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EU/CoE Joint Programme Emerald Network of Nature Protection Sites, Phase II (DCI-ENV/2012/289-173)

Quality check of the 2013 Emerald Sites database delivery by Moldova

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INTRODUCTION

The current report presents the result of the quality analysis/quality check of the Emerald database submitted by Moldova for 2013, through the EIONET Common Data Repository.

The analysis is the result of a detailed analysis performed by the three scientific and technical experts working on the project and is presented as follows: (1) analysis of the technical completeness of the database, (2) analysis of the completeness of the spatial data and (3) and an analysis of the overall scientific soundness of the database.

The information provided here should be thoroughly considered and every comment included by the experts should be carefully analysed and relevant action undertaken. In addition, it is suggested that the questions asked in Chapter 3 are used by the country for running a self-assessment/internal check of the Network proposed so far.

It should be noted that the analysis presented below is not a result of a complete feature by feature analysis, which will be the purpose of the biogeographical evaluation of the country site proposals, to be initiated in 2015.

The results of the qa/qc report will also be debated at the Emerald technical meeting organised in each of the project target countries and any eventual questions by the national Emerald team members will be clarified there.

1. DESCRIPTIVE DATA: TECHNICAL COMPLETENESS

1.1. Table BIOTOP:

Number of records:

A sites	B sites	C sites	Total
1	10	7	18

Field Name	Description	Comment
ТҮРЕ	Site type	OK
SITECODE	Site Code	ОК
DATE	Compilation Date	ОК
UPDATE	Update date	ОК
DATE_PROP	Date site proposed as eligible as ASCI	OK
DATE_CON	Date confirmed as ASCI	N/A
RESPONDENT	Respondent	ОК
MANAGER	Site Manager	ОК
SITE_NAME	Site Name	OK
AREA	Area in ha	2 sites use the decimal "." Instead of
		the decimal "," which is causing
		errors during data integration at
		European level.
		Almost all rounded area figures ? this
		should be verified against GIS data.
LENGTH	Site length in kilometres	OK

Field Name	Description	Comment
LON_EW	Longitude East/West	ОК
LAT_NS	Latitude North/South	ОК
LON_DEG	Longitude Degrees	Site 18 no coordinates given
LON_MIN	Longitude Minutes	
LON_SEC	Longitude Seconds	
LAT_DEG	Latitude Degrees	
LAT_MIN	Latitude Minutes	
LAT_SEC	Latitude Seconds	
ALT_MEAN	Altitude Mean	ОК
ALT_MIN	Altitude Minimum	ОК
ALT_MAX	Altitude Maximum	ОК
ANATOL	Biogeographic region/Anatolian	N/A
ARCTIC	Biogeographic region/Arctic	N/A
ALPINE	Biogeographic region/Alpine	N/A
ATLANTIC	Biogeographic region/Atlantic	N/A
CONTINENT	Biogeographic region/Continental	ОК
MACARONES	Biogeographic region/Macaronesian	N/A
MEDITERR	Biogeographic region/Mediterranean	N/A
BOREAL	Biogeographic region/Boreal	N/A
PANNONIC	Biogeographic region/Pannonian	N/A
PONTIC	Biogeographic region/Black Sea	N/A
STEPPIC	Biogeographic region/Steppic	ОК
QUALITY	Description Site Quality	ОК
VULNAR	Description Site Vulnerability	ОК
DESIGN	Description Site Designation	ОК
OWNER	Description Site Ownership	ОК
DOCUM	Description Site Documentation	OK
CHARACT	Description Site Character	11 sites with no description
MANAGPL	Description Site Management Plan	13 sites with no text given
PHOTOS	Aerial photographs availability	OK
MAPSINCL	Maps Included	ОК

1.2. Table AMPREP: Amphibian and Reptiles

Number of records: 39

Number of species: 6

Field Name	Description	Comment
SITECODE	Site Code	OK
ANNEX_II	Resolution 6 species Y/N	N/A
SPECNUM	Species Number	OK
SPECNAME	Species Name	ОК
RESIDENT	Resident population	OK, but only qualitative data "P"

Field Name	Description	Comment
BREEDING	Breeding population	Typing error for site nr. 12: blank space in
WINTER	Wintering population	front of "P"
STAGING	Staging population	
POPULATION	Site Assessment: Population	ОК
CONSERVE	Site Assessment: Conservation	OK
ISOLATION	Site Assessment: Isolation	ОК
GLOBAL	Site Assessment: Global	ОК

1.3. Table BIRD: Birds

Number of records: 210

Number of species: 50

Field Name	Description	Comment
SITECODE	Site Code	OK
ANNEX_II	Resolution 6 species Y/N	N/A
SPECNUM	Species Number	ОК
SPECNAME	Species Name	1 record with no name given, SPECNUM =
		A104 (Pluvialis apricaria)
RESIDENT	Resident population	OK
BREEDING	Breeding population	
WINTER	Wintering population	
STAGING	Staging population	
POPULATION	Site Assessment: Population	2 records with "D" and other criteria still
		given: sites 4, 7 and 12
CONSERVE	Site Assessment: Conservation	OK
ISOLATION	Site Assessment: Isolation	OK
GLOBAL	Site Assessment: Global	Site nr. 12, "Pelecanus crispus", no global
		assessment given

1.4. Table FISHES: Fishes

Number of records: 6

Number of species: 3

Field Name	Description	Comments
SITECODE	Site Code	ОК
ANNEX_II	Resolution 6 species Y/N	N/A
SPECNUM	Species Number	ОК
SPECNAME	Species Name	ОК
RESIDENT	Resident population	OK, but only qualitative data
BREEDING	Breeding population	
WINTER	Wintering population	
STAGING	Staging population	
POPULATION	Site Assessment: Population	ОК

CONSERVE	Site Assessment: Conservation	ОК
ISOLATION	Site Assessment: Isolation	ОК
GLOBAL	Site Assessment: Global	ОК

1.5. Table INVERT: Invertebrates

Number of records: 16

Number of species: 3

Field Name	Description	Comment
SITECODE	Site Code	ОК
ANNEX_II	Resolution 6 species Y/N	N/A
SPECNUM	Species Number	OK
SPECNAME	Species Name	OK
RESIDENT	Resident population	OK, but only qualitative data
BREEDING	Breeding population	
WINTER	Wintering population	
STAGING	Staging population	
POPULATION	Site Assessment: Population	OK
CONSERVE	Site Assessment: Conservation	
ISOLATION	Site Assessment: Isolation]
GLOBAL	Site Assessment: Global	

1.6. Table MAMMAL: Mammals

Number of records: 32

Number of species: 11

Field Name	Description	Comment
SITECODE	Site Code	OK
ANNEX_II	Resolution 6 species Y/N	N/A
SPECNUM	Species Number	OK
SPECNAME	Species Name	ОК
RESIDENT	Resident population	Only qualitative data; for mammals it should
BREEDING	Breeding population	be possible to indicate at least some
WINTER	Wintering population	quantitative information
STAGING	Staging population	
POPULATION	Site Assessment: Population	OK
CONSERVE	Site Assessment: Conservation	
ISOLATION	Site Assessment: Isolation	
GLOBAL	Site Assessment: Global	

1.7. Table PLANT: Plants

Number of records: 22 (all from resolution 6 species)

Number of species: 8

Number of species of Resolution 6: 8

Number of species in country reference database: 10 (no sites for "*Carlina onopordifolia*" and "*Thesium ebracteatum*")

Field Name	Description	Comments
SITECODE	Site Code	OK
ANNEX_II	Resolution 6 species Y/N	N/A
SPECNUM	Species Number	OK
SPECNAME	Species Name	OK
RESIDENT	Resident population	2 records with no data (site 18)
POPULATION	Site Assessment: Population	ОК
CONSERVE	Site Assessment: Conservation	OK
ISOLATION	Site Assessment: Isolation	ОК
GLOBAL	Site Assessment: Global	ОК

1.8. Table SPEC: Other important species

Number of records: 26

Field Name	Description	Comments
SITECODE	Site Code	OK
TAXGROUP	Taxonomic group	ОК
SPECNAME	Species Name	ОК
POPULATION	Site Assessment: Population	ОК
MOTIVATION	Motivation for inclusion	ОК

1.9. Table ACTVTY: Impact and human activity in and around site

Field Name	Description	Comments
SITECODE	Site Code	ОК
ACT_CODE	Activity code	ОК
IN_OUT	In site / Out site	ОК
INTENSITY	Intensity code	ОК
COVER	% cover by activity	ОК
INFLUENCE	Influence on site	ОК

1.10. Table HABIT1: Resolution 4 (1996) Habitat Types

Number of records: 55 (all correct Res. 4 habitat codes)

Number of habitats: 16

Number of habitats in country Reference Database: 19 (also habitat code in Reference data base at hierarchical level different from Res.4: A2.5515, should be A2.5, coastal habitat ?)

Field Name	Description	Comments
SITECODE	Site Code	OK
HBCDAX	Habitat Code of Resolution 4	OK
COVER	% cover by habitat	OK
REPRESENT	Site Assessment: Representativity	OK
REL_SURF	Site Assessment: Relative Surface	ОК
CONSERVE	Site Assessment: Conservation	
GLOBAL	Site Assessment: Global	

1.11. Table HABIT1A: Other important Habitat Types

No information given, but OK : table has been removed in new SDF

Field Name	Description	Comments
SITECODE	Site Code	
HBCDAX	Habitat Code	
COVER	% cover by habitat	

1.12. Table HABIT2: General Habitat Types

Field Name	Description	Comments
SITECODE	Site Code	ОК
HABCODE	General habitat code	ОК
COVER	% cover by general habitat type	ОК

1.13. Table REGCODE: Regions

Field Name	Description	Comments
SITECODE	Site Code	ОК
REC_CODE	Region Code	ОК
COVER	% cover by region	ОК

1.14. Table DESIGC: Site designation codes

Field Name	Description	Comments
SITECODE	Site Code	ОК
DESICODE	Designation Code	ОК
COVER	% cover by designation	ОК

1.15. Table DESIGR: Relation to designated sites

Field Name	Description	Comments
SITECODE	Site Code	ОК
DESICODE	Designation Code	MD00 should not be mentioned here

DES_SITE	Name of designated site	ОК
OVERLAP	Overlap type	2 records with no overlap type
OVERLAP_P	% overlap Emerald/Designated site	1 record with no %

1.16. Table CORINE: Relation to CORINE Biotopes sites

Field Name	Description	Comments
SITECODE	Site Code	N/A
CORINE	Corine Biotopes code	N/A
OVERLAP	Overlap type	N/A
OVERLAP_P	% overlap Biotope/Designated site	N/A

1.17. Table SITREL: Relation to other EMERALD Sites

Field Name	Description	Comments
SITECODE	Site Code	ОК
OTHERTYPE	Type of related EMERALD site	ОК
OTHERSITE	Site Code related EMERALD site	ОК

1.18. Table MAP: Map information

Only information given for site nr. 1 and 2

Field Name	Description	Comments
SITECODE	Site Code	
MAP_NO	Map number	
SCALE	Map Scale	
PROJECTION	Map Projection	
DETAILS	Digitized boundaries details	

1.19. Table PHOTO: Aerial photographs and slides

Field is removed in new SDF; no need to indicate information

Field	Description	Comments
Name		
SITECODE	Site Code	
TYPE	Aerial photograph or slide	
REFNUM	Aerial photo reference	
LOCATION	Photo/Slide location	
DESCRIPT	Photo/Slide description	
DATE	Photo/Slide date	
AUTHOR	Slide Author/Copyright	

1.20. Table HISTRY: History information

The information given in this table for 14 sites seems to be of high value for the general character memo field. Please check and move to other fields if considered valuable information.

Field Name	Description	Comments
SITECODE	Site Code	
KEYWORD	History keyword	
DESCRIPT	Description of change	
DATE	Change date	

1.21. Table RESP: Respondent

Field Name	Description	Comments
RESPOND	Respondent information	ОК

2. SPATIAL DATA: COMPLETENESS AND ACCORDANCE WITH DESCRIPTIVE DATA

The purpose of this check is to ensure integrity of tabular and spatial datasets and to correct possible errors before preparations for the bio-geographical seminar.

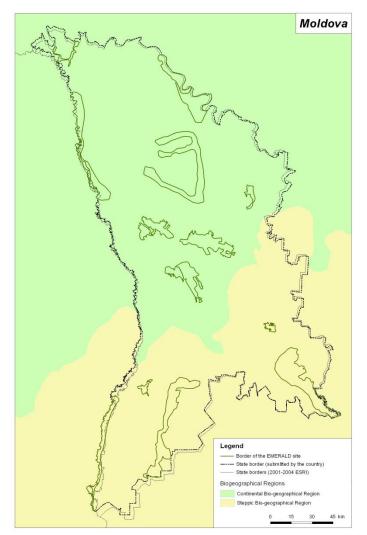
2.1. Geographical integrity (scale, projection). General observations.

Description Analysed spatial dataset: site-boundaries-MD-201401.MAP, downloaded from <u>http://cdr.eionet.europa.eu/md/coltlvaya/coltlvabg/envuqgprg</u> (Envelope of 2013). Coordinate system: unknown.

Analysed tabular database: CNTRYMD-201312.MDB, downloaded from http://cdr.eionet.europa.eu/md/coltlvaya/coltlvabg/envuqgprg (Envelope of 2013).

Number of sites in spatial data set: 18

Map: distribution of sites within country:



Remarks

1. The attribute table of the spatial data set is not filled; as a result the site codes of the sites in the spatial data set are not known.

2. The used coordinate system is not known; as a result it is not possible to project the data to the Coordinate system ETRS_1899_LAEA (used for pan-European data according to the INSPIRE Directive) correctly.

3. The spatial dataset of Emerald sites consist not only of polygons of the Emerald sites, but also of line of the state border. It makes it difficult to work with the data in other GIS programmes.

Please add the attribute data, define the used coordinate system and make a spatial data set that consists only with EMERALD sites.

2.2. Check compatibility and completeness between tabular data site-code and site-code indicated in the GIS-layers

Sitecodes not in tabular database:

The attribute table of the spatial data set is not filled. The site codes of the EMERALD sites in the spatial data set are not known; as a result it is not possible to analyze the differences in spatial and tabular databases.

Sitecode	Notes
MD0000001	The attribute table of the spatial data set is not filled. The site codes of the
MD000002	EMERALD sites in the spatial data set are not known.
MD000003	
MD000004	
MD0000005	
MD000006	
MD000007	
MD000008	
MD0000009	
MD0000010	
MD0000011	
MD0000012	
MD0000013	
MD0000014	
MD0000015	
MD0000016	
MD0000017	
MD0000018	

Sitecodes not in spatial database submitted in 2013.

Remarks

Please add the attribute data to the spatial data sets.

2.3. Are all centroids within polygons of respective sites?

Sitecodes where this is not the case

Sitecode	Longitude	Latitude	Notes
(as in the tabular data set)			
MD0000001	E28 8' 22"	N45 35' 11"	The attribute table of the spatial

MD000002	E27 25' 5"	N47 35' 5"	data set is not filled. The site
MD000003	E28 0' 0"	N47 18' 0''	codes of the EMERALD sites in
MD0000004	E28 20' 9"	N47 4' 59"	the spatial data set are not
MD0000005			known; as a result the
	E28 2' 45"	N48 17' 11"	coincidence of the tabular and
MD0000006	E26 59' 38"	N48 18' 8"	spatial data is not known.
MD000007	E28 44' 6"	N47 18' 40"	
MD000008	E28 8' 21"	N47 19' 32"	
MD0000009	E28 21' 16"	N46 16' 30"	
MD0000010	E28 21' 3"	N47 3' 49"	
MD0000011	E28 3' 54"	N46 57' 6''	
MD0000012	E28 37' 58"	N45 52' 25"	
MD0000013	E29 49' 33"	N46 34' 28"	
MD0000014	E28 3' 57"	N48 14' 78"	
MD0000015	E28 54' 52"	N47 39' 18"	
MD0000016	E28 36' 54"	N46 6' 25''	
MD0000017	E28 3' 34"	N47 50' 56"	
MD0000018	-	-	

2.4. Check tabular site surface area in comparison with polygon area and indicate most significant departures

Sitecode	Area: spatial	Area: tabular	Difference, ha	Difference, %	Notes
MD0000001	?	1691,00	?	?	The attribute table
MD000002	?	6032,00	?	?	of the spatial data
MD000003	?	5642,00	?	?	set is not filled. The
MD0000004	?	5127,00	?	?	site codes of the
MD000005	?	15553,00	?	?	EMERALD sites in
MD000006	?	4585,00	?	?	the spatial data set
MD000007	?	30000,00	?	?	are not known; as a
MD000008	?	13400,00	?	?	result it is not
MD000009	?	35000,00	?	?	possible to analyze
MD0000010	?	18500,00	?	?	the differences in
MD0000011	?	33000,00	?	?	spatial and tabular
MD0000012	?	19000,00	?	?	databases.
MD0000013	?	60000,00	?	?	
MD0000014	?	27000,00	?	?	
MD0000015	?	4900,00	?	?	
MD0000016	?	50000,00	?	?	
MD0000017	?	56000,00	?	?]
MD0000018	?	3035,00	?	?	

2.5. Site location in the bio-geographical region, according to the spatial data set.

There are no sites that are located in more than one bio-geographical region.

2.6. Are sites within the state boundaries?

As far as it can be judged from the available spatial data, all sites are located within the state's boundaries.

3. Descriptive data: scientific completeness and soundness

The aim of this check is to ensure scientific quality of the data and to minimize the need to correct/complete these issues during the preparations for bio-geographical seminars. Please correct the issues indicated below. 'OK' means that no action is required.

3.1. Problems with indication of bio-geographic regions?

No regions indicated

SITE_CODE	Description
-	OK. Regions indicated for all sites.

Multiple regions in spatial and tabular dataset:

SITE_CODE	Spatial		Tabular	
	CON	STE	CON	STE
There are no MD sites sharing two regions.				

3.2. Is habitat cover filled at least for a majority of sites? Are records logical, i.e. do not exceed 100% (for the old SDF). Are there 0% values?

Account of possible problems in 'habit1' table:

SITE_CODE	Description
-	OK. Yes, filled for all sites, no records exceeding 100% as well as no zeros. Cover assessments apparently very robust.

3.3. Are site assessments complete at least for a majority of sites, i.e. at least POPULATION for species? Are there any obvious problems with the use of categories (ABCD)?

Account of possible problems

Table	Remarks
amprep	OK. Category use reasonable. [Res. 6 species only]
bird	OK. Only one A for more than 200 records. This is unlikely for a relatively small country unless best sites are not proposed. [Res. 6 species only]
fish	OK, but all C of only 5 records altogether. [Res. 6 species only]
invert	OK, but most C and a few B of only 16 records altogether. Best sites not proposed? [Res. 6 species only]
mammal	OK, but all populations either C or D. Best sites not proposed? [Res. 6 species only]

plant	OK, but all populations C except one B. Best sites not proposed? [Res. 6
	species only]

3.4. Are there double-records for species/site?

Account of possible problems

Table	Remarks
amprep	OK, no duplicates
bird	Please delete duplicates for following records: SITECODE SPECNUM MD0000002 A060 MD0000005 A089 MD0000012 A082
fish	OK, no duplicates
invert	OK, no duplicates
mammal	OK, no duplicates
plant	OK, no duplicates

3.5. Are there double-records for habitats/site?

Account of possible problems

Table	Remarks
Habit1	OK, no duplicates

3.6. Are numeric data available for POPULATION, at least for birds and mammals?

Account of possible problems

Remarks

Some sites contain numeric data on bird populations, but with some uncertainties (see point 1.8 below).

3.7. Are there any obvious gaps in representation of all features of Resolutions 4 and 6 in the database (according to the Reference List)?

Account of possible problems

Group	Description
Habitats	Habitats in MD Reference List but not in SDFs:

	Habita	at code	MD comments		
	A2.5515		Distribution: Grounds with pasture - soils spread in the meadow of the rivers: Ialpug, Cahul, Cogalnic, Gârla Mare		
	H1.		In the Republic (r.Briceni), Rud Pohorniceni(r.O	of Moldova there are a some little coves: Ciuntu i (raionul Dondușeni), Țipova (r.Rezina), rhei). The biggest cave in Moldova is Emil Rakovitse Ilage Criva (Briceni district).	
	X18		No comments		
Non-avian	Species	s in MD	Reference List, b	ut not in SDFs:	
species				1	
	Code	Name		MD comments	
	1437	Thesiu	m ebracteatum	This species has been specified for forests of northern part of Moldova. It is necessary to do scientific researches for the purpose of revealing of a current state of this species within Moldova.	
	2011	Umbra	krameri	It is a critically endangered species (CR), on the way to vanish. It is met in the lower stream of Prut and Nistru rivers.	
	2249	Carlina	a onopordifolia	It is have been noted near the communes Raşcov (r. Camenca) but has obviously disappeared. It is necessary to conduct scientific researches for the purpose of revealing of a current state of this species within Moldova.	
Birds	Species in MD Reference List, but not in SDFs:				
	Code	Name		MD comments	
	A084	Circus	pygargus	It is a critically endangered species (CR), threatened to disappear. There is no information on species nestling on the territory of Moldova.	
	A095	Falco r	naumanni	It is a critically endangered species, the number of which is decreasing. Spreading. Up to the beginning of 70'ies it was a species that nestled rarely (1) on open landscapes of Prut and Nistru valleys. Nawadays it is met extremely rarely and only in the southern zone.	
	A132	Recurv	irostra avosetta	Actually fluctuating. The area includes steppe and semidesert zones of Eurasia and Africa. In Moldova meets the southern districts, on the lower Prut River. Wintering in Africa, except South Asia. Rare species protected in Moldova. The lack of favorable habitat for breeding species hinder development.	
	A135	Glareo	la pratincola	Rare species during autumn and spring migrations. The area includes the area between the Pyrenees and the Caspian Sea, being confined to southern Europe, northwest Africa and the Middle East. In Moldova is rarely seen during migration in the Prut river meadow and river Nstru.	

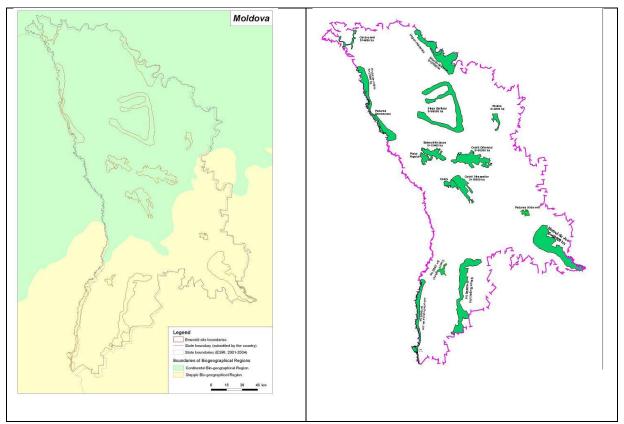
3.8. Are there unrealistic POPULATION SIZE x SITE AREA relationships or other potential problems with species status?

Account of possible problems

SITE_CODE	Species name	Description
MD0000001 MD0000012	Cygnus cygnus	Indicated 50-80i as 'RESIDENT' most likely is not true. Probably should be either 'WINTER' or 'STAGING'. Please check also other species in these sites.

3.9. Are there obvious or substantial gaps in site distribution?

The 2013 dataset submitted by the end of January did not contain spatial information in sufficient order and quality. The assessment below is based on the interpretation of MD spatial dataset by project's GIS expert.



Account of possible problems

Description

There seem to be a gap in site distribution in the North part of Continental Region and in the borderland between Continental and Steppic Region.

3.10. Are species names used correctly (obvious errors)?

Account of possible problems

Species name	Description
MD0000002	No species name for: A140 (Pluvialis apricaria)

3.11. Are species and habitat codes used correctly (obvious errors)?

Account of possible problems

Feature code	Description
-	OK. Nothing obviously wrong at this stage of evaluation.

3.12. Does each site have at least one feature of Res. 4 and/or Res.6?

Account of possible problems

SITE_CODE	Description
-	OK. Yes, all sites have at least one feature.

3.13. Other useful observations?

Account of possible problems

Description

Database has only 5 fish species records of 3 species in all MD Emerald sites. This group is clearly underrepresented! Neighbouring country Romania has 26 fish species in CON Reference List and 15 species in STE Reference List.

Please check also other systematic groups and habitats if all species occurring in MD are in the Reference Database. For example, Romania has 51 habitat in CON and 25 in STE while Moldova has indicated only 17 habitats in CON and 11 in STE. Although Natura 2000 and EUNIS habitats are not 1:1, but this difference is very large. Please check!