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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Ad-hoc Working Group on Reporting

1st meeting
15 June 2022, 14.00 - 17.00
(*online meeting*)

**DRAFT REFERENCE LISTS FOR SPECIES AND HABITATS
FOR THE DEVELOPMENT OF THE EMERALD NETWORK**

AND

**SUGGESTIONS FOR THE CREATION OF THE CHECKLIST
FOR SPECIES AND HABITATS**

UNDER RESOLUTION No. 8 (2012)

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Background

For the development of the Emerald Network the **Reference Lists** constitute the very basic foundation of the biogeographical process for identifying the most suitable territories for ensuring the long-term survival of the features listed in the Reference List. Their aim is to list which species (Resolution No. 6 (1998)) and habitats (Resolution No. 4 (1996)) occur in which country and biogeographical region, and are subject for site-based conservation measures.

However, the Reference List is not the same as the so-called species and habitat ‘**Checklists**’ that are created for the purpose of reporting: i.e. under Article 17 of the Habitats Directive and Article 12 of Birds Directive in the EU and under Resolution No. 8 (2012) of the Bern Convention outside the EU. The essential difference is that the Reference Lists include only features with a permanent presence in a territory (i.e. so that site designation makes sense), whereas the reporting ‘checklists’ include also all features of potential conservation concern in a territory (such as vagrants, irregular visitors, etc.).

Preparing such a Reference List of features (habitats and species) of European interest occurring in a country is a first step for future work on the Emerald Network. Basic information of a Reference List is available from all countries having already established the Emerald Network and organised at least one biogeographical evaluation for each feature groups and biogeographical regions. Such Reference Lists were created after each first biogeographical evaluation and the documents have been uploaded to the webpage of each seminar on the Bern Convention website under the “Emerald Network” pull down menu: [Conclusions of the biogeographical evaluation seminars \(coe.int\)](https://www.bernconvention.org/en/evaluation-seminars)

It should be noted that what follows in this document only refers to the “Reference List”. In the absence of any decision for the next reporting round under Resolution No. 8 (2012), it is very difficult to start the work on a possible “Checklist”. Whenever decisions are taken, the “new” Checklist for the purposes of reporting will benefit from the existing Emerald Network Reference Lists and build further on them to create the checklists for the reporting under Resolution No. 8 (2012) according to the decisions taken.

For the preparation of this document and to finalise the Reference Lists, all the data from all biogeographical seminars were analysed to create “consolidated reference lists” for each country based on all Emerald Network biogeographical evaluations to guarantee the inclusion of possible changes concerning the reference lists in subsequent evaluation seminars.

Standard Code Lists used

Resolution No. 6 (1998) and taxonomy

Taxonomy is a living science. In case of taxonomic change, the general principle is that any species derived from a listed species at the time of the adoption of Resolution No. 6 (1998) is a valid species at present. The most recent species list for Resolution No. 6 (1998) can be found on the webpage of the EEA under: [Document - Revised Annex I of Resolution No. 6 \(1998\) of the Bern Convention listing the species requiring specific habitat conservation measures \(year of revision 2011\) \(europa.eu\)](https://www.eea.europa.eu/en/evaluation-seminars)

A complete revision including the species codes and the relationships between the revised taxonomy name and the originally listed name is under development by the ETC/BD of the European Environment Agency and will be announced quite soon on the Emerald Network Reference Portal.

A similar revised species code list for Natura 2000 is already available on the Natura 2000 Reference Portal (version approved by the Habitats Committee in December 2021 and can be found at [Habitats_Directive_species_20220125.xls \(live.com\)](https://natura2000.eea.europa.eu/Habitats_Directive_species_20220125.xls))

For the Birds Directive, the species code list can be found at [Birds_Directive_species_20220125.xls \(live.com\)](https://birds2000.eea.europa.eu/Birds_Directive_species_20220125.xls)

As the draft Reference Lists are entirely based on the existing Emerald Network sufficiency evaluation data, there might still be scientific species names present which do not fulfil the latest taxonomic terminology.

Countries will be stimulated to follow this revised species list when transmitting new Emerald Network Databases.

Resolution No. 4 (1996) habitats

The most recent Annex I of Resolution No. 4 (1998) was adopted by the Standing Committee meeting in 2019. Since 2010 the code list refers to the EUNIS habitat classification. The original annex from 1996 used the Palaearctic habitat classification system. Unfortunately, for some countries the Emerald Network database was never updated to the EUNIS codes. Those remaining Palaearctic codes are not added to the present work on the Reference Lists. Countries facing this problem will need to do some extra work in order to transfer their habitats codes from the Palaearctic to the EUNIS classification. A crosswalk from Palaearctic to EUNIS exists and can be downloaded from the Emerald Network Reference portal: [EMERALD EUNIS table \(coe.int\)](https://www.coe.int/en/web/bern-convention/conclusions-of-the-biogeographical-seminars).

For countries in the accession process or candidate to the accession to the EU, a draft crosswalk between the EUNIS codes and Annex I codes of the habitats already exists but it is further developed under an IPA II project for the West-Balkan countries lead by the European Environment Agency (EEA) (see paragraph on the project below).




The draft Reference List

In the late 1990's, when the Natura 2000 biogeographical process started, the first seminars essentially focused on determining for which species and habitats sites needed to be designated in which country/region. This was also because at that time databases included very few sites and the networks were obviously insufficient, or even no databases had been submitted. Later, with the progress in establishing the Natura 2000 network, a short "Reference List session" was organised at the beginning of biogeographical evaluations, but later this was omitted and today EU Reference Lists are directly produced from the Natura 2000 (SCI) sufficiency database. There are no bird Reference Lists in the EU, but the Art. 12 checklist exists.

In the Emerald Network process, mostly due to very busy work agendas, the Reference List seminars, or sessions within the frame of the biogeographical evaluations, have never been organised as such. The work consisted in assessing the sufficiency of proposed territories, and the aspects of 'presence' were discussed among other things within the general process. Yet the Reference Lists were still created at the end of each evaluation, and the data were aggregated in a "consolidated conclusions database" which also included the tools to create the Reference Lists.

Unlike for the Natura 2000 network, the Emerald Network Reference Lists have not been published together in a systematic way, i.e. to assemble all countries representing the same biogeographical region, but only as a part of conclusions done in each of biogeographical evaluations organised (<https://www.coe.int/en/web/bern-convention/conclusions-of-the-biogeographical-seminars>).

The example below represents an extract of such a Reference List after the biogeographical evaluation for the Caucasus in 2015.

 Plants Reference List  									
Code	Species Name	AM ALP	AM ANA	AZ ALP	AZ ANA	AZ STE	GE ALP	GE BLS	GE STE
1381	<i>Dicranum viride</i>						X		
1386	<i>Buxbaumia viridis</i>						SR REF		
1389	<i>Meesia longiseta</i>	SR REF		SR REF			X		
1393	<i>Drepanocladus vernicosus</i>	SR REF		SR REF			X		X
1418	<i>Ophioglossum polyphyllum</i>			X		X	SR REF	SR REF	
1428	<i>Marsilea quadrifolia</i>					X		X	
1429	<i>Marsilea strigosa</i>					X	SR REF	SR REF	SR REF
1516	<i>Aldrovanda vesiculosa</i>							X	

The present initiative takes stock of all the data collected under the development of the Emerald Network to “officialise” the Reference Lists for each country. This draft Reference Lists will also serve as background for the discussions related to the principles for the next reporting round under Resolution No. 8 (2012).

As explained above, the basis for the draft Reference List is the consolidated sufficiency conclusions database of the Emerald Network. The public version of this database (Excel format) can be found on the Bern Convention webpage: [Conclusions of the biogeographical evaluation seminars \(coe.int\)](https://www.coe.int/t/t09/BerN/BerNConvention/Conclusions_of_the_biogeographical_evaluation_seminars_(coe.int).asp)

A draft “Reference List Database” is extracted from the consolidated conclusions database. For each feature only the last most recent conclusions of the sufficiency evaluation are selected. The sufficiency conclusions are “transformed” into a presence code as follows:

Reference List Code	Interpretation
X	The feature is present, and there should be Emerald Network sites identified
SR REF	During the biogeographical evaluation, the presence was identified as doubtful and additional research is necessary
SR	The biogeographical evaluation could not define a final conclusion for various reasons such as taxonomy, habitat definition or sufficient geographical coverage in certain regions. The comment field in the database explains the reason.
R	Species marked as an exception (in Resolution No. 6 (1998) #)
Ex	The species is considered extinct and should actually be deleted from the Reference List unless reintroduction or natural regeneration is possible
R	The species is marked with the “#”-sign in Resolution No. 6 (2012) and the country requested the exclusion of the species for the development of the Emerald Network
BCR	Bern Convention Reservation: the country made a reservation for the species at the moment of accession to the Convention. The species is excluded for the development of the Emerald Network

Over the years, during the biogeographical evaluations, a few more codes were used for particular reasons. In principle they should be replaced by the proper code in future:

Reference List Code	Interpretation
ND	During the first biogeographical evaluation for the West-Balkan countries, time was too short to be able to discuss all features. The species and habitats which were not discussed are indicated with “ND” for “Not Discussed”
MR	Marine Reserve: for species or habitats with a “Marine component” and in the absence of specific Marine biogeographical evaluations under the Emerald Network, these features are indicated with “MR”

The Reference List database has the following structure (extract for plants for West-Balkan countries):

reference - plants - AL-BA-ME-MK							
seminar	FEATURE_GROUP	FEATURE_CODE	FEATURE_NAME	country	biogeo	refconcl-draft	comment
18	P	1379	Mannia triandra	AL	ALP	SR REF	
18	P	1379	Mannia triandra	ME	ALP	X	
18	P	1379	Mannia triandra	ME	MED	SR REF	
18	P	1379	Mannia triandra	MK	ALP	X	
18	P	1381	Dicranum viride	BA	ALP	X	
18	P	1381	Dicranum viride	ME	ALP	X	
18	P	1386	Buxbaumia viridis	AL	ALP	SR REF	
18	P	1386	Buxbaumia viridis	BA	ALP	X	
18	P	1386	Buxbaumia viridis	ME	ALP	X	
18	P	1386	Buxbaumia viridis	MK	ALP	X	
18	P	1389	Meesia longiseta	BA	ALP	SR REF	
18	P	1389	Meesia longiseta	BA	CON	SR REF	
18	P	1389	Meesia longiseta	BA	MED	SR REF	
18	P	1428	Marsilea quadrifolia	AL	MED	X	
18	P	1428	Marsilea quadrifolia	BA	ALP	SR REF	
18	P	1428	Marsilea quadrifolia	BA	CON	X	
18	P	1428	Marsilea quadrifolia	BA	MED	X	
18	P	1428	Marsilea quadrifolia	ME	ALP	SR REF	

The comment field contains any useful information concerning the presence of a feature.

The structure of the database also allows to present the Reference List as a “crosstab” with countries and biogeographical regions next to each other. A blank box means there is no positive record in the Reference List database for the feature in the country and biogeographical region concerned.

FEATURE CODE	FEATURE NAME	AL-ALP	AL-MED	BA-ALP	BA-CON	BA-MED	ME-ALP	ME-MED	MK-ALP	MK-CON
1379	Mannia triandra	SR REF					X	SR REF	X	
1381	Dicranum viride			X			X			
1386	Buxbaumia viridis	SR REF		X			X		X	
1389	Meesia longiseta			SR REF	SR REF	SR REF				
1428	Marsilea quadrifolia		X	SR REF	X	X	SR REF	X	X	X
1473	Aquilegia kitaibelii			X						
1516	Aldrovanda vesiculosa	SR REF					SR REF	SR REF	X	
1604	Eryngium alpinum	SR REF		X		SR REF	X			
1617	Angelica palustris	SR REF					SR REF		X	
1630	Androsace mathildae						X			

FEATURE CODE	FEATURE NAME	AL-ALP	AL-MED	BA-ALP	BA-CON	BA-MED	ME-ALP	ME-MED	MK-ALP	MK-CON
1671	<i>Solenanthes albanicus</i>		X							
1832	<i>Caldesia parnassifolia</i>		X					SR REF		
1898	<i>Eleocharis carniolica</i>			X		X				
1902	<i>Cypripedium calceolus</i>			X			X			
2093	<i>Pulsatilla grandis</i>			X		X				
2133	<i>Astragalus physocalyx</i>									X
2292	<i>Fritillaria montana</i>			X	X	X	X	X	SR REF	
2303	<i>Narcissus angustifolius</i>	SR REF	SR REF	X		X	X	X	SR REF	
6216	<i>Hamatocaulis vernicosus</i>			X			X		X	

The draft reference database now contains data for all feature groups for 15 countries. Later this year two more countries - Iceland and Liechtenstein - will be added after their first biogeographical evaluation.

For the West-Balkan countries we should also refer to the IPA II project, managed by the EEA on “Mobilization of Emerald Network databases in the Western Balkans in preparation of biogeographical seminars”. The very first Emerald Network biogeographical evaluation was held for the West-Balkan region in 2011. Unfortunately, since then no follow-up to this event was given by any of the countries. Most likely all efforts related to EU-accession were concentrating towards Natura 2000. This new project tries to mobilise the newly collected information over the last 10 years to make it available through the Emerald Network. This is generally accepted as a good practice to prepare for Natura 2000. By the time of writing this document, it was planned to organise two “Reference List seminars” concentrating on the draft reference list dating back to 2011 and bringing in the newly collected information. The results should replace the older data and create new Reference Lists for the West-Balkan countries.

In preparation of these seminars draft Reference Lists were produced to be discussed during the seminar. The example below is an extract of the draft document for plants in Serbia based on the new information delivered by Serbia. The seminar will result in a final conclusion on the Reference Lists. The new lists will replace the lists dating back to 2011.

Code	Species Name	iso	biogeo	Draft Reference List Conclusion Comments	Draft Reference Conclusion
1381	<i>Dicranum viride</i>	RS	CON	OK, the 2011 Emerald sites database mentioned 1 site in CON region	X
1386	<i>Buxbaumia viridis</i>	RS	CON	No further comments	X
1428	<i>Marsilea quadrifolia</i>	RS	CON	"SR - Scientific reserve - not confirmed the location - in Stojanović, V., (ed.) 2018 - Plants of International Importance in the Flora of Serbia is stated "Distribution in Serbia" "...; Central Serbia - Belgrade, Srebrno jezero near Veliko Gradište"	SR
1428	<i>Marsilea quadrifolia</i>	RS	PAN	No further comments	X
1516	<i>Aldrovanda vesiculosa</i>	RS	CON	No further comments	X
1516	<i>Aldrovanda vesiculosa</i>	RS	PAN	No further comments	X
1617	<i>Angelica palustris</i>	RS	CON	The 2011 sites data base contained 1 site in the continental region and 1 site in the pannonian region. The distribution map at that time also indicated a wider range ? Ex ? SR ?	Ex
1725	<i>Lindernia procumbens</i>	RS	CON	"as <i>Lindernia palustris</i> ; CON - ? - no data available, only BioRas database 1 data record from 2014 near Negotin"	?
1725	<i>Lindernia procumbens</i>	RS	PAN	No further comments	X

Concluding remarks

Draft Reference Lists for the Emerald Network

- The Emerald Network is in need to consolidate the existing conclusions and to create a compilation of agreed Reference Lists to clearly identify the features from Resolution No. 4 (1996) and Resolution No. 6 (1998) for which sites are to be selected in the network.
- Draft Reference Lists based on the existing Emerald Network sufficiency conclusions now exist for 15 countries. After the biogeographical evaluations in Iceland and Liechtenstein the number will grow to 17.
- For Contracting Parties to the Bern Convention not having an Emerald Network, alternative ways for creating Reference Lists are to be identified. Those countries should identify the features from Resolution No. 4 (1996) and Resolution No. 6 (1998) present in their country and transmit a draft Reference List to the Secretariat in a compatible format with the Consolidated Reference List for the Emerald Network
- The Emerald Network data for UK originate from the Natura 2000 database before Brexit. The sufficiency evaluation process took place under the Natura 2000 Network and the evaluation reports have not been (yet) translated to the Emerald “standards”. The Reference List for UK will be based on the Natura 2000 evaluation process.

Checklist for species and habitats under Resolution No. 8 (2012)

- The consolidated Reference Lists for the Emerald Network are a good basis for the creation of the Checklists for Reporting under Resolution No. 8 (2012)
- Depending on the decisions of the Ad Hoc Working Group on Reporting, various options should be considered to continue the work related to Reference Lists and the possible extension to the Checklists for reporting. The following steps could be considered:
 1. For 17 countries the consolidated Reference Lists are created from the Emerald sufficiency conclusions.
 2. These Reference Lists could be considered as “the draft Checklists for the reporting under Resolution No. 8 (2012)”. The 17 countries should verify these lists by recognising the difference between Reference Lists and Reporting Checklists (see above) and suggest possible amendments.
 3. Countries without Emerald Network databases should be asked to create such checklists for the reporting from scratch in the required format (database – see above).
 4. For the UK, the Checklist for the reporting under Resolution No. 8 (2012) is built on checklists for Art. 17 and Art 12
 5. The result – the Checklist for the reporting under Resolution No. 8 (2012) - can be used as a basis for every possible decision regarding the reduction of the reporting volume in the next reporting round