



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 Armenia

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Introduction

The current report presents the result of the quality analysis/quality check of the Emerald database submitted by Armenia 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	2	11	13

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	Harmonize text between sites (same
		layout)
		Add name, address and email (see
		new version of SDF)
MANAGER	Site Manager	Add name, address and email (see
		new version of SDF)
SITE_NAME	Site Name	OK, but better to harmonize naming
		principles. E.g. remove "" signs for
		some site names
AREA	Area in ha	OK
LENGTH	Site length in kilometers	OK
LON_EW	Longitude East/West	OK

Field Name	Description	Comment
LAT_NS	Latitude North/South	OK
LON_DEG	Longitude Degrees	OK
LON_MIN	Longitude Minutes	OK
LON_SEC	Longitude Seconds	OK
LAT_DEG	Latitude Degrees	OK
LAT_MIN	Latitude Minutes	OK
LAT_SEC	Latitude Seconds	OK
ALT_MEAN	Altitude Mean	OK
ALT_MIN	Altitude Minimum	OK
ALT_MAX	Altitude Maximum	OK
ANATOL	Biogeographic region/Anatolian	OK
ARCTIC	Biogeographic region/Arctic	N/A
ALPINE	Biogeographic region/Alpine	OK
ATLANTIC	Biogeographic region/Atlantic	N/A
CONTINENT	Biogeographic region/Continental	N/A
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	N/A
QUALITY	Description Site Quality	OK
VULNAR	Description Site Vulnerability	OK, but note this field is removed in
		the new SDF; better to move the text
		to other related text fields to ensure
		proper transfer of data to the new
		SDF version
DESIGN	Description Site Designation	OK
OWNER	Description Site Ownership	OK but please note ownership
		categories as in new SDF
DOCUM	Description Site Documentation	5 sites with no reference to
		documentation
CHARACT	Description Site Character	8 sites with no description
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: 89 Number of species: 41

Field Name	Description	Comment
SITECODE	Site Code	OK
ANNEX_II	Resolution 6 species Y/N	N/A

Field Name	Description	Comment
SPECNUM	Species Number	OK
SPECNAME	Species Name	OK
RESIDENT	Resident population	OK, but only qualitative data
BREEDING	Breeding population	OK
WINTER	Wintering population	OK
STAGING	Staging population	OK
POPULATION	Site Assessment: Population	OK, but criteria are also filled for <u>non</u> -
		resolution species, which is unnecessary
CONSERVE	Site Assessment: Conservation	OK
ISOLATION	Site Assessment: Isolation	OK
GLOBAL	Site Assessment: Global	OK

1.3. Table BIRD: Birds

Number of records: 667 (of which 295 records for resolution species)

Number of species: 245

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	Only qualitative data; for birds, it should be
BREEDING	Breeding population	possible to indicate at least some quantitative
WINTER	Wintering population	information.
STAGING	Staging population	One record with no population: AM0000005,
		Oenanthe pleschanka
POPULATION	Site Assessment: Population	OK
CONSERVE	Site Assessment: Conservation	OK
ISOLATION	Site Assessment: Isolation	OK
GLOBAL	Site Assessment: Global	OK

1.4. Table FISHES: Fishes

Number of records: 11 (of which 6 records for resolution species)

Number of species: 7

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	Assessment also given for non-resolution

		species, which is unnecessary
CONSERVE	Site Assessment: Conservation	OK
ISOLATION	Site Assessment: Isolation	OK
GLOBAL	Site Assessment: Global	OK

1.5. Table INVERT: Invertebrates

Number of records: 18 (of which 10 records for resolution species)

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	OK
BREEDING	Breeding population	
WINTER	Wintering population	
STAGING	Staging population	
POPULATION	Site Assessment: Population	Assessment also given for non-resolution
		species, which is unnecessary
CONSERVE	Site Assessment: Conservation	
ISOLATION	Site Assessment: Isolation	
GLOBAL	Site Assessment: Global	

1.6. Table MAMMAL: Mammals

Number of records: 133 (of which 71 records for resolution species)

Number of species: 42

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	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	Assessment also given for non-resolution
CONSERVE	Site Assessment: Conservation	species, which is unnecessary
ISOLATION	Site Assessment: Isolation	One site with empty assessment record:
GLOBAL	Site Assessment: Global	AM0000006, Capra aegagrus

1.7. Table PLANT: Plants

Number of records: 14 (all from resolution 6 species)

Number of species: 8

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	No data for 4 records
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

Field Name	Description	Comments
SITECODE	Site Code	OK
TAXGROUP	Taxonomic group	OK
SPECNAME	Species Name	One duplicated Res. 6 species for
		AM0000007, Gallinago media
POPULATION	Site Assessment: Population	OK
MOTIVATION	Motivation for inclusion	OK

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

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

In the first data base delivered for 2013, the PalHab habitat codes were NOT changed to the new EUNIS habitat codes. As phase II cannot start without having transformed them in to EUNIS habitat codes, the team was asked to remediate immediately and a new habitat data base was delivered on CDR on 27 February 2014.

Number of records: 52 Number of habitats: 20

Field Name	Description	Comments
SITECODE	Site Code	OK
HBCDAX	Habitat Code of Resolution 4	2 records are still using old PalHab codes:
		15.9 and 34.9 (site AM0000005)
COVER	% cover by habitat	OK

REPRESENT	Site Assessment: Representativity	OK
REL_SURF	Site Assessment: Relative Surface	OK
CONSERVE	Site Assessment: Conservation	OK
GLOBAL	Site Assessment: Global	OK

1.11. Table HABIT1A: Other important Habitat Types

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

1.12. Table HABIT2: General Habitat Types

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

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

See 1.14

Field Name	Description	Comments
SITECODE	Site Code	OK
DESICODE	Designation Code	OK
DES_SITE	Name of designated site	OK
OVERLAP	Overlap type	Type not indicated
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 relationships indicated, but this is probably reality?

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

No information given ?

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

This field is removed in the 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

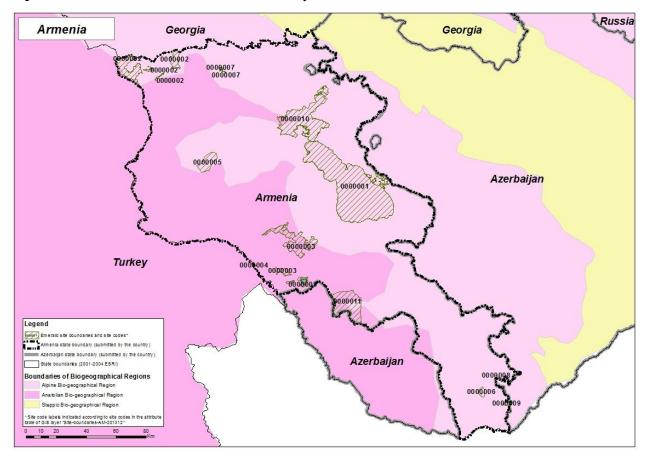
Analysed spatial dataset: Site-boundaries-AM-201312.shp, downloaded from http://cdr.eionet.europa.eu/am/coltlvzaa/coltlvzeg/envuq6dqg (Envelope of 2013). Coordinate system: WGS_1984_UTM_Zone_38N.

Analysed tabular database: CNTRYAM.MDB, downloaded from

http://cdr.eionet.europa.eu/am/coltlvzaa/coltlvzeg/envuq6dqg (Envelope of 2013).

Number of sites in spatial data set: 12

Map: distribution of sites with codes within country:



Remarks:

- 1. Sitecodes in spatial database have no country ISO codes.
- 2. Site "Erah range" (site code AM0000005 in the tabular database) is not included in the spatial database. Please add or correct the tabular database.
- 3. Several sites have different site codes in the spatial database (compared to the site codes in the tabular database). The table below represents our best guess which site name corresponds to which site code:

Sites in spatial data set		Sites in tabular database		
Site name	Site code	Site name	Site code	
-	-	Erah range	AM0000005	
Khustup	0000006	Khustup	AM000006	
Lori lakes	0000007	Lori lakes	AM000007	
Impassable brushwood	0000008	Impassable brushwood	AM0000008	
Plane grove	0000009	Plane grove	AM0000009	
Aragats alpine	0000005	Aragats alpine	AM0000010	
Dilidjan, Idjevan	0000010	Dilidjan, Idjevan	AM0000011	
Gnishik	0000011	Gnishik	AM0000012	
Ararat salt marshes	0000012	Ararat salt marshes	AM0000013	
Khosrov Forest	0000003	Khosrov Forest	AM111111	
Sevan	0000001	Sevan	AM2222222	
Khor Virap	0000004	Khor Virap	AM3333333	
Lake Arpi	0000002	Lake Arpi	AM444444	

Please ensure that site codes in spatial data set are equal to the site codes in tabular database.

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

Sitecodes not in tabular database:

Sitecode	Notes
0000001	See above possible linkage with other codes.
0000002	See above possible linkage with other codes.
0000003	See above possible linkage with other codes.
0000004	See above possible linkage with other codes.

Sitecodes not in spatial database:

Sitecode	Notes
AM0000005	See above possible linkage with other codes.
AM0000013	See above possible linkage with other codes.
AM1111111	See above possible linkage with other codes.
AM2222222	See above possible linkage with other codes.
AM3333333	See above possible linkage with other codes.
AM444444	See above possible linkage with other codes.

Remarks:

Please ensure that the number of entries and the site codes in both data sets (spatial data set and tabular data base) are equal.

2.3. Are all centroids within polygons of respective sites?

Sitecodes where this is not the case

Sitecode	Longitude	Latitude	Notes
(site codes according			
to the tabular			
database)			
AM0000005	E 44 44 7	N 39 59 19	Given coordinates are not within any polygon.
			According to the tabular database, site name
			for this site code is "Erah range". No site with
			site name "Erah range" is included in the

			spatial database.
AM0000006	E 46 21 51	N 39 6 3	Given centroid is approx. 1,7 km outside from
			the site polygon.
AM0000010	E 44 10 25	N 40 30 33	Given centroid is not within the site
			AM0000010, but within the polygon of site
			0000005 (site code as in spatial database).
AM0000011	E 44 59 39	N 40 48 8	Given centroid is not within the site
			AM0000011, but within the polygon of site
			0000010 (site code as in spatial database).
AM0000012	E 45 13 28	N 39 38 53	Given centroid is not within the site
			AM0000012, but within the polygon of site
			0000011 (site code as in spatial database).
AM0000013	E 44 42 52	N 39 50 14	No site with site code AM0000013 in the
			spatial database. Given centroid is not within
			any site polygon.
AM1111111	E 44 55 51	N 40 1 3	No site with site code AM1111111 in the
			spatial database. Given centroid is within the
			site 0000003 (site code as in spatial database).
AM2222222	E 45 20 0	N 40 23 48	No site with site code AM2222222 in the
			spatial database. Given centroid is within the
			site 0000001 (site code as in spatial database).
AM3333333	E 44 52 24	N 39 52 30	No site with site code AM3333333 in the
			spatial database. Given centroid is not within
			any site polygon.
AM444444	E 43 37 58	N 41 3 35	No site with site code AM4444444 in the
			spatial database. Given centroid is within the
			site 0000002 (site code as in spatial database).

2.4. Tabular site surface area in comparison with polygon area

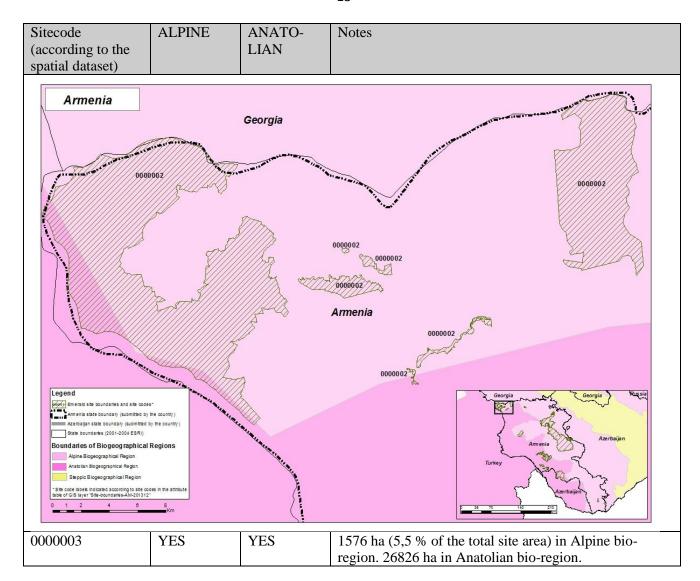
Areas compared only for sites with identical site codes and site names in tabular and spatial databases.

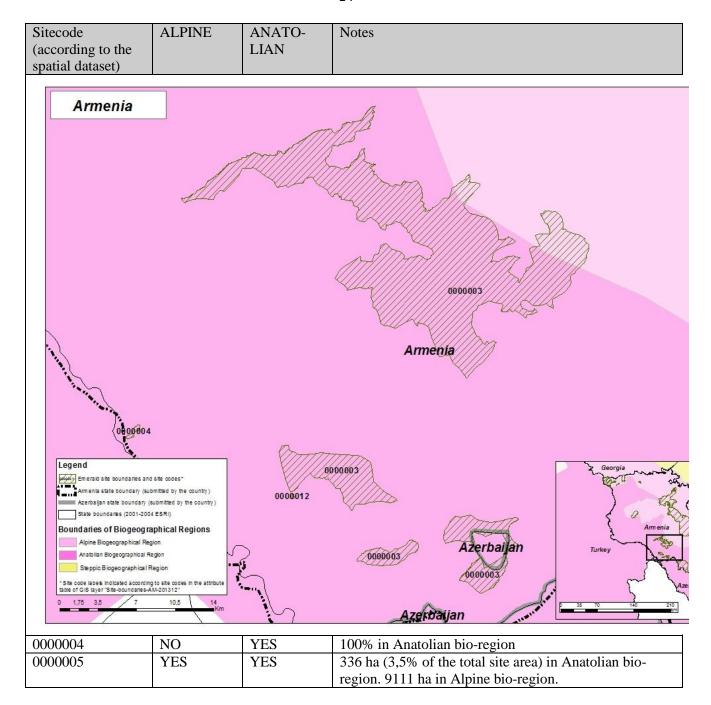
Sitecode	Area: spatial, ha	Area: tabular, ha	Difference, ha	% difference
AM0000006	2000	2000	0	0%
AM0000007	174	174	0	0%
AM0000008	5	5	0	0%
AM0000009	1221	1221	0	0%

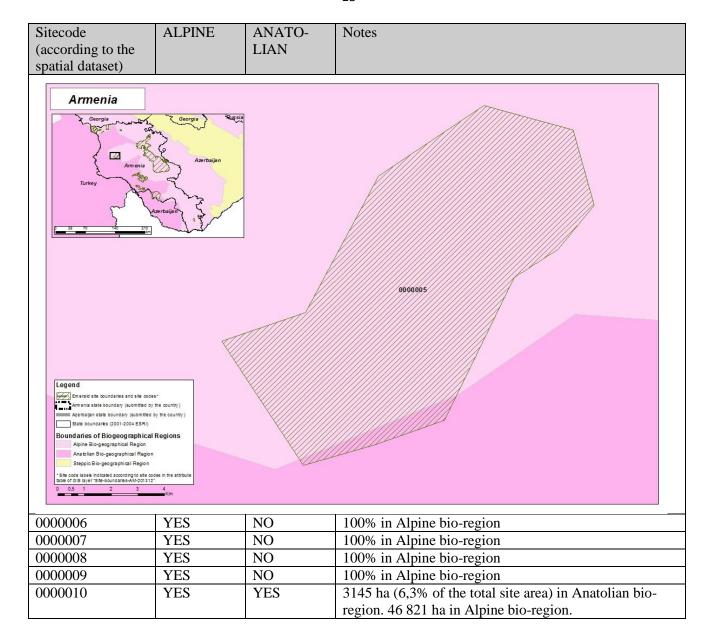
2.5. Site location in the bio-geographical region according to the spatial data set

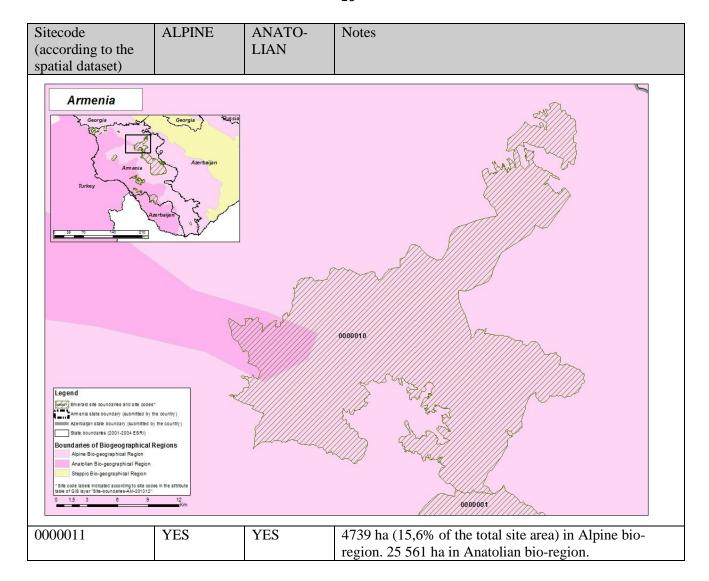
This is for your information only. Please see recommendations in QAQC Chapter 3.

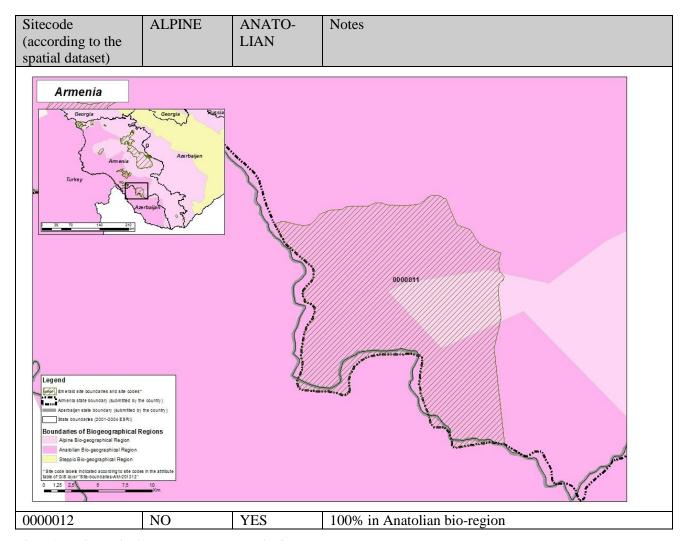
Sitecode	ALPINE	ANATO-	Notes
(according to the		LIAN	
spatial dataset)			
0000001	YES	NO	100% in Alpine bio-geographical region
0000002	YES	YES	1866 ha (8,8% of the total site area) in Anatolian bio-
			region. 19 267 ha in Alpine bio-region.











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. All indicated, but see below

Analysis covered only sites that match between spatial and tabular datasets (see spatial report): records in pink seem to be wrong; please correct according to spatial data.

SITE_CODE	Spatial		Tabular		Comments
	ALP	ANA	ALP	ANA	
AM0000006	YES	NO	Yes	No	OK
AM0000007	YES	NO	Yes	No	OK
AM0000008	YES	NO	No	Yes	Must be only ALP
AM0000009	YES	NO	No	Yes	Must be only ALP
AM0000010	YES	YES	Yes	No	Both regions
AM0000011	YES	YES	Yes	No	Both regions
AM0000012	NO	YES	No	Yes	OK

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, filled for all 52 records. None exceeds 100%. No zero values. Share within 100% seems to be reasonable. Recommendation: use also decimal values for %%, otherwise area assessments are 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. Just a general observation. Due to a small number of sites in database
	(13) the proportion of A and B assessments are higher than usual. [Also
	non-Res. 6 species]
bird	OK [Also non-Res. 6 species]
fish	OK [Res. 6 species only]
invert	OK [Res. 6 species only]
mammal	OK [Also non-Res. 6 species]
plant	OK [Res. 6 species only]

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

Account of possible problems

Table	Remarks
amprep	OK. No double records
bird	Please delete double records for:
	AM2222222 species A350
	AM333333 species A103
fish	OK. No double records
invert	OK. No double records
mammal	OK. No double records
plant	OK. No double records

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

Account of possible problems

Table	Remarks
Habit1	OK

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

Account of possible problems

Remarks

No numeric population data at all. Recommendation: please add numeric data (i.e. min-max population sizes for each site) at least for best known groups, e.g. mammals and birds where possible. This will improve the quality of sufficiency evaluation.

Particularly this is important in non-Resolution 6 bird species which reach internationally significant numbers at some ASCI sites.

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	Code	Description
Habitats	-	OK, all habitats from AM Reference Database present in at least one site.
Non-avian species	1220	Emys orbicularis. Species in AM Reference List, but no site.
	4005	Ovis orientalis ophion. Species in AM Reference List, but no site.
Birds	A035	Phoenicopterus ruber. Species in AM Reference List, but no site.
	A071	Oxyra leucocephala. Species in AM Reference List, but no site.
	A121	Porzana pusilla. Species in AM Reference List, but no site.
	A128	Tetrax tetrax. Species in AM Reference List, but no site.
	A129	Otis tarda. Species in AM Reference List, but no site.
	A140	Pluvialis apricaria. Species in AM Reference List, but no site.
	A157	Limosa lapponica. Species in AM Reference List, but no site.
	A167	Xenus cinereus. Species in AM Reference List, but no site.
	A176	Larus melanocephalus. Species in AM Reference List, but no site.
	A177	Larus minutus. Species in AM Reference List, but no site.
	A396	Branta ruficollis. Species in AM Reference List, but no site.
	A416	Chalamydotis undulata. Species in AM Reference List, but no site.
	A417	Charadrius asiaticus. Species in AM Reference List, but no site.

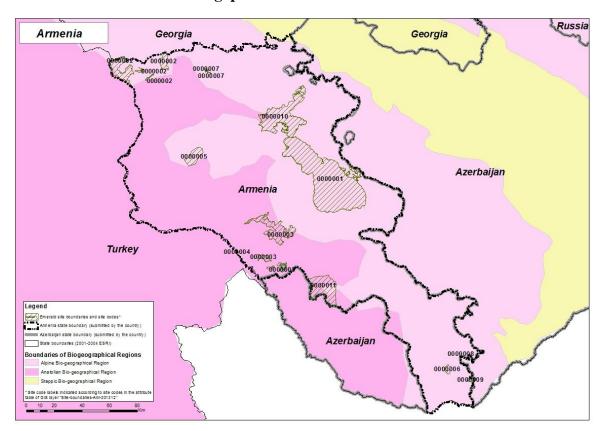
A420	Pterocles orientalis. Species in AM Reference List, but no site.
A452	Bucanetes githagineus. Species in AM Reference List, but no site.

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

Account of possible problems

SITE_CODE	Species name	Description
-	-	No remarks in absence of quantitative data.
		data.

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



Account of possible problems

Description

Without detailed feature-by-feature analysis, there seem to be gaps in the central ANA part, as well as in NE and South parts of ALP region.

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?

Account of possible problems

SITE_CODE	Description
-	OK

3.13. Other useful observations?

Account of possible problems

Description

Can it be that only 17 habitats of Res. 4 are present in AM in whole?

For comparison: in the Balkan ALP region, EU countries have over 50 habitat types of EU Habitat Directive Annex I. Although Natura 2000 habitats are not 1:1 to EUNIS, the difference is striking!

This could be a subject for discussion at the technical meeting.