



Emerald, or Natura 2000? Correct Answers to Incorrect Questions

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Introduction

Nature conservation across Europe has been governed by various legislative means. Traditionally, nature conservation focusses on two main pillars - protection and conservation¹ of ecologically valuable sites, resulting in various types of protected areas; and protection (only rarely, also conservation) of endangered and rare species of plants and animals. Site protection has always been considered the most efficient nature conservation tool, although it cannot solve the most painful problems of contemporary Europe – deterioration of wider landscape due to improper agriculture and forestry practices as well as excessive exploitation of natural resources, and the urban sprawl. Despite this, efficient site protection and conservation still remains in the centre of today's national nature conservation policies.

Besides the national laws and practices of individual countries, two major movements aimed at the unification of site protection and conservation approaches at a wider scale have developed since the last quarter of the previous century in Europe: the *Emerald Network* of so-called Areas of Special Conservation Interest (ASCI) of the Bern Convention² of the Council of Europe, and the *Natura 2000 Network* of sites pursuant to the so-called Nature Directives of the European Union³. Based on mutual agreement between the European Commission and the Council of Europe, both networks do not overlap but are complementary: the Emerald Network is to be built by the Parties to the Bern Convention outside the EU, while all EU Member States have already established their national parts of the EU-wide Natura 2000 Network.

The Republic of Moldova became Party to the Bern Convention in as early as 1994, and in as early as 2000, it joined several other non-EU countries in their endeavour to gradually build up the Emerald Network. This endeavour finally resulted in the identification and legal designation of 61 Emerald sites back in 2022. Despite this effort, expert appraisal of the Emerald Network during the biogeographical seminar held in Minsk in 2019 has shown that the so-called sufficiency index of the current Moldovan Emerald Network ranges to about 24 %, according to Emerald criteria – in other words, many new sites would be required to identify, propose and approve before the Emerald Network in Moldova could be considered completed. Given the costs of preparation of the current Emerald Network (in terms of funding, expert capacities and time needed), meeting the goal of achieving at least 80 % sufficiency (which is an official goal of Moldova) by 2030 would require enormous additional resources and capacity; neither of them seems to be available currently.

In December 2022, Moldova and the Ukraine were granted EU Candidate Country Status, and in June 2025, official screening negotiations with the European Commission will be starting. Following the issuance of the screening report by the EC, real work is expected to start. Both countries expressed their wish to become EU members, which is, *inter alia*, subject to a basic condition – the meeting of all of the requirements of the EU *acquis communautaire* prior to future accession. Based on the recent

¹ Many definitions of these two terms exist. In simple terms, “protection” embraces all formal, statutory and administrative measures needed for site designation, marking of its boundaries, establishing of body in charge of its management, while “conservation” means setting concrete conservation objectives and proactive implementation of conservation measures needed to achieve those objectives, with a goal of long-term maintenance (or restoration if needed) of site target features.

² Convention on the Conservation of European Wildlife and Natural Habitats
(<https://www.coe.int/en/web/bern-convention>)

³ Directives 2009/147/EC (“Birds Directive”) and 92/43/EEC (“Habitats Directive”);
<https://natura2000.eea.europa.eu/>

experience of the last three EU enlargements - 2004-2013, Chapter 27 “Environment” of this *acquis* is considered as one of most difficult. In the field of nature conservation, the most demanding EU requirement is to propose, prior to the accession – based on specific criteria from the EU Nature Directives – the conservation sites of the Natura 2000 Network. Without the scientifically and politically sound Natura 2000 proposal, joining the EU cannot be allowed.

Thus, both Moldova and the Ukraine find themselves in a situation where they have to fulfil obligations according to the Bern Convention, and at the same time those stemming from the EU Nature Directives. In other words, they have to both complete the Emerald Network on their own territory, as well as prepare their complete (and complete from the very beginning, i.e., 100 % sufficient) Natura 2000 proposals.

According to official proclamations, the Emerald and Natura 2000 Networks are equal and fully compatible. However, this political statement is everything but true. Both networks have been based on similar principles; however, the way in which these principles are implemented differ significantly between both networks. Therefore, the Republic of Moldova is facing a serious dilemma now: either to continue with work on the Emerald Network, losing resources and time for timely preparation of Natura 2000 – an approach which would result in serious delay of the potential date of its EU accession – or to “switch” into Natura 2000 preparation with a risk of breaching its commitments towards the Bern Convention?

This paper aims at proposing a possible way of resolving this dilemma in a win-win manner.

2. Emerald, or Natura 2000? An incorrect question cannot provide a good answer

Because of both methodological and practical differences between the Emerald and Natura 2000 Networks, simple “conversion” of the former into the latter network is impossible (see the reasoning further in this paper). Although the Emerald Network establishment is also legally binding for Moldova (even if the Bern Convention is just a “soft law” with little possibility of its real enforcement), it is clear that for meeting the ultimate political goal of the country – to become an EU member – Natura 2000 has become much more important recently (as without it, no accession agreement can be signed by the EU). Thus, how do we resolve the dilemma mentioned at the end of the previous chapter?

The only meaningful solution would be to make use of all of the assets of the Emerald Network achieved until now, and in parallel start with Natura 2000 preparation: as will be explained later, meeting of the Natura 2000 rules means the meeting of all of the Emerald obligations, too. Therefore, let’s start with an overview of the strengths and opportunities provided by Emerald and the way in how Moldova has made use of these opportunities in practice.

2. 1. Emerald Network – its strengths and opportunities for Natura 2000 preparation

2. 1.1 Similarities between Emerald and Natura 2000 Network establishment processes

The concept of the Emerald Network is identical to that of Natura 2000: to establish a network of special protected areas in a unified manner (and in a wider, supra-national scale) with clearly defined habitat types and species justifying all such protected areas (hereinafter called “*site target features*” for simplification). In other words, a situation can never occur, where there is an Emerald site without identified target features – which has been a serious weakness of national protected areas in many countries (with protected areas designated without a clear idea of what the proper reason of designation is, or with a vague justification of the object of protection).

The ultimate goal of the Emerald Network is to proactively manage its sites in a way enabling long-term maintenance of site target features. This goal is also identical with that of Natura 2000. However, this ultimate goal has not been emphasized much in practice: the Bern Convention documents have been putting much more emphasis on the formal establishment of the network and its “sufficiency” instead of on the emphasis of real conservation management in particular sites (which often require urgent management interventions) even if the network has still been far from being “sufficient”. Thus, the Emerald approach is based on “protection” rather than “conservation”, maybe also because of the lack of an explanation of the fundamental differences between these two approaches of nature conservation (see footnote 1 for a clarification of these two terms).

National Emerald site proposal is subject to international appraisal led by the European Environment Agency (EEA) during so-called biogeographical seminars, which guarantees that approaches in individual countries would not substantially differ. For Natura 2000, a similar process exists, albeit more detailed and preceded by a preliminary assessment of national site proposals by the agencies entrusted by the European Commission. Thus, government officials attending Emerald biogeographical seminars would be familiar with the process and understand its purpose and expected outcomes – to establish the level of sufficiency⁴ of the network according to the rules for its establishment.

2. 1.2 Moldovan approach to Emerald opportunities

Moldova started with identification of Emerald sites back in 2009 following the activities leading to compiling the habitat types and species reference lists (such a project started in 2000). During two separate projects lasting until 2018, 61 Emerald sites were proposed and subsequently approved by the Bern Convention Standing Committee. In 2022, these 61 sites were designated at the national level by the Law 225/2022 which amended the Law 94/2007, on an ecological network. Both reference lists of habitat types, species, as well as a list of these 61 Emerald sites have been annexed to the latter law as its Annexes 1-5. As was already mentioned, these 61 sites have officially been appraised so that the official sufficiency index is 24 %, i.e., about 75 % of the sites are still missing.

However, even the fact that Moldova has designated 61 Emerald sites, this fact is also almost unknown in the country itself. The “site designation” through Annex 5 of the Law 94/2007 consists of a table with the following data for each of the 61 sites: code, name, central geographical coordinates, number

⁴ Expert rules have been set by the bodies of the Bern Convention to assess whether the national Emerald sites proposal covers appropriate area of all particular habitat types and populations of species listed in the respective resolutions of the Convention. The sufficiency index expresses the level of correspondence of the current national proposal to the optimum goal, i.e., 100 % meeting of those rules. For Natura 2000, criteria of sufficiency differ, but the principle is similar.

of species and habitat types identified in site, and the biogeographical region in which the site lies. Neither site maps nor any other information has been provided. Thus, those sites, albeit officially designated, do not fulfil the basic requirements for protected areas (as both the Emerald Network and Natura 2000 are nothing but networks of protected areas): they cannot be recognized in the field, property owners inside them have never been informed, particular site target features are unknown.

In 2024, the EEA published the so-called Emerald viewer⁵ with detailed information on approved Emerald sites; only since then, the minimum expert information on individual Moldovan sites has been available, namely site maps in high resolution and Standard Data Forms (SDFs), basic forms obligatory for each approved site with habitat and species lists and estimations of their area/population within each site. However, no such information exists at the national level in the Romanian language in a form of a free, publicly accessible data base, together with a summary of obligations and restrictions stemming from the Emerald Network of the Moldovan territory. In addition, it doesn't even allow the viewer to see where the particular habitat types and species occur within the individual sites.

As a result, only a few individuals know about the Emerald sites in Moldova, including those in charge at the Ministry of the Environment. The public, including landowners within the sites who might be, according to law, strongly affected as they are responsible for site maintenance, have no idea that the Emerald Network exists. Unfortunately, among the officials in charge, there is also a lack of understanding that the Emerald Network is not just an exercise, and the aim of which is not just to get maps of sites and SDFs filled in. The main aim of the network – active conservation management of sites – has never started. According to law, site management plans should be drafted within a period of 10 years (from 2022); without such management plans, no conservation management can officially start. In addition, the guidelines on management planning prepared under the leadership of international experts and subsequently approved by the Minister of the Environment in 2024 do not meet the requirements for site management planning (they even do not comply with requirements of the Law 94/07); management plans to be drafted according to them can never meet their purpose. In the meantime, severe degradation of some Emerald sites has occurred (e.g. steppe habitats due to a lack of any management while some forest sites are managed in a way not compatible with conservation principles).

On the other hand, it is worth mentioning that Moldova has already included in its legislation the procedure of assessment of plans and projects (e.g. various constructions, mining, transport infrastructure) likely to affect Emerald sites – a procedure of so-called Appropriate Assessment not required by Emerald but obligatory for the EU Natura 2000 Network. This is an important step forward, although practical implementation is hindered by a lack of site management plans and above all a lack of detailed information on target features within particular sites.

2.1.3 Weak points of the Emerald Network approach

Although the concept of the Emerald Network was developed in parallel with preparation of the EU Habitats Directive prescribing the rules for Natura 2000, there are important differences between both networks which prevent easy “conversion” of Emerald into Natura 2000. They affect all non-EU parties to the Bern Convention, not just Moldova itself. The following differences count as being the most important:

⁵ <https://emerald.eea.europa.eu/>

a) Significantly different classification of habitat types and a partially different pool of species for which Emerald sites are to be identified. Thus, for a switchover from Emerald to Natura, additional scientific input is needed to convert Emerald habitat types into Natura 2000 ones, conditioned by archiving of data from field habitat mapping (which should take place across the entire territory of Moldova). Should such data not be available, any conversion is impossible. In addition, there are different criteria for the appraisal of sufficiency between the two networks, so that habitat types considered “sufficiently” represented by Emerald may become “insufficient” after the conversion. Detailed description of this double problem is provided in Annex 1 and Annex 2.

b) Emerald methodology is based on the identification of ASCI sites without a preceding review of the occurrence and status of target habitat types and species across the entire territory of the country. Thus, the Natura 2000 basic rule “the more endangered habitat type/species, the higher proportion of its country occurrence must be included in the sites” cannot be applied, as such information is not available; in addition, there is little focus on *field* data for Emerald which are allowed to be replaced by “expert estimates”, an approach which can never provide a true picture on the real situation in nature and upon which to make justified decisions;

c) methodology for the identification of sites for birds is totally different from that of Natura 2000 – see section 3.3.A for description;

d) an erroneous understanding of the term “conservation status” (borrowed from the EU Habitats Directive but applied at site level instead of at country level) resulting in a requirement to monitor and report on conservation status *within Emerald sites* instead of across the entire country regardless of Emerald sites – a methodology not compatible with the EU requirements; however, as the EU obligation in regard to conservation status does not apply to Natura 2000 sites, the Emerald requirements are not harmful, just useless for meeting EU obligations. Besides that, as the EU Nature Directives obligation of surveillance⁶ and subsequent reporting is due only several years after accession, there is no need to lose time and to plan implementation of this obligation now;

e) a lack of any procedure of the assessment of plans and projects likely to affect Emerald sites (contrary to the so-called Appropriate Assessment obligatory for the Natura 2000 Network). However, this does not prevent any candidate country putting into law its corresponding provisions from the Habitats Directive and making them operational towards current Emerald sites – which is exactly the state that Moldovan legislation is in right now.

2.1.4 The possible way out

Currently, the LIFE23-PRE-EL-LIFE RENATA joint Greek – Moldovan project (2024-26) is being implemented, with an aim to fill in gaps in Emerald Network data and to propose ways of the approximation of the Emerald Network to Natura 2000. One of its main outcomes should be the roadmap for future Natura 2000 preparation. The data gathered and processed within this LIFE project should serve to the “completion” of the Emerald exercise – enabling to report to the Bern Convention on meeting many requirements in regard to Emerald Network establishment and provide background documents which may be used for Natura 2000 preparation, too. However, all subsequent efforts

⁶ The directive does not use the term „monitoring“ which might be understood in many ways but “surveillance of conservation status of habitat types/species” which is clearly defined. For birds, similar methodology is prescribed although the term “conservation status” does not appear in the Birds Directive.

should be concentrated on preparatory works for Natura 2000, not on further additions of Emerald sites⁷.

A significant amount of current data and information on Emerald may be used for Natura 2000, too; however, as a lot of additional inputs, both expert and financial, will be needed for preparation of the Natura 2000 proposal compliant with EU rules, not with Bern Convention requirements, wise planning is necessary in order to avoid wasting of very limited resources and, above all, the most precious resource – time: there is no doubt that for Natura 2000 preparation, a lot of additional field research will be necessary, which can only be performed during vegetation seasons or even in a much shorter time (as many species can be identified or found only in a very short period of time, sometimes just several weeks a year). Missing one vegetation season for even a single species would mean a year's delay in the preparation of the Natura 2000 proposal, i.e., a year's delay in possible admission to the EU.

In addition, preparation of a future Natura 2000 Network requires a well-organised approach. Until now, all activities towards Emerald have depended on the endeavour of a few persons at the Ministry of the Environment and dedicated NGOs and has been based on projects from abroad, often not coordinated and providing just fragmentary data. Especially field data on occurrence and quality of plant and animal species are extremely deficient: scientific and expert capacity is low, and even those experts available and potentially willing to collaborate have never been systematically deployed due to a lack of clear policy and funding. Chapter 3 of this paper provides some hints in this regard.

2.1.5 Natura 2000 is not a stand-alone task

The entire sub-chapter “biodiversity protection and conservation” of Chapter 27 “Environment” of the EU *acquis communautaire* consists of several groups of topics; many of them are interrelated and should be underpinned by the same pieces of legislation. Natura 2000, albeit perhaps a most demanding obligation in this field, should not be treated separately, regardless of other legislative requirements stemming from the *acquis*.

Contrary to Moldovan legislation, both of the main EU directives governing “classical” nature conservation including Natura 2000 and requiring transposition into national law, the Birds and Habitats Directives, have two separate pillars – site protection and conservation, and species protection. Transposition of these directives requires to build a national legislative structure which will use identical terminology and enable the implementation of all obligations in a functional way. Thus, Natura 2000 requirements of both directives should be fully reflected not only in the Law on Ecological Network 94/07 but also in the Law on the Fund of Protected Areas 1538/98; species protection provisions need to be transposed into the Law on Animal Kingdom 439/95, Law on Plant Kingdom 239/07, and into the Law on Hunting; cross-cutting issues such as “conservation status”, its surveillance and reporting, should be reflected (again, in the same way and using the same terminology) in all of these pieces of law.

⁷ Once the Natura 2000 site proposal is complete, it can be reported to the Bern Convention as fulfilling the commitments for the Emerald network; however, the reversed procedure is not possible. This is the approach taken by Croatia, which had been preparing a Natura 2000 network since 2001 and, following its accession to the EU in 2013, reported all its Natura sites as Emerald sites, thus fulfilling its obligations to the Bern Convention.

3. Steps to be taken to get full compliance with the requirements of the EU Nature Directives

The following list of steps stems from the experience of the past three EU enlargements (2004, 2007, 2013) as there is a reasoned assumption that all past requirements of the EC would automatically apply to Moldova, too. However, the specific situation in Moldova has been taken into consideration too.

3.1 Legal transposition

In many candidate countries, the obligation of the transposition of the provisions of EU law is viewed by lawyers in a “statistical” way: analyses of national law show which individual articles of directives or regulations have been included – fully or partially – in national law, mostly based on the mere check of the corresponding wording of EU law and of the national law. However, transposition should be viewed in a functional way: all terms and provisions transferred into national law must create an operational system; key new terms must be properly explained and understood; all related provisions from the directives must be transposed at the same time and be cross-linked; last but not least, transposed provisions should appear in the correct pieces of national law⁸.

The following steps are necessary:

- a) “clearing” of the Nature Directives terms already transferred into various pieces of national law but without any link to Natura 2000 and in a different way;
- b) transposition of all Natura 2000 establishment requirements (from both Birds and Habitats Directives) into Moldovan law (above all, Law 94/07 on Ecological Network, but also into the Law on Protected Areas Fund 1538/98, as the Natura 2000 sites have to be “designated” (Article 4(4) Habitats Directive) – which in EU Member States is often done through designation as national protected areas). Transposition has to also include provisions not required by the Emerald Network (especially Habitats Directive Appropriate Assessment – which has already been transposed in different pieces of the laws: 94/07, 86/14, 11/17, but only partially and using different wording);
- c) introduction of new legal terms and procedures not applicable to the Emerald Network, especially the concept of “priority habitat type/priority species” (Art. 1 (h) and (d)) and complete provision of Art. 6(4) of the Habitats Directive (including the procedure of establishing compensatory measures);
- d) introduction of requirements linked to the obligation of surveillance of conservation status and regular reporting to the EU (amendments would be needed of the Law 439/95 and 239/07 as a minimum) – be aware that the EU requirements for conservation status surveillance and reporting are substantially different from those of the Bern Convention (currently dealt with in Art. 12⁷ of the Law 94/07 so that they are not related to Natura 2000 at all); however, as this obligation is highly technical and due only several years after the future accession into the EU, a very simple legal provision with a reference to secondary legislation would be sufficient.

⁸ An example can be found in Art. 12⁹ of the Law on Ecological Network amended in 2022: it deals with *derogations from species protection provisions* of Art. 9 and Annex IV of the Birds Directive and Art. 16 and Annex VI of the Habitats Directive and erroneously applies to target species of the Emerald network, not to species for which species protection is required by either Directive. In addition, the provisions of both directives establishing the proper species protection regime (to which these derogations may be granted), i.e., Art. 5 Birds and Art. 12-14 Habitats, have not been transposed yet. Such a transposition is both erroneous and non-functional, despite “statistically” four provisions of EU law can be “detected” in Moldovan legislation now.

3.2 Institutional enforcement

a) in any case, enforcement of the Environmental Agency (EA) which will become the main authority to deal with dozens of new obligations within Chapter 27 of the *acquis*. Implementation by the EA of the Appropriate Assessment (AA) within the EIA/SEA processes is already envisaged in the current legislation; however, this agenda might expand seriously once the Emerald management plans are approved⁹ (according to Law 94/07, from the moment of the approval of an Emerald site management plan, the obligation of AA applies to that site – the first set of management plans is already under preparation). In addition, a completely new agenda of granting species derogation is to come, and unless the new Nature Conservation Agency is established, all this burden will lie with the EA;

b) for the preparation, establishment and management of the Natura 2000 Network, establishment and running of the system of species protection, as well as establishment of the system of surveillance of and reporting on conservation status of habitat types and species, a dedicated expert institution is indispensably needed. Until now, the need for such an institution has been recognized presumably in relation to the management of national protected areas; however, the scope of this institution should be much wider, implementing all new obligations as well as taking over some of the current obligations from the Environmental Agency. However, establishment of such an institution must not be just formal – it must have at least, the minimum amount of staff and funding (based on a resource assessment study to be undertaken prior of its establishment) enabling to meet the expert requirements linked to the EU accession;

c) in law enforcement, the Environmental Inspectorate has an important role to play. Currently, this institution is heavily understaffed and cannot fulfil the functions needed for the enforcement of the new legislation; a substantiated assessment of the additional capacity needed should be carried out as a first step, followed by an appropriate increase in staff numbers.

3.3 Natura 2000 preparation

A. Birds Directive

Contrary to the Emerald Network, Natura 2000 is composed of two different sets of sites. Those to be proposed and established pursuant to the Birds Directive – Special Protection Areas (SPA) – are subject to scrutiny by the EC as to their compliance with the specific rules for Important Bird Areas - IBAs. Thus, the SPA methodology is different than that of the Emerald Network and is based on the criteria of BirdLife International (unless scientifically better substantiated national criteria exist, which is not the case of Moldova).

It is unclear how many IBAs have been identified in Moldova until now: some sources say 12 (https://pjp-eu.coe.int/emerald-network/images/ibas_en.pdf), the official BirdLife Int. website refers to 11 sites (<https://datazone.birdlife.org/country/moldova/ibas>), with the latest assessment as early as in 2013. It is apparent that this data is neither updated nor reliable. Therefore, it is necessary to:

⁹ The structure and content of Emerald management plans should not differ from those of Natura 2000 sites; therefore, quality management plan of Emerald sites will be capable of relatively easy conversion into Natura 2000 management plans.

a) establish a complete bird reference list for Moldova, checking Annex 4 of the Law 94/07 as to the inclusion into it of “regularly occurring migratory species” (as required by Art.4(2) of the Birds Directive), and prepare it for its inclusion into the Moldovan law;

b) review existing data on IBAs using the BirdLife C1-C7 criteria (those valid for the EU) and update them - most preferably, through field research; after that, IBA proposals should be subject to an independent international scrutiny by BirdLife Int. (which can probably be done free of charge upon official request). Each species from the reference list from point a) above should be represented in at least one IBA; bird data from the current Emerald sites can help but they cannot replace this update;

c) based on this review providing current data on bird species and their populations, SPAs should be proposed with an emphasis on the design (shape) of these sites in order to make them recognizable and manageable; due to the different ecological requirements of birds compared to other animals, SPAs do not necessarily need to be identical with sites according to the Habitats Directive, although the correspondence of boundaries of both site types, wherever possible, is recommended;

d) SDFs for SPAs need to be filled in (which are separated from SDFs for sites according to the Habitats Directive, contrary to Emerald SDFs) and submitted to the EC prior to the accession, not forgetting that the obligation of the Appropriate Assessment according to the Habitats Directive applies to SPAs immediately from the day of accession (contrary to the sites proposed pursuant to the Habitats Directive).

B. Habitats Directive

The EU Habitats Directive requires to identify, propose and approve another set of sites called Sites of Community Importance (SCI) which together with the SPA will create the Natura 2000 Network. The following steps are obligatory:

a) a careful check of the current reference lists of species listed in Annex II of the Habitats Directive. There are three reasons for that:

i) the species list from the Habitats Directive (for Natura 2000) and from resolutions of the Bern Convention (for Emerald) do not fully overlap. Annex II of the Directive should be checked as to the possible occurrence on the Moldovan territory of species not listed under BC; additional species have to be included in the Moldovan reference lists (separately for each of the two biogeographical regions - Continental and Steppe regions – in which Moldova lies);

ii) according to the information from some NGOs, the current Emerald reference lists include some species the occurrence of which has never been scientifically confirmed in Moldova (e.g. wolf) – they have been included in the lists based on “a likelihood of their occurrence in Moldova”. This approach is not acceptable, as Natura 2000 sites can only be proposed and designated for the actually and really occurring species from Annex II of the Habitats Directive. Such unconfirmed species have to be investigated, and an unequivocal decision to be made on their presence or absence on the Natura 2000 reference lists;

iii) Habitats Directive species reference lists (as well as habitat type reference lists) should be prepared for inclusion into Moldovan law upon its EU accession (not necessarily as a part of any law like now – inclusion into a secondary legislation would be sufficient).

Undoubtedly, the biggest burden will be represented by the habitat types.

b) The first step in this respect must be the establishment (not just a compilation) of the habitat types reference lists. As it was explained before, the EUNIS habitat classification used for the Emerald Network is not directly applicable to Natura 2000. Therefore, reference lists of habitat types from Annex II of the Habitats Directive occurring on Moldovan territory (divided up according to biogeographical regions) have to be prepared, based on both desktop study and field research.

Based on the official “crosswalk” document of the Bern Convention, the current 38 Emerald habitat types identified in Moldova may correspond with up to 39 Natura 2000 habitat types (while two of them do not have any Natura counterpart):

38 Emerald habitat types identified in MD by now (Annex 1 of the Law 94/07)	Possible corresponding Natura 2000 habitat types (when more than one option, scientific check is needed of their presence/absence in MD)
C1.222-C1.226	3150
C1.25	3140
C1.32	3150
C1.33	3150
C1.3411	no counterpart exists
C1.3413	3150
C1.4	3160
C2.33	3260
C2.34	3260, 3270
C3.4	3110, 3130, 3260
C3.51	3130
D2.226	no counterpart exists
D4.1	7210, 7230, 7220 (occurrence of the latter unlikely in MD)
D5.2	7210
E1.11	6110, 8230
E1.2	6190, 6210, 6240, 62C0
E2.2	6510
E3.4	6440
E3.5	6410
E5.4	6430
E6.2	1310, 1340
F3.247	40C0
F9.1	3230, 3240
G1.11	3240, 91E0
G1.21	91E0
G1.22	91F0
G1.41	9030 (? Coastal HT – a mistake?)
G1.414	no counterpart exists
G1.6	9130, 9150, 91V0, 91X0
G1.7	91AA, 9180, 91I0
G1.A1	9170, 91Y0
G1.A4	9180
H1	8310
X18	62C0, 91AA, 91I0, 91U0

Scientific characteristics of Emerald habitat types need to be compared with those of Natura 2000 (using the Interpretation Manual of European Union Habitats, version EUR 28, 2013¹⁰), and a decision to be made on which habitat types from the right-hand column of the table really occur in Moldova.

However, even if this check is completed, it is not excluded that some additional Annex I Habitats Directive habitat types may occur on the Moldovan territory. This should be checked subsequently, taking into account the habitat catalogues of neighbouring countries – Romania and the Ukraine. Definitive lists of Moldovan Natura habitat types identified in each biogeographical region will become official Natura 2000 reference lists to be included into Moldovan legislation.

Once the reference lists have become ready, the work on sites according to the Habitats Directive (proposed Sites of Community Importance, pSCIs) may start: *it is strongly recommended now to direct all works towards Natura 2000* (i.e., to use Natura 2000 habitat classification, reference lists amended as described under points a) and b)), *not to continue in the Emerald exercise – as the completed Natura 2000 proposal will also meet the Bern Convention requirements.*

c) Using the results of the desktop study, analyses of Corine Landcover and any other available geospatial data and tools, but especially based on the additional field research (habitat mapping) following a unified methodology (to be developed and agreed upon), a global picture of the distribution and quality of particular habitat types of the entire Moldovan territory (albeit rough) has to be obtained. This is the main difference compared to the Emerald methodology: particular Natura 2000 sites should only be proposed after the data on each habitat type/species exists from the entire territory of the country, as only then, the binding procedure of the Habitats Directive Art. 4 and Annex III can be applied.

d) The same approach should apply to all species from the Natura 2000 Reference Lists in order to get global data on their distribution and population within the territory of Moldova.

e) Separately and independently for each species and each habitat type from the Reference Lists, a site proposal has to be made. Criteria for the sufficient representation of each species/habitat type should be developed so that the basic EU “20 : 60 rule” is respected: depending on the rarity and level of endangerment of each species/habitat type, at least 20 % of its population/total area is to be included in Natura 2000; a representation between 20 and 60 % is subject to expert scrutiny of sufficiency at the biogeographical seminar; a 60 % and higher representation is usually considered sufficient without further scrutiny; for priority habitat types/species, specific rules may apply (subject to negotiation with the EC). Current Emerald sites need to be taken into consideration, too, but the pSCI proposals should not be restricted by them if new data show a need for a different area or shape to meet the EU requirements.

f) An overlap of all of the draft sites proposed under e) above will result in the proposal of SCIs which are to be submitted to the EC prior to the accession (in the form of a so-called “National List of pSCI Sites”).

Based on the experience of previous EU enlargements of 2004-2013, it is expected that when using this approach, a much higher number of pSCIs will be proposed compared to the current number of 61 Emerald sites.

¹⁰ https://www.miteco.gob.es/content/dam/miteco/es/biodiversidad/temas/espacios-protegidos/doc_manual_intp_habitat_ue_tcm30-207191.pdf

g) Proposed sites must have a meaningful shape and a sufficient size in order to get meaningful management plans and be manageable (see Annex 3 for a cautionary example). Although there is a general rule that settlements as well as intensely farmed land should not be included into sites, it has to be applied wisely. If target habitats represent a mosaic located inside agricultural or forest land, even such surrounding lands should be included into the sites as a “buffer”. If an Emerald/Natura site overlaps with a national protected area but is smaller in size, there is no reason why not to unify its boundaries with those of that protected area.

h) As already mentioned, a legislative mechanism meeting the requirement of “SCI designation as Special Areas of Conservation” (Habitats Directive Art. 4(4)) should be developed; one possible way would be to designate a majority of the future SACs in the form of some national protected areas pursuant to Law 1538/98 (if this is amended accordingly).

i) Special Protection Areas for birds according to the Birds Directive should be established independently, as described in section 3.3.A.

C. An urgent task - site management plans

Following on from the Habitats Directive, for each SCI, site-specific conservation objectives and measures enabling their achievement have to be set (Art. 6). The Birds Directive lacks such explicit provision but from its Art. 3 it is obvious that similar steps need to be taken in order to sufficiently protect and conserve the SPAs.

Although management plans are not obligatory according to the directives, EU-wide experience has shown that they are the most apt tool for meeting these obligations, and Moldovan law has already envisaged their preparation and use for the same purpose within the Emerald Network. In 2024, official ministerial guidelines on Emerald management plan structure and content had been issued. These guidelines, however, do not fully comply with the EU Nature Directives requirements. Therefore, an update of these guidelines – which would be relatively easily manageable (changing the proposed structure, order and description) would satisfy the EU requirements.

The ultimate objective of any management plan is, however, to actively manage the site in question ensuring the long-term maintenance of the site target features. A meaningful site management plan can only be drafted if the quantity, quality and spatial distribution of site target features are known. For this purpose, Emerald site SDFs are absolutely insufficient: they represent just a summary of all site target features, without their location and data on populations of species and location and quality of habitat types. Therefore, even for the current 61 Emerald sites, the most urgent would be to research their target features in the field (to map habitat types and habitats of species, to estimate population sizes of target species, including a check of threats and pressures acting towards individual habitats and sub-populations of species). Only based on this data, the core part of any management plan – setting concrete conservation objectives and measures needed to achieve those objectives – can be drafted. Without such data, drafting any management plan would be just a waste of resources, as such a “management plan” will be a management plan *in name only*, not in its content.

Although Natura 2000 management planning is a step which may be postponed up to 6 years after accession to the EU (Habitats Directive Art. 4(4)), reports from the field has shown that many current Emerald sites are critically endangered due to a lack of any conservation management (especially steppe habitats) or due to improper management not in line with conservation requirements (some forest sites). Therefore, urgent action is needed in the current Emerald sites even without site

management plans being in place: rare habitats can deteriorate within a few years, and any restoration in the future would be enormously costly and often impossible due to the irreversible character of the changes.

For the active conservation management of both Emerald and future Natura 2000 sites, it is necessary to earmark resources, both in terms of money and people. Neither is yet available in a situation where the Emerald sites are the responsibility of the Moldsilva enterprise, and this state of affairs is unsustainable for the future. It should be reminded that regular site conservation management cannot be based just on projects funded from abroad: it has to be a mandatory activity organised and funded by the state.

4. Surveillance of conservation status and obligatory reporting

For all species and habitat types embraced by the EU Nature Directives (i.e., also for those subject to species protection only), there is an obligation to undertake regular surveillance (monitoring) of their conservation status. In 6-year-intervals set by the EC uniformly for the whole EU, Member States have to report on this conservation status of all habitat types and species to the European Environment Agency. This obligation is due, in principle, only several years after EU accession; in addition, the EC usually pardons the meeting of this obligation during the first reporting period after the accession.

The EU obligation of surveillance of conservation status differs significantly from the Bern Convention obligation bearing the same name. The EU approach is based on surveillance of conservation status of habitat types and species *regardless* of Natura sites (while Emerald monitoring and reporting is based on data from Emerald sites *only*). Therefore, in each EU MS it is necessary to develop and run its own national surveillance system.

As the surveillance of conservation status is not an urgent, pre-accession task, it is not necessary to deal with this obligation in Moldova in terms of its implementation now. Nevertheless, as this obligation requires a lot of scientific input, education, as well as financial resources, and as it can only be properly fulfilled if science-based monitoring programmes are developed for all habitat types and species, it is recommended that Moldova starts with awareness raising and in-house education on the need, content, and extent of these obligations soon. This can be done e.g. in a framework of various TAIEX events, or later, via EU-funded technical assistance projects. The audience of such events/projects should include state administration, dedicated NGOs, and biologists of various specializations.

5. Internal education and public awareness

The EU concept of Natura 2000 (as well as EU species protection) is very different from the national nature protection approaches applied in Moldova until now. The full understanding of this concept by all stakeholders – authorities, dedicated NGOs, and experts/scientists deployed for expert preparatory works - is a prerequisite for proper and meaningful implementation of the EU requirements. The current level of awareness and understanding, however, is low, as there is a lack of any practical experience, and the number of persons (both government officials, NGO members and experts) who have had an opportunity to familiarize themselves with the EU requirements in some other country is negligible. As many approaches and tools within the Emerald Network do not comply with the EU requirements, even the persons responsible for the implementation of the Emerald Network (the

number of whom is extremely low in Moldova) do not possess the knowledge needed for the proper meeting of the EU requirements. Therefore, detailed education and training (in the form of workshops, seminars, study tours abroad) focusing on the understanding of the terms and tools used in the EU is a prerequisite for the correct and meaningful planning of Moldovan nature conservation policy and its implementation.

Informing the public is no less of a task. Both Natura 2000 and specific species protection regimes might have a major impact on citizens, politicians and entrepreneurs in Moldova. Until now, such impacts have not existed yet, and e.g. awareness of the Emerald Network – which, if really implemented, would have similar impacts – remains practically unknown to the majority of people.

Although both Natura 2000 and species protection is beneficial to nature and biodiversity, it may to a certain extent restrict the activities of many people and business subjects. To avoid pointless problems, misunderstandings and even lawsuits in the near future, the general public should be duly informed on the EU obligations and their consequences from the very beginning¹¹ of preparatory works. An appropriate information policy should be developed and implemented across the whole country. Specific attention should be paid to landowners within the future Natura 2000 sites: while some of them may be directly affected by the obligation of appropriate assessment, and some of their activities may be even prohibited, the majority will not be affected at all (and many may benefit from the EU subsidies) – however, all of them deserve to be timely and truthfully informed.

¹¹ Experience from EU MS has shown that neglecting to inform the public – often for lack of time before the accession – leads to big resistance against implementation of EU nature conservation policies after the accession. Openness and transparency are therefore highly recommended.

Annexes 1-3

Annex 1: Problems arising from the conversion of the Emerald habitat classification into the Natura 2000 system

Both Emerald and Natura 2000 sites are designated for particular habitat types and species.

This is because the habitat types regard, *habitat classification of the Emerald Network* (the so-called EUNIS habitat classification), which *is completely different to the Natura 2000 habitat classification codified by Annex I of the EU Habitats Directive*. Thus, Emerald sites are identified for a set of habitat types which is not easily transferable to the set of habitat types according to Natura 2000. For some habitat types, **direct conversion between Emerald and Natura sites is impossible**. The reason is that some habitat types of the Emerald system may be assigned several different habitat types of the Natura 2000 system (although many EUNIS habitat types only correspond to a single Natura 2000 type, too).

A specific expert input is therefore necessary in each site to convert the EUNIS habitat types into Natura 2000 ones. In order to do this, one key condition has to be fulfilled: a record of original “raw data” (phytosociological data) serving as the determination of the original EUNIS habitat types within each individual ASCI must be available; without them (e.g. if only Standard Data Forms for individual Emerald sites exist – see the box below), any conversion is impossible for some habitat types, and only new field research (field habitat mapping) may provide data needed for such a conversion.

Box: Explanation of the term “raw data” for the classification of habitat types according to either the Emerald or Natura 2000 Networks
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The term “raw data” used in this paper is to be understood in the following meaning.
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The correct approach for the identification of a specific habitat type within an Emerald or Natura 2000 site should be based on data from the field habitat mapping. During that exercise, an expert (mapper) identifies “polygons” in the field (usually easily identifiable parts of the land’s surface demarcated e.g. by natural borders such as paths, tree lines, or by adjacent areas with a different land use) covered with vegetation having the same plant species composition. Based on both qualitative and quantitative data on this vegetation (methodologies of habitat identification should be familiar to mappers as a part of their phytosociological education), such a polygon is assigned a particular habitat type (see further). The sum of all polygons with the same vegetation belonging to the same habitat type results in the total area of that habitat type within the site in question. In this way, all polygons within a particular site likely to correspond to any habitat type of either an Emerald or Natura 2000 classification should be mapped, and all habitat types present in the site identified and described in the SDF.

In order to be capable of assigning the vegetation in a specific polygon a specific habitat type, the mapper has to record not only the size of the polygon (area) but, above all, the indicative and characteristic plant species of the vegetation in that polygon (including their abundance and other attributes).

There are different manuals for either Emerald or Natura assisting the mappers in selection of these indicative and characteristic species, in addition to their education in this field which is a prerequisite for mapping:

For Emerald:

<https://rm.coe.int/interpretation-manual-of-the-habitats-listed-in-resolution-no-4-1996-/168098c68c> ,

For Natura 2000:

https://www.miteco.gob.es/content/dam/miteco/es/biodiversidad/temas/espacios-prottegidos/doc_manual_intp_habitat_ue_tcm30-207191.pdf).

Once the mapper records all indicative and characteristic species within the polygon, s/he may assign the vegetation within that polygon a particular habitat type – either following the **Emerald (EUNIS) habitat classification**, or **Natura 2000 habitat classification**.

This record of all indicative and characteristic species is called “raw data” in this paper. If this raw data is available, **the mapper can easily classify the relevant habitat under one or the other classification system** (or, in principle, in any other classification system, as many countries have their own national habitat classifications). Then, naturally, s/he is also easily capable to convert the Emerald habitat type into Natura 2000 habitat type (and *vice versa*): s/he simply identifies the relevant habitat type according to one or the other interpretation manuals listed above.

However, in the Standard Data Form filled in for each Emerald or Natura 2000 site (ASCI or SCI), only the resulting habitat type names appear for each habitat type present in that site – **without description of its indicative and characteristic species**. However, as the habitat classification of both Emerald and Natura 2000 differ, they are not fully mutually compatible. **Without having available the “raw data”, any conversion between Emerald and Natura 2000 habitat classification is impossible in case that the only information is the names of habitat types as shown in particular SDF.**

Moldovan habitat data on the current 61 Emerald sites should be checked as to the presence of the raw data – not only the SDFs which are posted on the Emerald viewer. Until now, no information has been provided to confirm if this raw data exists.

Annex 2: Different criteria for the appraisal of sufficiency between the Emerald and Natura 2000 Networks

There is another problem, stemming from the different approach to proposing Emerald and N2K sites in regard to sufficiency. A methodology has been developed for the Emerald Network showing whether the current ASCI sites cover a sufficient area or population and quality of EUNIS habitat types and species listed by the resolutions of the Bern Convention. The ultimate goal is to reach a 100 % sufficiency of the coverage for each habitat type and each species. The current level of meeting this goal is expressed by the so-called sufficiency index. A general principle applies: the rarer the habitat type or species is, the more the amount of its country occurrence should be involved in Emerald in the network.

The same principle applies for the Natura 2000 Network, although the methodology of determining the sufficiency is different.

Nevertheless, because the Emerald habitat types cannot be directly converted into Natura 2000 ones, also the sufficiency requirement fulfilled for Emerald does not apply for Natura anymore.

Let’s demonstrate this in a very simplified example.

Example

There is a EUNIS habitat type (HT) called “A”. It occurs in 5 Emerald sites in the country. According to the sufficiency check during the biogeographical seminar, its representation within the Emerald Network (in 5 sites) has been considered sufficient.

Now there is a need to convert Emerald into Natura 2000.

According to the converter (official “crosswalk” document of the Bern Convention) of the Emerald HT into the Natura 2000 HT, habitat type “A” may correspond to the 3 different N2K habitat types 1, 2, or 3.

As a result, we get the following situation:

Emerald site No.	EUNIS habitat type	Natura 2000 habitat type
MD 01	A	1
MD 02	A	1
MD 03	A	3
MD 04	A	3
MD 05	A	2

While the original HT “A” was deemed sufficiently covered by Emerald, now we get 3 different Natura habitat types in the same sites – but converted into Natura HT.

The HT 1 is represented in 2 sites, HT 2 in a single site, HT 3 in two sites. We cannot be sure that HT 1, 2, and 3 will be sufficient for Natura 2000 – as there is no data available on what the total area and quality of occurrence of each of the habitat types 1, 2 and 3 are within the country.

As a result, additional research (field habitat mapping) has to be undertaken – independently of the existing 5 original Emerald sites – separately for each of the HT 1, 2 and 3 sites. At least a rough picture of their status (area, quality) across the country has to be acquired, and only after that, it can be decided which % of their occurrence should be included into the Natura 2000 Network. It is highly likely that the original 5 sites which used to be sufficient for the EHT “A” will be included in the site proposal for the N2K HT sites 1, 2 and 3, too. However, it is more than clear, that to be sufficiently covering HT 1, 2 and 3, there will need to be additional Natura 2000 sites identified regardless of the original 5 Emerald sites.

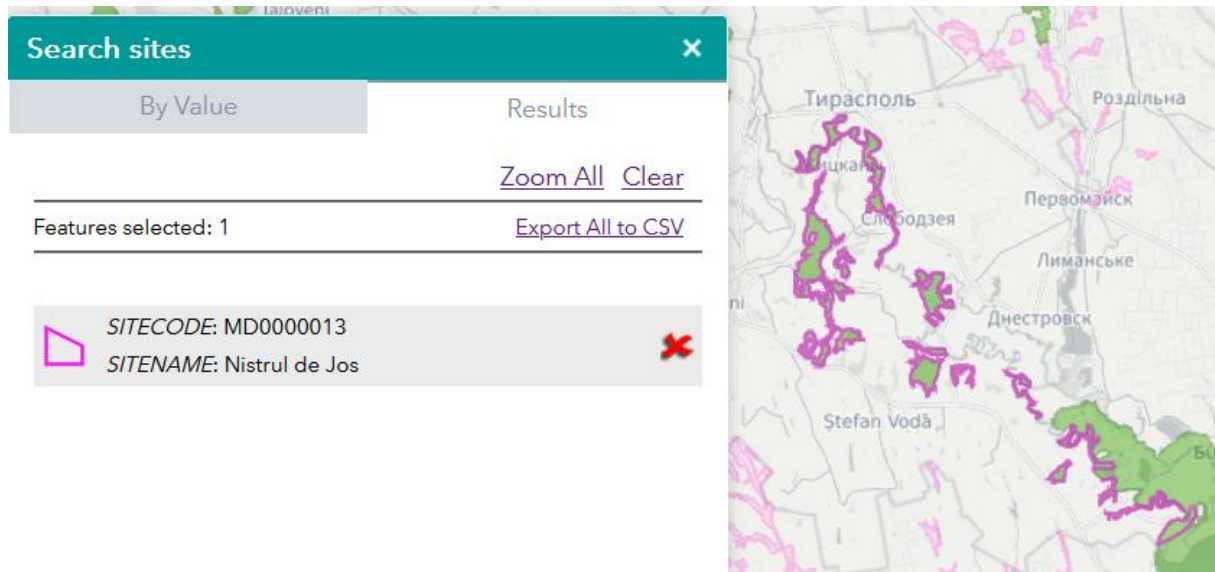
Thus, a conversion of EUNIS HT into N2K HT – even if possible and well-done by the right experts – does not tell us anything about the sufficiency of the Emerald sites for Natura 2000. Natura 2000 requires a different approach which cannot be replaced by the mere conversion of Emerald sites into Natura 2000 1 : 1.

Annex 3: Example of unmanageable Emerald sites due to their design (shape)

Emerald sites are nothing more than a kind of nature protected area. Any protected area should be manageable in terms of conservation interventions and long-term measures assuring long-term maintenance of habitat types and species for which the area is designated. To be manageable, the sites must be *recognisable* in the field.

Some of the current 61 Emerald sites do not meet this prerequisite, and it is obvious that **they cannot be considered in the future due to their design (shape).**

Probably the most striking example may be the site "Lower Dniester" (Emerald code: MD0000013) which consists of 13 self-standing sub-sites separated from each other. They can never be recognised in the field, cannot be marked, and as a result, they cannot be managed according to nature conservation requirements. In addition, the SDF for this site is a "summary SDF" which provides a description of all habitat types and sites within this "site" for all 13 sub-sites together, not allowing to identify which habitats and/or species occur in which separate sub-site.



Therefore, when starting with preparing future Natura 2000 sites, all current Emerald sites should be revisited and wherever necessary, a new shape to be proposed to make them recognisable and manageable.