs and through public participation, with funding launched in 2013 of 2.1 million euro and in 2014 of 1.4 million euro, covering also conservation of natural values.
It is worth noting that the Horizon 2020 program has not attracted significant amounts by the Romanian partners on projects relevant to the Natura 2000 network.

D.6. Other (mainly national) funding for Natura 2000, green infrastructure and species protection in 2014-2020:

Total financing allocated to implementation of EU nature policy and associated green infrastructure, for measures or projects not benefiting from any EU co-funding

Direct funding for the management and functioning of the Natura 2000 network has not been financed from national funds. The only funds that can be classified in this category are those provided through administration/custody contracts by those who have taken over the administration/custody of protected areas. With the exception of the budget allocated by Ministry of Enviroment for the administration of Danube Delta Biosphere Reserve – Natura 2000 Site -2.8 mil eur (2014-2019)- and by the National Forest Administration (Romsilva) (28.6 mil euros) for managing national, natural parks and the Natura 2000 sites which are overlapping the parks, it is very difficult to divide the amounts allocated by custodians for the management of Natura 2000 network (example: Conservation Carpathia used the own funds: 208,200 euro to manage four years two Natura2k sites: ROSCI381 Argesel and ROSCI0102 Leaota, 5,910,325 euro for ecological reconstruction (own contribution and private funds), 15.441.901 euro (from private funds) spend to bought forests; WWF: National funding programmes - the state budget co-financing on the projects implemented by WWF was around 2.192.300 Euro; LIFE+ project - WWF RO co-financing was 120.699 Euro.)

It should be noted that the Environmental Fund Administration has not opened any funding directions for biodiversity conservation, although there have been attempts to ensure, through projects, co-financing for LIFE projects.

3. Priority measures and financing needs for 2021 – 2027

E.1. Horizontal measures and administrative costs related to Natura 2000

E.1.1. Site designation and management planning

Current status and progress made so far in terms of site identification, designation and management planning (situation: 10/12/2018)

In Romania, the steps for developing the Natura 2000 network have started before joining the European Union. In the year 2007, Romania contributed to the Natura 2000 network with aproximately 18% of the country's surface. According to the Order of Minister No. 1964/2007 on the establishment of sites of community importance as an integral part of the European Ecological Network Natura 2000 in Romania, 267 sites of Community importance (SCI) were designated, and by the Government Decision No. 1284/2007 on the designation of Special Protection Areas, as an integral part of the European Ecological Network Natura 2000 in Romania 108 Special protection areas (SPA) are designated. At the time, the distribution of protected areas within biogeographic regions and geomorphological units was uneven, which was also acknowledged by the European Commission after the biogeographic seminars in Sibiu (2008).

In the year 2011, Romania increased the number of protected areas included in the Natura 2000 network to 531 (383 of SCIs and 148 SPAs). By order of the Ministry of Environment and Forests No. 2387/2011 to amend the order of the Ministry of Environment and Sustainable Development No. 1964/2007 on the establishment of Sites of Community Importance, as an integral part of the European Ecological Network Natura 2000 in Romania, 116 Sites of Community importance (SCIs) are designated, and the Government Decision No. 971/2011 for modification and completion of Government Decision No. 1284/2007 on the designation of Special Protection Areas as an integral part of the European Ecological Network Natura 2000 in Romania there are other new 40 Special Protection Areas (SPA). In 2011, protected areas designated under the Natura 2000 network occupied approximately 23% of the country's total area. In the reports of the European Commission, following the biogeographic seminars in Bucharest (2012), Romania has to change the limits of some SCIs, as well as to designate new sites to evenly cover the distribution of species and habitats of Community interest.

In the year 2016, the Romanian Government extends both the number and the surface of SCIs by Order No. 46/2016 on the establishment of the protected areas regime and the designation of sites of community importance as an integral part of the European Ecological Network Natura 2000 in Romania. Thus, the list of Natura 2000 SCI sites increases by 54 protected areas and 29 sites already existing are extended. Also in 2016, by Government Decision No. 663/2016 on the establishment of the protected areas regime and the designation of Special Protection Areas (SPA) as an integral part of the European Ecological Network Natura 2000 in Romania, 23 special protection areas have been designated.

The process of declaring Natura 2000 sites can be considered completed, given that all species and habitats in the Habitats and Birds Directives representative of Romania are integrated into the network. There is still the need to clarify a number of issues signalled by the European Commission on the sufficiency of the Natura 2000 network in Romania. An update of the standard forms of Natura 2000 sites must be carried out, because there are reported situations where the habitats and species considered under-represented are found in the existing network. As regards the declaration of Special Conservation Areas (SACs), it is necessary to complete the reporting process in accordance with articles 12 and 17, after which the declaration should be completed.

Regarding the management planning process of Natura 2000, in 2018 there were 240 management plans approved, covering 284 Natura 2000 sites (204 SCIs and 80 SPAs). Most of the plans (126) were approved between 2016-2017, therefore an evaluation of results of their implementation process cannot be achieved. An element of additional uncertainty was introduced by the dissolution of custody contracts, which significantly decreased the potential to implement the measures from management plans.

The process of management plans elaboration integrated a participatory component, which followed the involvement of various stakeholders (especially local institutions and NGOs). Firstly, management plans have gone through the SEA procedure, which has involved a public consultation phase. The level of participation of stakeholders (public institutions, NGOs, land owners, etc.) has been quite diversified, with many examples of good practice. The majority of management plans were approved in 2016-2017, with the support of the project SIPOCA 22 Development of the Institutional Capacity of the Ministry of Environment to implement biodiversity policy. It assumed the involvement of experts who assessed the quality of management plans before they were passed on to different ministries.

In terms of content, most of the measures promoted fall within the category of sustainable natural resource management, conservation of biodiversity and other elements of landscape and management of protected area. Most of these have a general character, are not mapped or spatialised and do not present potential for quantification. In 40% of the management plans, management measures for species and habitats

of conservative interest have been delineated, but in few cases they are detailed or include concrete measures to improve the conservation status of habitats and species of unfavourable condition.

The steps to update objectives and management measures are presented in most management plans, but most of Natura 2000 sites are administrated by NANPA and the process is not functional because it needs humans resources and funds. Also, the process of changing management plans and components for which the Ministry of Environment is responsible is complicated, being difficult to implement, given that any change requires the issue of a new ministry order. Management plans require a review after 5 years from their approval.

322 Natura 2000 sites do not have management plans yet (231 SCIs and 91 SPAs).

Apart from management plans, another useful tool is represented by the action plans for different species and habitats, but their number is small (*Ursus arctos, Canis lupus, Aquila Pomarina, Phalacrocorax pygmeus*, *Aythya nyroca*, *Pelecanus crispus*, bat species etc.).

		Number of sites with:		
Sites of Community Importance (SCIs) under the EU Habitats Directive	**Number of sites**	**legal site designation (SAC or equivalent)**	**specific site level conservation objectives**	**specific site-level conservation measures**
România	435	0	204	204
Total	**435**	0	204	204

		Number of sites with:		
Special Protection Areas (SPAs) under the EU Birds Directive	**Number of sites**	**legal site designation (SAC or equivalent)**	**specific site level conservation objectives**	**specific site-level conservation measures**
România	171	0	80	80
Total	171	0	80	80

Further measures needed

The necessary measures for Planning the designation and management of sites are related to completing the process of implementation of management plans for the 322 Natura 2000 sites, the designation of SACs, the review of management plans, conducting scientific studies on the resilience analysis of Natura 2000 sites to environmental changes and proposing solutions to maintain their effectiveness, the implementation of national action plans for species/habitats of conservation interest, simplification of content of the management plan. At the same time, technical, human and financial resources must be ensured to implement the measures identified in the species action plans, approved up to this point.

Prioritization of measures to be implemented during the next MFF period

The criteria necessary for the establishment of priorities have taken into account the management process (the process of implementation of management plans, effective management of Natura 2000 sites, evaluation of the efficiency of the planning process, confirmation of the Natura 2000 sites, where an improvement of the conservation status is noticed).

List of prioritized measures to be carried out, and estimated costs for these measures:

The list of priority measures relating to the planning pf the designation and management of sites is as follows:

-Elaboration of management plans for existing Natura 2000 sites that do not have such a document.

-Effective administration of protected areas with management plan.

-Designation of SACs and management of the ecological network.

-Implementation of action plans for species, that are approved.

-Promoting the normative act approving the methodology for the designation of ecological corridors and establishing ecological corridors, seen as a necessity.

-Assessing the effectiveness of implementation of approved management plans, in particular from the perspective of improving the conservation status of species and habitats of conservative interest.

-Conducting scientific studies on the analysis of the resilience of Natura 2000 sites to environmental changes and the proposal for solutions to maintain their effectiveness

-Harmonization between management plans of Natura 2000 sites, action plans for species/habitats and the provisions of the other sectoral plans.

-The implementation of national action plans for species/habitats of Community interest

Name and short description of the measures	Type of measure*	Estimated cost in Euros (annualised)	Possible EU co-funding source

Development of management plans for Natura 2000 sites. *322 Natura 2000 sites that don`t have management plans, it need to be realized.*	One-off	21.714.286	Future OPLI
Implementation of management plans *They are 284 Natura 2000 sites that have management plans that need to be implemented. 25% of the management costs are related, estimated in the management plans, represent administrative costs (to cover personnel costs, general management expenses, general administrative investissments).*	Recurring	55.000.000	State budget, Future OPLI
Designation of SACs *435 SACs needs to be evaluated in terms of nature conservation efficiency and after this process, the Romanian Government has to designate the SACs*	One-off	1.300.000	State budget, Future OPLI
Update of management plans for Natura 2000 sites *284 Natura 2000 sites has management plans that need to be updated after 5 years of approval.*	One-off	11.714.286	Future OPLI
Implementing action plans for species and habitats. *More that 50% of the measures from management plans are related with the management of species and habitats. In this measures aren't included the ecological restoration or other active measure for maintaining or improving the status of species and habitats.*	Recurring	3.857.143	Future OPLI
Planning the implementation of ecological infrastructure, especially at the level of ecological corridors (legislation, specific management measures, ecological corridor delimitation, etc.) *Organising the general framework and implementing the measures to create the ecological infrastructure at national level, continuing the measures that has been promoted before.*	Recurring	1.520.000	State budget, Future OPLI
Conducting scientific studies on the analysis of resilience of Natura 2000 sites to environmental changes and the proposal for solutions to maintain their effectiveness *The Natura 2000 sites resilience to environmental changes (e.g. climate changes, pollution, changing the consumption patterns, urbanization) needs to be considered. Ecological, social, ecological and administrative resilience has to be evaluated in order to maintain/increase the effectiveness of Natura 2000 network. These need a research approach to assess linkages between nature and society.*	One-off	1.500.000	
Evaluation of the efficiency of the management process. *After 10 years, the efficiency of the network has to be evaluated in terms of ecological, social, economical and administrative aspects. The best practices, the weakness, the new challenges etc. needs to be considered in order to increase the adaptability of the Natura 2000 network.*	One-off	1.000.000	State budget
Elaboration of action plans for species/habitats in unfavourable conservation status *The species/habitats in unfavorable conservation status need special approach at national level. The experience point out that the elaboration of action plans increase the chance to improve the conservation status and to consider environmental objectives in other domains.*	One-off	7.800.000	Future OPLI
Harmonization between management plans of Natura 2000 sites, and the provisions of the other sectoral plans *Meetings and workshops are needed to improve the inclusion of Natura 2000 targets in spatial planning.*	Recurring	240.000	State budget
		105.645.715	

* indicate whether the measure is recurring or one-off

Expected results

The process of developing management plans for Natura 2000 sites is expected to be completed soon and the process of implementation of management plans will continue. On the basis of reporting documents for art. 12 and 17, but also on the basis of the assessment of management efficiency for Natura 2000 sites for which management plans have been implemented, special conservation areas (SACs) will be established. For these special conservation areas, the management plans will be reviewed and their integration into ecological infrastructure will be carried out by designating ecological corridors.

E.1.2. Site administration and communication with stakeholders

Current status and progress made so far in terms of site administration and communication with stakeholders

By the approval of Law No. 95/2016 concerning the establishment of the National Agency for Protected Natural Areas and for the amendment of the Government Emergency Ordinance No. 57/2007 on the regime of protected natural areas, conservation of natural habitats, flora and wildlife the structure for the management of protected areas and implicitly of the Natura 2000 network in Romania has been reactivated.

The National Agency for Protected Natural Areas is to provide the necessary framework for the management of natural areas protected, thourgh the invlovement of:

a) public institutions that have a role to manageme protected natural areas;

(b) special management structures established in a contractual relationship and coordinated by the Agency;

Management structures for protected areas are those which guarantee the existence of a systematized approach for the conservation of natural heritage elements and/or their sustainable recovery. The Natura 2000 sites can be managed through special management structures established to ensure the protection of biosphere reserves, national parks, natural parks, and, where appropriate, geoparks.

Scientific reservations, nature reserves, natural monuments and, where appropriate, geoparks, sites of community importance, special conservation areas and special protection areas, which do not require or have no structures of special administration structures are managed by custodians.

In order to obtain the right to manage a protected area, several sessions were conducted, which allowed for 68% of protected areas to currently benefit from an administrative structure, until 2018. Thus, 760 natural protected areas were taken into custody or had a public institution that temporarily managed them but, as a result of the National Agency for Protected Natural Areas establishment, the custody contracts were terminated. The lack of a functional administration or custody structure leads to the difficulty of implementing coherent mangement measures in the protected area, which has a negative effect on the conservation status of natural habitats and species.

Further measures needed

A significant strengthening of the capacity of the National Agency for Protected Natural Areas is needed, including the establishment and operationalization of territorial structures. In view of the massive shortage of qualified personnel and limited technical and financial resources, it is necessary to clarify the relationship between the coordinating institution (NAPNA) and the administrators/custodians of Natura 2000 sites, for the purpose of creating a collaborative system, including with private law institutions. In addition, active collaboration with managers of natural resources, territorial planners, representatives of various public institutions, formal and informal leaders of local communities and the scientific community, must be considerably improved, both for management plans implementation and in the actual administration of the network.

Prioritization of measures to be implemented during the next MFF period

The primary criterion for determining the priorities is linked to the potential of the Natura 2000 network implementation, also by actively involving stakeholders in deciding and implementing the management measures.

List of prioritized measures to be carried out, and estimated costs for these measures

Expected results

The priority measures are:

1. Building the institutional framework for an efficient management of the Natura 2000 network in Romania, having the National Agency for Protected Natural Areas as coordinator.
2. Gradual strengthening the institutional capacity of NAPNA for a better participatory management of Natura 2000 sites, including through the operationalization of territorial structures.
3. Development of effective mechanisms of communication and cooperation with stakeholders (e.g. encouraging collaborative schemes within projects, invloving them in the implementation of activities related with management measures and decision making).
4. Creating a fund to co-finance strategic projects for the conservation of species and habitats.
5. Developing environmental conflict management mechanisms, including the training of facilitators for Natura 2000 issues.
6. Training for the staff involved in Natura 2000 site management
7. Acheiving a national standard of accreditation and monitoring of the management structures efficiency in Natura 2000 sites.

Name and short description of the measures	Type of measure*	Estimated cost in Euros (annualised)	Possible EU co-funding source
Gradual strengthening the institutional capacity of NAPNA for a better participatory management of Natura 2000 sites, including through the operationalization of territorial structures	Recurring	4.800.000	OPAC and/or OPTA
Building the institutional framework for an efficient management of the Natura 2000 network in Romania, having the National Agency for Protected Natural Areas as coordinator.	One-Off	480.000	OPAC and/or OPTA, State budget, NAPNA Budget
Development of effective mechanisms of communication and cooperation with stakeholders (e.g. encouraging collaborative schemes within projects, invloving	One-Off	3.400.000	OPAC and/or OPTA, State

them in the implementation of activities related with management measures and decision making)			budget, NAPNA Budget
Developing environmental conflict management mechanisms, including the training of facilitators for Natura 2000 issues	One-Off	2.700.000	OPAC and/or OPTA, State budget, NAPNA Budget
Training for the staff involved in Natura 2000 site management	One-Off	3.100.000	OPAC and/or OPTA, State budget, NAPNA Budget
Creating a fund to co-finance strategic projects for the conservation of species and habitats	One-Off	350.000	State budget, Environmental Fund Administration, InvestEU
Acheiving a national standard of accreditation and monitoring of the management structures efficiency in Natura 2000 sites	One-Off	720.000	OPAC and/or OPTA, State budget, NAPNA Budget
		15.550.000	

* indicate whether the measure is recurring or one-off

Expected results

The most important result is related to the development of an institutional framework for participatory management in Natura 2000 sites, with the National Agency for Natural Areas Protected as a coordinating structure and with the involvement of territorial structures and associated custodians/partners. Also, the training of facilitators for Natura 2000 issues will lead to new jobs, but will also help mitigate conflict situations.

E.1.3. Monitoring and reporting

Current status and progress made so far in terms of monitoring and reporting

The main reporting obligations that Romania has in direct connection with the Natura 2000 network are the following:

1. Reporting on the responsabilities for the progress and implementation of Habitats Directive (article 17). This is a task that has to be carried out once every 6 years and highlights the trend on the maintaining and/or restoring of the conservation status of habitats and species of community interest. Monitoring of the conservation status is not limited only to Natura 2000 sites. Romania's next report has to be finished by 30/04/2019.

2. Reporting on the obligations regarding the progress and implementation of the Birds Directive (article 12). This is a task that has to be carried out once every 6 years and highlights on the maintaining and/or restoring of the conservation status of bird populations of community interest. Rom Romania's next report has to be finished by 30/04/2019.

3. Reporting on the obligations regarding invasive alien species. The report has to include a description of the monitoring system in accordance with article 14 (Regulation (EU) No 1143/2014 of the European Parliament and of the Council from 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species) and of the control system of invasive species in accordance with article 15; distribution of invasive alien species in accordance with article 11(2); including information relating to migration or reproductive methods; information on species considered invasive, in accordance with article 12(2); the action plans, in accordance with art. 13(2); collected information on eradication measures, as referred to in article 17, as well as management measures as mentioned in article 19, considering their effectiveness and impact, the number of permits in accordance with article 8; the measures needed to inform the public about the presence of invasive alien species and measures to be implemented; investigations carried out in accordance with article 8(8) and information on the costs of action. The reporting term is 01/06/2019.

4. Reporting of derogations related to Habitats and Birds Directives (it has to be done regulary).

5. Reporting of information related to Natura 2000 sites (SCI/SAC, SPA) (it has to be done regulary).

6. Reporting of the common birds index associated with agricultural land. Each Member State shall report this index providing information on the state of common bird species associated with agricultural land and by default on the effects of agricultural practices on this group of animals. The index at European level is reported to DG Agriculture directly by the EBCC (European Bird Census Council-https://www.ebcc.info/), and it is obtained by reporting the national indexes of each Member State. In Romania, in certain years, data collection for this index was funded through the National Rural Development Program.

Apart from these reporting obligations, Romania has to respect the regulations of international conventions, relevant to the CBD, CITES, CEP, AMAP, BSC, IWC, AEWA, Ramsar Convention, ASCOBANS, EUROBATS, MAP, UNCCD, Alpine Convention Secretariat, HELCOM, UNESCO etc..

Currently, for all three reports with the term set for 2019 (art. 12, art. 19 and invasive species) there are projects financed from POIM funds, in different phases of approval and/or implementation.

Further measures needed

It is necessary to implement priority projects approved within the POIM progam, according to the timetable set out in each project.

Prioritization of measures to be implemented during the next MFF period

All three major reports show the same priority level. Also Romania has to rake into accout the obligations specified in the CBD and CITES convetions as well as other international conventions.

List of prioritized measures to be carried out, and estimated costs for these measures

Name and short description of the measures	Type of measure*	Estimated cost in Euros (annualised)	Possible EU co-funding source
Reporting of obligations on the progress and implementation of Habitats Directive (article 17)	One-off	1.250.000	Future OPLI
Reporting of obligations on progress and implementation of Birds Directive (article 12)	One-off	950.000	Future OPLI
Reporting of obligations on invasive alien species	One-off	1.200.000	Future OPLI
Reporting of obligations on CBD	One-off	70.000	
Reporting of obligations on CITES	One-off	170.000	OPAC
Development a national standard for assessing the conservation status of species and habitats	One-off	250.000	Future OPLI
Development of monitoring national system of Habitats Directive (article 11)		450.000	Future OPLI
Common bird species index, associated with agricultural land	Recurrent	300.000	Future Strategical Plan for Agriculture
		4.640.000	

* indicate whether the measure is recurring or one-off

Expected results

The main result of the abovementioned measures implementation is linked to the fulfilment of Romania's obligations as a Member State of the European Union. In addition, the information generated to support these reports will allow for a correct assessment of the efficiency of Natura 2000 network in Romania, which will facilitate the efficient and proper SAC designation and therefore an increase in the efficiency of Natura 2000 network in Romania.

E.1.4. Remaining knowledge gaps and research needs

Current status

The projects carried out so far, having different categories of funding sources, have imprved the knowledge relating to the Natura 2000 network, as well as on species and habitats of community interest. The projects that were the foundation for the two previous reports (article 12 and article 17) added the most consistent and integrated volume of information on the conservation status of species and habitats of community interest.

From a quantitative point of view, it is important to mention the inventory studies of species and habitats of community interest, made to support the management plans, the majority of which are financed by EFRD funds.

There are also remarkable projects that have addressed and evaluated, at national level, different categories of habitats and species of community interest (forestry habitats, peat bog habitats, meadow habitats, etc.).

Further measures needed

Efforts to improve the volume of information on the Natura 2000 network must be considerably improved through partnerships with research centres/groups from universities and research institutes relevant in the field of protected areas, diversification of studies and the use of current scientific methods. One aspect to be taken with priority is the creation of a common pool of data relating to Natura 2000 and the application of open data policies for all studies developed from public funds. At the same time, it is important to develop integrated scientific studies on the Natura 2000 network in Romania, from existing data and convert them into useful information for stakeholders environmental policies development.

It is necessary to significantly improve knowledge on habitats and species of conservative interest, considering that for most of them, according to reports made, the information is insufficient or contradictory. Of particular importance is the situation relating to bird species, where, according to the reporting made on article 12, less than 10% of species have a complete pool of information. These studies must use updated, done with statistically valid scientific methods and produce publicly available data (including the data on which deliverables are based). The production of technical reports must be accompanied by the publication of results in international dissemination instruments (high impact journals, books edited by recognized international publishers, etc.).

In view of the characteristics of the Natura 2000 network in Romania (high fragmentation of land ownership, complex relations between public institutions, bureaucracy in decision-making, the complexity of pressures and threats, reduced involvement of the local community, etc.), more thorough research on the social dimension of the Natura 2000 network is required (relations between institutions/stakeholders, environmental conflicts, governance networks, etc.). Also, for most of the habitats and species of community interest, it is useful to develop a set of dichotomous standard management measures to enable approaches adapted to the distribution and status of habitats and species, local socio-economic aspects and management types.

Considering the experience of implementing management plans, a detailed analysis of the effectiveness of the proposed measures implementation, the degree of harmonisation with other public policies, the level of cooperation between different categories of Institutions and the effect on the conservation status of species and habitats of conservative interest, is needed.

The evaluation of ecosystem services in relation to Natura 2000 sites is another direction which must be considerably expanded, especially taking into account that this type of information can make serious arguments for supporting the importance of the Natura 2000 network.

The impact of invasive species and environmental changes on species and habitats, Natura 2000 sites and local communities are another priority theme, in order to ensure network resilience.

The designation of ecological corridors and their operationalization is another need for research, in order to establish the national ecological infrastructure, especially in the context of fragmentation and it affects the movement of different species.

The assessment of common bird species populations associated with agricultural land is necessary in order to have a clear view of the influence of agricultural practices in Romania on bird species and implicitly on their associated habitats. There is also the need to assess the quality and efficiency of agri-environment packages implemented in Romania, as well as other measures targeted at preserving biodiversity, included in the Strategic plan for agiculture, both in Natura 2000 and beyond.

Prioritization of measures to be implemented during the next MFF period

All the measures mentioned above have the same priority level.

List of prioritized measures to be carried out, and estimated costs for these measures

For the next period it is necessary to promote the following categories of measures:

1. The obligation to ensure public availability of scientific data produced from public funds (including the raw data), the creation and the operation of a common pool of knowledge and information on species and habitats of community interest or the use of an extisting software (e.g. Zenodo OpenAIRE).
2. Improving knowledge using current data, statistically valid scientific methods, including through the evaluation of conservation status, for species and habitats of conservative interest for which there is insufficient information.
3. Research of socio-economic effects of the Natura 2000 network implementation in Romania (relationships between institutions, the delimitation of key resources for local communities with territories in Natura 2000 sites, environmental conflicts, governance networks, public participation in decision making).
4. Assessment of the efficiency of the Natura 2000 network in Romania through systematic conservation planning studies.
5. Detailed scientific analysis on the experience of implementation of management plans.
6. Evaluation of ecosystem services generated by Natura 2000 sites and their integration into the local, regional and national economy.
7. Assessment of the impact of invasive species and environmental changes on species and habitats, Natura 2000 sites and local communities.
8. Identification of methods for mapping and operationalization ecological corridors for species susceptible to fragmentation and scientific and independent testing of the efficiency of functional corridors.
9. Assessing the quality and efficiency of agri-environment packages implemented in Romania, as well as other measures to preserve biodiversity included in the Strategic plan for agiculture, both in Natura 2000 and beyond.

Name and short description of the measures	Type of measure*	Estimated cost in Euros (annualised)	Possible EU co-funding source
The obligation to ensure public availability of scientific data produced from public funds (including the raw data), the creation and the operation of a common pool of knowledge and information on species and habitats of community interest or the use of an extisting software (e.g. Zenodo OpenAIRE)	Recurrent	500.000	State budget, Future OPLI
Improving knowledge using current data, statistically valid scientific methods, including through the evaluation of conservation status, for species and habitats of conservative interest for which there is insufficient information	One-off	1.280.000	Future OPLI
Research of socio-economic effects of the Natura 2000 network implementation in Romania (relationships between institutions, the delimitation of key resources for local communities with territories in Natura 2000 sites, environmental conflicts, governance networks, public participation in decision making)	Recurrent	450.000	Future OPLI
Evaluation of ecosystem services generated by Natura 2000 sites and their integration into the local, regional and national economy	One-off	2.500.000	Future OPLI, InvestEU
Detailed analysis of the level of management plans implementation	One-off	130.000	InvestEU
Assessment of the impact of invasive species and environmental changes on species and habitats, Natura 2000 sites and local communities	Recurrent	1.250.000	Future OPLI
Identification of methods for mapping and operationalization ecological corridors for species susceptible to fragmentation and scientific and independent testing of the efficiency of functional corridors	One-off	1.400.000	Future OPLI, EEA funds
Assessing the quality and efficiency of agri-environment packages implemented in Romania, as well as other measures to preserve biodiversity included in the Strategic plan for agiculture, both in Natura 2000 and beyond	One-off	500.000	Future Strategical Plan for Agriculture
		8.010.000	

* indicate whether the measure is recurring or one-off

Expected results

For the next period, an improvement of the level of knowledge in terms of habitats and preserved species within the Natura 2000 network is expected, which will determine a proper designation of SAC sites and ecological corridors and an increase in the implementation potential of the ecological infrastructure concept. Also, improving the understanding of specific social aspects of Natura 2000 sites will contribute to the effectiveness of the implementation of management measures, notably reducing the size and intensity of conflicts and improving governance models. The evaluation of ecosystem services will provide a robust support for assessing the environmental impact of proposed or existing economic activities in Natura 2000 sites.

E.1.5. Natura 2000-related communication and awareness raising measures, education and visitor access

Current status

The projects carried out so far, having different categories of funding sources, have contributed to raising the public's awareness of the Natura 2000 network and increasing the importance for tourism.

Thus, most of them had actions that produced various informative materials related to the Natura 2000 network (books, brochures, leaflets, posters, videos, etc.), meetings were held with stakeholders (for information, consultation, education and training, etc.), communication or visiting strategies have been elaborated, awareness campaigns have been promoted, thematic routes have been developed and different categories of support infrastructures (information-documentation, visiting centres, etc.) have been established.

It is important to mention the results of the 17609 SMIS-NSRF project *National awareness campaign on the importance of biodiversity conservation through the Natura 2000 network in Romania*, in which the national awareness strategy on the European Network Natura 2000 in Romania 2007-2013 has been updated, along with the development of various training materials (handbook for the Guide application, on appropriate assessment of the impact of plans/projects on the conservation objectives of Natura 2000, the procedure for issuing administrative acts of custodians/administrators, Natura 2000 catalogue, Natura 2000 album, Natura 2000 Agenda for 2013 and 2014, a documentary series on the Natura 2000 network in Romania) and sociological studies on the population's perception towards Natura 2000 sites.

The sociological study carried out under this project emphasizes that: (a) 56% of the local population is informed on the existence of the site or sites located within thir proximity; (b) people with higher education have the highest degree of acknowledgement (61.4%) on the existence of the site; (c) the level of information on actors responsible for managing the protected area is at 43%; (d) there is a relatively low level of information of the local population on aspects related to the existence of the Natura 2000 site (the minimum level of information is linked to the institutional strategies and plans aiming at the Natura 2000 sites (6%), the conservation activities in the site (7%), but also the advantages and disadvantages arising from the establishment of the site); (e) people living within Natura 2000 sites exhibit a positive attitude towards it (53.9% say their existence is a very good thing) compared to land owners (41.9%) or the one that do not own any properties in the site (37.1%).

Further measures needed

The need to improve the image of the Natura 2000 network is obvious, both at the level of public institutions, but also at the level of economic entities and population. In addition, it is necessary to improve the integration of aspects related to the Natura 2000 network in the conventional educational system.

The development of alternative educational packages for all age categories is required as an urgent necessity. Education and training of the population is especially necessary within the Natura 2000 sites with potential for environmental conflicts. These activities of awareness and education must be carried out on the basis of regional and local strategies, at the level of Natura 2000 sites groups with similar characteristics.

In the case of visitors access, it is necessary to improve the way tourism activities are organized (development of management strategies for access, for site or group sites, creating thematic routes and integrating them with educational activities, increasing the level of capitalization of local tourist opportunities, especially those based on traditions, increasing the integration of local communities in harnessing tourism potential), to develop enterprise infrastructures (education and information centres, thematic exhibitions within existing museums, observation points, camping areas, etc.). It is necessary to engage local public and private institutions (schools, universities, local NGOs, environmental agencies, etc) in planning, training and education activities and to inform and advise farmers on the implementation of agricultural practices favourable to biodiversity in Natura 2000 sites.

Prioritization of measures to be implemented during the next MFF period

The communication and awareness-raising measures related to the Natura 2000 network, the education and access management of visitors have been prioritized according to their potential to improve the image and the level of knowledge on the Natura 2000 network

List of prioritized measures to be carried out, and estimated costs for these measures

The priority measures to be implemented are as follows:

1. National and regional awareness campaigns related to different categories of species and habitats that have an unfavourable conservation status or the potential for generating environmental conflicts.
2. Campaigns to educate the population, considering as a priority the active population and the use of interactive methods;
3. Elaboration of awareness and education strategies based on local needs.
4. Development of visiting infrastructures (education and information centres, thematic exhibitions in existing museums, observatory points, camping areas, etc.).
5. Improving the management of tourism activities (creating thematic routes and integrating them with educational activities, increasing the level of capitalization of local tourist opportunities, especially those based on traditions, increasing the degree of integration of local communities in harnessing touristic potential, , planning tourism activities that will not affect the conservation status of species and habitats, the establishment of periods and areas for which touristic activities are regulated).
6. Development of university and postgraduate courses for training regarding the sustainable development of tourist resources.
7. Development of mechanisms for increasing the level of communication and cooperation between the formal and informal institutions involved in the management of Natura 2000 sites.
8. Informing and advising farmers on the implementation of agricultural practices favourable to biodiversity in Natura 2000 sites.

Name and short description of the measures	Type of measure*	Estimated cost in Euros (annualised)	Possible EU co-funding source
National and regional awareness campaigns related to different categories of species and habitats that have an unfavourable conservation status or the potential for generating environmental conflicts	Recurrent	500.000	Future OPLI
Campaigns to educate the population, considering as a priority the active population and the use of interactive methods	Recurrent	750.000	Future OPLI
Elaboration of awareness and education strategies based on local needs	One-off	1.400.000	Future OPLI
Development of visiting infrastructures (education and information centres, thematic exhibitions in existing museums, observatory points, camping areas, etc.)	One-off	3.000.000	Future ROP, Future OPLI, ERDF
Improving the management of tourism activities (creating thematic routes and integrating them with educational activities, increasing the level of capitalization of local tourist opportunities, especially those based on traditions, increasing the degree of integration of local communities in harnessing touristic potential, ,	One-off	1.750.000	Future OPLI

planning tourism activities that will not affect the conservation status of species and habitats, the establishment of periods and areas for which touristic activities are regulated)			
Supporting the local farmers to produce and develop marketing for local products - Natura 2000 origin	One-off	500.000	Future OPLI
Development of university and postgraduate courses for training regarding the sustainable development of tourist resources	One-off	500.000	State budget, Future OPHC
Development of mechanisms for increasing the level of communication and cooperation between the formal and informal institutions involved in the management of Natura 2000 sites	One-off	350.000	State budget, Future OPHC
		8.750.000	

* indicate whether the measure is recurring or one-off

Expected results

The expected impact of the implementation of the abovementioned measures is related to improving the image of the Nature network, improving the conservation status of habitats and species of conservative interest, reducing the level of pressures and threats, increasing the social acceptance of the network among local communities and implicitly capitalize the potential of the network for tourism activities with a low impact on the environment.

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E.2 Site-related maintenance and restoration measures, within and beyond Natura 2000

E.2.1. Marine and coastal waters

Current status of habitats and species, conservation measures taken until now and their impact so far, remaining pressures and threats

There are 9 habitats in E.2.1 category named Marine and costal waters, one of which is considered priority (1150). The best represented in Natura 2000 network are habitats 1110 ad 1310 (both present in 9 sites). The worst are represented by 1150 and 1160 (in a site) habitats.

The main threats to these sites are D03.03 – marine constructions, E01 – Urbanised areas, human habitation, E03 – Discharges, E03.01 – disposal of household / recreational facility waste, F02 – Fishing and harvesting aquatic ressources, F02.02.01 - benthic or demersal trawling, F02.02.05 - benthic dredging, F02.03.01 - bait digging / collection, F06 - Hunting, fishing or collecting activities not referred to above, J02 – human induced changes in hydraulic conditions, J02.11.01 - Dumping, depositing of dredged deposits, J02.12 - Dykes, embankments, artificial beaches, general, J02.05.06 - wave exposure changes, K02.02 – accumulation of organic material, K02.03 - eutrophication (natural).

Of the habitats incuded in this category, some of them have not favorable conservation status: 1110 (total area 5400 km2, of which 1307 km2 in Natura 2000 sites), 1140 (2.44 km2 / 1.5 km2), 1150 (184 km2 / 184 km2) and 1170 (5200 km2 / 275 km2), and among species: *Delphinus delphis* (500-700 individuals), *Phocoena phocoena* (600-700 individuals), *Tursiops truncatus* (500-600 individuals), *Acipenser gueldenstaedtii* (100-10000 individuals), *Acipenser stellatus* (1000 - 10000 individuals) and *Huso huso*.

Riparian forests are the most vulnerable and degraded forest habitats in Romania and in the region, mostly due to the fact that they are not all enlisted in the national forest registry and due to the intensification of farming and conversion of natural areas for production purposes and as a way of increasing the agricultural surface for a bigger area-based subsidy through CAP funds.

Some of the measures promoted are:

- LIFE00 NAT/RO/007194 project coordinated by National Institute for Grigore Antipa Development, Constanta, which aimed to improve the conservation status of the mammalian species Delphinus delphis, Phocoena phocoena and Tursiops truncatus. Main results were related to the improvement of legislative framework through implementing the action plan for species and the management plan, assessment of species and increasing level of education and information.

- Research projects such as FP7 PERSEUS (Marine Policy Research in the Southern Seas of Europe) and CoCoNET (Protected Marine Areas Networks), which have developed databases on Black Sea.

- Sectoral Operational Program Environment 2007-2013 - Integrated management of the Natura 2000 network of marine sites (SCI) in the Romanian Black Sea sector, which aimed to make more efficient the management of 5 Natura 2000 sites in the south of the Romanian seaside.

- Sectoral Operational Program Environment 2007 - Management measures for the Natura 2000 marine site (SCI) ROSCI0066 Danube Delta - Marine Area, which aimed to make more efficient the management of the marine environment of the Danube Delta Biosphere Reserve.

- Sectoral Operational Program Environment 2007-2013 - Programs for monitoring conservation status of marine species and coastal and marine habitats of community interest in Romania, which also aimed to monitor conservation status of marine species and coastal and marine habitats of community interest in Romania.

- Sectoral Operational Program Environment 2007-2013 - Natural Capital Management in ROSPA0076 Black Sea, which aimed to: increase efficiency of management of the protected area of SPA Black Sea in order to develop a sustainable area of the whole area by elaborating management and monitoring plans for protection and maintaining the conservation status of biodiversity conservation; raising the awareness of general public about the importance of biodiversity conservation by constructing three information points, organizing a wide-ranging promotional campaign to provide citizens information about the impact of human actions on the environment and the measures which can prevent its degradation by promoting environmental education; increasing institutional capacity of custodian of Black Sea SPA site in order to apply an efficient integrated management.

"Black Sea Basin" Joint Operational Program 2014-2020 is remarkable. It contain promoting a coordinated environmental policy and jointly reducing maritime waste in Black Sea basin, with the priority of Improving the Joint Monitoring System for Environment.

Measures needed to maintain or restore favourable conservation status

In order to restore habitats 1110, 1140, 1150 and 1170, and the species *Delphinus delphis, Phocoena phocoena, Tursiops truncatus, Acipenser gueldenstaedtii, Acipenser stellatus* and *Huso huso*, are needed measures to control anthropogenic activities of exploitation of resources (eg fishing), proper management of shipping, adequate planning and management of antropic activities in costal areas (especially urbanization with associated impacts). Is needed to increase intervetion capacity in order to limit fishing poaching, to improve gear selectivity, invasive species control and appropriate management of water quality in human settlements. The above measures are also necessary for *Gavia stellata, Gavia arctica, Puffinus yelkouan, Phalacrocorax aristotelis* which are included in Annex I to the Birds Directive. There is also a need for a study on the impact of pelagic fisheries on the above mentioned bird species, and also a continuous monitoring program of their populations. Some urgent measures that could be implemented are as follows:

- The capping of area-based direct payments in CAP (Pillar I), so that the incentive to grow eligible agricultural surfaces is limited;
- The protection/conservation of remaining riparian forests and the ecological restoration of lost ones through dedicated CAP interventions in the next National Strategic Plan (e.g. an upgraded Measure 15 “Forest environmental and climate services and forest conservation”);
- A biodiversity-friendly formulation of CAP GAEC 4 for the next funding cycle, where minimum buffer-strips along water courses are mandatory to be established in-between agricultural land and water protection zones, and where a non-intervention (non-production) regime is introduced.

Prioritization of measures to be implemented during the next MFF period

Priority measures should focus primarily on:

1. Promoting measures to improve conservation status of habitats 1110, 1140, 1150, 1170 of unfavorable cetaceans and sturgeon species.
2. Promoting measures to improve water quality by increasing level of connection to centralized sewerage systems and reducing the amount of unspent or unpurified wastewater assessed in Black Sea.
3. Promoting measures to improve quality of marine sediments by reducing the input of marine wastes.
4. Increasing capacity to control fishing activities, in particular to reduce the incidence of poaching, especially for Cetaceea.
5. Promote measures to improve capacity for vessel traffic control.
6. Controlling invasive species.
7. Identiying and resolving conflicts among main maritime users in protected areas.
8. Study on the impact of pelagic fisheries on bird species *Gavia stellata, Gavia arctica, Puffinus yelkouan, Phalacrocorax aristotelis*.
9. Continuous monitoring programs for *Gavia stellata, Gavia arctica, Puffinus yelkouan, Phalacrocorax aristotelis 10.* Considering the objectives established in ACCOBAMS

List of prioritized measures to be carried out, and estimated costs for these measures

- within Natura 2000 sites designated for the targeted habitats and species

Name and short description of the measures	Type of measure*	Target (Unit & quantity)	Estimated cost in Euros (annualised)	Possible EU co-funding source
Restoration of marine habitats wirh unfavorable conservation (habitats 1110, 1140, 1150, 1170) *Active and pasive measures for restoration the marine habitas will be promoted.*	One-off	4 habitats with improvement of conservation status	1.250.000	OPLI, European funds and investments
Monitoring of conservation status indicators trends for habitats and species important for conservation *Monitoring actions of 4 habitats, 4 marine birds species and 17 species wil be promoted (including Cetacea). A special interest will be for the status and trends, the migration routes and the breeding and feeding areas, the feeding requirements, dead, stranded, wounded or sick animals, the main interactions with human activities, present and potential threats: Passive acoustic techniques to monitor cetacean populations will be implemented.*	Recurrent	Monitoring of the indicators for 17 species and habitats 4 marine bird species	1.000.000	OPLI, European funds and investments

Regulating and managing fisheries in marine systems in connection with nature conservation targets, implicitly by controlling fish poaching *In the 5 marine fisheries will be promoted measures in order to assure the conservation of the marine habitats and species.A special interest will be for Cetacean species.*	Recurrent	5 fisheries with inclusion of nature conservation targerts	700.000	OPLI, European funds and investments
Improving marine traffic management by integrating biodiversity conservation requirements, including ACCOMBAMS requirements *Developing procedure in order to include in traffice management the conservations targets, one for marine species, and other for birds.*	Recurrent	2 marine traffic management	100.000	OPLI, European funds and investments
Implementation of maritime spatial planning policies, taking into account protected marine areas and their functional zoning needs, including Cetaceae *It will be developed minimum 2 marine spatial marine policies, corelated with global and regional policies in order to increase the coherence of biodiversity management.*	Recurrent	2 marine spatial planning policies/management plans	40.000	State budget, OPLI
Marine waste management, efficient waste collection activities and limiting potential transfer of plastic waste and other pollutants in marine environment *It will be developed system for waste management in marine environment, especially for plastic product.That means not only regulations, but also active measure to reduce the impact of the waste in marine environment.*	Recurrent	2 campaigns for improving waste marine management	3.000.000	OPLI, European funds and investments
Control of invasive species *Active measure will be promoted for reducing the impact of minimum one invasive species with high impact on marine environment.*	Recurrent	Control of 1 target invasive species	500.000	OPLI
Study on the impact of pelagic fisheries on bird species *Gavia stellata, Gavia arctica, Puffinus yelkouan, Phalacrocorax aristotelis*	One-off	4 marine bird species/1 study	700.000	OPLI, European funds and investments
			7.290.000	

- additional measures beyond Natura 2000 (wider green infrastructure measures)

Name and short description of the measures	Type of measure*	Target (Unit & quantity)	Estimated cost in Euros (annualised)	Possible EU co-funding source
Regulating and managing fisheries in marine systems, implicitly by controlling fish poaching	recurrent	No. / 9	2.000.000	OPLI, European funds and investments
Updating Cetacean Conservation Action Plan and, implicitly, the legislation in force, including new ACCOBAMS resolutions	one-off	No. / 1	500.000	LIFE
Regulating / managing exploitation of natural resources in marine systems	recurrent	No. / 1	250.000	OPLI, European funds and investments
Restoration / improvement of hydrological regime in coastal areas	recurrent	No. / 1 (Sinoe)	5.000.000	OPLI, European funds and investments
Improving marine traffic management by integrating biodiversity conservation requirements	recurrent	No./2	50.000	OPLI, European funds and investments
Implementation of maritime spatial planning policies, taking into account protected marine areas and their functional zoning needs	recurrent	No./1	100.000	OPLI, European funds and investments
Marine Waste Management, efficient waste collection activities and limiting potential transfer of plastic waste in marine environment	recurrent	No./2	1.000.000	OPLI, European funds and investments
Study on the impact of pelagic fisheries on bird species *Gavia stellata, Gavia arctica, Puffinus yelkouan, Phalacrocorax aristotelis ouside of Natura 2000 sites*	One-off	4 marine bird species/1 study	700.000	OPLI, European funds and investments
		No. / 1	**9.600.000**	

* indicate whether the measure is recurring or one-off

Expected results for targeted species and habitat types

Expected results for target species and habitat types are as follows:

- Maintaining conservation status of favorable habitats (4) and species (17 species, and additional 4 species of birds);
- Improving habitat conditions for cetacean species and implicitly populations of these species;
- Improving habitat conditions for sturgeon species and implicitly populations of these species;

- Reducing mortality resulting from pelagic fisheries and improvement of conservation status for *Gavia stellata, Gavia arctica, Puffinus yelkouan, Phalacrocorax aristotelis*
- Improving conservation status of habitats 1110, 1140, 1150, 1170 now with unfavorable conservation status
- 5 fisheries with inclusion of nature conservation targets
- 2 marine traffic management plans;
- 2 marine spatial planning policies/management plans, including functional zoning;
- 2 campaigns for improving waste marine management in marine environment;
- Measures to control of 1 target invasive species
- 1 study on the impact of pelagic fisheries on bird species Gavia stellata, Gavia arctica, Puffinus yelkouan, Phalacrocorax aristotelis
- Identification of the by-catch levels and decrease the level with at least 10%.
- An ex-situ facility and breeding plan to supplement natural breeding gaps.
- Maps with breeding, wintering and feeding habitats for sturgeons in Danube and Black Sea correlated with actual and future threats and better protection for at least 90% of key habitats (especially breeding ones)
- Maps with potential habitats for restoration and 1 habitat restored.

Expected results: other benefits

The main benefits related to implementation of priority measures listed above are:
- job creation, in particular for implementating of shore-based threat mitigation projects;
- the provision of cultural ecosystem services, particularly relevant for tourism and improvement of living conditions;
- increasing productivity of fishery activities in medium term by adapting fishing methods and equipment and reducing the incidence of poaching;
- reducing losses caused by invasive and eutrophication species;
- improving quality of life in human settlements in coastal area.

E.2.2. Heathlands and shrubs

Current status of habitats and species, conservation measures taken until now and their impact so far, remaining pressures and threats

In category E.2.2. Heathlands and shrubs are included 7 Natura 2000 habitats, of which three are considered as priority (4070* - Bush shrubs with *Pinus mugo* and *Rhododendron myrtifolium*, 40A0* - Peripanonic subcontinental bush, 40C0* - Ponto-Sarmatian hardwood bush). The best represented habitats in Natura 2000 network in Romania are habitats 4060 - Alpine and Boreal habitats (44 sites), 40C0* - Ponto-Sarmatian Hardwood Bush (37 sites) and 40A0* - Peripanonic subcontinental bush (39 sites) and lowest represented are 4030 - European dry bush (7 sites) and 2160 - Dune with Hippophaë rhamnoides (2 sites).

The main threats to these habitats are:

A04.01.01 - intensive cattle grazing, A04.01.02 - intensive sheep grazing, A04.01.05 - intensive mixed animal grazing, A04.02.05 - non intensive mixed animal grazing, A10.01 - removal of hedges and copses or scrub, J01.01 - burning down, K01.01 – Erosion, K02.01 - species composition change (succession), K04.01 - competition, M01.02 - droughts and less precipitations, M02.01 - habitat shifting and alteration.

Of the priority habitats included in this category, the following are not with a favorable conservation status: 40A0* - Peripanonic subcontinental bush (in Alpine bioregion the total area in Natura 2000 of 2 km2, in continental bioregion the total area in Natura 2000 network of 85 km2 Natura 2000 sites and in Pannonian bioregion the surface in Natura 2000 network of 2 km2, 40C0* - Ponto-Sarmatian hardwood bush (the surface of Natura 2000 network of 5 km2). Habitats 2160 - Dune with *Hippophaë rhamnoides* (600/3) and 4080 - Bushings with Salix sub-arctic species (1100/0.0012) are not with favorable conservation status.

The following protected species are found in Natura 2000 sites associated with these habitats: 8 mammalian species, 2 reptile species, 6 invertebrate species and 2 plant species. Of these, 6 species of mammals (*Myotis blythii, Myotis capsinii, Myotis emarginatus, Rhinolophus blasii, Rhinolophus ferrumequinum, Rhinolophus hipposideros*), 3 invertebrate species (*Carabus variolosus, Eriogaster catax, Isophya costata*) and one plant species (*Himantoglossum caprinum*).

There are 45 bird species protected by the Birds Directive, of which 3 species have fluctuating populations (*Saxicola torquatus, Lanius collurio, Saxicola rubetra*). For most bird species there is insufficient information to determine the conservation status.

The following species of birds require special attention in the next program period because of their fluctuating populations: (*Lanius minor, Emberiza hortulana, Sylvia nisoria, , Lanius collurio*). These species are sensitive indicators for the state of priority habitats, which are heavily affected by intensive farming practices, the emergence of monocultures, defragmentation and destruction of landscape elements. In total, 15 species included in the Birds Directive, Annexes I and II were identified.

Some measures promoted were:

- LIFE05NAT/RO/000176 project - Alpine, Sub-Alpine and Forest Priority Habitats in Romania, where was ecomplish "Habitat Monitoring Plan for 4070* - Scrubs with *Pinus mugo* and *Rhododendron myrtifolium* from Natura 2000 Network Sites in Romania";

- The monitoring program of the common bird species associated with agricultural land, from 2006 to 2010 and implemented in Romania by the Romanian Ornithological Society and the Milvus group, a program partly financed by the National Rural Development Program 2007-2013 and 2014-2020.

To these were added projects financed through SOP ENV, which aimed at assessing conservation status of species and habitats of conservative interest, as well as implementation of management plans for the Natura 2000 sites that conserve specific ecosystems.

Measures needed to maintain or restore favourable conservation status

To bring to an appropriate conservation status of habitats 40A0* - Peripanonic subcontinental bush, 40C0* - Ponto-Sarmatian hardwood bush, 2160 - Dune with *Hippophaë rhamnoides* and 4080 - Bushings with *Salix* sub-arctic species as well as species (*Myotis blythii, Myotis capcinii, Myotis emarginatus, Rhinolophus blasii, Rhinolophus ferrumequinum, Rhinolophus hipposideros, Carabus variolosus, Eriogaster catax, Isophya, Himantoglossum caprinum, Saxicola torquatus, Lanius collurio, Saxicola rubetra costata*) are needed measures specially directed to ecological reconstruction of degraded ecosystems, restoration of associated species populations, control of anthropic activities of exploitation of resources (especially grazing) and control of invasive and native species with invasive potential.

Prioritization of measures to be implemented during the next MFF period

1. Promoting measures to improve conservation status of 40A0*, 40C0*, 2160 and 4080 habitats, as well as associated plants, invertebrates and mammals that are unfavorable or tend to be unfavorable.
2. Improve management of pastoral activities (especially grazing activities) so as to allow the maintenance of natural habitats as well as populations of conserved plant and animal species.

3. Restoring degraded habitats.
4. Control of change of land use category (avoiding transformation of hedges into arable land or afforestation).
5. Control of alogene invasive and invasive native species.
6. Maintaining landscape elements in agricultural land and securing payments for farmers. (Currently, landscape elements are covered by GAEC and farmers receive direct payments and payments for greening. Both payments have mandatory management requirements to protect landscape elements at agricultural land level).

List of prioritized measures to be carried out, and estimated costs for these measures

- within Natura 2000 sites designated for the targeted habitats and species

Name and short description of the measures	Type of measure *	Target (Unit & quantity)	Estimated cost in Euros (annualised)	Possible EU co-funding source
Control of colonizing species and introduction of alohtone or non-specific habitat species into or near the habitat, including erosion control. *Active measure will be promoted in order to control colonizing species (e.g. cutting of the vegetation). Strict regulation will be established about the introduction of alohtone and non-specific habitat species. The measures are adressed with priority for habitats 40A0*, 40C0*, 2160 and 4080*	recurrent	5 active measures promoted in habitats for control the colonizing species	450.000	Future OPLI, LIFE
Monitoring succession of vegetation and intervention to ensure favorable conservation status (including very small, unrequested grazing). Monitoring of the vegetation succession will be promoted in all habitats, but with high priority in habitats 40A0*, 40C0*, 2160 and 4080	recurrent	Minimum 5 monitoring actions	295.000	Future OPLI, LIFE (possibly)
Control of tree development and avoidance of afforestation in areas covered by hedges. *Active measure will be promoted in order to control tree expansion in habitats. The measures are adressed with priority for habitats 40A0*, 40C0*, 2160 and 4080*	recurrent	5 active measures promoted in habitats for control the colonizing species	200.000	Future OPLI, LIFE (possibly)
Fire prevention and control with high priority in habitats 4030, 2160, 4080, 40C0* and 40A0*. *Prevention and control system will be developed for each region with priority for habitats 2160 and 4080, and associated species..*	recurrent	Minium 3 prevention and control fire system will be developed	200.000	Future OPLI, LIFE (possibly)
Control of animals grazing and transit in the habitats *The control systems of grazing will be developed for all protected areas that include Heathlands and shrubs. The high priority* will be for 40A0*, 40C0*, 2160, 4070, 4060, 4080.	recurrent	8900 ha with heathlands and shrubs habitats with control of grazing and trazit of animals;	260.000	Future OPLI, LIFE (possibly)
Restoration of degraded habitats Restoration measures adapted for degraded habitats will be promoted. *The measures are adressed with priority for habitats 40A0*, 40C0*, 2160 and 4080*	One-off	20 ha with restored habitat	600,000	Future OPLI, LIFE (possibly)
,			**2.005.000**	

- additional measures beyond Natura 2000 (wider green infrastructure measures)

Name and short description of the measures	Type of measure *	Target (Unit & quantity)	Estimated cost in Euros (annualised)	Possible EU co-funding source
Regulation of grazing in accordance with limits of pasture support capacity The grazing will be organized in Natura 2000 sites, and will be considered in management plans.	recurrent	100% Natura 2000 sites with these habitats with regulation systems	400.000	Included in other agri-environment measures, NPRD
Implementation of fire control systems (education, warning, control and intervention);	recurrent	2000 ha with fire control systems and 10000 informed people	400.000	State budget, LIFE

Prevention and control system will be developed in all habitats				
Maintaining landscape elements in agricultural land	recurrent	Habitats in favourable conservation status	200.000	Future Strategical Plan for Agriculture, Pillar I of the Common Agricultural Policy
			1.000.000	

* indicate whether the measure is recurring or one-off

Expected results for targeted species and habitat types

The expected results for targeted species and habitat types of pastureland are as follows:

- Maintaining conservation status of favorable habitats and species;
- Improvement of habitat conditions for species with unfavorable conservation status;
- Improve conservation status of 40A0*, 40C0*, 2160 and 4080 habitats that are unfavorable or tend to be unfavorable.
- 5 active measures promoted in habitats for control the colonizing species
- Minimum 5 monitoring actions of the vegetation succession
- 5 active measures promoted in habitats for control the tree species
- Minium 3 prevention and control fire system will be developed
- 8900 ha with heathlands and shrubs habitats with control of grazing and tranzit of animals;
- 20 ha with restored habitat

Expected results: other benefits

- job creation, in particular through developpment of infrastructures and expansion of tourist activities;
- enhancing ecosystem services specific to these types of ecosystems, especially leak control, erosion control, carbon storage;
- reducing losses caused by invasive species, as well as by vegetation fires.

E.2.3. Bogs, mires, fens and other wetlands

Current status of habitats and species, conservation measures taken until now and their impact so far, remaining pressures and threats

There are 9 habitats included in the category E.2.3 Bogs, mires, fens and other wetlands, four of them being considered priority (7110, 7210, 7220 and 7240). The habitats most well represented in the Natura 2000 network in Romania are 7110 (23 sites), 7140 (20) and 7220 (18), meanwhile habitats 2190 (3) and 7150 (2) are the most poorly represented.

The main threats for these habitats are A04 – Grazing, B02.02 – Forestry clearance, B03 – Forest exploitation without replanting or natural regrowth, C01.03 – Peat extraction, D01.02 – Roads, motorways, E01.02 – Discontinuous urbanization, H01.01 – Pollution to surface waters by industrial plants, H01.05 – Diffuse pollution to surface waters due to agricultural and forestry activities, H05.01 – Garbage and solid waste, I02 – Problematic native species, J01.01 – Burning down, J02 – Human induced changes in hydraulic conditions (wetlands and marine environment), J03.02 – reduction in migration/ migration barriers, K01.02 – Silting up, K01.03 – Drying out, K02 – Biocenotic evolution, succession, K02.03 – Eutrophication (natural), K02.02 – Accumulation of organic material. From the priority habitats in this category, the following aren't in favourable conservation status: 7210 (total surface of 0.04 km^2, from which 0.04 km^2 Natura 2000 sites) and 7240 (0.01/0.01). Also habitats 7110 (1.53/1.4), 7120 (1/1), 7140 (33.8/2.82), 7150 (0.011/0.011) and 7230 (2.85/2.6) aren't in unfavourable conservation status.

In the Natura 2000 sites associated to these habitats there are encountered the following protected species: 18 species of invertebrates Natura 2000, 8 fish species, 6 amphibians species, 2 reptile species, 5 mammals species and 11 plant species. From these 14 invertebrate species (*Arytrura musculus, Carabus variolosus, Coenagrion ornatum, Cordulegaster heros, Euphydryas aurinia, Graphoderus bilineatus, Leucorrhinia pectoralis, Lycaena dispar, Lycaena helle, Maculinea teleius, Ophiogomphus cecilia, Anisus vorticulus, Chilostoma banaticum, Unio crassus*), 8 fish species (*Alosa immaculata, Cobitis elongata, Eudontomyzon danfordi, Eudontomyzon mariae, Misgurnus fossilis, Rhodeus sericeus amarus, Umbra krameri*), 1 reptile specie (Testudo hermanni), 2 mammals species *(Myotis capaccinii, Myotis dasycneme*) and 1 plant species (*Meesia longiseta*) are in unfavourable conservation status.

We also add to the list the bird species in annex I of the Birds directive *Circus aeruginosus, Aquila clanga, Porzana porzana, Porzana parva, Porzana pusilla, Grus grus, Himantopus himantopus, Recurvirostra avosetta, Gallinago media, Luscinia svecica, Acrocephalus melanopogon*. In addition, 8 species of birds included in annex II of the same Directive are identified. In total there are 29 species of birds associated with these habitats.

From the measures promoted so far we mention:

The project Strategies of restoration of degraded bogs ecosystems in Romania (PeatRO), financed through SEE 2009-2014 grants, which had through the main results the presentation of the general state of bogs ecosystems in Romania, the main threats, the identification and assessment of problems related with financing restoration / reconstruction activities, the degree of damage by natural and /or anthropic draining to peat ecosystems in Romania, the adequate restoration / reconstruction techniques for areas damaged by anthropic draining in peat ecosystems in Romania, the conservation status of peat ecosystems typical species, proposals for the National Plan for re-establishing the water regimen in degraded peat ecosystems, the National Plan for re-establishing the connectivity of peat habitats.

LIFE11 NAT/RO/000828 FOR-MARSH - Environmental restoration and support of natural processes in the forests and eutrophic marshes from Prejmer and Harman focused on 7210 habitat and the species *Adenophora lilifolia, Ligularia sibirica and Liparis loeselii*.

LIFE10 NAT/RO/740 – Improving the conservation status for the priority species and habitats in the Iron Gates wetlands – focused on the species *Phalacrocorax pygmeus* and *Aythya nyroca* through the ecological reconstruction of wintering, nesting and feeding habitats. Improving the conservation status of community interest habitats trough demonstrative actions of elimination of invasive aquatic and riparian species. Implementation of an efficient alert system for the occurrence of invasive species in ROSPA0026 Danube – Baziaș – Iron Gates.

LIFE05 NAT/RO/000165 - Retezat National Park - Conservative management of alpine habitats as a Natura 2000 site in Retezat National Park focused on the 7110 habitat and the species *Angelica palustris, Anthus campestris, Aquila chrysaetos, Bombina variegata, Bubo bubo, Canis lupus, Ciconia ciconia, Circaetus gallicus, Falco peregrinus, Hieraaetus pennatus, Lynx lynx, Pernis apivorus, Ursus arctos*

LIFE02 NAT/RO/008573 Satchinez II - Conservation of the natural wet habitat of Satchinez focuse don the species *Aythya nyroca, Botaurus stellaris* and *Crex crex.*

LIFE99 NAT/RO/006394 The Bogs of Satchinez - Conservation of the Natural Wet Habitat "The Bogs of Satchinez focused on the species *Botaurus stellaris, Aythya nyroca, Crex crex, Anser erythropus* and *Bombina bombina*

The LIFE projects focused on ecological reconstruction actions in order to improve the conservation status, assessment of species and habitats, elaboration of management plans, extension of the network of protected areas, development of visiting infrastructure and activities aimed to increase the population's degree of information and awareness regarding the importance of biodiversity conservation.

The projects financed through Sectorial Operational Program Environment (SOP Environment) focused on the assessment of the conservation status of species and habitats of conservation interest and the elaboration of management plans for different Natura 2000 sites which protect wetland ecosystems.

Measures needed to maintain or restore favourable conservation status

In order to ensure an optimum conservation status for the habitats 7210*, 7240*, 7110, 7120, 7140, 7150 and 7230 and the associated species currently in an unfavourable conservation status (*Arytrura musculus, Carabus variolosus, Coenagrion ornatum, Cordulegaster heros, Euphydryas aurinia, Graphoderus bilineatus, Leucorrhinia pectoralis, Lycaena dispar, Lycaena helle, Maculinea teleius, Ophiogomphus cecilia, Anisus vorticulus, Chilostoma banaticum, Unio crassus, Alosa immaculata, Cobitis elongata, Eudontomyzon danfordi, Eudontomyzon mariae, Misgurnus fossilis, Rhodeus sericeus amarus, Umbra krameri, Testudo hermanni, Myotis capaccinii, Myotis dasycneme, Meesia longiseta*) there is the necessity for measures focused on the ecological reconstruction of degraded ecosystems, restoring populations, controlling human activities of resource exploitation (especially fishery) and controlling invasive and problematic native species**.**

Prioritization of measures to be implemented during the next MFF period

Conservation measures must primary focus on:

1. Promoting measures for improving the conservation status of habitats 7210*, 7240*, 7110, 7120, 7140, 7150 and 7230, of invertebrates, fish, reptile, mammal and plant species characterized by an unfavourable conservation status or by the tendency towards an unfavourable conservation status.
2. Ecological reconstruction of degraded wetlands
3. Improving the management of anthropic, pastoral and forestry activities so that they allow the maintenance of natural habitats and the populations of plant and animal species with conservation interest
4. Controlling invasive and problematic native species.

List of prioritized measures to be carried out, and estimated costs for these measures

- within Natura 2000 sites designated for the targeted habitats and species

Name and short description of the measures	Type of measure*	Target (Unit & quantity)	Estimated cost in Euros (annualised)	Possible EU co-funding source
Restoration of wetland habitats and associated species characterized by an unfavourable conservation status or a tendency towards an unfavourable conservation status through active conservation measures (for example, restoring the natural water regimen, occlusion of drainage channels, restoring connectivity, reintroducing / increase of the number of individuals, nesting and feeding facilities, elimination of invasive species, native or not etc.);	One-off	90 Ha of habitat /year	5.500.000	OPLI
Improving the protection of maximum conservation interest areas (for example, through the setup of green fences); *The habitats and species status will be improved through the promoting active measure (e.g. expansion of green fences)*	One-off	30 Km of green fences /year	1.250.000	EAFRD
Maintaining / planting isolated trees; *Active measure will be promoted in habitats 7210*, 7240*, 7110, 7120, 7140, 7150 and 7230 (e.g. planting, maintaining, cutting branches.)*	One-off	30 Ha of habitats/year	150.000	EAFRD
Monitoring indicators for favourable conservation status for habitats and species of conservation interest; *Monitoring of relevant indicators relevant for conservation status will be realised for all species and habitats,*	Recurring	15 Natura 2000 sites/year	9.000.000	OPLI/LIFE

with priority for all are in unfavourable status.				
Controlling invasive alien species; *Active measure will be promoted for reducing the impact of minimum one invasive species with high impact on bogs, mires, fens and other wetlands environment.*	Recurring	10 areas in minimum 3 Natura sites/year	4.500.000	OPLI/LIFE
Growth for populations of peatlands-associated species at an optimum level (reintroduction, increased number of individuals, assisted reproduction ex situ and in situ, introduction into assisted nature and quarantine, reproductive facilities and mitigation of feral species) ;	reccurring	10 Natura 2000 sites with reintroduction/increasing the number of individuals		Included in the management plans implementation process
Controlling the movement of motor vehicles off the special roads and the speed on technical or public roads in order to avoid high mortality of species associated with wetlands; *The system to monitor and to control motor vehicle will be developed (e.g. barriers, camera), and will be completed by awareness campaign at national and local level.*	Recurring	20 Natura 2000 sites with system for control motor vehicle 2 national awareness campaign 10 local and regional awareness campaign	450.000	OPLI/LIFE
Controlling grazing and associated activities so they don't represent a threat for wild plants and animals; *A research stury will be realized at regional level to assess the impact of grazing and associated activities on bogs, mires, fens and other wetlands and associated species.*	Recurring	8 regional study/year	200.000	OPLI/LIFE
Strict control of peat exploitation and other non-renewable resources from peat bog; *Control system will be developed in order to limit the non-renewable resources from the peat bog.*	Recurring	5000 ha/year	300.000	OPLI/LIFE
Development of visiting infrastructure inside wetlands. *Visiting infrastructure (e.g. pathways, observation points) will be developed.*	One-off	15 visiting infrastructure developed in minumum 5 Natura 2000 sites	1.550.000	OPLI/LIFE
			22.900.000	

- additional measures beyond Natura 2000 (wider green infrastructure measures)

Name and short description of the measures	**Type of measure***	**Target (Unit & quantity)**	**Estimated cost in Euros (annualised)**	**Possible EU co-funding source**
Establishing thresholds for the human intervention for minimizing biodiversity loss; *Thresholds for the human intervention for minimizing biodiversity loss will be established based by national and regional research studies.*	One-off	3 studies	350.000	OPLI/LIFE
Controlling agricultural activities in order to minimize the use of chemical substances, mechanized means and other methods that can affect the conservation spate of species and habitats in wetlands; *Systems to control agricultural activities will be promoted in CAP.*	Recurring	125.000 ha in Natura 2000 sites	1.250.000	EAFRD/NPRD Agri-environment measures
Facilitating granting of compensation for use of management techniques that favor high biodiversi; *Compensation for High Value for Biodiversity areas will be oritented through 5000 ha.*	Recurring	5000 ha/year	5.000.000	EAFRD/NPRD Agri-environment measures

Elimination of the elements which cause high mortality to the associated species (uninsulated electrical networks, technical roads which cross important nesting areas, non-intentional ecological traps, poaching, collection, pathogens); *Active measures for reducing different threats that generate mortality for different species will be promoted.*	Recurring	12500 ha with the reduction of high mortalities of protected species.	250.000	OPLI
Controlling the movement of motor vehicles off the special roads and the speed on technical or public roads in order to avoid high mortality of species associated with wetlands; *Control system will be developed in order to limit the access of motor vehicle in bogs, mires, fens and other wetlands.*	Recurring	12500 ha with limitation of motor vehicle access	250.000	OPLI
Increase of the degree of connection to sewage systems in the human settlements located near wetlands; *Projects will be developed to extend the access of population to sewage and waste management system.*	One-off	90% connection to sewage and waste system of the settlements located in Natura 2000 sites	500,000	OPLI, European and investment funds – for other environment sectors
			7.100.000	

* indicate whether the measure is recurring or one-off

Expected results for targeted species and habitat types

Expected results for targeted species and habitats are:

1. Maintaining the conservation status for the habitats and species with favourable conservation status;
2. Improving habitat conditions for the associated species with unfavourable conservation status through habitats' ecological reconstruction;
3. Improving the conservation status of habitats 7210*, 7240*, 7110, 7120, 7140, 7150 ad 7230 and the associates species with unfavourable conservation status or the tendency towards unfavourable conservation status.
4. Controlling the threats, especially grazing, peat exploitation and water management
5. 90 Ha of habitat /year with restoration of wetland habitats and associated species characterized by an unfavourable conservation status or a tendency towards an unfavourable conservation status through active conservation measures
6. 30 Km of green fences /year for improving the protection of maximum conservation interest areas
7. 30 Ha of habitats/year with maintaining / planting isolated trees;
8. 15 Natura 2000 sites/year with monitoring indicators for favourable conservation status for habitats and species of conservation interest;
9. 10 areas in minimum 3 Natura sites/year with controlling invasive alien species;
10. 10 Natura 2000 sites with reintroduction/increasing the number of individuals
11. 20 Natura 2000 sites with system for control motor vehicle, 2 national awareness campaign, and 10 local and regional awareness campaign
12. 8 regional study/year to control grazing and associated activities
13. 5000 ha/year with strict control of peat exploitation and other non-renewable resources from peat bog;
14. 15 visiting infrastructure developed in minumum 5 Natura 2000 sites

Expected results: other benefits

Main benefits associated with the implementation of above mentioned priority measures are:

- maintaining the role as carbon storage of wetlands.
- maintaining the role in water management (implicitly in minimizing flood impact) and purification.
- creating workplaces, especially through the development of infrastructures and the increase of touristic activities.
- reducing the losses generated by invasive species.

E.2.4. <u>Grasslands</u>

Current status of habitats and species, conservation measures taken until now and their impact so far, remaining pressures and threats

There are 18 habitats included in E.2.4 grasslands category, seven of which are considered as priority (1530, 6110, 6120, 6230, 2130, 6240, 62C0). The most well-represented in Natura 2000 network in Romania is

6430 habitat (100 sites), and the lowest represented 6420 and 1410 (in a site), 2130 (in two sites) and 6120 (in eight sites).

The main threats to these habitats are: A02.01 - agricultural intensification, A02.03 - grassland removal for arable land, A04.01 - intensive grazing, E01.01 – continuous urbanisation, E02 - Industrial or commercial areas, E03.01 - disposal of household / recreational facility waste, K01.01 – Erosion, K02.01 - species composition change (succession).

Of the priority habitats included in this category, the following have not a favorable conservation status: 2130 (total area of 0.7 km^2, of which 0.1 km^2 in Natura 2000 sites), 6240 (2800/2500) and 62C0 (2300 / 2200). Also, habitats 1410 (0.1 / 0.1), 6410 (3400/3140) and 6420 (100/70) have unfavorable conservation.

In these habitats there are 26 species of Natura 2000 invertebrates, 5 amphibians, 5 reptiles, 20 mammals and 21 plants. Of these, 21 species of invertebrates (*Callimorpha quadripunctaria, Carabus variolosus, Coenagrion ornatum, Colias myrmidone, Eriogaster catax, Euphydryas aurinia, Glyphipterix loricatella, Gortyna borelii lunata, Hypodryas maturna, Isophya costata, Isophya harzi, Isophya stysi, Leptidea morsei, Lycaena dispar, Lycaena helle, Maculinea teleius, Paracaloptenus caloptenoides, Stenobothrus eurasius, Cerambyx cerdo, Lucanus cervus, Osmoderma eremita*), 2 reptiles (*Testudo hermanni, Vipera ursinii*), 13 (*Barbastella barbastellus, Miniopterus schreibersii, Myotis bechsteinii, Myotis blythii, Myotis capaccinii, Myotis emarginatus, Myotis myotis, Rhinolophus euryale, Rhinolophus ferrumequinum, Rhinolophus hipposideros, Rhinolophus mehelyi, Spermophilus citellus, Vormela peregusna*) and 11 plants (*Agrimonia pilosa, Angelica palustris, Ferula sadleriana, Himantoglossum caprinum, Iris aphylla ssp. hungarica, Liparis loeselii, Paeonia officinalis ssp. banatica, Serratula lycopifolia, Thlaspi jankae, Adenophora lilifolia, Gladiolus palustris, Mannia triandra*) are in an unfavourable conservation status.

To this are added other 54 bird species protected by Birds Directive, and those present in annex I are represented by *Ciconia ciconia, Anser erythropus, Branta ruficollis, Circaetus gallicus, Circus cyaneus, Circus macrourus, Circus pygargus, Buteo rufinus, Aquila pomarina, Aquila clanga, Aquila heliaca, Hieraaetus pennatus, Falco vespertinus, Falco columbarius, Falco cherrug, Perdix perdix, Crex crex, Tetrax tetrax, Otis tarda, Burhinus oedicnemus, Pluvialis apricaria, Asio flammeus, Coracias garrulus, Melanocorypha calandra, Calandrella brachydactyla, Lullula arborea, Anthus campestris, Emberiza hortulana*

Some promoted measures were:

- LIFE09 NAT / RO / 000618 project - Saving Transylvania's Important Pastoral Ecosystems targeted Natura 2000 site ROSCI0227 Sighişoara - Tarnava Mare, with habitats of interest 6210 and 6240.

- LIFE08 NAT / RO / 000502 project - Securing favorable conservation status for priority habitats from SCI Calimani-Gurghiu targeted, among others habitat 6230.

- LIFE05 NAT / RO / 000158 project - Saving *Vipera ursina rakosiensis* in Transylvania aimed to improve conservation status of species *Vipera ursinii rakosiensis*.

- LIFE05 NAT / RO / 000165 project - Conservation management of alpine habitats as a Natura 2000 site in Retezat National Park covered habitats 6150, 6170, 6210, 6230, including species such as *Angelica palustris, Anthus campestris, Aquila chrysaetos, Bombina variegata, Bubo bubo, Canis lupus, Ciconia ciconia, Ciraetus gallicus, Falco peregrinus, Hieraaetus pennatus, Lynx lynx, Pernis apivorus, Ursus arctos*

- LIFE00 NAT / RO / 007174 project - Functional Ecological Network in Central Transylvania Plain, targeting habitats 6210, 6430, 6440, 6240 and 6410

- LIFE03 NAT / RO / 000026 project - Participatory management of Macin Mountains protected areas covered habitat 6110.

- LIFE03 NAT / RO / 000032 project - Natura 2000 sites in National Park Piatra Craiului covered habitats 6520 and 6170, as well as *Ligularia sibirica* and *Rosalia alpina*

- LIFE05 NAT / RO / 000176 project - Priority for forest, sub-alpine and alpine habitats in Romania has been targeted at Natura 2000 sites ROSCI0125, ROSCI0024, ROSPA0129. Which shelter habitat 6230.

LIFE projects focused on ecological reconstruction, active conservation measures, species and habitats assessment, management plans, land acquisition, including extension of protected area network, development of visitor infrastructure and actions to raise awareness and awareness of general public on the importance of biodiversity conservation.

Remarkable are ADEPT Foundation projects that targeted High Nature Value grasslands, such as RBAPS - Results Biodiversity Payments, Rural Development and Agricultural Land with High Natural Value in Romania, Establishing the current level of monitoring of high value grasslands in Romania, State assessment of conservation of permanent grassland located in eligible areas for agro-environmental measures applicable to agricultural land with permanent pasture category, Ecosystem Services in High Nature Value Agricultural Areas - Green Industry - Romania.

Also noteworthy is ICD project - Braşov grasslands "Proactive Zonal Measures to Improve Pastoral Value of Permanent Meadows Degraded under the Action of Climate Change and Anthropic Interventions".

To these were added the projects financed through SOP ENV, which focused on assessing conservation status of species and habitats of conservative interest, as well as the implementation of management plans for Natura 2000 sites that conserve pasture ecosystems.

The first National Rural Development Program (2007-2013) included the measure M215 –Natura 2000 payments foreseen to begin in the year 2010. M215 has not been implemented on the grounds that management plans for protected areas included in the Natura 2000 network have not been approved and conservation measures have not been developed for the species and habitats associated with agricultural land.

The second National Rural Development Program is implemented between 2014 and 2020. For this program, a measure intended for Natura 2000 payments, in accordance with art 30 of the European regulation 1305 of 2013 was not included. But it was included, as in the 2014-2020 Partnership agreement, the following provision: „The managing authority stated that in the absence of Natura 2000 management plans, which blocked the development and implementation of compensatory measures for these areas, through the NRDP 2014-2020, a better orientation of the packages addressed to the protection of important habitats for some wild species will be sought. Subsequently, during the implementation of the program, after the approval of a sufficient number of management plans and after identifying the incompatibility of measure 10 with Natura 2000 sites, the possibility to develop compensatory measures addressed to these areas, will be evaluated" Within the framework of the new NRDP, this formulation was eliminated and at this point only the following provision remains: „measure 12 Natura 2000 and payments under the Water Framework Directive" will not be implemented in the immediate aftermath, mainly due to the number of approved management plans (10 PM approved in mid-2014)". The payments under the NRDP 2014-2020 are still oriented on agri-environment packages for the protection of important habitats for some wild species, based on voluntary measures.

In Romania, the NRDP 2014-2020 is structured in five priority directions, with specific actions, with an impact on biodiversity find: Priority 4-restoration, conservation and consolidation of ecosystems that are related to agriculture and forestry: 4a restoring, preserving and developing biodiversity, including in Natura 2000 areas, in areas facing natural constraints or other specific constraints and in agricultural activities of high natural value, as well as the state of European landscapes.

The agri-environment packages currently applicable, and the voluntary measures necessary for the payment of payments are as follows:

Package 1 – High natural value grassland (HNV)

Package 2 – Traditional agricultural Practices variant 2.1 – Manual works on permanent grasslands used as hay;

Option 2.2 – works with light equipment on permanent grasslands used as hay

Package 3. Important meadows for birds, Subpackage 3.1 *Crex Crex*

Package 3. Important meadows for birds, Sub-Package 3.3 *Lanius minor* and *Falco Vespertinus*

Package 6 – Important grasslands for butterfly (*Maculinea sp.).* Alternative 6.1 – Manual labour. Alternative 6.2 – Labour with lightweight machines.

Package 9- Important agricultural lands as feeding areas for the lesser spotted eagle (*Aquila pomarina*). Alternative 9.2.1 – Manual labour on major meadows for the lesser spotted eagle. Alternative 9.2.2 Labour with lightweight machines on important meadows for the lesser spotted eagle.

Package 11 - Agricultural land important for the great bustard (*Otis tarda*).

Sub-package 11.2 – Important grasslands for the great bustard. Alternative 11.2.1 – Manual labour on major meadows for the great bustard. Alternative 11.2.2 – Labour with lightweight machines on important meadows for the great bustard. Alternative 11.2.3 – Labour with heavy machinery on important meadows for the great bustard.

Measures needed to maintain or restore favourable conservation status

For 2130*, 6240*, 1410, 6410 and 6420 habitats, as well as 21 invertebrate species (*Callimorpha quadripunctaria, Carabus variolosus, Coenagrion ornatum, Colias myrmidone, Eriogaster catax, Euphydryas aurinia, Glyphipterix loricatella, Gortyna borelii lunata, Hypodryas maturna, Isophya costata, Isophya harzi, Isophya stysi, Leptidea morsei, Lycaena dispar, Lycaena helle, Maculinea teleius, Paracaloptenus caloptenoides, Stenobothrus eurasius, Cerambyx cerdo, Lucanus cervus, Osmoderma eremita*), 2 reptiles (*Testudo hermanni, Vipera ursinii*), 13 mammals (*Barbastella barbastellus, Miniopterus schreibersii, Myotis bechsteinii, Myotis blythii, Myotis capaccinii, Myotis emarginatus, Myotis myotis, Rhinolophus euryale, Rhinolophus ferrumequinum, Rhinolophus hipposideros, Rhinolophus mehelyi, Spermophilus citellus,Vormela peregusna*) and 11 plants (*Agrimonia pilosa, Angelica palustris, Ferula sadleriana, Himantoglossum caprinum, Iris aphylla ssp. hungarica, Liparis loeselii, Paeonia officinalis ssp. banatica, Serratula lycopifolia, Thlaspi jankae, Adenophora lilifolia, Gladiolus palustris, Mannia triandra*) are necessary measures aimed especially at ecological reconstruction of degraded ecosystems, control of anthropic exploitation activities of resources (especially grazing, mechanically

mowing, improving grassland production, and conversion of grassland into other forms of land use) and control of invasive species.

Measures are also needed to promote agricultural policies targeted to biodiversity conservation, to develop new incentives and appropriate fiscal mechanisms for the conservation of agri-biodiversity, to implement effective agri-environment packages where there are no incompatibilities between proposed conservation measures and existing agri-environment packages and through the implementation of Natura 2000 payments within protected areas in which conservation measures imposed by management plans become compulsory, to preserve the category of use for grasslands and meadows, to reduce pesticide use, to promote extensive agriculture and to control invasive species and problematic native species.

Prioritization of measures to be implemented during the next MFF period

Conservation measures should primarily aim at:

1. Promoting measures to improve conservation status of habitats 2130*, 6240*, 1410, 6410 and 6420, invertebrate, reptile, mammalian and non-obese plants or plants that are unfavorable or trend to be unfavorable.

2. Improve the management of pastoral activities (especially grazing and mowing) so as to allow for maintenance of natural habitats as well as populations of conserved plant and animal species. Regarding grazing, measures should be taken to limit the phenomena of both over-grazing (especially with sheep) and under-grazing (due to land abandonment or the abandonment of extensive pastoral practices), in areas where these are occurring. Overgrazing can be addressed through thorough and continual monitoring of the size of sheepfolds in accordance with the calculated carrying capacity of grasslands, and of their impact on grassland plant species/communities of species; undergrazing can be addressed through measures for the creation and support of short food supply chains and of associative farming entities (e.g. cooperatives), with the creation of shared collection, storage, processing, and distribution infrastructures, of market outlets for small producers through the revitalisation of traditional commerce channels (such as farmers markets, networks of independent specialised shops), and an improved public acquisition legislation to prioritise the sourcing of food for public institutions (such as schools, kindergartens, etc) from small local producers who are part of associative structures (associations or cooperatives).
3. Preservation of current agricultural area used as grasslands and restoration of degraded meadows.
4. A continual monitoring and control of invasive species.
5. Implementation of agri-environment packages promoting biodiversity-friendly farming practices in grassland habitats - maintaining current CAP funding for HNV grasslands and traditional farming practices, incentivising farmers to preserve isolated trees (e.g. old oak trees) and groups of trees and shrubs on grasslands.
6. Implementation of Natura 2000 payments for grassland habitats and associated animal/plant species.

List of prioritized measures to be carried out, and estimated costs for these measures

- within Natura 2000 sites designated for the targeted habitats and species

Name and short description of the measures	Type of measure*	Target (Unit & quantity)	Estimated cost in Euros (annualised)	Possible EU co-funding source
Restoration of grassland habitats and associated species with unfavorable conservation status or with tendence to have unfavorable conservation status through active conservation measures (restoration of natural hydrological regime, maintenance of gullies, erosion control, seeding with indigenous species, etc.); *The measures cover habitats 2130*, 6240*, 1410, 6410, 6420 and 62C0, including also the increase the areas of less represented habitats*	one-off	1000 ha/year with restoration works	22.600.000	Future OPLI, NPRD
Promote proper management of rarities (pastureland with a consistency of up to 0.4) and the inclusion of appropriate measures in pastoral development plans. *The assurance of the right consistency will be realized using active management interventions.*	recurrent	1000 km2 grassland habitats with tree consistency below 0.4	200.000	Future OPLI, NPRD
Monitoring of good conservation status indicators for habitats and species important for conservation from sites; *The indicators representatiove for conservation status for all species and habitat (with priority for unfavorable conservation status) will be monitored using adequate monitoring protocol.*	recurrent	Minum 50 Natura 2000 sites with 18 grassland habitats, 77 species+ 46 birds;	1.300.000	Future OPLI

Stopping habitats succession processes through active conservation measures; *Promote active conservation measure to stop habitat succession.*	recurrent	500 ha by year with stoping succesion	1.500.000	Future OPLI
Maintain / create live hedges, bushes, isolated trees; Planting, maintenance and stoning will be used to maintainf or create hedges, bushed and to plant isolated trees. All Natura 2000 sites with 18 grassland habitats, 77 species+ 46 birds are considered.	recurrent	1000 ha by year in minimum 10 Natura 2000 sites	1.500.000	Future OPLI
Effective combating invasive species in grasslands; *Active measures will be promoted to reduce the impact of invasive species.*	recurrent	Minimum 10 Natura 2000 sites/year with action to reduce the impact of invasive species.	1.975.000	Future OPLI
Numerical increase of associated populations at an optimal level (reintroduction, increase in number of individuals, ex situ and in situ assisted reproduction, assisted introduction and quarantine, breeding and resting facilities in situ, limitation of feral species). *Active measures will be promoted to improve the conservation statis of 18 grassland habitats, 77 species+ 46 birds.*	recurrent	Minimum 10 active actions by year	1.250.000	Future OPLI
Elimination of elements that cause high mortality among associated species (uninsulated electrical networks, technical roads crossing major reproductive areas, unintentional ecological traps, poaching, collection, pathogens). *Active measures to eliminate the cause of high mortality among the species will be promoted.*	recurrent	Minimum 20 active actions by year	2.200.000	Future OPLI, ROP
Implementation of fire control systems (information, warning, control and intervention); *Prevention and control system will be developed for each region for all habitats..*	recurrent	15 Natura 2000 sites with grassland habitats	1.625.000	Future OPLI, LIFE (possibly)
Ensuring measures to mitigate conflicts with Natura 2000 species (Canis lupus, Ursus arctos, Lynx lynx, etc.) through waste management (in urban, rural, touristic areas), measures to protect property in areas with potential for conflict, educate tourists and locals, management of a damage compensation system that encourages the limitation and prevention of poaching and accidental mortalities	one-off	20 Natura 2000 sites with grassland habitats	1.500.000	Future OPLI, LIFE (possibly)
Implementation of agri-environment packages promoting biodiversity-friendly farming practices in grassland habitats	recurrent	All Natura 2000 sites with grassland habitats	30.000.000	Future Strategical Agricultural Plan
Implementation of Natura 2000 payments for grassland habitats and associated animal/plant species.	recurrent	All Natura 2000 sites with grassland habtats	50.000.000	Future Strategical Agricultural Plan
Total			**115.650.000**	

- additional measures beyond Natura 2000 (wider green infrastructure measures)

Name and short description of the measures	**Type of measure***	**Target (Unit & quantity)**	**Estimated cost in Euros (annualised)**	**Possible EU co-funding source**
Combating erosion in grasslands through biodiversity-friendly means; *The active and pasive measure will be promoted for reducing erosion.*	one-off	Grassland habitats that are affected by erosion and are outside of a Natura 2000 site – 2000 km2*4000 (euro/km2) (approximate surface)	1.150.000	Future OPLI, NPRD (possibly)
Regulation of mowing in accordance with requirements of habitats and species of conservative interest; *Regulation of mowing and compensation will be considered.*	recurrent	Grassland habitats outside Natura 2000 sites of which 690,6 km2 are in unfavourable conservation status. There is no data regarding the surface of grasslnd habitats that are	2.762.400	OPAC

		protected outside Natura 2000 sites.		
Regulating grazing in accordance with requirements of habitats and species of conservation interest based on studies on the reliability of grasslands and their support capacity in terms of livestock, grazing system, permitted animals;.	recurrent	Grassland habitats outside Natura 2000 sites of which 690,6 km2 are in unfavourable conservation status. There is no data regarding the surface of grasslnd habitats that are protected outside Natura 2000 sites.	2.762.400	OPAC
Improvement of floristic structure for increasing pastoral value by over-sinking or resuscitation, erosion of anti-erosion protection, landscaping, pleasure lawns or other purposes;	one-off	Grassland habitats outside Natura 2000 sites of which 690,6 km2 are in unfavourable conservation status. There is no data regarding the surface of grasslnd habitats that are protected outside Natura 2000 sites.	2.762.400	Future OPLI, NPRD (possibly)
Control of agricultural activities to limit use of chemical substances, mechanized means and other methods that can affect conservation status of species and habitats;	recurrent	Grassland habitats outside Natura 2000 sites of which 690,6 km2 are in unfavourable conservation status. There is no data regarding the surface of grasslnd habitats that are protected outside Natura 2000 sites.	2.762.400	Future OPLI, NPRD (possibly)
Determination of critical thresholds for anthropogenic intervention to improve production potential of grasslands, considering conservation requirements;	one-off	Scientific study	215.000	Future OPLI, NPRD (possibly)
Promoting agri-environment and climate measures and continuing compensatory payments for HNVs, traditional farming practices, important grasslands for birds *(Crex crex, Lanius minor, Falco vespertinus*), important for butterflies (*Maculinea sp*.) ;	recurrent	Grassland habitats outside Natura 2000 sites of which 690,6 km2 are in unfavourable conservation status. There is no data regarding the surface of grasslnd habitats that are protected outside Natura 2000 sites.	2.762.400	Future OPLI, NPRD (possibly)
Promoting new agri-environment and climate measures accompanied by confirmatory pilot studies.	one-off	Grassland habitats outside Natura 2000 sites of which 690,6 km2 are in unfavourable conservation status. There is no data regarding the surface of grasslnd habitats that are protected outside Natura 2000 sites.	2.762.400	Future OPLI, NPRD (possibly)
Facilitate granting of compensation payments for use of management techniques that favor high biodiversity	recurrent	Grassland habitats outside Natura 2000 sites of which 690,6 km2 are in unfavourable conservation status. There is no data regarding the surface of grasslnd habitats that are protected outside Natura 2000 sites.	2.762.400	Future OPLI, NPRD (possibly)
Implementation of fire control systems (education, warning, control and intervention);	recurrent	Grassland habitats outside Natura 2000 sites of which 690,6 km2 are in unfavourable conservation status. There is no data regarding the surface of grasslnd habitats that are protected outside Natura 2000 sites.	2.762.400	Future OPLI, LIFE (possibly)
Controlling displacement of motor vehicles outside specially designed roads and limiting vehicle speeds on technical or public roads to avoid high mortality among grassland associated species.	recurrent	Grassland habitats outside Natura 2000 sites of which 690,6 km2 are in unfavourable conservation status. There is no data	2.762.400	Future OPLI, LIFE (possibly)

		regarding the surface of grasslnd habitats that are protected outside Natura 2000 sites.		
Implementation of agri-environment packages promoting biodiversity-friendly farming practices in grassland habitats	recurrent	Natura 2000 sites with grassland habtats	10.000.000	Future Strategical Agricultural Plan
			36.226.600	

* indicate whether the measure is recurring or one-off

Expected results for targeted species and habitat types

Expected results for targeting species and habitat types of grasslands are as follows:

- Maintaining conservation status of favorable habitats and species;
- Improvement of habitat conditions for species with unfavorable conservation status;
- Improving conservation status of 2130*, 6240*, 1410, 6410 and 6420 habitats that are unfavorable or tend to be unfavorable.
- 1000 ha/year with restoration of grassland habitats and associated species with unfavorable conservation status or with tendence to have unfavorable conservation status through active conservation measures
- 1000 km2 grassland habitats with tree consistency below 0.4
- minimum 50 Natura 2000 sites with monitoring the conservation status indicators for habitats and species important for conservation
- 500 ha by year with stopping succesion;
- 1000 ha by year in minimum 10 Natura 2000 sites with new/actively maintained hedges, bushes, isolated trees;
- 10 Natura 2000 sites/year with action to reduce the impact of invasive species.
- Minimum 10 active actions by year with reintroduction, increase in number of individuals, ex situ and in situ assisted reproduction, assisted introduction and quarantine, breeding and resting facilities in situ, limitation of feral species.
- Minimum 20 active actions by year with elimination of elements that cause high mortality among associated species (uninsulated electrical networks, technical roads crossing major reproductive areas, unintentional ecological traps, poaching, collection, pathogens).
- 15 Natura 2000 sites with grassland habitats with implementation of fire control systems (information, warning, control and intervention);
- 20 Natura 2000 sites with ensuring measures to mitigate conflicts with Natura 2000 species (Canis lupus, Ursus arctos, Lynx lynx, etc.) through waste management (in urban, rural, touristic areas), measures to protect property in areas with potential for conflict, educate tourists and locals, management of a damage compensation system that encourages the limitation and prevention of poaching and accidental mortalities
- All Natura 2000 sites with grassland habitats with implementation of agri-environment packages promoting biodiversity-friendly farming practices in grassland habitats

Expected results: other benefits

Main benefits related to implementation of priority measures listed above are:

- job creation, in particular through diversification of grassland assessment activities;
- increasing the productivity of pastoral activities on medium term by adapting grazing methods to the support capacity of habitats;
- reducing losses caused by invasive species;
- reducing abandonment of grasslands and, implicitly, migration from isolated human communities.
- Balanced development of livestock activities.

E.2.5. Other agroecosystems (incl. croplands)

Current status of habitats and species, conservation measures taken until now and their impact so far, remaining pressures and threats

Romania has important agricultural resources, almost 62% of the country's total land being suitable for agriculture. Most of agricultural area is arable (64.1%) and grasslands and hayfields also have important shares (22.6% and 10.4% respectively). Vineyards and orchards, including nurseries, represent the remaining of 1.5% and 1.4% of the country's arable land, respectively (NIS - Romanian Statistical Yearbook, 2008).

By overlapping agricultural areas with Natura 2000 network in Romania is as follows:

Category of land use	SCI %	SPA %
Arable land	5,48	7,09
Heterogeneous agricultural areas	3,43	4,55
Permanent crops	0,67	0,74

In agroecosystems category are species of community interest: 6 mammalian species, 4 invertebrate species and 49 species of birds. All mammalian species (*Sicista subtilis, Spermophilus citellus, Miniopterus schreibersii, Myotis emarginatus, Rhinolophus ferrumequinum, Rhinolophus hipposideros*) and invertebrates (*Colias myrmidone, Eriogaster catax, Paracaloptenus caloptenoides, Pilemia tigrina*) are not with favorable conservation status.

There are 36 bird species associated with agro-ecosystems, 18 of which are included in annex I: *Anser Erythropus, Branta ruficollis, Circus cyaneus, circus Macrourus, Circus Pygargus, Buteo rufinus, Aquila Pomarina, Falco vespertinus, Falco The Columbarius, Falco cherrug, Crex Crex, Tetrax Tetrax, Otis Tarda, Burhinus oedicnemus, Melanocorypha Calandra, Calandrella Brachydactyla, Anthus campestris, Emberiza hortulana*. For some of them, the Ornithological Romanian Society implements the annual monitoring program, i.e. the monitoring program of common bird species associated with agricultural land (2006) and the monitoring program of wild goose species (2006).

The main issues that make harder the recruitment of agricultural sector on a sustainable and biodiversity-focused basis are as follow:

- The concept of agro-biodiversity is not introduced in national agrarian policy in the correct sense of the term;
- Current agroenvironment schemes partly take into account biodiversity conservation objectives and principles, in some cases being contradictory with conservative measures of wildlife and natural habitats (marshalling, cutting shrubs and grassland / grassland fertilization);
- Farm subsidies do not take into account the principles of biodiversity conservation;
- Unsustainable land use (fragmentation, land conversion, abandonment of agricultural land);
- Lack of mechanisms to stimulate the application of agro-environmental schemes to obtain agricultural production;
- Lack of a clear strategy on genetically modified organisms.

Linked to these issues, the main threats to address biodiversity from agriculture sector are:

- Habitat fragmentation;
- Reduction of habitat;
- Expansion and intensification of agricultural production systems by transforming natural or semi-natural ecosystems into arable land and their transformation in terms of use intensive production technologies (floodplains of main rivers, and in particular Danube grassland, have been damped and transformed into intensive agricultural ecosystems in proportion of 20-80%, much of steppe grassland and wetlands have been turned into arable land, forest curtains and many forest bodies in plain area or river grassland have been gutted, etc.) ;
- Pollution by using pesticides / fertilizers;
- Pertering species through noise, vibration, noxes produced by agricultural machinery used in intensive works.

In first National Rural Development Program (2007-2013) was included also the measure M215 - Natura 2000 payments and planned to start in 2010. M215 was not implemented on the ground that no management plans have been aprooved for protected areas included in Natura 2000 network and no conservation measures have been developed for species and habitats associated with agricultural land.

In 2014-2020, a second National Rural Development Program was implemented. A measure for Natura 2000 payments under Article 30 of the European Regulation 1305 of 2013 was not included for this program. But the following provision was included, as it was the case for the 2014-2020 Partnership agreement: "The managing authority stated that in the absence of management plans for Natura 2000, which lead to the impossibility of developing and implementing compensatory measures for these areas, PNDR 2014-2020 will try a better orientation of the packages addressed to the protection of important habitats for some wild species. Thereafter,

during the period of implementation of the program, after the approval of a sufficient number of management plans, and an analysis regarding the incompatibility of measure 10 with Natura 2000 sites, there will be an evaluation on compensatory measures in these areas.

In the NRDP this mention was removed and at this point, it is only specified that "Measure 12 Natura 2000 and payments under Water Framework Directive" will not be implemented in the near future, mainly due to the very small number of approved management plans (10 PM approved in mid-2014)". Payments under 2014-2020 NRDP are still geared towards agroenvironment packages for protection of important habitats for some wild species, based on voluntary measures.

In Romania, NRDP 2014-2020 is structured on five priority areas with specific actions with impact on biodiversity: Priority 4 - Restoration, conservation and consolidation of agriculture and forestry ecosystems: 4A Restoration, conservation and development of biodiversity, including Natura 2000 areas, areas facing natural constraints or other specific constraints, and agricultural activities of high natural value, as well as state of European landscapes.

Agroenvironment packages currently in use and voluntary payment measures are as follows:

Package 1 - High natural value grassland (HNV)

Package 2 - Traditional agricultural practices

version 2.1 - manual works on permanent grassland used as meadows;

version 2.2 - works with light machinery on permanent grasslands used as meadows

P3. Important grassland for poultry, Sub-package 3.1 *Crex crex*

P3. Important grassland for birds, Sub-package 3.3 *Lanius minor* and *Falco vespertinus*

Package 4 - green crops

P7. Arable lands important as feeding areas for red-throated gait

Package 9 - important agricultural land as *Aquila pomarina*, Sub-package 9.1 - important arable land as a feeding area for small eagle (*Aquila pomarina*).

Action Plan for Agriculture elaborated within SNPACB includes a series of measures with responsibilities, deadlines and ways of financing:

- Maintaining and developing extensive agricultural practices and traditional methods of land use that ensure conservation of semi-natural habitats (Development of standards for good agricultural practices; Promoting and ensuring viability of species and varieties / breeds that contribute to conservation of wildlife and ecosystems; current agri-environment);
- Diminishing negative effects of intensive agricultural practices;
- Implementation of Addis Abeba Principles and Guidelines for Sustainable Use.

Measures needed to maintain or restore favourable conservation status

In order to achieve a proper conservation status of ecosystems associated with species (*Sicista subtilis, Spermophilus citellus, Miniopterus schreibersii, Myotis emarginatus, Rhinolophus ferrumequinum, Rhinolophus hipposideros, Colias myrmidone, Eriogaster catax, Paracaloptenus caloptenoides, Pilemia tigrina, Aegithalos caudatus, Alauda arvensis, Carduelis carduelis, Coccothraustes coccothraustes, Coturnix coturnix, Cuculus canorus, Lanius collurio, Passer montanus, Streptopelia turtur, Sturnus vulgaris, Vanellus vanellus*) are needed measures to promote agricultural policies conducive to biodiversity conservation. Also are necessary for developping of new incentives and appropriate fiscal mechanisms for conservation agro-biodiversity by continuing the implementation of agroenvironment packages through NRDP where there are no incompatibilities between the proposed conservation measures and the existing agroenvironment packages. Implementation of Natura 2000 payments within protected natural areas where imposed conservation measures by management plans will become mandatory. Same will happend with natural and semi-natural land use, reduction of pesticide use and promotion of traditional agriculture and the control of invasive and native species.

Prioritization of measures to be implemented during the next MFF period

1. Implementation of Natura 2000 payments within protected natural areas where conservation measures imposed by management plans become mandatory;
2. Continue to implement agro-environment packages through NRDP where there are no incompatibilities between the proposed conservation measures and the existing agro-environment packages;
3. Conservation of use of natural and semi-natural lands;
4. Promoting agricultural policies conducive to biodiversity conservation (eg reduction of pesticide use and promotion of traditional agriculture)
5. Control of invasive and native species.

List of prioritized measures to be carried out, and estimated costs for these measures

- within Natura 2000 sites designated for the targeted habitats and species

Name and short description of the measures	Type of measure*	Target (Unit & quantity)	Estimated cost in Euros (annualised)	Possible EU co-funding source
Implementation of Natura 2000 payments within protected natural areas where conservation measures imposed by management plans become mandatory; *The measure is related with CAP.*	recurrent	40000 ha/year	50.000.000	NPRD Agri-environment measures
Promote the change of use category to natural and semi-natural lands - meadows, forests, wetlands. *The measure will encourage the returning to natural state of agricultural lands, especially form wetlands, forests and grasslands areas.*	recurrent	3000ha/year	200.000	NPRD
Continuing implementation of agroenvironment packages through NRDP where there are no incompatibilities between the proposed conservation measures and the existing agroenvironment packages; *The measure is related with CAP.*	recurrent	30.000 ha /year	30.000.000	NPRD Agri-environment measures
Strict regulation of use of pesticides and promotion of traditional agriculture; *The measure is related with CAP.*	recurrent	10% of agricultural lands from Natura 2000 sites	1.000.000	NPRD Agri-environment measures
Impact assessment of current incentives / subsidies / state aid on biodiversity conservation and conservation status of species of community interest in Natura 2000 sites to identify and eliminate inappropriate ones;	one-off	1 regional study/year	1.250.000	NPRD Agri-environment measures
Update and adopt existing rules and guides to include best agricultural practices for sustainable use of agro-biodiversity	one-off	3 guidelines about best agricultural practices for sustainable use of agro-biodiversity	300.000	NPRD Agri-environment measures
Ensuring measures to mitigate conflicts with Natura 2000 species (Canis lupus, Ursus arctos, Lynx lynx, etc.) through waste management (in urban, rural, touristic areas), measures to protect property in areas with potential for conflict, educate tourists and locals, management of a damage compensation system that encourages the limitation and prevention of poaching and accidental mortalities	recurrent	30% decreasing of the environmental conflicts	1.500.000	NPRD Agri-environment measures
			84.250.000	

- additional measures beyond Natura 2000 (wider green infrastructure measures)

Name and short description of the measures	Type of measure*	Target (Unit & quantity)	Estimated cost in Euros (annualised)	Possible EU co-funding source
Continue implementation of agro-environment packages through NRDP where there are no incompatibilities between the proposed conservation measures and the existing agri-environment packages	recurrent	3000 ha/year	3.200.000	NPRD
Controlling of fragmentation of habitats by setting up ecological corridors (such as protective curtains, strips of hedgerows or other forest species adapted to local ecological requirements)	recurrent	3000 ha/year	3.500.000	NPRD
Developping a national strategy on testing, cultivation and use of genetically modified organisms	one-off	1 complex study, regional GIS survey/year	800.000	Ministry of Regional Development and Public Administration

Limiting abandonment of agricultural land, which can be occupied by invasive species	one-off	1 complex study, regional GIS survey/year	400.000	NPRD
Expand agro-silvic pastoral systems in arid areas	one-off	1 complex study, regional GIS survey/year	400.000	NPRD
		Total	**8.300.000**	

* indicate whether the measure is recurring or one-off

Expected results for targeted species and habitat types

Expected results for species concerned are as follows:

- Maintaining conservation status of favorable species;
- Improvement of habitat conditions for species with unfavorable conservation status;
- Improving image of protected natural areas network by granting fair compensation in relation to losses incurred through the establishment of protection system;
- 40000 ha/year with implementation of Natura 2000 payments within protected natural areas;
- 3000 ha/year with the change of use category to natural and semi-natural lands - meadows, forests, wetlands
- 30000 ha with continuing implementation of agroenvironment packages through NRDP
- 1 regional study/year about Impact assessment of current incentives / subsidies / state aid on biodiversity conservation and conservation status of species of community interest in Natura 2000 sites to identify and eliminate inappropriate ones
- 1 project about update and adopt existing rules and guides to include best agricultural practices for sustainable use of agro-biodiversity
- 1 project with ensuring measures to mitigate conflicts with Natura 2000 species (Canis lupus, Ursus arctos, Lynx lynx, etc.).

Expected results: other benefits

- ensuring explotation of species with economic value;
- generating a sustainable rural development model;
- reducing losses caused by invasive species;
- contribution to mitigating the effects of climate change.

E.2.6. <u>Woodlands and forests</u>

Current status of habitats and species, conservation measures taken until now and their impact so far, remaining pressures and threats

In the category E.2.6. Forest ecosystems there are 24 habitats presented, of which 8 are priority habitats (9180* *Tilio-Acerion* forests of slopes, screes and ravines, 91AA* Eastern white oak woods, 91D0* Bog woodland, 91E0* Alluvial forests with Alnus glutinosa and Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*), 91H0* Pannonian woods with *Quercus pubescens*, 91I0* Euro-Siberian steppic woods with Quercus spp., 91X0* Dobrogean Beech forests and 9530* (Sub-)Mediterranean pine forests with endemic black pines.

Of these types of habitats, best represented in the Natura 2000 network are the following habitats: 91E0* (in 93 sites), 9110 (in 90 sites), 9130 (in 88 sites), 91Y0 (in 85 sites), 91V0 (in 73 sites), 9140 (in 64 sites), 9170 (in 61 sites) and 91M0 (in 51 sites), and with a low weak representation are the following habitats 91X0* and 9530* in 2 sites.

The main threats to forest habitats are related to the lack of administration of a large area of forest from the entire national forest surface, lack of implementation of a forestry regime for about 500000 hectares outside the public forest, forestry and forestry industries. We emphasize on the problems determined by forestry activities, mainly caused by the old practices management of forests, maladjusted to biodiversity conservation measures (including removal of dead timber, replanting with alien or non-specific habitat species or intensive exploitation, etc.), forestry exploitation without replanting or natural regeneration, anthropogenic reduction of habitat connectivity. Other threats to be taken into account are the construction of roads and motorways, damage caused by ungulates (with a high density of population), atmospheric pollution and changes in species and habitats (succession). Other threats include lack or improper implementation of conservation measures, diseases (microbial pathogens), drought or reduced rainfall, habitat transfer and modification, and changes induced by hydrological conditions (mainly for alluvial forests).

The main threats to these types of habitats from Natura 2000 sites, following the established classification are: B02.04 - Removal of dead and dying trees, B03 - Forest exploitation without replanting or natural regrowth, B06 - Grazing in the forest/woodlands, C01.03.01 - Hand cutting of peat, D01.01 - Paths, tracks, cycling tracks,

D01.02 - Roads, motorways, E01.01 - Continuous urbanisation, E01.03 - Dispersed habitation, I01- Invasive non-native species, J01.01 - Fires J02.05.03 - Modification of standing water bodies, K01.03 – Drying out, K02.01 - Species composition change (succession), K03.02 - Parasitism, K03.03 -Introduction of diseases (microbienic pathogens), M01.02- Droughts and reduced rainfall.

Among the habitats framed in this category, the following are not in a favourable status of conservation: 91AA* Eastern white oak woods (with a total surface of 1700 ha, of which 5.3 ha in Natura 2000 sites in the continental bioregion and with a total surface of 10090 ha of which 190 ha in Natura 2000 sites in the steppic bioregion)
91D0* Bog woodland (with a total surface of 10000 ha, of which 46 ha in Natura 2000 sites in the alpine bioregion and in the continental bioregion with 100 ha of which 5 hectares in Natura 2000 sites)
91E0* Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) (with a total surface of 77200 ha in the continental bioregion, of which 25 hectares in Natura 2000 sites and in the alpine bioregion with a surface of 50700 hectares of which 5.9 ha in Natura 2000 sites)
91F0 Riparian mixed forests of *Quercus robur*, *Ulmus laevis* and *Ulmus minor*, *Fraxinus excelsior* or F*raxinus angustifolia*, along the great rivers (*Ulmenion minoris*) (with a total surface of 42400 ha, of which 200 ha in Natura 2000 sites in the continental bioregion, a total area 9900 ha of which 87 ha in Natura 2000 sites in the Pannonian bioregion and a total area 34409 ha of which 71 ha in Natura 2000 sites in the steppic bioregion), 91H0* Pannonian woods with *Quercus pubescens* (in the Continental bioregion: total area 1600 hectares, of which 7 hectares in Natura 2000 sites)
91I0* Euro-Siberian steppic woods with *Quercus spp*. (with a total area of 56800 ha, of which 100 ha in Natura 2000 sites, in the continental bioregion; a total surface of 5800 ha of which 35 ha in Natura 2000 sites in the pannonian bioregion; 34400 ha of which 260 ha in Natura 2000 sites in the steppic bioregion)
91X0* Dobrogean Beech forests (with a total area 2 hectares of which 0.3 ha in Natura 2000 sites in the steppic bioregion)
91Y0 Dacian oak & hornbeam forests (with a total area of 132600 hectares, of which 1500 ha in Natura 2000 sites in the continental bioregion and a total area of 10800 ha of which 460 ha in Natura 2000 sites in the steppic bioregion)
92A0 *Salix alba* and *Populus alba* galleries (with a total area of 40300 ha, of which 228 ha in Natura 2000 sites in the continental bioregion, a total area of 3600 ha of which 8 ha in Natura 2000 sites in the pannonian bioregion, a total area of 22300 ha of which 477 Ha in Natura 2000 sites in the steppic bioregion and in the Black Sea bioregion with a total area of 2700 hectares of which 6.4 ha in Natura 2000 sites)
9260 *Castanea sativa* woods (with a total area of 800 ha, of which 0.1 ha in Natura 2000 sites in the continental bioregion and a total area of 800 ha of which 3 ha in sites Natura 2000 in the alpine bioregion)
92D0 Southern riparian galleries and thickets (*Nerio-Tamaricetea* and *Securinegion tinctoriae*) (with a surface of 2200 ha of which 3 hectares in Natura 2000 sites in the steppic bioregion and in the Black Sea bioregion with a total area of 1400 hectares of which 14 hectares in Natura 2000 sites)
9410 Acidophilous *Picea forests* of the montane to alpine levels (Vaccinio-Piceetea) (presetn in the alpine bioregion with a total surface of 35000 ha of which 3300 ha in Natura 2000 sites).

These habitats include 145 species of community interest (43 species of mammals, of which 3 are priority species: *Ursus arctos, Canis lupus* and *Mustela lutreola*, 14 species of amphibians, 14 species of reptiles, 45 species of invertebrates, of which 5 are priority species: *Rosalia alpina, Pseudogaurotina excellens*, *Osmoderma eremita, Nymphalis vaualbum* and *Callimorpha quadripunctaria* and 29 species of plants, of which 4 are priority species: *Campanula serrata, Ferula sadleriana*, *Pulsatilla pratensis* ssp. *hungarian*, *Serratula lycopifoli*a), and the degree of representation of species in Natura 2000 sites being:

In the case of best represented mammals are the following species: *Lutra lutra* encountered in 163 Natura 2000 sites, *Ursus arctos* in 127 Natura 2000 sites, *Canis lupus* in 126 Natura 2000 sites and *Myotis myotis* in 112 Natura 2000 sites while the least represented are the following species: *Mustela lutreola* in a single Natura 2000 site and *Microtus tatricus* in 2 Natura 2000 sites;

In the case of amphibians best represented are the following species: *Bombina variegata* encountered in 187 Natura 2000 sites, *Triturus cristatus* in 146 Natura 2000 sites and *Bombina bombina* encountered in 105 Natura 2000 sites, while the lowest represented species are: *Triturus dobrogicus* in 27 Natura 2000 sites;

In the case of reptiles best represented are the following species: *Emys orbicularis* in 96 Natura 2000 sites, while the lowest represented are the species *Testudo hermanni* in 13 Natura 2000 sites;

In the case of the best represented invertebrates are the following species: *Lucanus cervus* in 77 Natura 2000 sites, *Lycerna dispar* in 53 Natura 2000 sites and *Cerambyx cerdo* encountered in 49 Natura 2000 sites, while the lowest representation is characteristic for: *Leucorrhinia pectoralis, Vertigo moulinsiana* and *Buprestis splendens* encountered in 2 Natura 2000 sites.

In the case of the best-represented plants are the following species: *Iris aphylla ssp. hungarica* encountered in 46 Natura 2000 sites and *Campanula serrata* located in 36 Natura 2000 sites, while the lowest represented are the following species: *Ferula sadleriana* and *Thlaspi jankae*, present in 1 Natura 2000 site.

Of the species falling within this category, the following are not in a favourable status of conservation: for mammals, 25 of the 43 species do not have a favourable conservation status, namely: *Barbastella barbastellus, Eptesicus serotinus, Miniopterus schreibersii, Myotis bechsteinii, Myotis blythii, Myotis capaccinii, Myotis dasycneme, Myotis daubentonii, Myotis emarginatus, Myotis myotis, Myotis mystacinus, Myotis nattereri, Nyctalus leisleri, Nyctalus noctula, Pipistrellus kuhlii, Pipistrellus nathusii, Pipistrellus pipistrellus, Plecotus auritus, Plecotus austriacus, Rhinolophus blasii, Rhinolophus euryale, Rhinolophus ferrumequinum, Rhinolophus hipposideros, Rhinolophus mehelyi, Vespertilio murinus;*

In the case of amphibians, 8 of the 14 species do not have a favourable conservation status: *Hyla arborea, Pelobates fuscus, Pelobates syriacus, Rana arvalis, Rana dalmatina, Rana esculenta, Rana ridibunda, Rana temporaria*;

In the case of reptiles, 12 of the 14 species do not have a favourable conservation status: *Ablepharus kitaibelii, Coronella austriaca, Elaphe longissima, Emys orbicularis, Lacerta agilis, Lacerta viridis, Lacerta vivipara pannonica, Natrix tessellata, Podarcis muralis, Podarcis taurica, Testudo hermanni, Vipera ammodytes;*

In the case of invertebrates, 34 of the 54 species do not have a favourable conservation status: *Apatura metis, Arytrura musculus, Buprestis splendens, Carabus hampei, Carabus variolosus, Carabus zawadzkii, Cerambyx cerdo, Chilostoma banaticum, Colias myrmidone, Cordulegaster heros, Cucujus cinnaberinus, Erebia sudetica, Eriogaster catax, Euphydryas aurinia, Gortyna borelii lunata, Hyles hippophaes, Hypodryas maturna, Leptidea morsei, Leucorrhinia pectoralis, Lopinga achine, Lucanus cervus, Lycaena dispar, Lycaena helle, Maculinea teleius, Morimus funereus, Odontopodisma rubripes, Ophiogomphus cecilia, Osmoderma eremita, Parnassius apollo, Parnassius mnemosyne, Proserpinus proserpina, Pseudogaurotina excellens, Rosalia alpina, Zerynthia polyxena;*

Regardng plant species, 21 aut of 29 do not have a favourable conservation status: *Adenophora lilifolia, Agrimonia pilosa, Angelica palustris, Buxbaumia viridis, Colchicum arenarium, Dicranum viride, Ferula sadleriana, Gentiana lutea, Gladiolus palustris, Himantoglossum caprinum, Iris aphylla ssp. hungarica, Iris humilis ssp. arenaria, Leucobryum glaucum, Liparis loeselii, Mannia triandra, Paeonia officinalis ssp. banatica, Pulsatilla pratensis ssp. hungarica, Ruscus aculeatus, Serratula lycopifolia, Thlaspi jankae.*

Also, there are 85 bird species protected by the Birds Directive. The species present in annex I are: *Ciconia nigra, Pernis apivorus, Milvus migrans, Haliaeetus albicilla, Circaetus gallicus, Accipiter brevipes, Buteo rufinus, Aquila pomarina, Aquila chrysaetos, Hieraaetus pennatus, Bonasa bonasia, Tetrao tetrix, Tetrao urogallus, Glaucidium passerinum, Strix uralensis, Aegolius funereus, Caprimulgus europaeus, Picus canus, Dryocopus martius, Dendrocopos medius, Dendrocopos leucotos, Picoides tridactylus, Ficedula parva, Ficedula semitorquata, Ficedula albicollis.*

Of the measures promoted up to this moment we mention:

- LIFE EME Natura 2000 – Efficient managers for an efficient Natura 2000 network - has developed a strategic planning guide for responsible management of biodiversity values, forestry resources;

- Bioregia Carpathians, led by the WWF Danube – Carpathians (WWF-DCP) program, financed by the European Union under the South-Eastern Europe Transnational Cooperation Program, in which a study involving several case studies in the Carpathian forests, including Romania, containing a set of common integrated management measures for natural resources, conservation and management measures intended to be implemented by the administration structures of protected and forestry areas and other forest managers;

-Study financed by UNDP/GEF in which the evaluation of the contribution of ecosystem services was sought in some sectors of the economy (tourism, forestry, agriculture, water resources and disaster risk management) for five large size protected areas respectively Apuseni Natural Park, Retezat National Park, Piatra Craiului National Park, Vanatori-Neamt Natural Park and Maramures Mountains Natural Park. For this, two extensive management scenarios were used: business as usual (BAU) and sustainable ecosystems management (SEM). For the forestry sector the value of forest supply services (woody/non-woody and hunting resources) of the five pilot protected areas was estimated at around 9.1 million per year (2010).

- LIFE05 NAT/RO/000176: Priority Alpine, subalpine and forestry habitats in Romania focused on habitats of community interest (especially priority ones) in Alpine, subalpine and forestry areas. The main aim was to declare Natura 2000 sites for habitats included in the project, as well as to support an institutional framework that will ensure their monitoring, conservation and management on a sustainable basis in future.

- LIFE10 NAT/RO/740 – Improving the conservation status for priority species and habitats in the Iron Gates Wetlands aimed to improve the preservation status of habitats of community interest through demonstration actions, elimiate invasive aquatic species and implementat an effective alert system in the event of invasive species occurence in ROSPA0026 Danube-Baziaş – Iron Gates.

To these, it is worth mentioning also the projects financed by POS Environment, which aimed to assess the conservation status of species and habitats of conservative interest, and the development of management plans for different Natura 2000 sites which preserve forest ecosystems.

Measures needed to maintain or restore favourable conservation status

In order to improve the conservation status of habitats: 91AA, 91D0, 91E0, 91H0 *, 91I0 *, 91Y0, 92A0, 9260, 92D0, 9410, as well as of the 21 species of plants(*Adenophora lilifolia, Agrimonia pilosa, Angelica palustris, Buxbaumia viridis, Colchicum arenarium, Dicranum viride, Ferula sadleriana, Gentiana lutea, Gladiolus palustris, Himantoglossum caprinum, Iris aphylla ssp. hungarica, Iris humilis ssp. arenaria, Leucobryum glaucum, Liparis loeselii, Mannia triandra, Paeonia officinalis ssp. banatica, Pulsatilla pratensis ssp. hungarica, Ruscus aculeatus, Serratula lycopifolia, Thlaspi jankae)*, 34 species of invertebrates (*Apatura metis, Arytrura musculus, Buprestis splendens, Carabus hampei, Carabus variolosus, Carabus zawadzkii, Cerambyx cerdo, Chilostoma banaticum, Colias myrmidone, Cordulegaster heros, Cucujus cinnaberinus, Erebia sudetica, Eriogaster catax, Euphydryas aurinia, Gortyna borelii lunata, Hyles hippophaes, Hypodryas maturna, Leptidea morsei, Leucorrhinia pectoralis, Lopinga achine, Lucanus cervus, Lycaena dispar, Lycaena helle, Maculinea teleius, Morimus funereus, Odontopodisma rubripes, Ophiogomphus cecilia, Osmoderma eremita, Parnassius apollo, Parnassius mnemosyne, Proserpinus proserpina, Pseudogaurotina excellens, Rosalia alpina, Zerynthia polyxena*), 12 species of reptiles (*Ablepharus kitaibelii, Coronella austriaca, Elaphe longissima, Emys orbicularis, Lacerta agilis, Lacerta viridis, Lacerta vivipara pannonica, Natrix tessellata, Podarcis muralis, Podarcis taurica, Testudo hermanni, Vipera ammodytes*), 8 species of amphibians (*Hyla arborea, Pelobates fuscus, Pelobates syriacus, Rana arvalis, Rana dalmatina, Rana esculenta, Rana ridibunda, Rana temporaria*), 25 species of mammals (*Barbastella barbastellus, Eptesicus serotinus, Miniopterus schreibersii, Myotis bechsteinii, Myotis blythii, Myotis capaccinii, Myotis dasycneme, Myotis daubentonii, Myotis emarginatus, Myotis myotis, Myotis mystacinus, Myotis nattereri, Nyctalus leisleri, Nyctalus noctula, Pipistrellus kuhlii, Pipistrellus nathusii, Pipistrellus pipistrellus, Plecotus auritus, Plecotus austriacus, Rhinolophus blasii, Rhinolophus euryale, Rhinolophus ferrumequinum, Rhinolophus hipposideros, Rhinolophus mehelyi, Vespertilio murinus*), 12 species of birds (*Pernis apivorus, Hieraaetus pennatus, Falco vespertinus, Otus scops, Bubo bubo, Dendrocopos medius, Dendrocopos leucotos, Dendrocopos minor, Picoides tridactylus, Corvus frugilegus, Aquila heliaca, Accipiter gentilis gentilis*) and 17 fluctuating populations (*Streptopelia turtur, Cuculus canorus, Anthus trivialis, Erithacus rubecula, Luscinia megarhynchos, Turdus merula, Turdus philomelos, Sylvia atricapilla, Aegithalos caudatus, Parus caeruleus, Oriolus oriolus, Lanius collurio, Garrulus glandarius, Sturnus vulgaris, Carduelis carduelis, Coccothraustes coccothraustes, Columba palumbus palumbus*) conservation measures are necessary, in particular aimed at the ecological reconstruction of degraded ecosystems, the control of antropic activities and the exploitation of resources (especially the forest resources under the forest planning rules compatible with the maintenance of natural fundamental types, the specific composition and the mosaic of different ages, the appropiate quantity of dead wood, as well as the methods of exploitation that do not affect the species of conservative interest and their specific habitats) and control of invasive or native species of invasive nature in close correlation with the avoidance of replacement of native species and habitats.

Prioritization of measures to be implemented during the next MFF period

Conservation measures must be aimed at:

1. Promoting measures to improve the conservation status of habitats: 91AA, 91D0, 91E0, 91F0, 91H0*, 91I0*, 91X0, 91Y0, 92A0, 9260, 92D0, 9410, as well as of the 21 species of plants, 34 species of invertebrates, 12 reptiles, 8 species of amphibians, 25 species of mammals and 12 species of birds that are in an unfavourable conservation status or with the tendency to become unfavourable;
2. Implementation of measures from the forest-environment package.
3. Improving the management of forestry activities with regard to the application of new forestry rules, compatible with the maintenance of natural fundamental types, the specific composition and the mosaic of different age trees, appropriate quantities of dead timber and operating methods that would not affect the species of conservation interest and their specific habitats;
4. Development and implementation of organic reconstruction schemes for maintenance or where it is necessary to extending habitat areas whose conservation status is not favourable in order to improve the connectivity of these habitats;
5. Control of invasive or native species of invasive nature in close correlation with the avoidance of replacement of native species and habitats.

List of prioritized measures to be carried out, and estimated costs for these measures

- within Natura 2000 sites designated for the targeted habitats and species

Name and brief description of measures	Type of measure *	Objective (unit & quantity)	Estimated cost in EUR (annualized)	Possible source of EU co-financing
Promoting natural regeneration and natural structure stands to to maintain Natura 2000 habitats (organizing training and communication sessions for forestry administrators and Forestry Guard) *The measures will be promoted in all forests habitats.*	recurrent	Forest habitats in an unfavourable conservation status, located in Natura 2000 sites – 7037 ha.	35.000	Future OPLI
Appropriate management control, certification and promotion of Natura 2000 provenance, in support of owners and administrators.	recurrent	10 Certified production units	200.000	NPRD
Implement a system of area payments to offset the costs of minimal compliance, adaptation of forestry technologies and practices and additional bureaucratic requirements. *The measures will be promoted in all forests habitats.*	recurrent	Payments to Natura 2000 sites for forest habitats that are in an unfavourable conservation status / 7037 ha	1.000.000	NPRD
Adaptation and Implementation of measures in the silvo-environment packages. *The measures will be promoted in all forests habitats, with priority in the habitas in unfavorable conservation status..*	recurrent	Forest habitats in Natura 2000/ 3000000 ha/an.	20.000.000	NPRD
Special conservation management of priority Natura 2000 habitats, areas with large slopes, rocks, etc.(according to the technical rules in forestry), the layers and streams of the permanent water courses, the stands situated on and near the eco-ducats (tunnels, green bridges, viaducts, bridges, under- transfers) on the transport infrastructure, with payments for forests assigned to the TII functional type.	recurrent	Payments to Natura 2000 20000 ha/year	1.000.000	NPRD
Reconstruction of micro-habitats for Natura 2000 species. *The measures will be promoted in all forests species considering different adapted active measures..*	one-off	Reconstructed forest habitats in Natura 2000 7037 ha of reconstructed habitats	1.000.000	Future OPLI
Prioritization of the non-intervention option on the areas under special conservation regime, with provision of payments for the TI functional forest, for the creation / maintenance of the"aging islands". *The measures will be promoted in all forests habitats.*	recurrent	Habitats of forest in Natura 2000/20000 ha/year	2.500.000	OPLI
Inclusion, with the consent of the owners, of trees that correspond to the quasi-virgin forest criteria less of the surface, in the functional TI type with the appropriate payments. *The measures will be promoted in all forests habitats.*	recurrent	Payments granted for forest habitats in Natura 2000/7037 ha.	2.500.000	OPLI
Implementation of Natura 2000 payments for special measures required by protected habitats and species and not covered by sectorial payments (forestry - TI, TII, agri-environment) and area payments *The measures will be promoted in all forests habitats.*	recurrent	Payments granted for forest habitats in Natura 2000/7037 ha.	1.000.000	OPLI
Protect micro-habitats (wetlands, rocks, poisons), not to be included in regeneration classes.	recurrent	Forest habitats in Natura 2000 / ha	200.000	OPLI
Respecting measures to identify and predict the evolution of the populations of the main insect pests (other than Natura 2000 species) and phytopathogenic agents, combat promptly, as far as possible by biological or integrated means, and to carry out the phytosanitary measures necessary to prevent the mass multiplication of harmful insects and the proliferation of agents phytopathogens so as not to affect the conservation status of Natura 2000 habitats and species;	recurrent	Forest habitats in Natura 2000. Protected species = 145 species, Bird species = 96 species	150.000	Future OPLI

Long-term and long-term substitution of alohtone or non-natural resinous vegetation existing in the natural spruce forests or beech stands;	one-off	Forest habitats in Natura 2000 / 7000 ha	2.500.000	Future OPLI
Application of forest treatments and works to preserve the composition and proportion of species according to the natural nature of the forest; *The measures will be promoted in all forests habitats.*	recurrent	Forest habitats in Natura 2000 /7037 ha	1.500.000	Future OPLI
Promoting regeneration from local certified sources, monitoring natural regeneration and applying specific relief work;	recurrent	Forest habitats in Natura 2000 / 7037 ha	150.000	Future OPLI
Selective elimination of invasive alotonic and invasive native species non-specific to the habitat type; *The measures will be promoted in all forests habitats.*	recurrent	Forest habitats in Natura 2000/ 200 ha/year.	500.000	Future OPLI
			0	
Promoting regeneration from local certified sources, monitoring natural regeneration and applying specific relief work;	recurrent	Forest habitats in regenerated Natura 2000/ 200 ha/year	300.000	Future OPLI
Directing the composition of the young stands to the natural nature of the forest and to structures as diversified both horizontally and vertically;	recurrent	Forest habitats in Natura 2000/ 200 ha/year.	350.000	Future OPLI
Planting control to prevent habitat structure, to carry out afforestation studies to maintain habitat type and habitat enhancing species;	recurrent	Forest habitats in Natura 2000 /100 ha	150.000	Future OPLI
Regulation of grazing and traditional activities for the collection of medicinal plants, mushrooms or other similar activities;	recurrent	Forest habitats in Natura 2000 / 7000 ha	1.000.000	OPCA
Promoting low-intensity grazing where the target is to maintain a rare forest habitat or wooded pasture (eg for raptors, reptiles, amphibians, bats etc.)	recurrent	Forest habitats in Natura 2000 50 ha.	150.000	Future OPLI
Ecological reconstruction / inadequate functional restoration works are concerned with 9110 beech stands, formerly replaced with spruce and / or pine forests, pioneer tree stands, stands affected by land degradation - landslides, erosion, fires, breaks and breaks produced by wind and snow, depending on the needs of the state of the stands and the plans for the restoration of stands with inappropriate composition to the habitat of community interest;	one-off	Forest habitats in Natura 2000/ 200 ha. (Includes scientific studies, technical projects, actual work and monitoring of ecological reconstitution activities);	8.500.000	Future OPLI
Ensure measures to limit conflicts with Natura 2000 species (large carnivores, etc.) through waste management (urban, rural, tourist), asset protection measures in areas with conflict potential, educating tourists and locals, building a system compensation for damage that encourages their limitation, prevention of poaching and accidental deaths.	recurrent	5 awareness campaing	4.000.000	Future OPLI, LIFE (possibly), NPRD
Ensuring local communities access to workwood and firewood.	recurrent	Forest habitats in Natura 2000/7037 ha.	250.000	NPRD
Total			**48.935.000**	

- additional measures beyond Natura 2000 (wider green infrastructure measures)

Name and short description of the measures	**Type of measure***	**Target (Unit & quantity)**	**Estimated cost in Euros (annualised)**	**Possible EU co-funding source**
Identifying and conserving all secular and of special value, virgin and quasi-virgin forests.	recurrent	Scientific study / 1 no Forest habitats outside Natura 2000 = 580564 ha	200.000	Future OPLI, LIFE (possibly)
Making a network of forest reserves (outside the protected area system) and establishing forest corridors	one-off	Scientific study / 1 no	120.000	Future OPLI, NPRD

Maintaining holler trees (important for bats, birds), old trees (important for nesting) and dead wood on the ground floor of the forest, dispersed throughout the area of the habitat, Including in younger forests	one-off	Forest habitats outside Natura 2000 = 580564 ha	100.000	Future OPLI
Prevention of forest fragmentation and maintenance of the integrity of ecological forest corridors	recurrent	Forest habitats outside Natura 2000 = 580564 ha	12.000.000	Future OPLI
The management of grazing and other traditional activities of collecting herbs, mushrooms or similar activities	recurrent	Forest habitats outside Natura 2000 = 580564 ha	45.000	OPAC
Prohibition of replacement of native species with rapidly growing alohtone species, even if this is done in order to prevent soil erosion phenomena	recurrent	Forest habitats outside Natura 2000 = 580564 ha	45.000	OPAC
Ensuring measures to limit conflicts with Natura 2000 species (large carnivores, etc.) through waste management (in urban and rural touristic areas), measures to protect property in areas with potential for conflict, educate tourists and locals, achieve of a system of compensation for damages which would encourage the prevention of poaching and accidental fatalities	recurrent	Forest habitats outside Natura 2000 = 580564 ha 145 protected species 96 bird protected species	350.000	Future OPLI, LIFE
			12.860.000	

* indicate whether the measure is recurring or one-off

Expected results for targeted species and habitat types

The expected results for species and forest habitat types are as follows:

-Maintaining the conservation status for habitats and species in a favourable condition;

-Improvement of habitat conditions for species that are in unfavourable conservation status (21 species of plants, 34 species of invertebrates, 12 reptiles, 8 species of amphibians, 25 species of mammals and 12 species of birds);

-Improving the conservation status of habitats in unfavourable condition or with a tendency to become unfavourable (91AA, 91D0, 91E0, 91F0, 91H0*, 91I0*, 91X0, 91Y0, 92A0, 9260, 92D0, 9410),

- 7037 ha with promoting natural regeneration and natural structure stands, implement a system of area payments to offset the costs of minimal compliance, inclusion of trees that correspond to the quasi-virgin forest criteria less of the surface, in the functional TI type with the appropriate payments

- 10 Certified production units

- 3000000 ha forests in Natura 2000/year with adaptation and implementation of measures in the silvo-environment packages.

- 20000 ha forests /year with special conservation management of priority Natura 2000 habitats, areas with large slopes, rocks, etc.(according to the technical rules in forestry), the layers and streams of the permanent water courses, the stands situated on and near the eco-ducats (tunnels, green bridges, viaducts, bridges, under-transfers) on the transport infrastructure, with payments for forests assigned to the TII functional type.

- 7037 ha of reconstructed of micro-habitats for Natura 2000 species.

- 20000 ha forests /year with prioritization of the non-intervention option on the areas under special conservation regime, with provision of payments for the TI functional forest, for the creation / maintenance of the"aging islands".

- 145 Protected species and 96 bird species in favorable conservation status<

- 200 ha/year with selective elimination of invasive alogene and invasive native species non-specific to the habitat type;

- 5 awareness campaing to ensure measures to limit conflicts with Natura 2000 species (large carnivores, etc.)

- 7037 ha forests with ensuring local communities access to workwood and firewood.

Expected results: other benefits

1. Ensuring the storage of considerable amounts of carbon, with a special role in regulating the global climate;
2. Provision of regulating services including soil maintenance, erosion control, water purification, flood prevention, local climate adaptation, air purification;
3. Ensuring the supply of various raw materials (e.g. wood, charcoal, bark, resin), fruit, herbs, mushrooms);

E.2.7. Rocky habitats, dunes and rare vegetation lands

Current stage of habitats and species, conservation measures adopted so far and impact of said measures, remaining pressures and threats

There are 10 habitats in category E.2.7. Rocky habitats, dunes and rare vegetation lands, 2 of which are priority habitats (*2340* - Pannonic inland dunes* and *8160* Medio-European calcareous scree of hill and montane levels)*. The most widely present Natura 2000 habitats in Romania are *8210 - Calcareous rocky slopes with chasmophytic vegetation* (34 sites), 8310 - *Caves not open to the public* (26) and *8120 - Calcareous and calcschist screes of the montane to alpine levels (Thlaspietea rotundifolii)* (23), the least widely distributed are habitats *1210 - Annual vegetation of drift lines, 2110 - Embryonic shifting dunes* and *2340* - Pannonic inland dunes* (1 site each).

The main threats to these habitats are: A04 grazing, A04.02.05 non-intensive mixed animal grazing, B02 forest and plantation management & use, B03 forest exploitation without replanting or natural regrowth, C01 mining and quarrying, D01 roads, paths and railroads, G01.04.03 recreational cave visits, G02 sport and leisure structures, I01 invasive non-native species, L04 avalanches.

Both priority habitats found in this category have a favorable conservation status. Of the category's habitats of Community interest, the following do not have a favorable conservation status: *1210 - Annual vegetation of drift lines* (total area of 1600 km^2, of which 2,8 km^2 in Natura 2000 sites)*, 2110 - Embryonic shifting dunes* (total area of 200 km^2, of which 0,15 km^2 in Natura 2000 sites) and 8310 - *Caves not open to the public* (in the Continental bioregion a total area of 24800 km^2, of which 874 km^2 in Natura 2000 sites, in the Alpine bioregion a total area of 27000 km^2, of which 863 km^2 in Natura 2000 sites, and in the Steppe bioregion a total area of 3900 km^2, of which 47 km^2 in Natura 2000 sites).

The following protected species are found in Natura 2000 sites associated with these habitats: 4 mammal species, 3 invertebrate species and 10 plant species. Of these, the following have an unfavorable conservation status: all 4 mammal species (*Barbastella barbastellus, Mesocricetus newtoni, Miniopterus schreibersii, Rhinolophus euryale*), all 3 invertebrate species (*Paracaloptenus caloptenoides, Pseudophilotes bavius, Stenobothrus eurasius*) and 7 plant species (*Asplenium adulterinum, Centaurea pontica, Draba dorneri, Ferula sadleriana, Iris humilis ssp. Arenaria, Mannia triandra, Moehringia jankae*).

Additionally, there are 18 bird species protected by the Birds Directive, of which 6 are included in annex I: *Aquila chrysaetos, Falco peregrinus, Burhinus oedicnemus, Glareola pratincola, Bubo bubo, Oenanthe pleschanka*.

To date, some of the implemented measures are:

- The project titled DANUBEparksCONNECTED - Bridging the Danube Protected Areas towards a Danube Habitat Corridor, was approved for funding after the first call for proposals of the 2014-2020 Danube Transnational Program, Priority Axis 2 Environmental and Cultural Responsibility in the Danube Region. In August-November 2017, protected areas from 8 Danubian countries, members of the DANUBEparksCONNECTED project, hosted various volunteering activities in order to manage and promote Danube's valuable habitats;

- The project titled Improvement of the biodiversity conservation status of the RBDD Pontian sector through awareness raising, information and visitation. (RBDD-CIV), was funded through the Sectoral Operational Program Environment, Priority Axis 4, and its main objective was to improve the biodiversity conservation status of the Danube Delta Biosphere Reserve, by providing optimal information and visitation conditions to locals and visitors, both educationally and recreationally, and to help minimize their negative impact on nature.

Additionally, a series of projects funded through the Sectoral Operational Program Environment have also been implemented, which were mainly aimed at assessing the conservation status of species and habitats of conservation interest, and at developing management plans for various Natura 2000 sites that include targe ecosystems.

Necessary measures for maintaining or restoring the conservation status

In order to obtain a proper conservation status for habitats *1210 - Annual vegetation of drift lines, 2110 - Embryonic shifting dunes* and 8310 - *Caves not open to the public*, as well as for associated species with unfavorable conservation status (*Barbastella barbastellus, Mesocricetus newtoni, Miniopterus schreibersii, Rhinolophus euryale*, *Paracaloptenus caloptenoides, Pseudophilotes bavius, Stenobothrus eurasius, Asplenium adulterinum, Centaurea pontica, Draba dorneri, Ferula sadleriana, Iris humilis ssp. Arenaria, Mannia triandra, Moehringia jankae*), it is necessary to implement measures especially aimed at the ecological reconstruction of degraded ecosystems, population restauration, control of anthropic resource harvesting activities (especially for recreational purposes) and the control of invasive and problematic native species.

Determining the priority order of measures to be implemented during the next MFF

1. Promote measures to improve the conservation status of habitats 1210, 2110 and 8310, and plant, invertebrate, mammal and bird species with unfavorable conservation status or a tendency to become unfavorable.
2. Improve the management of tourism activities so as not to affect natural habitats and the populations of plants and animals of conservation interest.
3. Restore degraded habitats.
4. Improve or, where necessary, restore the hydrological regime in coastal areas.
5. Control of invasive species.

List of priority measures to be implemented and estimated costs

- within Natura 2000 sites designated for target habitats and species

Name and brief description of measures	Type of measure*	Objective (unit & quantity)	Estimated cost in euro (annualized)	Possible source of EU co-financing
Restoration / improvement of hydrological regime in coastal areas *Measures that will be considered effective for improvement of ecological status will be promoted. Priority will be considered for habitat 1201, and for all species with unfavorable status from these habitats.*	one-off	50 Ha of restored habitats	750.000	OPLI
Maintaining dune mobility by removing excess organic matter deposited on sands *Measures that will be considered effective for improvement of ecological status will be promoted. Priority will be considered for habitat 2110, and for all species with unfavorable status from these habitats.*	recurrent	10 Ha of habitats with active measures	50.000	OPLI
Maintaining the dune habitat structure by removing opportunistic steppe or ruderal species *Measures that will be considered effective for improvement of ecological status will be promoted. Priority will be considered for habitat 2110, and for all species with unfavorable status from these habitats.*	recurrent	10 Ha of habitats with active measures	50.000	OPLI
Removal of invasive and potentially invasive species *Measures that will be considered effective for improvement of ecological status will be promoted. Priority will be considered for habitat 1201 and 2110, and for all species with unfavorable status from these habitats.*	recurrent	100 Ha with removed invasive species	70.000	OPLI
Limiting the expansion of tree species and shrubs to the dune area by cutting operations *Measures that will be considered effective for improvement of ecological status will be promoted. Priority will be considered for habitat 2110, and for all species with unfavorable status from these habitats.*	recurrent	10 Ha with removed tree species	80.000	
Regulating public access in the dune area to limit the sand	recurrent	20 information displays and touristic signs	15.000	

compaction and vegetation ruderalisation phenomena *Measures that will be considered effective for improvement of ecological status will be promoted. Priority will be considered for habitat 2110, and for all species with unfavorable status from these habitats.*				
Ecological restoration of dunes by temporarily raising artificial dunes, similarly-sized to natural ones, using low wood stands/fences across extensive areas located in the vicinity of existing dunes *Measures that will be considered effective for improvement of ecological status will be promoted. Priority will be considered for habitat 2110, and for all species with unfavorable status from these habitats.*	one-off	10 km length of fences	5.000	OPLI
Installation of railings and/or fences to restrict access to the public in caves that are closed to public access *Priority will be considered for habitat 8310, and for all species with unfavorable status from these habitats.*	one-off	25 fences/railings	15.000	OPLI
Clear delineation of tourist routes according to ecological principles *Priority will be considered for habitat 8310, and for all species with unfavorable status from these habitats*	one-off	5 marked tourist routes	5.000	OPLI
Implementation of awareness-raising activities on the conservation of caves that are closed to public access *Priority will be considered for habitat 8310, and for all species with unfavorable status from these habitats*	one-off	20 awareness-raising activities	5.000	OPLI
Implementation of information and awareness raising activities among tourists on the conservation of coastal areas and dunes *Priority will be considered for habitat 1120 and 2110, and for all species with unfavorable status from these habitats*	one-off	5 awareness-raising activities	5.000	OPLI
			1.050.000	

- additional measures outside the Natura 2000 network (measures meant to augment green infrastructure)

Name and brief description of measures	**Type of measure***	**Objective (unit & quantity)**	**Estimated cost in euro (annualized)**	**Possible source of EU co-financing**
Development of visiting infrastructures compatible with the protection of habitats and species	one-off	4 infrastructure	50.000	ROP
			50.000	

* indicate whether it is a recurrent or a one-off measure

Expected results for target species and habitats

The expected results for the target pasture species and habitats are as follows:

- Maintaining the conservation status of favorable habitats and species;
- Improving habitat conditions for species with unfavorable conservation status;
- Improving the conservation status of habitats 1210, 2110 and 8310, of the species of plants and animals of conservation interest with unfavorable conservation status or a tendency to become unfavorable.
- 50 Ha of restored habitat 1201;
- 10 Ha of habitat 2110 with active measures for removing opportunistic steppe or ruderal species
- 10 Ha of habitat 2110 with active measures for improvement of ecological status;
- 100 Ha with removed invasive species in Rocky habitats, dunes and rare vegetation lands
- 10 Ha with removed tree species in habitat 2110;
- 20 Number of information displays and touristic signs for controlled public access system in the dune area
- 10 km length of low wood stands/fences for ecological restoration of dunes by temporarily raising artificial dunes,
- 25 fences/railings to restrict access to the public in caves that are closed to public access
- 5 marked tourist routes in caves;
- 20 awareness-raising activities on the conservation of caves that are closed to public access;
- 5 awareness-raising activities among tourists on the conservation of coastal areas and dunes

Expected results: other benefits

- job creation, especially by developing infrastructures and enhancing tourism-related activities;
- providing cultural ecosystem services, particularly relevant for tourism;
- reducing losses caused by invasive species.

E.2.8. Freshwater habitats (rivers and lakes)

Current stage of habitats and species, conservation measures adopted so far and impact of said measures, remaining pressures and threats

There are 11 habitats in Category E.2.8 Freshwater habitats (rivers and lakes) (of which one priority habitat - 31A0*). The most widely present Natura 2000 habitats in Romania are 3220 (31 sites), 3150 (26) and 3270 (25) habitats, and the least widely distributed are habitats 31A0 (1) and 3140 (8).

The main threats to these habitats are A02.01 intensive agriculture, A04 grazing, A08 fertilization, C01.01.01 sand and gravel quarries, E021 discharges of domestic wastewater, E03 uncontrolled waste disposal, F02 fishing and H01.01 pollution to surface waters by industrial plants, H01.05 diffuse pollution to surface waters due to agricultural and forestry activities, H05.01 domestic waste, I01 non-native invasive species (allogeneic) , I02 problematic native species, J02 human induced changes in hydraulic conditions, J03.02 migration reduction / migration barriers, K02.02 accumulation of organic material, K02.03 eutrophication (natural).

Of these, habitats 3240 (Natura 2000 area of 1 km^2) and 3260 (Natura 2000 area of 2.12 km^2) are in an unfavorable conservation state.

These habitats include the following 139 species of Community interest (listed in Annex II of the Habitats Directive or in Annex I of the Birds Directive): 3 plant species, 6 arthropod species, 3 mollusk species, 26 fish species, 3 amphibian species, 3 reptile species, 89 bird species, 5 mammal species.

The following protected species are found in Natura 2000 sites associated with these habitats: 18 invertebrate species, 8 fish species, 6 amphibian species, 2 reptile species, 5 mammal species, and 11 plant species.

Of the aforementioned species, the following have an unfavorable conservation status: 3 plant species *Aldrovanda vesiculosa*, *Marsilea quadrifolia* (unfavourable-bad), 6 arthropod species (*Austropotamobius torrentium, Coenagrion ornatum, Cordulegaster heros, Graphoderus bilineatus, Leucorrhinia pectoralis, Ophiogomphus cecilia*), 3 mollusk species (*Anisus vorticulus, Theodoxus transversalis, Unio crassus),* 26 fish species *(Alosa immaculata, Alosa tanaica, Aspius aspius, Barbus meridionalis, Cobitis elongata, Cobitis taenia, Eudontomyzon danfordi, Eudontomyzon mariae, Eudontomyzon vladykovi, Gobio albipinnatus, Gobio kessleri, Gobio uranoscopus, Gymnocephalus baloni, Gymnocephalus schraetzer, Hucho hucho, Leuciscus souffia, Misgurnus fossilis, Pelecus cultratus, Rhodeus sericeus amarus, Romanichthys valsanicola, Rutilus pigus, Sabanejewia aurata, Umbra krameri, Zingel streber, Zingel zingel*), 3 amphibian species (*Bombina variegata, Triturus cristatus, Triturus dobrogicus*) and 3 mammal species (*Mustela lutreola, Myotis capaccinii, Myotis dasycneme*).

There are 120 bird species associated with freshwater habitats, included in Birds Directive, annex I, some of them being: *Gavia stellata, Gavia arctica, Phalacrocorax pygmeus, Pelecanus onocrotalus, Pelecanus crispus, Botaurus stellaris, Ixobrychus minutus, Nycticorax nycticorax, Ardeola ralloides, Egretta garzetta, Casmerodius albus, Ardea purpurea, Ciconia nigra, Ciconia ciconia, Plegadis falcinellus, Platalea leucorodia, Cygnus columbianus, Cygnus cygnus, , Anser erythropus, Branta ruficollis, Tadorna ferruginea, Aythya nyroca, Mergellus*

albellus, Oxyura leucocephala, Haliaeetus albicilla, Circus aeruginosus, Aquila clanga, Pandion haliaetus, Porzana porzana, Porzana parva, Grus grus, Himantopus himantopus, Recurvirostra avosetta, Glareola pratincola, Charadrius alexandrinus, Pluvialis apricaria, Calidris alpina, Philomachus pugnax, Gallinago media, Tringa glareola, Phalaropus lobatus, Larus melanocephalus, Larus minutus, Larus genei, Sterna nilotica, Sterna caspia, Sterna hirundo, Sterna albifrons, Chlidonias hybrida, Chlidonias niger, Alcedo atthis, Luscinia svecica.

To date, some of the implemented measures are:

LIFE10 NAT/RO/740 – Improving the conservation status for the priority species and habitats in the Iron Gates wetlands – mainly targeted habitat 3150 and species *Phalacrocorax pygmeus* and *Aythya nyroca*, and the ecological reconstruction of wintering, nesting and feeding habitats. Improvement of the conservation status of habitats of Community interest through demonstration actions to eliminate invasive aquatic and riparian species. Implementation of an efficient invasive species alert system in ROSPA0026 Danube - Baziaş - Iron Gates.

LIFE99 NAT/RO/006429 - ROMANICHTHYS – Survival of the species *Romanichthys Valsanicola* – The project aimed to restore favorable habitat conditions for a nearly extinct species in its natural distribution area (Vâlsan catchment). Urgent actions were taken to restore water quality by increasing the ecological flow of the upstream hydropower/electrical facility, stopping gravel extraction from the minor river bed and by rebuilding the natural substrate, preferred by this fish species. Efforts to monitor biotic and abiotic environmental factors that directly affect the quality of the species' habitat must be continued.

LIFE16 NAT/RO/000778 Fish for aquatic life - Rehabilitation of migratory corridors and habitats of rheophile fish species in GILORT River – aims to restore the connectivity of Gilort River and improve the diversity of habitats for the species of rheophile fish (species living in streams). In this respect, a series of structural (fish passages in Albeni and Târgu Cărbunesti) and morphological (restoring natural river bed characteristics) measures will be implemented.

LIFE06 NAT/RO/000172 - RESTOREWETLANDS - Conservation, restoration and durable management in Small Island of Braila, Romania targeted habitat 3150 and species A*ythya nyroca, Botaurus stellaris, Crex crex* and *Phalacrocorax pygmeus*.

LIFE06 NAT/RO/000177 - GREENDANUBE - Conservation and Management integrat of Danube islands Romania targeted habitat 3260 and species *Aythya nyroca, Bombina bombina, Emys orbicularis, Falco cherrug, Haliaeetus albicilla, Lutra lutra, Pelecanus crispus, Phalacrocorax pygmeus* and *Triturus dobrogicus*.

LIFE05 NAT/RO/000155- Lower Prut Floodplain - Ecological restoration of the Lower Prut Floodplain Natural Park targeted habitats 3150 and 3270, and species *Bombina bombina, Callimorpha quadripunctaria, Emys orbicularis, Lutra lutra, Mustela lutreola, Testudo graeca, Triturus dobrogicus*.

LIFE05 NAT/RO/000165- Retezat National Park - Conservative management of alpine habitats as a Natura 2000 site in Retezat National Park targeted habitat 3220 and species *Bombina variegata*.

LIFE05 NAT/RO/000169 - *Pelecanus crispus* Romania - Saving *Pelecanus crispus* in the Danube Delta targeted species *Pelicanus crispus*.

LIFE03 NAT/RO/000032 - Piatra Craiului II - Natura 2000 sites in the Piatra Craiului National Park targeted habitat 3230.

LIFE02 NAT/RO/008571 - Comana - Restoration of Comana Wetland a vizat habitatul 3150.

LIFE00 NAT/RO/007174 - Transilvania - Functional Ecological Network in central Transylvania Plain targeted habitats 3160 and 3270.

LIFE99 NAT/RO/006400 -Island of Braila - Integrated management plan for the "Small Island of Braila" targeted habitat 3150.

The LIFE projects featured ecological reconstruction actions to improve the conservation status, assess species and habitats, develop management plans, expand the protected area network, developing visiting infrastructure, and carry out actions to raise public awareness on the importance of biodiversity conservation.

To this was added the projects financed through SOP ENV, which focused on assessing the conservation status of conserved species and habitats, as well as the management plans for different Natura 2000 sites that conserve river and lake habitats.

Additionally, a series of projects funded through the Sectoral Operational Program Environment have also been implemented, which were mainly aimed at assessing the conservation status of species and habitats of conservation interest, and at developing management plans for various Natura 2000 sites that include river and lake habitats.

Necessary measures for maintaining or restoring the conservation status

In order to achieve a proper conservation status of habitats 3240 and 3260 and associated species with an unfavorable conservation status, the necessary measures must primarily be aimed at the ecological reconstruction of degraded ecosystems, restoring populations, controlling anthropogenic resource harvesting (especially fish) and controlling invasive and problematic native species.

Determining the priority order of measures to be implemented during the next MFF

Conservation measures must primarily be aimed at:

1. Promote measures to improve the conservation status of habitats 3240 and 3260, of invertebrate, reptile fish, mammals and plant species with unfavorable conservation status or a tendency to become unfavorable.
2. Ecological reconstruction of river and lake habitats.
2. Improve the management of anthropic, fishery and hydrotechnical activities so as not to affect natural habitats and the populations of plants and animals of conservation interest.
4. Control invasive and problematic native species.

List of priority measures to be implemented and estimated costs

- within Natura 2000 sites designated for target habitats and species

Name and brief description of measures	Type of measure*	Objective (unit & quantity)	Estimated cost in euro (annualized)	Possible source of EU co-financing
Restoring river and lake habitats and associated species with unfavorable conservation status or a tendency to become unfavorable through active conservation measures (e.g. rehabilitating the natural hydrological regime, restoring connectivity, reintroducing / increasing the number of individuals, breeding and feeding facilities, removing native or non-native species - including those with commercial potential, reducing biomass of aquatic species, managing species that reduce the aquatic surface, maintaining / creating dead wood water areas, etc.). *Priority will be considered for habitats 3240 and 3260, and for all species with unfavorable status.*	one-off	6 lakes/ year	2.500.000	OPLI
Promoting measures related to biodiversity protection for fishing activities (including fish farms) *Priority will be considered for habitats 3240 and 3260, and for all species with unfavorable status.*	recurrent	25 farms/ year	150.000	Operational Program for Fisheries and Maritime Affairs
Enhancing the protection of areas of high conservation interest by reducing anthropogenic activities and creating non-intervention areas as resting, nesting and feeding habitats (islands, islands, river segments) *Priority will be considered for habitats 3240 and 3260, and for all species with unfavorable status.*	one-off	1 regional study/year	300.000	OPLI/LIFE
Restoring the longitudinal connectivity of the rivers where various hydrotechnical infrastructure elements were built (dams, embankments, etc.) *Priority will be considered for habitats 3240 and 3260, and for all species with unfavorable status.*	one-off	20 locations /year	7.500.000	OPLI/LIFE
Actively fight eutrophication (e.g. harvesting aquatic vegetation, introduction of ruminant species, management of nutrient pollution) *Priority will be considered for habitats 3240 and 3260, and for all species with unfavorable status.*	one-off	5 locations /projects /year	750.000	OPLI/LIFE
Strict control of hydrotechnical projects on watercourses and lake shores, with potential negative impact on the conservation status of habitats and species *Priority will be considered for habitats 3240 and 3260, and for all species with unfavorable status.*	Recurrent	Included in management plans		OPLI/LIFE
Monitoring of good conservation status indicators for habitats and species that are important for conservation	Recurrent	35.000 ha/ year	7.200.000	OPLI/LIFE

Priority will be considered for habitats 3240 and 3260, and for all species with unfavorable status.				
Effectively fight invasive and problematic native species in rivers and lakes *Priority will be considered for habitats 3240 and 3260, and for all species with unfavorable status.*	Recurrent	3 studies in sites/types of aquatic habitats/ year	240.000	OPLI/LIFE
Improving the capacity of rivers and lakes to generate different categories of ecosystem services *Priority will be considered for habitats 3240 and 3260, and for all species with unfavorable status.*	Recurrent	5 studies for the entire period	650.000	OPLI/LIFE
Controlling agricultural activities in order to limit the use of chemicals, mechanized means and other methods that can affect the conservation status of river and lake species and habitats	Reccurent	10.000 ha/ year	9.000.000	NPRD – Agri-environment measures
Controlling pollution and other forms of water quality degradation	recurrent	Effective national water monitoring system	1,000,000	European and investment funds, OPLI from the wastewater sector
			29.290.000	

- additional measures outside the Natura 2000 network (measures meant to augment green infrastructure)

Name and brief description of measures	**Type of measure***	**Objective (unit & quantity)**	**Estimated cost in euro (annualized)**	**Possible source of EU co-financing**
Determining the critical thresholds for anthropogenic intervention in order to reduce biodiversity loss	one-off	1 study/ year	600000	OPLI
Controlling fishing and fish farming in order to limit the use of chemicals and of other methods that can affect the biodiversity of river and lake habitats	recurrent	Control actions included in Natura 2000 sites management plans	200000	Operational Program for Fisheries and Maritime Affairs
Facilitating compensation payments for the use of farm and fishery management techniques that favor high biodiversity in riparian and lakeside areas	recurrent	Compensation payments for minimum 5000 tons/ year	9000000	Operational Program for Fisheries and Maritime Affairs
Removing the elements that cause high mortality of associated species (harvesting via inadequate methods, technical roads crossing major breeding areas, unintentional ecological traps, poaching, harvesting, pathogens)	recurrent	Control actions included in Natura 2000 sites management plans	1000000	Operational Program for Fisheries and Maritime Affairs
Increasing the degree of connection to centralized sewage systems in settlements located in the proximity of river and lake habitats	one-off	60% connection to sewage system of the settlements included in Natura 2000 sites	50000000	European and investment funds, OPLI from the wastewater sector
Increasing the efficiency of the waste management system in settlements located in the proximity of river and lake habitats	one-off	90% connection to waste system of the settlements included in Natura 2000 sites	50000000	European and investment funds, OPLI from the wastewater sector
Improving the capacity of rivers and lakes to generate different categories of ecosystem services	one-off	1 regional study/year	1100000	European and investment funds, OPLI from the wastewater sector
Restoring the longitudinal connectivity of the rivers where various hydrotechnical infrastructure elements were built (dams, embankments, etc.)	one-off	2 locations/ 8-10 km length of river sectors	4000000	OPLI, LIFE Nature
Actively fight eutrophication (e.g. harvesting aquatic vegetation, introduction of ruminant species, management of nutrient pollution)	one-off	1 location/ year	2400000	OPLI, LIFE Nature
Collaboration with regional water and sewerage operators to control wastewater (domestic and/or industrial) discharge in upstream tributaries / Natura 2000 sites' hydrographic system	recurrent	Minum 10 meetings between stakeholders	150000	OPLI, LIFE Nature
			118450000	

** indicate whether it is a recurrent or a one-off measure

Expected results for target species and habitats

The expected results for the target pasture species and habitats are as follows:

- Maintaining the conservation status of favorable habitats and associated species;
- Improving habitat conditions for associated species with an unfavorable conservation status;
- Improving the conservation status of habitats 3240 and 3260 and associated species with an unfavorable conservation status or a tendency to become unfavorable
- 6 lakes or rivers sectors restored/year to improve the conservation status of species and habitats
- 25 farms/years with biodiversity protection for fishing activities
- 1 regional study/year about enhancing the protection of areas of high conservation interest by reducing anthropogenic activities and creating non-intervention areas as resting, nesting and feeding habitats (islands, islands, river segments)
- 20 locations /year with restoring the longitudinal connectivity of the rivers
- 5 locations /projects with actively measures against eutrophication (e.g. harvesting aquatic vegetation, introduction of ruminant species, management of nutrient pollution
- 35.000 ha/ year with monitoring actions of conservation status indicators for habitats and species
- 3 studies in sites/types of aquatic habitats/ year with evaluation of the impact of invasive species
- 5 studies for the entire period with the ecosystem services assessment of rivers and lakes
- 10.000 ha/ year with controlled agricultural activities in order to limit the use of chemicals, mechanized means and other methods that can affect the conservation status of river and lake

Expected results: other benefits

The main benefits related to the implementation of the priority measures listed above are:

- Enhancement of ecosystem services of river and lake habitats.
- job creation, especially in fish farming, development of infrastructure and tourist activities;
- restoring fish stocks;
- reducing losses caused by invasive species

E.2.10. References for site-related maintenance and restoration measures within and beyond Natura 2000

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E.3. Additional species-specific measures not related to specific ecosystems or habitats

E.3.1. Species-specific measures and programs that are not covered elsewhere

Current stage of species

This section features all the species for which national action plans have been developed and the main objective is the implementation of these documents. In addition, species that have disappeared or have very small populations in our country, for which there is potential for re-population, are also considered.

It is also highly important to reduce habitat fragmentation by ensuring connectivity. The fragmentation of these species' habitats has a significant impact on the connectivity of predatory species, target species, and of their habitats. Due to unsustainable economic development and intensive use of land, the species' habitat is reduced or lost, which ultimately leads to the isolation of populations and to reduced ecosystem ecological functionality. The fragmentation caused by the development of transport infrastructure has the greatest negative environmental impact on the connectivity of these species. The only way to reduce the impact of fragmentation is to implement effective measures to reduce habitat fragmentation.

Necessary measures for maintaining or restoring the conservation status

The implementation of national action plans must entail high-priority measures aimed at improving the conservation status of species and habitats, and at controlling direct (hunting, harvesting, etc.) and indirect (intensive farming, fisheries and fish farming, forestry, urbanization, etc.) threats. This also requires the implementation of agro-forestry measures.

In order to ensure connectivity, it is necessary to identify and designate the main ecological corridors, and then to implement specific conservation measures addressing each sector that impacts the connectivity of these species such as: the development of transport infrastructure, forestry, hunting, agriculture, water management, tourism. Also, these measures must be monitored and adapted to the ecological requirements of species and landscapes.

An important role could fulfilled by agri-environment packages developed for species not covered by the preceding chapters.

Determining the priority order of measures to be implemented during the next MFF

1. Implementing national action plans to improve the conservation status of the species and habitats for which they were developed;
2. Developing national action plans to improve the conservation status of species and habitats of Community and national interest;
3. Implementing agro-forestry measures;
4. Identifying and designating ecological corridors
5. Implementing sector-specific conservation measures with significant impact on the connectivity of species and on their habitats

List of priority measures to be implemented and estimated costs

Name and brief description of measures	Type of measure *	Objective (unit & quantity)	Estimated cost in euro (annualized)	Possible source of EU co-financing
Promoting active measures to improve the status of species populations, according to action plans; developing and legally adopting new action plans *Active measures established in actions plans will be promoted. Also, 5 action plans for new species in unfavorble status will be developed.*	one-off	10 active measures,5 new action plans	1.500.000	State budget, OPLI, LIFE
Promoting active measures to improve the status of habitats, according to action plans; developing and legally adopting new action plans *Active measures established in actions plans will be promoted. Also, 10 action plans for new habitas in unfavorable status will be developed.*	one-off	10 active measures,10 new action plans	2.500.000	State budget, OPLI, LIFE
Identification and designation of ecological corridors, adoption of legal protection measures for said corridors *The ecological corridors will be recognized in legislation and will be designated.*	one-off	10 corridors	200.000	State budget, OPLI, LIFE
Development of guidelines for environmental procedures (SEA, EIA, EA) by including assessment of anthropogenic impact on habitat connectivity. *Three guidelines will considered detailed approach of habitat connectivity in SEA, EIA and EA procedure.*	one-off	3 guidelines	300.000	State budget, OPLI, LIFE
Implementation of conservation measures that take into account the dispersion capacity to maintain and restore	one-off	50 ha with active measures	1.000.000	State budget, OPLI, LIFE

permeability in critical connectivity areas for each individual threat *For minimum 2 demonstrative projects will be promoted active conservation measures for maintaining and/or restoring the habitat connectivity.*		for connectivity improvement		
Ecological connectivity (structural and functional) evaluation *Structural and functional connectivity of the species and habitats will be realized, considering existing distribution data.*	one-off	1 monitoring reports	500.000	State budget, OPLI, LIFE
Adapting connectivity conservation measures as a result of the evaluation report *Adapted measures will be selected to be implemented in order to improve the structural and functional connectivity.*	recurrent	All Natura 2000 sites	300.000	State budget, OPLI, LIFE
Reintroduction / re-population with species that have disappeared / have small populations nationally *Minimum two species extinct or with small population at local level, and in unfavourable conservation status will be reintroduced.*	one-off	2 reintroduced species	400.000	State budget, OPLI, LIFE
Development of ex-situ facilities for the reproduction of species with conservative interest *Ex-situ facilities (special managed areas) will be realised for the reproduction of the species with conservative interest.*	one-off	5 facilities	5.000.000	State budget, OPLI, LIFE, EUInvest, Operational Program for Fisheries and Maritime Affairs
Monitoring of species that have borne reintroduction measures *Monitoring of the species that was reintroduced will be realized using non-invasive techniques..*	recurrent	2 monitorings	120.000	State budget, OPLI, LIFE, EUInvest, Operational Program for Fisheries and Maritime Affairs
			11.820.000	

* indicate whether it is a recurrent or a one-off measure

Expected results for targeted species

The main result is the improvement of the conservation status of species of conservation interest. In addition, the implementation of action plans for species will amplify the interest in implementing planned measures amed at improving the conservation status of certain species.

The expected results are:

- 10 active measures to improve the status of species population, and 5 new action plans for targeted species
- 10 active measures to improve the status of habitats, and 10 new action plans for targeted habitats
- 10 ecological corridors identified and designed, on minimum 50 ha.
- 3 guidelines for considering habitats and species connectivity in SEA, EIA and EA procedure;
- 1 report about structural and functional connectivity in Natura 2000 network;
- 2 reintroducted species and adapted monitoring plans;
- 5 new /upgraded facilities for reproduction of species with conservative interest.

Expected results: other benefits

The implementation of the action plans for species will feature expected benefits such as fewer environmental conflicts generated by species of conservation interest. In addition, improving the conservation status of species, coupled with the development of tourism programs / infrastructures, will increase the local communities' tourism-related economic benefits. The benefits associated with the maintenance of viable populations for species of conservation interest are also being considered.

E.3.2. Prevention, mitigation or compensation of damages caused by protected species

Current stage in terms of damage prevention, mitigation or compensation

The instances that generate conflicts between humans and wildlife are usually associated with bear attacks on domestic animals and damage caused to crops, orchards and beehives.

The main measure taken so far to prevent conflicts was the slaughter of animals, but this proved to be ineffective (the number of damage gradually increased with the increase in the number of removed bears and wolves). Slaughter should be a reactive measure, not a preventive measure, especially given that the number and level of damage have not been reduced by this measure.

In the 2015-2016 hunting season, a total of 386 payments were made for damages caused by large carnivores. During this period 849,797 lei (approximately 185,000 euros) were paid, as follows: 66,779 lei for wolf damages and 783,018 lei for bear damages. These costs are not significant in view of the damage caused by other species of hunting interest (e.g. boars). For cormorants, after the evaluation of Romanian National Agency for Fisheries, the damaged caused to acquaculture farms are over 6.000 tons of fishes, meaning over 18 millions euro.

At present, most farmers try to prevent and reduce the damage caused by wildlife by guarding their crops and livestock overnight with a large number of dogs, which can increase perturbation and lower the density of carnivorous species' natural prey. Also, in certain cases, affected parties are tempted to kill wild animals or illegally install wild boar traps, which also pose a danger to large carnivores. The incomplete information collected by central authorities, the exaggerations made by parties involved in conflicts, coupled with the insufficient or lack of communication between all stakeholders, generate inconsistencies in the functioning of the conflict prevention system, and lead to a deficient adaptation of management measures to the realities on the ground and to the real needs of the local population. Regarding the functioning of the compensation system, we note that its performance, for the most part, does not reflect the real situation on the ground, and that it is necessary to improve the conflict reporting and damage estimation system, in order to create an accurate database that will effectively address these issues that create social tensions, which, in turn, have negative effects on the conservation efforts made for the species in question.

The prevention, mitigation or compensation system for damages caused by protected species addresses game wildlife species and non-game wildlife species differently.

In accordance with Art. 2 of the Hunting and Game Protection Act no. 407/2006, as subsequently amended and supplemented, game wildlife species are a renewable natural resource, a public good of national and international interest, managed by the central public authority responsible for hunting. Game wildlife species management is ensured on designated hunting grounds by licensed legal persons, at their risk and liability, based on management contracts concluded with the specialized territorial structures of the Ministry of Waters and Forests.

Game wildlife species management on lands not included in the hunting grounds designated by the law (Danube Delta Biosphere Reserve, national parks, within municipality limits) is ensured by protected area administrations or by the local councils, as appropriate.

Protected game wildlife species can cause damage to agricultural crops, forests and domestic animals, for which owners request compensation. Hunting and Game Protection Act no. 407/2006, as subsequently amended and supplemented, determines who covers the compensation for damages caused by game species and under which conditions, as follows:

"Art. 13. - (1) For damages caused to agricultural crops, forests and livestock by game wildlife specimens, included in annexes no. 1 and 2, compensation shall be granted.

(2) Compensation for damages caused by game wildlife specimens included in annex no. 1 shall be paid as follows:

a) for damages caused on hunting grounds and within municipality limits - by the game wildlife manager of the hunting grounds in question, if the manager is found to have not fulfilled its obligations to prevent damages;

b) for damages caused in protected natural areas, not included in hunting grounds or where the hunting is not allowed - by the central public environmental protection authority, from the budget approved for this purpose.

(3) For instances in which both the manager and the owners of agricultural crops, forests and livestock have fulfilled all their obligations to prevent damages, the compensation shall be paid by the central forestry authority from the budget approved for this purpose.

(4) Compensation for damages caused by game wildlife specimens included in annex no. 2 shall be paid by the central public environmental protection authority from the budget approved for this purpose.

(5) Ascertainment of damages listed in paragraphs (1) - (4) and the issuing of the analysis committee's decision are to be finalized within (at most) 72 hours from the submission of the written request by the damaged party to the territorial-administrative unit within the limits of which the damage occurred.

(6) Payments to claimants shall be made within 30 days from the issuing date of the ascertainment decision."

Damage assessment and compensation granting methods are currently established by Government Decision no. 1679/2008 on granting compensation as defined in the Hunting and Game Protection Act no. 407/2006, as are the obligations of hunting ground managers and the owners of agricultural crops, forests and livestock for the damage prevention.

From the data held by the Ministry of Waters and Forests and from the reports submitted by owners of agricultural crops, forests and livestock, the current method of assessing damages and establishing civil liability is cumbersome and sometimes nonfunctional. As such, civil liability could not be established in certain instances, which has led to conflicts between damaged parties and hunting ground management, and to disputes between the owners and the National Hunting Ground Manager (MWF).

In order to maintain the ecological balance and to prevent the damage caused by game wildlife specimens to agricultural crops, forests and livestock, owners and hunting ground managers must take a number of preventive measures, which are not always appropriate and sometimes have a rather anecdotal effectiveness.

Significant steps have been taken to understand the conflicts between large carnivores and animal breeders / farmland owners, as well as those between fish farm owners and aquatic birds. Certain projects have proposed solutions to manage the damage caused by protected species (e.g. electric fences, relocation of animals), but they only partially solved the problems. In addition, not all damages are declared yet due to the extremely complicated bureaucratic procedure.

For non-game wildlife species, agro-environment and forestry-environment payments are the most effective ways to limit damage.

Necessary measures

It is necessary to improve damage prevention activities by adapting anthropogenic activities in areas that are populated by species that can cause damage. Also, the compensation mechanism must be simplified to a considerable extent and correlated with the conservation measures that target species of conservation interest, as well as with the specificities of the anthropic activities that are being carried out locally. In order to prevent, mitigate or compensate damages caused by protected species, it is also necessary to complement the sectoral legislation with the species' requirements, as well as to implement effective information and awareness raising programs in local communities regarding the prevention of human-wildlife conflicts.

The damage caused by bears may vary from cornfield destruction to the destruction of hives and domestic animals killings. In the case of wolfs, the most important damage is caused upon domestic animals. The damage created by lynx is not significant and not even reported.

For the prevention of conflicts and damages determined by the presence of large carnivores the following measures should be applied:

1. Electric fences for the prevention of damage to beehives and animals. The fences must be robust enough, properly installed and maintained to be effective.

2. Specialised guard dogs, trained for the protection of animals and human property. Dogs can belong to either "Carpathian Shepherd" or "Mioritic Shepherd" breeds. Their acquisition is not sufficient, they should also be specially trained for the purpose of defending animals and domestic properties and receiving appropriate veterinary care and adequate nutrition for their breed, all of which are added to a total cost. These indirect costs should also be supported as they can sum up to 1000 euros per year per dog. The combination and proper use of electric fences and specialised guard dogs give great results in preventing conflict and damages.

3. Use of containers and waste bins suitable for close proximities to bears. They can be installed in the areas/localities that bears frequently acces for feeding. This measure should be used together with an awareness-raising campaign, informing locals about how and when to use landfills.

4. Building specific structures for all large transport infrastructure projects to reduce/exclude collision possibilities with large carnivores. Security devices and means of deterrents such as night lights, acoustic devices or loud sounds, pyrotechnics, etc. can also be used in addition with other measures or systems.

5. The use of repellents such as concentrated red pepper spray have been tested and used efficiently on bears. They can also be operated by automated systems after detecting the presence of bears.

6. Development and use of a radar system for wildlife (bears) for early detection of potential conflicts in sensitive areas.

7. National awareness campaign and educational curricula in schools to minimize the interaction of large human-carnivores.

Determining the priority order of measures to be implemented during the next MFF

1. Adapting hunting management to prevent / limit damage in the agricultural and zootechnical sectors

2. Harmonizing harvest quotas for game wildlife species with requirements of maintaining a high level of biodiversity and of limiting damage where preventive measures are not effective

3. Implementing active measures to prevent and mitigate damages, including settlements located within or in the vicinity of conflict areas (electric fences or other fencing systems, detection dogs trained for finding problematic wildlife species, responsible behavior of locals and tourists in potential conflict areas, waste management, food security, payments to the agricultural and forestry sectors aimed at reducing conflicts etc.)

4. Information and awareness raising actions aimed at local communities and farmers

6. Encouraging the adoption of innovative non-lethal prevention measures, including settlements located within or in the vicinity of conflict areas, by funding pilot and large-scale adoption programs

5. Intervention actions carried out by conflict resolution teams.

List of priority measures to be implemented and estimated costs

Name and brief description of measures	Type of measure*	Objective (unit & quantity)	Estimated cost in euro (annualized)	Possible source of EU co-financing
Implementing active measures to prevent and mitigate damages, including in settlements located within or in the vicinity of conflict zones (e.g. electric fences, trained dogs, relocation of species, limitation of economic activity, waste management)	one-off	No	1.500.000	State budget, LIFE, OPLI
Granting financial compensation for damage caused by species of conservation interest, provided the necessary measures are taken to prevent the damage	recurrent	No of compensation/ron	1.000.000	State budget, LIFE, OPLI
Developing risk maps	one-off	No of maps	200.000	State budget, LIFE, OPLI
Establishing intervention teams - specialized in conflict mitigation	recurrent	No of teams	750.000	State budget, LIFE, OPLI
Poaching prevention and control	recurrent	No of actions	250.000	State budget, LIFE, OPLI
Establishment of quiet areas and periods for habitats that are important for strictly protected species	recurrent	No	150.000	State budget, LIFE, OPLI
Development and distribution of good practice guides on agricultural crop and livestock management	one-off	No of distributed guides	200.000	State budget, LIFE, OPLI
Supporting farmers to access monetary compensations in the event of damage caused by wildlife	recurrent	No	200.000	State budget, LIFE, OPLI
Information and awareness raising actions aimed at local farmers, so that they meet the obligations imposed by the compensation procedure for damages caused by wildlife	recurrent	No	200.000	State budget, LIFE, OPLI
			4.450.000	

* indicate whether it is a recurrent or one-off measure

Expected results for targeted species

The expected results for the targeted species are as follows:

- ensuring the conservation status of protected species by reducing poaching
- Viable population
- improving habitat conditions for species with an unfavorable conservation status

Expected results: other benefits

An important benefit consists of the improved image of the Natura 2000 network and, implicitly, of a higher efficiency in ensuring a favorable status for plant and animal populations.

The main benefits related to the implementation of the aforementioned priority measures are:

- Low damage,
- reducing the human-wildlife conflict,
- Specialized intervention teams.

E.3.3. References for additional measures for species which are not related to specific ecosystems or habitats

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EC, Natura 2000 - Addressing conflicts and promoting benefits

PAN-EUROPEAN ACTION PLAN FOR STURGEONS

LIFE CONNECT CARPATHIANS Enhancing landscape connectivity for brown bear and wolf through a regional network of NATURA 2000 sites in Romania A HUMAN-WILDLIFE CONFLICT MITIGATION TOOLKIT

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4. Further added values of the prioritized measures

The entire implementation of the priority measures identified through this PAF will bring significant benefits related to the development of sustainable tourism, employment, the improvement of relations between institutions and local communities, the provision of high quality ecosystem services,increasing resilience to climate change, improving the qualitative and quantitative management of water, improving air quality,including by reducing erosion, mitigating disasters effect, improving population health and implicitly lowering costs for maintaining health, diversifying research activities, creating new opportunities to educate citizens, increasing the level of awareness on the importance of biodiversity and proper functioning of the environment, knowledge and promotion of cooperation between national, regional and local institutions, including in a cross-border context.

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