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 Belarus

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CONTENTS

INTRODUCTION

The current report presents the result of the quality analysis/quality check of the Emerald database submitted by Belarus 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
0	0	16	16

Field Name	Description	Comment
TYPE	Site type	OK
SITECODE	Site Code	OK
DATE	Compilation Date	OK
UPDATE	Update date	OK
DATE_PROP	Date site proposed as eligible as ASCI	OK
DATE_CON	Date confirmed as ASCI	N/A
RESPONDENT	Respondent	OK
MANAGER	Site Manager	OK
SITE_NAME	Site Name	OK
AREA	Area in ha	OK
LENGTH	Site length in kilometres	OK
LON_EW	Longitude East/West	OK
LAT_NS	Latitude North/South	OK
LON_DEG	Longitude Degrees	OK
LON_MIN	Longitude Minutes	
LON_SEC	Longitude Seconds	

Field Name	Description	Comment
LAT_DEG	Latitude Degrees	
LAT_MIN	Latitude Minutes	
LAT_SEC	Latitude Seconds	
ALT_MEAN	Altitude Mean	OK
ALT_MIN	Altitude Minimum	OK
ALT_MAX	Altitude Maximum	OK
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	OK
MACARONES	Biogeographic region/Macaronesian	N/A
MEDITERR	Biogeographic region/Mediterranean	N/A
BOREAL	Biogeographic region/Boreal	OK
PANNONIC	Biogeographic region/Pannonian	N/A
PONTIC	Biogeographic region/Black Sea	N/A
STEPPIC	Biogeographic region/Steppic	N/A
QUALITY	Description Site Quality	OK
VULNAR	Description Site Vulnerability	OK
DESIGN	Description Site Designation	OK
OWNER	Description Site Ownership	OK
DOCUM	Description Site Documentation	OK
CHARACT	Description Site Character	OK
MANAGPL	Description Site Management Plan	OK
PHOTOS	Aerial photographs availability	OK
MAPSINCL	Maps Included	OK

1.2. Table AMPREP: Amphibian and reptiles

Number of records: 31

Number of species: 3

Field Name	Description	Comment
SITECODE	Site Code	OK
ANNEX_II	Resolution 6 species Y/N	N/A
SPECNUM	Species Number	OK
SPECNAME	Species Name	OK
RESIDENT	Resident population	Use of "l" as population type: probably "i" ?
BREEDING	Breeding population	OK
WINTER	Wintering population	OK
STAGING	Staging population	OK
POPULATION	Site Assessment: Population	OK
CONSERVE	Site Assessment: Conservation	OK

Field Name	Description	Comment
ISOLATION	Site Assessment: Isolation	OK
GLOBAL	Site Assessment: Global	OK

1.3. Table BIRD: Birds

Number of records: 680

Number of species: 77

Field Name	Description	Comment
SITECODE	Site Code	OK
ANNEX_II	Resolution 6 species Y/N	N/A
SPECNUM	Species Number	OK
SPECNAME	Species Name	OK
RESIDENT	Resident population	OK
BREEDING	Breeding population	
WINTER	Wintering population	
STAGING	Staging population	
POPULATION	Site Assessment: Population	OK,
CONSERVE	Site Assessment: Conservation	4 records with "D" population with other
ISOLATION	Site Assessment: Isolation	criteria filled in (not really a problem, but
GLOBAL	Site Assessment: Global	unnecessary)

1.4. Table FISHES: Fishes

Number of records: 58

Number of species: 9

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	OK
BREEDING	Breeding population	
WINTER	Wintering population	
STAGING	Staging population	
POPULATION	Site Assessment: Population	OK
CONSERVE	Site Assessment: Conservation	OK
ISOLATION	Site Assessment: Isolation	OK
GLOBAL	Site Assessment: Global	OK

1.5. Table INVERT: Invertebrates

Number of records: 94

Number of species: 20

Field Name	Description	Comment
SITECODE	Site Code	OK
ANNEX_II	Resolution 6 species Y/N	N/A
SPECNUM	Species Number	OK
SPECNAME	Species Name	OK
RESIDENT	Resident population	OK
BREEDING	Breeding population	Use of "l" as population type: probably "i" ?
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: 68

Number of species: 10

Field Name	Description	Comment
SITECODE	Site Code	OK
ANNEX_II	Resolution 6 species Y/N	N/A
SPECNUM	Species Number	OK
SPECNAME	Species Name	OK
RESIDENT	Resident population	1 record for "Bison bonasus" with no population data
BREEDING	Breeding population	
WINTER	Wintering population	
STAGING	Staging population	
POPULATION	Site Assessment: Population	1 record for "Bison bonasus" with no criteria entered
CONSERVE	Site Assessment: Conservation	
ISOLATION	Site Assessment: Isolation	
GLOBAL	Site Assessment: Global	

1.7. Table PLANT: Plants

Number of records: 61

Number of species: 11

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	OK
POPULATION	Site Assessment: Population	OK
CONSERVE	Site Assessment: Conservation	OK
ISOLATION	Site Assessment: Isolation	OK
GLOBAL	Site Assessment: Global	OK

1.8. Table SPEC: Other important species

Number of records: 27

Field Name	Description	Comments
SITECODE	Site Code	OK
TAXGROUP	Taxonomic group	OK
SPECNAME	Species Name	The table also contains data for Res. 6 species; these records should be moved to the appropriate table for Res. 6 species
POPULATION	Site Assessment: Population	OK
MOTIVATION	Motivation for inclusion	OK

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

Number of records: 329

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

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

Number of records: 154

Number of habitats: 26

Field Name	Description	Comments
SITECODE	Site Code	OK
HBCDAX	Habitat Code of Resolution 4	OK
COVER	% cover by habitat	Decimal values should be used, especially for small percentages like 0 and 1 %
REPRESENT	Site Assessment: Representativity	OK
REL_SURF	Site Assessment: Relative Surface	OK
CONSERVE	Site Assessment: Conservation	
GLOBAL	Site Assessment: Global	

1.11. Table HABIT1A: Other important Habitat Types

No information given, but OK as this table is removed in the new SDF

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

1.12. Table HABIT2: General Habitat Types

Number of records: 136

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

1.13. Table REGCODE: Regions

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

1.14. Table DESIGC: Site designation codes

Number of records: 23

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

1.15. Table DESIGR: Relation to designated sites

Number of records: 39

Field Name	Description	Comments
SITECODE	Site Code	OK
DESICODE	Designation Code	OK
DES_SITE	Name of designated site	OK
OVERLAP	Overlap type	4 records with missing overlap type
OVERLAP_P	% overlap Emerald/Designated site	OK

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

No need to indicate relationships ?

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

1.18. Table MAP: Map information

Field Name	Description	Comments
SITECODE	Site Code	OK
MAP_NO	Map number	OK
SCALE	Map Scale	4 records with missing scale and projection
PROJECTION	Map Projection	
DETAILS	Digitized boundaries details	OK

1.19. Table PHOTO: Aerial photographs and slides

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

Field Name	Description	Comments
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

No need to indicate 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	OK

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. Check geographical integrity (scale, projection). General observations.
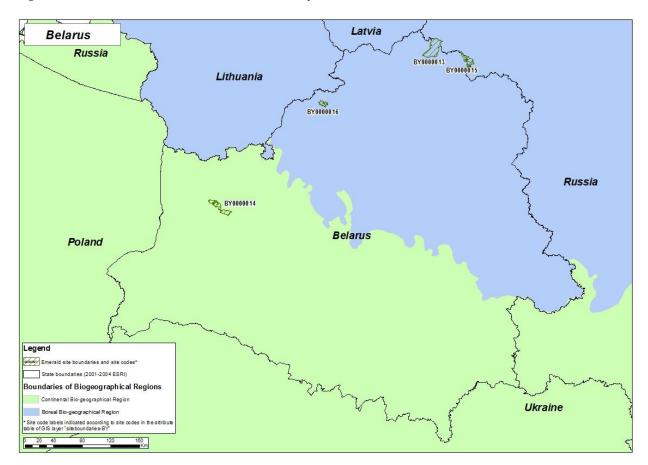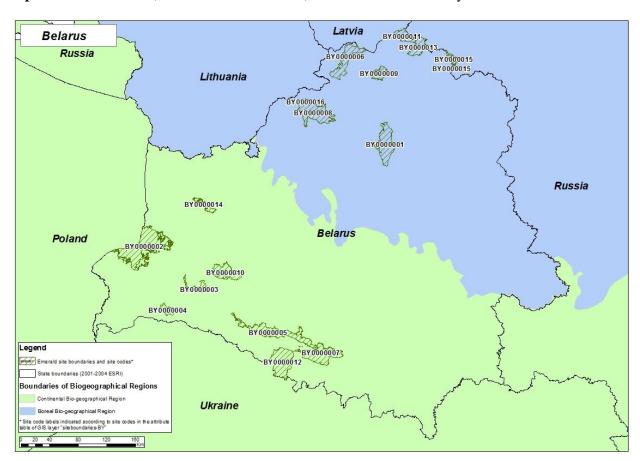
Description
Analysed spatial dataset*: • siteboundaries-BY.shp, downloaded from *http://cdr.eionet.europa.eu/by/coltlvzuq/coltlvzzq/envupijlq* (Envelope of 2013). Coordinate system: GCS_WGS_1984 • Emerald-sites2009-BY.shp, Emerald-sites2010-BY.shp, Emerald-sites2011-BY.shp, downloaded from *http://cdr.eionet.europa.eu/by/coltlvzuq/coltlvzzq/envtm9qig* (Envelope of 2011). Coordinate system: GCS_WGS_1984 Analysed tabular database: CNTRYBY.MDB, downloaded from *http://cdr.eionet.europa.eu/by/coltlvzuq/coltlvzzq/envupijlq* (Envelope of 2013).

Number of sites in spatial data set, submitted in 2013: 4

Map: distribution of sites with codes within country:

Map: distribution of sites, submitted in 2009–2013, with codes within country:

Remarks:

There is no one spatial dataset where all EMERALD sites are found. Sites that are designated in previous years are found in datasets that are submitted in 2011.

Please make one spatial data set where all EMERALD sites are found.

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

Sitecode	Notes
-	All site codes that are in spatial datasets, mentioned in 1.1, are found in the tabular database

Sitecodes not in spatial database submitted in 2013:

Sitecode	Notes
BY0000001	Located in the file Emerald-sites2009-BY
BY0000002	
BY0000003	
BY0000004	Located in the file Emerald-sites2010-BY
BY0000005	
BY0000006	
BY0000007	
BY0000008	Located in the file Emerald-sites2011-BY
BY0000009	
BY0000010	
BY0000011	
BY0000012	

Remarks:

Please make one spatial data set where all EMERALD sites are found.

2.3. Are all centroids within polygons of respective sites?

Sitecodes where this is not the case

Sitecode	Longitude	Latitude	Notes
BY0000005	E 27 00 0	N 52 15 0	Given centroide is approx. 6 km outside the site polygon border.
BY0000010	E 26 00 0	N 54 05 0	Given centroide is far away from the site polygon border.

2.4. Tabular site surface area in comparison with polygon area.

Sitecode	Area: spatial	Area: tabular	Difference, ha	Difference, %
BY0000001	86825	85199	1626	2
BY0000002	158926	152962	5964	4
BY0000003	18882	19384	-502	-3
BY0000004	16046	10460	5586	35
BY0000005	95554	90447	5107	5
BY0000006	70494	69115	1379	2
BY0000007	86701	188485	-101784	-117
BY0000008	94892	94000	892	1
BY0000009	25289	25301	-12	0
BY0000010	55664	54915	749	1
BY0000011	29432	27754	1678	6
BY0000012	93379	94219	-840	-1
BY0000013	35459	34231	1228	3
BY0000014	15503	15153	350	2
BY0000015	12634	13398	-764	-6
BY0000016	5516	5603	-87	-2

2.5. Sites location in the biogeographical region, according to the spatial datasets

This is only for your information. Please see recommendations in QAQC Chapter 3.

Sitecode	BOREAL	CONTINENTAL
BY0000001	YES	NO
BY0000002	NO	YES
BY0000003	NO	YES

BY0000004	NO	YES
BY0000005	NO	YES
BY0000006	YES	NO
BY0000007	NO	YES
BY0000008	YES	NO
BY0000009	YES	NO
BY0000010	NO	YES
BY0000011	YES	NO
BY0000012	NO	YES
BY0000013	YES	NO
BY0000014	NO	YES
BY0000015	YES	NO
BY0000016	YES	NO

2.6. Are there any obvious errors with site's location 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. All sites either BOR or CON only.

OK. Multiple regions in spatial and tabular dataset: with this delivery, there are no sites that are located in more than one bio-geographical region. All seems correct.

SITE_CODE	Spatial		Tabular	
	BOR	CON	BOR	CON
-	-	-	-	-

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
Overall	Relative surface filled for all 154 records. No exceed over 100%. Relative surface for almost all habitat records is C (except few). Does that mean that very few outstanding sites proposed?
Overall	29 records have '0' values for habitat cover. Please consider using decimals if the value is below 1.

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	D populations are 21 out of 31 records! It would be worth to discuss the concept of using D category. [Res. 6 species only]
bird	OK. A few 'D', but not in excess. [Res. 6 species only]
fish	D populations are 44 out of 51 records! It would be worth to discuss the

	concept of using D category. [Res. 6 species only]
invert	D populations are 76 out of 94 records! It would be worth to discuss the concept of using D category. [Res. 6 species only]
mammal	OK. A few 'D', but not in excess. However, a majority of other records are 'C'. [Res. 6 species only]
plant	OK. A few 'D', but not in excess. [Res. 6 species only]

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

Account of possible problems

Table	Remarks
amprep	OK, no duplicates
bird	OK, no duplicates
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 quantitative records for reptiles. Very good numeric data for birds and mammals. In most cases, min-max values provided.

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 submitted by the country)?
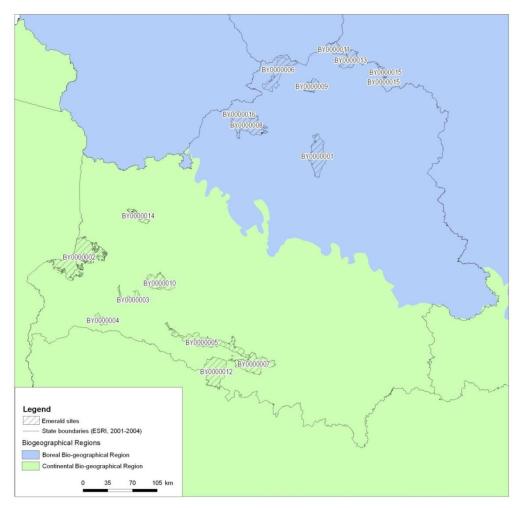
Account of possible problems

Group	Code	Description
Habitats	-	Habitats in BY Reference List, but not in SDFs: E5.415 C1.25 C1.3411 C1.44 C2.12 E1.2
Non-avian species	-	Species in BY Reference List, but not in SDFs:

Code	Name
1014	Vertigo angustior
1016	Vertigo moulinsiana
1078	Callimorpha quadripunctaria
1099	Lampetra fluviatilis
1106	Salmo salar
1419	Botrychium simplex
1617	Angelica palustris
1832	Caldesia parnassifolia
1910	Pteromys volans
1924	Oxyphorus mannerheimii
1925	Pytho kolwensis
1926	Stepanopachys linearis
1927	Stepanopachys substriatus
1962	Moerhingia latifolia
2249	Carlinaonopordifolia
2484	Eudontomizon mariae
2604	Desmana moschata
4021	Phryganophilus ruficollis
4026	Rhysodes sulcatus
4030	Colias myrmidone
4038	Lycaena helle
4039	Nymphalis vaualbum
4042	Polyommatus eroides
4056	Anisus vorticulus
4068	Adenophora litifolia
4093	Rhododendron luteum
4096	Gladiolus palustris

		4097	Iris aphylla ssp. hungarica	
Birds	-	Species in BY Reference List, but not in SDFs:		

Code	Name
A022	Ichobrychus minutus
A023	Nycticorax nycticorax
A026	Egretta garzetta
A030	Ciconia nigra
A092	Hieraetus pennatus
A121	Porzana pusilla
A132	Recurvirostra avosetta
A157	Limosa lapponica
A396	Branta ruficollis
A397	Tadorna ferruginea
A429	Dendrocopus syriacus
A511	Falco cherrug

3.8. Are there unrealistic POPULATION SIZE x SITE AREA relationships?

Account of possible problems

SITE_CODE	Species name	Description
-	-	The relationship between population sizes and area superficially checked in mammals and birds. No obvious problems in this stage of evaluation.

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

Account of possible problems

Description
Obvious gaps in site proposals in the centre and eastern part of the country, in both regions.

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

Account of possible problems

Species name	Description
-	None at this stage of evaluation

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

Account of possible problems

Feature code	Description
-	None at this stage of evaluation

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

SITE_CODE	Description
-	OK, yes.

3.13. Other observations?

Account of possible problems

Description
None.