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METHODOLOGY AND EVALUATION CRITERIA OF THE CONSERVATION STATUS OF GRASSLAND HABITATS OF COMMUNITY INTEREST IN ROMANIA

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Abstract

For Romanian natural or semi-natural grassland habitat of Community interest assessed in all five terrestrial bioregions, the conservation status assessment activities were carried out based on the objectives of the EU Biodiversity Strategy for 2030, which is part of the European Green Deal. In our study we developed methods and used multicriteria analysis for all 2114 plots installed in 15 types of grassland habitats from the Natura 2000 sites of Community interests from Romania. In the studies conducted in the last five years, we evaluated the specific intensity of the pressures, followed by the estimation of the intensity of threats, affecting both the target habitats and their characteristic species. In order to compare the general trend of the conservation status in a biogeographic region, we established the trends within the Natura 2000 network. We realized the assessment matrix that uses information about the magnitude of short-term trends to assess the conservation status. Only stable or increasing trends can lead to a general conclusion regarding the favourable conservation status of the analysed habitat. Romania needs to effectively implement conservation measures for grasslands habitats.

Key words*: methodology, conservations status, grasslands habitats, community interest, Romania.*

INTRODUCTION

The *EU Biodiversity Strategy for 2030* (E.C., 2020) is part of the *European Green Deal* (E.C., 2019a; 2019b).

This strategy has an important point related with protecting and restoring nature in the European Union (EU) and should be done by improving and widening specified key commitments by 2030, define by the European Commission:

1. Legally protect a minimum of 30% of the EU's land area and 30% of the EU's Sea area and integrate ecological corridors, as part of a true Trans-European Nature Network.
2. Strictly protect at least a third of the EU's protected areas, including all remaining EU primary and old-growth forests.
3. Effectively manage all protected areas, defining clear conservation objectives and measures, and monitoring them appropriately.

Thus, three main commitments are foreseen for the network of protected areas by 2030, one of which also refers to natural or semi-natural grassland habitats.

For the *EU Biodiversity Strategy for 2030* to be effective, implementation of measures has to be significantly increased compared with the EU Biodiversity Strategy to 2020. At both national and international level, Habitats Directive (92/43/EEC) is the foundation of nature conservation in Europe and the development of EU Biodiversity Strategy for 2030 (EC, 2020).

The targets address the main drivers of biodiversity loss and aim to reduce key pressures on nature and ecosystem services in the EU. The strategy offers a great opportunity to halt or reverse biodiversity decline. The data obtained from assessment/ monitoring of the biodiversity in the years to come will be the foundation for achieving the goals of the 2030 Global Biodiversity Framework (EEA, 2020).

The *European Green Deal* sets out how to make from Europe the first climate-neutral continent by 2050, boosting the economy, improving people's health and quality of life, caring for nature, and leaving no one behind. At the same time, the European Green Deal priorities include protecting our biodiversity and ecosystems (EC, 2019b).

The EU implements policies and legislative frameworks (EU, 2025) for nature protection through the *Habitats Directive* (Directive 92/43/EEC) and the *Birds Directives* (Directive 79/409/EEC) adopted in 1979 and amended in 2009 (Directive 2009/147/EC).

Natura 2000 is the largest coordinated network of protected areas in the world. Established in 1992 to safeguard Europe's most valuable and threatened species and habitats, its area has steadily increased. In 2022, there were 27,193 Natura 2000 sites, covering 18.6% of the EU terrestrial and 9% of its marine territories. Effective management of these sites is the key for achieving Natura 2000's conservation aims. Member States still need to make significant efforts to establish and effectively implement conservation measures and management plans (Bendali & Nellas, 2016; EEA, 2024).

The total area of Natura 2000 sites network shows progress after protecting sites under the EU Habitats and Birds Directives in the EU, since 1993 to 2022 (Figure 1).

Data gathered for the period 1993-2019 shows the total protected area for EU-27 plus the United Kingdom. After this period, data collected from 2020 onward shows only the area for EU-27. The withdrawal of the United Kingdom from the EU led to a decrease in the Natura 2000 total area (EEA, 2024).

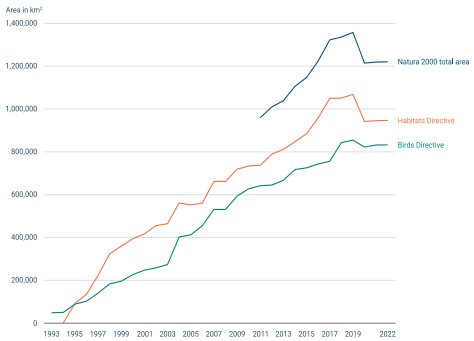

Figure 1. The total area of Natura 2000 sites` network in the European Union (EEA, 2024)

In the *Habitats Directive*, monitoring of Annex 1 habitats is required in Article 11 and into the Article 17 requires reporting every six years, for each Member State of the EU. All Member States reported in the mentioned periods and the national reports with the assessments at biogeographical level done by the ETC/BD (2014) and the EEA at the Article 17 web tool (Art17, 2025).

The EU habitats evaluation was based on the guidelines which have been compiled by the European Environment Agency (EEA) and its European Topic Centre on Biological Diversity (ETC/BD) and subsequent European Topic Centre on Biodiversity and Ecosystems (ETC BE). They have been developed through a collaborative work of the Expert Group on Reporting under the Nature Directives, its ad-hoc groups, the Expert Group on the Birds and the Habitats Directives (NADEG) and the Habitats Committee (DG Environment, 2017; 2023).

Description of the European habitats available for the reporting period 2007-2012 is included in scientific reference document *Manual of European Union Habitats* (EUR27, 2007; Evans & Arvela, 2011), and was updated for the period 2013-2018 (EUR28, 2013; C.E., 2024).

In the framework of European habitat types formal definitions, it had been developed a tool for assigning vegetation-plot records to the habitats from EUNIS (the European Nature Information System) (EEA, 2019). This system is used to classify a European vegetation-plot database, and compile statistically-derived characteristic species combinations and distribution maps for these habitats (Chytrý et al., 2020).

Bonari et al. (2023) stipulated that, with the knowledge gained after so many years working on habitats, Annex I of the Habitats Directive should be updated for solving ambiguities in the definition of Annex 1 habitat types.

The analysis of the Member States national reports revealed very different approaches and progress among Member States in developing and implementing monitoring programmes adapted to the reporting obligations laid down in Article 17 of the Habitats Directive. Following the 2013 report, the methods used for monitoring were analysed. It was found that the sample-based method is widely used, but the data collection, sample sizes and level of statistical certainty differ considerably.

To improve the comparability of results obtained by all Member States in the future from assessments of a habitat type, the

rapporteurs should follow simple minimum requirements regarding sample size and assessment methods for biogeographical regions (Ellwanger et al., 2018).

In biogeographic context for Romania, following Annex I of Habitats Directive, habitats and sites are areas whose conservation requires designation of special areas of conservation (SAC, SCIs). Also, Romanian habitat types were integrated into the Natura 2000 network (Doniţă et al., 2005; 2006; Gafta & Mountford, 2008; Strat et al., 2018; Ursu, 2020).

In the last 12 years, all Member States, including Romania, has reported two times to the Commission: in 2013 (for the evaluation period 2007-2012) and 2019 (for the evaluation period 2013-2018), based on every 6 years of the assessed conservation status for habitats of community interest (S.O.P., 2019; L.I.O.P., 2023).

At the European level there are big differences between the reporting of different countries. For example, it is difficult to compare Ireland with Romania. Even though there are recent publications on The Status of EU Protected Habitats and Species in Ireland (Lynn & O'Neill, 2019a; 2019b; 2019c). The results from reporting under the nature directives 2007-2019 were included in two reports of the European Environment Agency (EEA, 2015; EEA, 2020) very useful for comparing data from two reporting periods. Both reports included in particular information concerning the conservation measures referred to in Article 6(1) as well as evaluation of the impact of those measures on the conservation status of the natural habitat types from Annex I and the main results of the surveillance referred to in Article 11 (H.D., 1992).

MATERIALS AND METHODS

The assessment activities for establishing the conservation status were carried out taking into account the objectives of the European Union (EU) legal frameworks, strategies and action plans to protect nature and restore habitats and species, in the framework of SOP (2019) and LIOP (2023) projects financed by the Ministry of Investments and European Projects, through the Ministry of Environment, Water and Forests and implemented by the academic institutions in response of Romania to requests at the European Union obligations.

The analyses are related to the evaluation of the conservation status assessment was carried out for each type of grassland habitat present in Romania with reporting being carried out at national level, for all five biogeographical regions: ALP = Alpine, BLS = Black Sea (formerly 'Pontic'), CON = Continental, PAN = Pannonian, and STE = Steppe (Table 1).

Table 1. The grassland habitats distribution by regions in Romania

Habitat Natura 2000 code	Description	Region				
		ALP	BLS	CON	PAN	STE
6110	Rupicolous calcareous or basophilic grasslands of the *Alysso-Sedion albi*	+		+		
6120*	Xeric sand calcareous grasslands		+	+		+
6150	Siliceous alpine and boreal grasslands	+				
6170	Alpine and subalpine calcareous grasslands	+				
6190	Rupicolous pannonic grasslands (*Stipo-Festucetalia pallentis*)	+		+		
6210*	Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites)	+		+		
6230	Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas in Continental Europe)	+				
6240*	Sub-Pannonic steppic grasslands			+		
6260*	Pannonic sand steppes					+
62C0*	Ponto-Sarmatic steppes			+		+
6410	*Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)	+	+	+	+	+
6420	Mediterranean tall humid grasslands of the *Molinio-Holoschoenion*		+			
6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	+	+	+	+	+
6440	Alluvial meadows of river valleys of the *Cnidion dubii*	+	+	+	+	+
6510	Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*)	+	+	+	+	+
6520	Mountain hay meadows	+				

Indicated by an asterisk (*) represent priority natural habitat types. In the sense of the Habitats Directive means natural habitat types in danger of disappearance, which are present on the territory referred to in Article 2 and for the conservation of which the Community has

particular responsibility in view of the proportion of their natural range which falls within the territory referred to in Article 2 (Habitats Directive, 1992).

The reporting format under Article 17 of the Habitats Directive for the period 2019-2024 has been modified. It contains technical documents related to reporting datasets, reporting tools and data specifications. The *Range tool* has been tested for the changes that have occurred and Member States have been invited to test it (last update 25.06.2024). The distribution of habitats in Romania according to their presence in the biogeographical regions has been established in accordance with the *Checklists for habitat types in Annex I* (EIONET, 2025).

In order to compare the general trend of the conservation status in a biogeographic region, we established the trends within the Natura 2000 network.

The data and observations have been collected from the field in 2114 plots distributed in all biogeographic regions. In our study, we used multi-criteria analysis for 15 grassland habitat types present in Natura 2000 sites of Community interest from Romania.

Before monitoring the habitats in the field, we establish an important aspect related to the surface of each plot/habitat type (Table 2).

The habitat inventory was carried out following a methodology based on the European Union Manual for the Interpretation of Natural Habitats (EUR 28, 2013) and other relevant publications for vegetation classification starting with the principles developed by Braun-Blanquet (1964) and up to the applied science of vegetation, conservation planning and land management developed in the hierarchical system of floristic classification in Europe (Mucina & al., 2016). This methodology was correlated with the description of Romanian habitats (Doniță & al., 2005, 2006; Gafta & al., 2008), as well as with the Romanian habitat monitoring guide (E.W.F.M.O, 2023), and applied in "itinerary" and "stationary" investigations, in two stages: the analytical stage and the synthetic stage. The evaluation method was established for the monitoring plot.

The distribution and area maps of each habitat type will be produced in the standard 10x10 km ETRS format, ETRS 5210 projection. According to EC instructions, the use of attribute data to indicate the presence of a habitat in a grid cell is not allowed. The distribution maps will be completed with the necessary metadata, in accordance with EC requirements, and in accordance with the Infrastructure for Spatial Information in Europe (INSPIRE, 2007) specifications, when these will be available for these types of data. The metadata will contain, among other things, the period in which were collected distribution data, projection system, date, etc.

By identifying the key species (characteristics) of the habitats of community interest, determinations were made using variables related to ecosystem functions, such as: optimal monitoring period, qualitative and quantitative structure of the identified habitat and identified flora species. The data collected from the field will be entered in the monitoring sheets.

The data aggregation method is done by: (1) spatial aggregation, respectively generating maps in accordance with the reporting format starting from the evaluated (and estimated) plots, synthesizing at the bioregion level and respectively at the national level; (2) non-spatial aggregation which involves generating specific files, in accordance with the reporting format, starting from the primary aggregated data; (3) national aggregation level of attributes at the national level resulting from the aggregation of data at the bioregion level.

The second level of aggregation is for the attributes specific to the target habitats at plot level which are then correlated at bioregion level for reporting.

The information from the 10 x 10 km grids (plots) at bioregion level is averaged for each category of status parameters using a weighted average to make the final decision. For example, the specific composition which is one of the essential parameters in assessing habitat structure will have different values from one plot to another, which requires that from a systematic point of view they be grouped into different species richness classes (high, medium, low); the weight of each class being the one that will lead to the decision specific to each bioregion. Thus, for example, if in habitat 6110 we obtain 23 plots that fall into the high specific composition class (12 characteristic species), and in the medium composition class

(7 characteristic species) we will have 7 plots that fall into this, then into the low composition class (3 characteristic species), we can deduce that the report on the target bioregion is considered in a favourable state in terms of structure assessment.

Direct observations assessed by biodiversity experts who assessed the target habitats used state-of-the-art technologies in terms of both GPS (Global Positioning System) units and mobile applications for field data collection. The completed field sheets described structural and functional characteristics of the habitats, as well as identified pressures. The information thus collected entered a first aggregation process (first level) in which each sheet has an associated stationary location with metric precision (1-3 m) and is aggregated into a 10 x 10 km plot. This aggregation allows the characterization of the internal variability of the target habitat at the level of a plot. The plot represents the basic unit for assessment. The assessment methods are carried out either by a complete assessment of the target habitat (3 = Complete survey or a statistically robust estimate); when a number of plots smaller than the total number in which we have the confirmed habitat is assessed (2 = Estimate based on partial data with some extrapolation and/or modelling); when a very small number of plots are evaluated and expert opinion is used (1 = Estimate based on expert opinion with no or minimal sampling); when no plots are evaluated in the report, "data not available" will be mentioned (0 = Absent data).

For the upcoming reporting in July 2025, we also used the European framework (DG Environment, 2023; C.E., 2024).

To explain the assessment of habitats of community importance, we used the following attributes as defined in the Explanatory Notes and Guidelines of the Habitats Directive (DG Environment, 2023): *Range (and Surface Area), Habitat structure, Pressures (and threats and conservation measures) and Future Prospects,* all assessed separately for each biogeographical region (Mihăilescu et al., 2024).

The assessment matrix had been realized using information about the magnitude of short-term trends to assess the conservation status. Only stable or increasing trends can lead to a general conclusion regarding the favourable conservation status of the habitat analysed. Romania needs to effectively implement conservation measures for grasslands habitats.

The framework for assessing the sustainability of natural resource management systems is organized on the attributes of productivity, stability, reliability, resilience, adaptability, equity, and self-reliance (Barron et al., 2021).

Table 2. The grasslands habitat types and the size of their sample areas used in grassland habitats monitoring

Habitat Natura 2000 code	Habitat area	
	<1 ha	>1 ha
	Plot surfaces	
6120* Xeric sand calcareous grasslands	1x1 m; 5x5 m; 10x10 m	5x5 m; 10x10 m
6150 Siliceous alpine and boreal grasslands	1x1 m; 5x5 m; 10x10 m	5x5 m; 10x10 m
6170 Alpine and subalpine calcareous grasslands	1x1 m; 1x10 m; 5x5 m; 10x10 m	5x5 m; 10x10 m
6190 Rupicolous Pannonic grasslands (*Stipo-Festucetalia pallentis*)	1x1 m; 1x10 m; 5x5 m; 10x10 m	5x5 m; 10x10 m
6210* Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometea*) (* important orchid sites)	1x1 m; 1x10 m; 5x5 m; 10x10 m	2x10 m 5x5 m; 10x10 m
6230* Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and sub-mountain areas, in Continental Europe)	1x1 m; 1x10 m; 5x5 m; 10x10 m	5x5 m; 10x10 m
62C0* Ponto-Sarmatic steppes	5x5 m; 10x10 m	10x10 m
6240* Sub-pannonic steppic grasslands	5x5 m; 10x10 m	10x10 m
6260* Pannonic sand steppes	1x1 m; 1x10 m; 5x5 m; 10x10 m	5x5 m; 10x10 m
6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)	1x1 m; 1x10 m; 5x5 m; 10x10 m	5x5 m; 10x10 m
6420 Mediterranean tall humid herb grasslands of the *Molinio-Holoschoenion*	5x5 m; 10x10 m	5x5 m; 10x10 m
6430 Hydrophilous tall-herb fringe communities of plains and of the montane to alpine levels	5x5 m; 10x10 m	5x5 m; 10x10 m
6440 Alluvial meadows of river valleys of the *Cnidion dubii*	1x1 m; 1x10 m; 5x5 m; 10x10 m	5x5 m; 10x10 m
6510 Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*)	1x1 m; 1x10 m; 5x5 m; 10x10 m	5x5 m; 10x10 m
6520 Mountain hay meadows	5x5 m 10x10 m	10x10 m

An important instrument was used and it is represented by the Article 17 web tool on biogeographical assessments of conservation

status of species and habitats under Article 17 of the Habitats Directive. This instrument gives access to assessments at Member State biogeographical level done by Member States and at EU biogeographical level done by the ETC/BD and the EEA (Art17, 2025) and it can be used by all Member States for comparing assessment of national and EU level.

The concept of favourable reference values is derived from definitions in the Directive, and relates to the "long term natural distribution, structure and functions as well as the long-term survival of its typical species" (Article 1(e)) in their natural range.

Overall assessment of conservation status uses four categories: "favourable" (FV), "unfavourable - inadequate" (U1), "unfavourable - bad" (U2) and "unknown" (XX), based on the evaluation matrix for assessing conservation status for a habitat (Table 3).

Table 3. Overall assessment of the conservation status (CS)

Status of parameters	All favourable or few favourable + one unknown	One or more inadequate, but no bad	One or more bad	Two or more unknown +favourable or all unknown
Overall assessment of CS	Favourable (FV)	unfavourable-inadequate (U1)	unfavourable-bad (U2)	Unknown (XX)

RESULTS AND DISCUSSIONS

For reporting to the EC, Romania followed the Reference portal for reporting under Article 17 of the Habitats Directive and created the guide regarding the protocols and unitary methodologies for monitoring the conservation status of community interest habitats.

For the reporting due in July 2025, an updated guideline has recently been introduced into Romanian legislation (E.W.F.M.O, 2023) and must be followed by all scientists reporting to the European Union on the conservation status of habitats.

Threats and pressures for all habitats can be selected from the reference portal for reporting under Article 17 of the Habitats Directive, usually the most relevant and important ≤10.

Romania is currently in its third report under Article 17 of the Habitats Directive.

Data resulting from the monitoring should capture where the main objective of the conservation action need to take place.

The identified EU interest habitats on the Romanian territory showed that they might be distributed in more than one biogeographic region (Table 4). Even the conservation status of some was unknown during the first reporting period (6120* for the BLS and STE regions), new assessments realized during the other two reporting periods revealed their conservation status. For instance: the habitat 6120* Xeric sand calcareous grasslands from Steppe biogeographical region (STE) had "unknown" status during first reporting period. Also, some of the habitats (6430, 6440, 6520) present different conservation status in time in the same biogeographic region.

Table 4. Romanian national report under Art. 17 of the Habitats Directive

Habitat Natura 2000 code	RO national report		
	2013 (period 2007-2012)	2019 (period 2013-2018)	2025 (period 2019-2024)
6110	ALP	ALP	ALP
6110	CON	CON	CON
6120*	N/A	BLS	BLS
6120*	CON	CON	CON
6120*	N/A	STE	STE
6150	ALP	ALP	ALP
6170	ALP	ALP	ALP
6190	ALP	ALP	ALP
6190	CON	CON	CON
6210*	ALP	ALP	ALP
6210*	CON	CON	CON
6230	ALP	ALP	ALP
6240*	CON	CON	CON
6410	ALP	ALP	ALP
6410	BLS	BLS	BLS
6410	CON	CON	CON
6410	PAN	PAN	PAN
62C0*	CON	CON	CON
62C0*	STE	STE	STE
6420	BLS	BLS	BLS
6430	ALP	ALP	ALP
6430	BLS	BLS	BLS
6430	CON	CON	CON
6430	PAN	PAN	PAN
6430	STE	STE	STE
6440	ALP	ALP	ALP
6440	BLS	BLS	BLS
6440	CON	CON	CON
6440	PAN	PAN	PAN
6440	STE	STE	STE
6510	ALP	ALP	ALP
6510	BLS	BLS	BLS
6510	CON	CON	CON
6510	PAN	PAN	PAN
6510	STE	STE	STE
6520	ALP	ALP	ALP

For the reporting period 2007-2012, for 15 assessed grasslands habitats indicated that their conservation status related to the 34 evaluations on biogeographic distribution were: unfavourable-bad (1 habitat), unfavourable-inadequate (4 habitats), favourable (29 habitats), and unknown (0 habitats) (Mihăilescu et al., 2015).

For the reporting period 2013-2018, the number of evaluations increased at 37, thus conservation status has been: unfavourable-bad (1 habitat), unfavourable-inadequate (4 habitats), favourable (33 habitats), and unknown (0 habitats).

For the upcoming reporting in July 2025 (reporting period 2019-2024), we have prepared the assessment of the conservation status of habitats of community interest for grassland. Thus, we propose from 15 assessed habitats, the conservation status related to the 37 evaluations on biogeographic distribution as it follows: unfavourable-bad (1 habitat), unfavourable-inadequate (7 habitats), favourable (29 habitats), and unknown (0 habitats).

These assessments shown that for some habitats (6430, 6440, 6520), in certain biogeographic regions, a large decrease in area has occurred: equivalent to a loss of more than 1% per year. In these unfavourable-bad or unfavourable-inadequate assessed cases, the indicative value of the country may deviate from the favourable status in the period 2019-2024.

The conservation status of most of the grasslands' habitat is stable during three reporting periods (2013, 2019, 2025).

Decreasing trends in the conservation status from favourable (FV) to unfavourable-inadequate (U1), due to increasing trends in the intensity of different impacts upon the following habitats: 6430 (Hydrophilous tall-herb fringe communities of plains and of the montane to alpine levels), 6440 (Alluvial meadows of river valleys of the *Cnidion dubii)* and 6520 (Mountain hay meadows).

For habitat 6240 in the CON region, the decrease in the range surface/area of distribution radius was estimated at 8400 ha, and for habitat 6420 in the BLS region, the decrease in the range surface/area of distribution radius was estimated at 800 ha, in conclusion, the assessment was established at U1.

The assessment of grassland habitats was carried out using a model-based and reference-based approach (DG Environment, 2023). The results were interpreted on three generic levels of data availability and knowledge and are suggested to be interpreted in three ways:

- *High*: good data on actual distribution and ecological requirements/features; good historical data and trend information;
- *Moderate*: good data on actual distribution and ecological requirements/features; limited historical distribution data (only trend data available);
- *Low*: data on actual distribution and ecological requirements/features are sparse and/or unreliable; hardly any historical data available and no trend information.

Conservation measures are taken inside or outside Natura 2000 sites for each habitat type: a) maintaining its current range, surface area or structure and functions; b) expanding its current range; c) increase its surface area; and d) restore the structure and functions, including the status of typical species.

Recently regarding the multidisciplinary and multiscale approach sustainability assessment of pasture, two holistic indicator-based frameworks for livestock sustainability assessment include this multidimensionality and multifunctionality aspects. The sustainability assessment of farming and the environment framework includes the three classical pillars of sustainability and is structured on content-based principles, criteria, and indicators (Barron, et al., 2021).

Future Prospects indicate the expected direction of change in conservation status in the near future based on a consideration of current status.

The next step was to evaluate the future prospects of each parameter, one after the other, correlated in the matrix. (Table 5).

Table 5. Assessing the impact of reported threats using scope and influence (After: DG Environment, 2023)

Scope	Influence		
	High	Medium	Low
Whole (>90%)			
Majority (50-90%)			
Minority (<50%)			

Legend: High impact | Medium impact | Low impact

Trends are an essential part of assessing all conservation status parameters except Future prospects. A comparison between the overall trend of habitat area and the area in good condition in the biogeographical or marine region and trends within Natura 2000 is important in assessing the impact of the Natura 2000 network on conservation status.

The trend is described using qualitative indicators such as: stable, recovering, declining and unknown. Evaluation of short-term trends is also the key control for the quality analysis of successive reporting results. In order to establish pressures and threats, we used the nomenclature standardly applied at the European level.

For some habitats (6240*, 62C0*, 6410, 6420, 6430, 6440, 6520), the main pressures are related to: (1) the land use changes that occurred during the reporting period but it refers to instances where continuing the agricultural use of originally non-agricultural habitat prevent the latter from being restored (e.g. in case of land use conflicts between agriculture and nature conservation), (2) intensive grazing or overgrazing by livestock and, (3) the development renewable energy infrastructures, as follow:

PA01 - Conversion of natural and semi-natural non-agricultural habitats (e.g. semi-natural forests) and non-agricultural habitats of species targeted by the nature directives into agricultural land (e.g. pastures, meadows, arable fields).

PA04 - Use of plant protection chemicals in agriculture (e.g. pesticides, fungicides, etc.).

PA07 - Intensive grazing or overgrazing by livestock in agricultural and agroforestry habitats (e.g. pastures, meadows, pastured forests) where grazing causes damage to vegetation or soil (e.g. trampling, nitrogen input) or where livestock presents a disturbance or a competitor for species targeted by the nature directives. Includes intensive grazing in other habitats in agricultural landscapes (riparian areas, bogs, scrubs and forests) where grazing causes damage to vegetation or habitats. Also included are situations due to inadequate or lack of conservation management.

PA19 - Agricultural activities generating soil pollution

PD01 - Renewable energy (wind, wave and tidal power) generation including development and use of associated infrastructure (e.g. building wind turbines or tidal barrages).

PD03 - Renewable energy (solar power) generation including development and use of associated infrastructure (e.g. building solar farms).

Pressures observed in the field study shall be assessed by determining the specific intensity of each one exerted on the target habitat. The categories of intensity assessment are also qualitative i.e. low, moderate, high, unknown.

In the absence of dedicated monitoring schemes, trends are usually a result of expert opinion and in that case should be reported only as directions (increasing/decreasing/stable), without absolute values. Unknown trends should be reported as 'unknown'. If the available data are not sufficient to determine trend direction, this can be reported as 'uncertain'. It is therefore recommended to estimate short-term trend over two reporting cycles, i.e. 12 years (or a period as close to this as possible), as this should give a more reliable and comparable estimate of the trend (DG Environment, 2023).

For the third reporting, Romania must consider as the period for assessing trends the short-term one, considered after two reporting cycles (12 years; or a period as close as possible).

CONCLUSIONS

Assessment of trends and conservation status of grasslands habitats of community interest from Romania, has been developed using standard methodology based on four parameters as defined in Article 1 of the Habitats Directive. For reporting to the EC, Romania used methodology in accordance with Reference portal for reporting under Article 17 of the Habitats Directive and created the Guide regarding the protocols and unitary methodologies for monitoring the conservation status of community interest habitats.

The results obtained from data and observations collected from the field have a high scientific value and underpin all analyses and interpretations.

The conservation status of most of the grasslands habitat is stable during three

reporting periods (2013, 2019, 2025); only a few habitats (6430, 6440 and 6520) showed decreasing trends in the conservation status from favourable (FV) to unfavourable-inadequate (U1), due to increasing trends in the intensity of different impacts upon the habitats.
The first report provided the baseline for subsequent reports, including the assessment of short-term conservation trends over a single reporting cycle. The short-term nature of the data available so far means that the full assessment recommended by the standard EU methodology cannot yet be carried out.
Only stable or increasing trends can lead to an overall conclusion on the favourable conservation status of the habitat under consideration. Romania needs both to establish and effectively implement conservation measures for grassland habitats, and develop updated management plans for protected areas.
Romania is currently carrying out the third report under Article 17 of the Habitats Directive.
For the next report (deadline 31 July 2025), was approved in 2024 the reporting format on habitat types listed in Resolution No. 4 (1996) with a 1 to 1 relationship with habitats of Annex I of the EU Habitats Directive. In this way, it was possible to extent the format of the EU reporting under the Article 17 of the Habitats Directive and to benefit from the IT infrastructure developed by the European Environment Agency. Each of the new and amended existing fields of the Reporting Format 2019-2024 was presented with a short explanation and discussion on the adapted possibilities for non-EU Contracting Parties to motivate the exchange of views (C.E., 2024).

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