CDDA version 15 (2017)

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1 Background & Introduction

The present document describes the activities and procedures for verification of the CDDA version 15 (2017).

1.1 CDDA

The Nationally designated areas inventory (CDDA) is an Eionet core data flow and holds information about protected areas and the national legislative instruments, which directly or indirectly create protected areas. The dataset contains data on individual nationally designated sites and designations in EEA member and collaborating countries.

1.2 Definition of terms

Before going into further detail on the QA/QC process of the CDDA database, please consider the following definitions of important terms and key activities of the process. These reflect the terminology used within the present report.

Table 1-1 Definition of terms

Validation / Quality control (QC)	Validation is the process by which the accuracy and consistency of products are evaluated and the associated uncertainties are quantified (Justice et al., 2000). Product *accuracy* is assessed by a comparison with independent data sources such as ground-based measurements, more detailed data or well-calibrated models. Inter-comparison with other equivalent products is also part of the validation process allowing building up a community reference product when no or not enough independent data are available. Quality control, or QC for short, is normally carried out after the end of the production and aims at providing the user with measurable / quantitative information how well the product meets the pre-defined specifications.
Verification / Quality assurance (QA)	The act of reviewing, inspecting, testing, checking, auditing, or otherwise establishing and documenting whether items, processes, services, or documents conform to specified requirements. Verification is a qualitative process in which intermediate or final results of the production process are commented and potential deviations from the specifications are highlighted. The verification will be

	performed during the course of production and is meant to increase data and production quality. Quality Assurance (QA) is a way of preventing mistakes or defects in products and avoiding problems when delivering solutions or services to customers. QA is applied to physical products in pre-production to verify what will be made meets specifications and requirements, and during manufacturing production by validating whether lot samples meet specified quality controls. QA is also applied to software to verify that features and functionality meet business objectives, and that code is relatively bug free prior to shipping or releasing new software products and versions.

The QA/QC process described in the current report is a verification process, as the output does not provide quantitative results about the database quality and is used an element of a process to correct and improve the latest integrated European database version.

2 Delivery of datasets

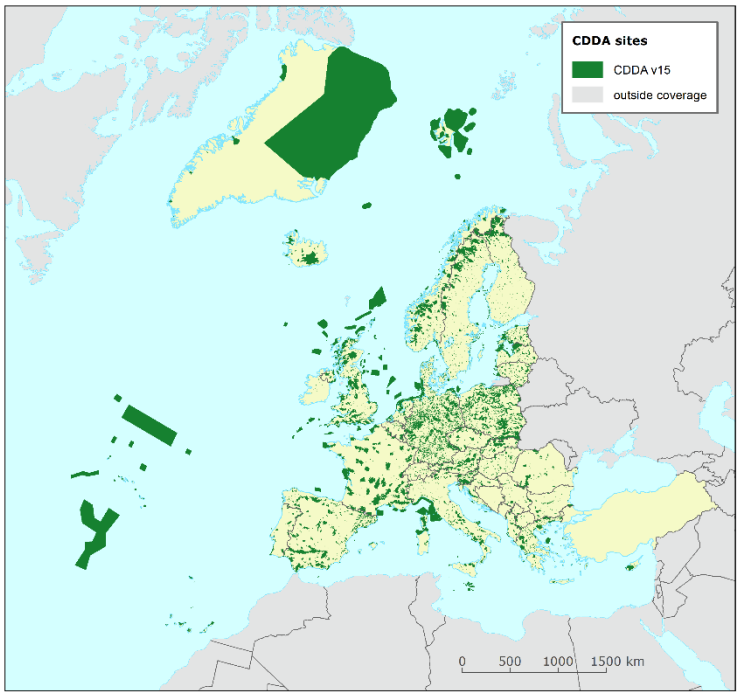
The following tabular and spatial European dataset has been uploaded to:
https://svn.eionet.europa.eu/repositories/Workdata/CDDA/cdda_ver15

2.1 The CDDA v15 delivery

The latest version of the CDDA, version 15 from 2017, covers the entire geographical area of the 33 EEA member countries and its six cooperating countries. It includes the full geographical area under the responsibility of European countries as well as other States and Territories related to key initiatives in the European region.

The resulting data covers the 39 countries as well as Greenland (Denmark) and the French Overseas Departments and Territories and Overseas Collectives (Map 2-1, French DOMs not shown).

Map 2-1 Extent of the CDDA dataset (DOM/TOMs and sites with dissemination code <> 01 are not shown here)



36 countries delivered new tabular and spatial data in 2017, which had to be included into version 15 of CDDA. The three countries BA, LI and RO did not deliver data this year.
All datasets were subjected to a series of quality assurance (QA) checks. Once the data passed these tests it was combined with data from those countries which did not submit data in 2017. For these particular countries data was extracted from the previous CDDA dataset, version 14.

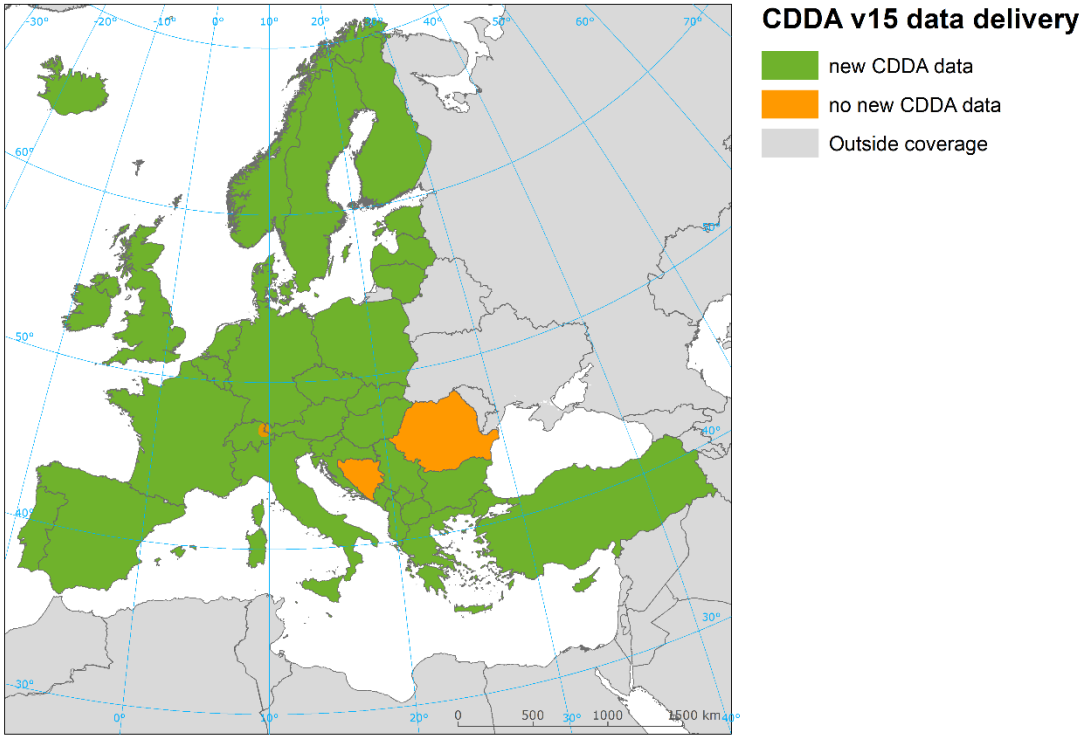
The combined and integrated dataset (i.e. 2017 CDDA, version 15) covers 39 countries, and consists of a total of **105 547** records in the tabular database and **106 200** spatial records.

Table 2-2-1 Number of tabular and spatial records in the different CDDA versions

CDDA version	tabular	Spatial
Version 2017 v_15	105 547	106 200
Version 2017 v_14	101 712	103 368
Version 2015 v_13	100 181	97 752
Version 2014 v_12	98 367	95 109

The following map presents the countries, which provided data for the CDDA version 15.

Map 2-1 Countries CDDA data delivery in 2017



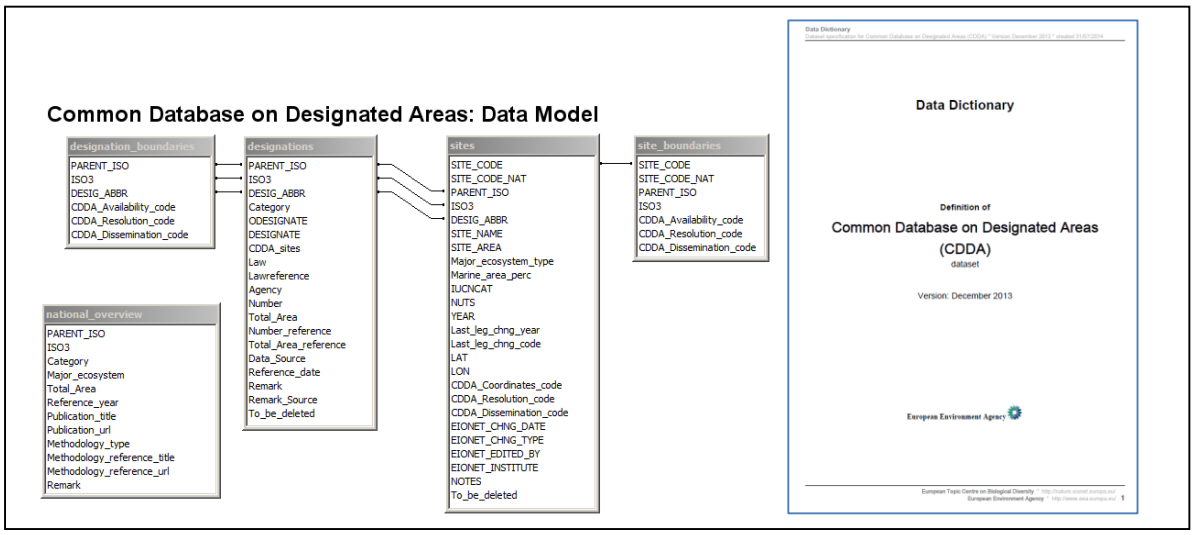
A more detailed overview is given in the following table. The cells marked with yellow show countries which did not deliver data for various reasons (e.g. no new national CDDA sites).

Table 2-2 Data deliveries and data updates for CDDA version 14 & 15, respectively (tabular & spatial)

Name	ISO - 2 digit	ISO - 3 digit	Version 14	Version 15
			2016	2017
Albania	AL	ALB	yes	yes
Austria	AT	AUT	yes	yes
Bosnia - Herzegovina	BA	BIH	no new data	no new data
Belgium	BE	BEL	yes	yes
Bulgaria	BG	BGR	yes	yes
Switzerland	CH	CHE	yes	yes
Czech Republic	CZ	CZE	yes	yes
Cyprus	CY	CYP	no new data	yes
Germany	DE	DEU	yes	yes
Denmark	DK	DNK	yes	yes
Estonia	EE	EST	yes	yes
Spain	ES	ESP	yes	yes
Finland	FI	FIN	yes	yes
France	FR	FRA	yes	yes
Greece	GR	GRC	yes	yes
Croatia	HR	HRV	yes	yes
Hungary	HU	HUN	yes	yes
Ireland	IE	IRL	yes	yes
Iceland	IS	ISL	yes	yes
Italy	IT	ITA	yes	yes
Liechtenstein	LI	LIE	no new data	no new data
Lithuania	LT	LTU	no new data	yes
Luxembourg	LU	LUX	yes	yes
Latvia	LV	LVA	yes	yes
FYROM	MK	MKD	yes	yes
Malta	MT	MLT	yes	yes
Montenegro	ME	MNE	yes	yes
Netherlands	NL	NLD	yes	yes
Norway	NO	NOR	yes	yes
Poland	PL	POL	yes	yes
Portugal	PT	PRT	yes	yes
Romania	RO	ROU	yes	no new data
Serbia	RS	SRB	yes	yes
Sweden	SE	SWE	yes	yes
Slovakia	SK	SVK	yes	yes
Slovenia	SI	SVN	yes	yes
Turkey	TR	TUR	yes	yes
United Kingdom	UK	GBR	yes	yes
Kosovo (UNSCR 1244/99)	XK	XKX	yes	yes

Tabular data:
EEA provides the different national institutes with an MS-Access CDDA template database and technical specifications via the Central data repository (CDR: http://cdr.eionet.europa.eu).

Figure 2-1 CDDA MS-Access data model & technical specification document



Using the template and the specification the countries update the table with the national CDDA information. After the national update, the database is uploaded again to the CDR.

Spatial boundary data:
The countries are also asked to update their spatial CDDA data and to upload the data to the CDR following the CDDA spatial data specifications.

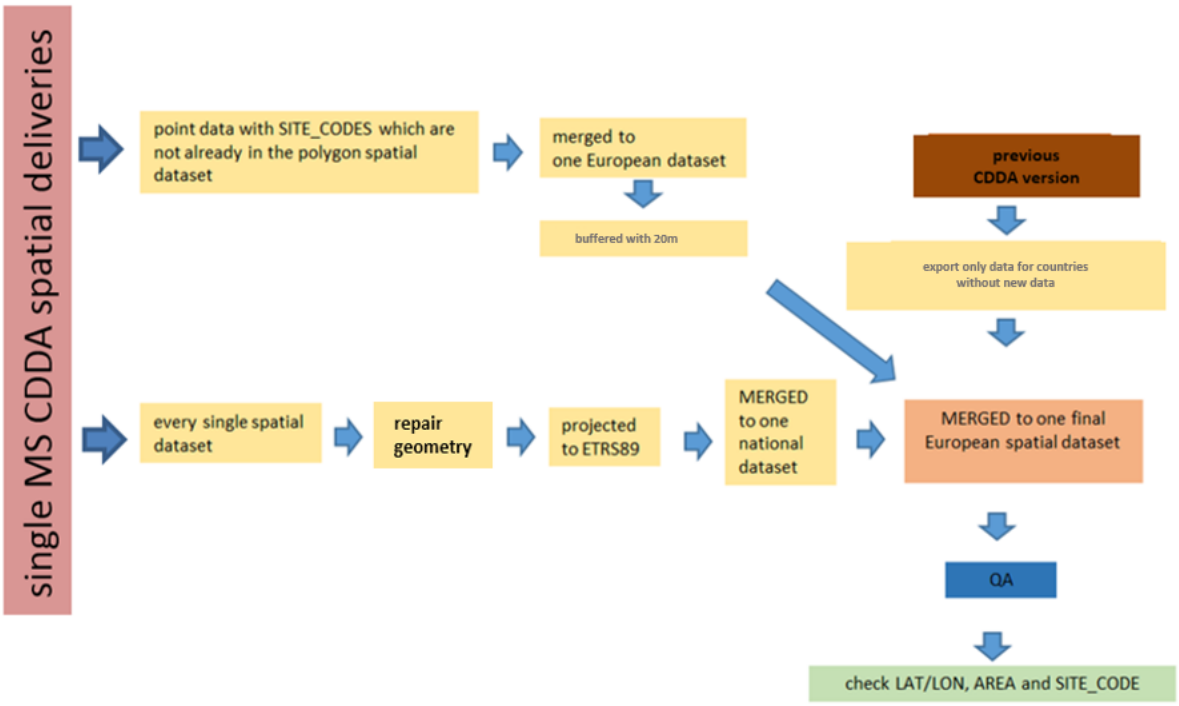
3 European CDDA dataset production

The final CDDA v15 dataset is the union of all single national tabular databases & spatial datasets.

TABULAR:
After passing quality checks without errors, the single country tables were imported to a new MS-Access database.

SPATIAL:
Once the data deliveries passed the quality check without errors, the individual national vector data files were merged to one national spatial dataset. Then all merged spatial datasets were used for the construction of the final European CDDA dataset.

Figure 3-1 Workflow spatial map production



4 Verification

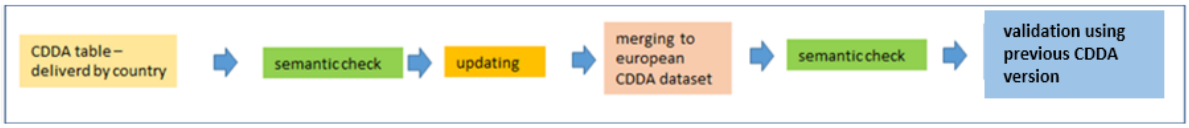
The spatial and tabular data were checked by ETC/BD at different points during the CDDA v15 production workflow. First, the single country deliveries were checked for completeness. Subsequently, different QA tests of the single deliveries were performed by EEA and ETC/BD. Once the spatial and tabular checks were complete, the single datasets were merged to one European spatial and one tabular dataset. This final CDDA dataset was checked by EEA before publication.

4.1 Verification overview

Tabular and spatial data were checked using different QA methods:

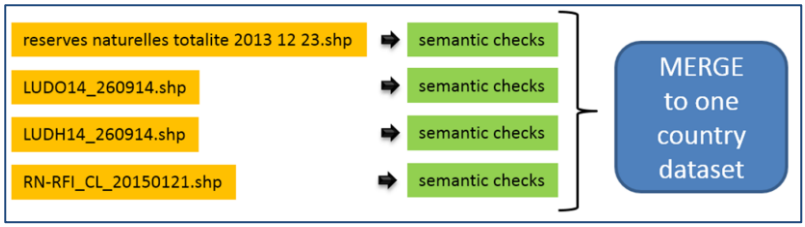
Tabular:
The countries uploaded the national CDDA v15 MS-Access versions on the CDR. An automatic QA, which is integrated in the database, performed semantic checks of the different tables. Errors were analysed and corrected. If necessary, e.g. where information was missing, the countries were requested to update the data.
After a successful quality check of the deliveries, the single tables were imported to the CDDA-v15 database template (provided by the EEA). Afterwards final QA checks were conducted using the integrated QA tool.

Figure 4-1 Tabular data verification overview



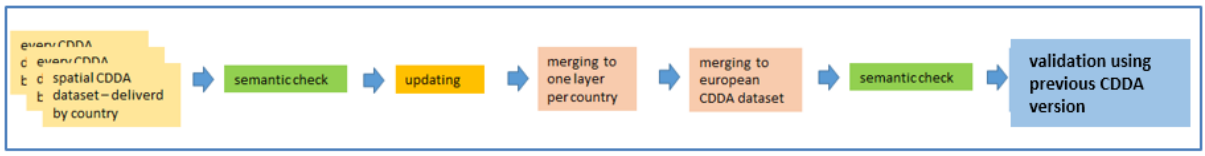
Spatial:
The countries delivered various kinds and quantities of spatial data. Some countries delivered one polygon vector file, others more than 2 different polygon and point vector files.

Figure 4-2 Example: spatial delivery by one country



Therefore, the first step of the verification was to check each spatial dataset prior to merging to one national dataset.
After the data passed the semantic check (projection, format, …) without errors, all data was merged into one European CDDA dataset in a file-geodatabase. If a country did not deliver new data, the most recent data available to the EEA was imported.
If spatial data was delivered as point dataset the points were buffered using a 20m buffer and merged with the polygon layer. With this operation, the final spatial dataset only consisted of polygon vector layers.

Figure 4-3 Spatial data verification overview



4.2 Verification steps tabular data

The verification of the tabular data was done following the specifications provided in the CDDA call (https://www.eionet.europa.eu/news/cdda2017).

The automatic QA checks following data quality indicators:

- check that all the relevant fields are filled out correctly (compare field type, name & content with the specifications)
- check for duplicates in SITE_CODE
- check that the dissemination codes in the 'sites' and 'site_boundaries' tables are the same
- if countries have officially asked for the calculation of coordinates this should be conducted by the ETC/BD.
- check that all coordinates are located in the country
- check coordinates of marine sites are located in marine regions
- check coordinates of terrestrial sites are located in terrestrial regions

Most of the checks listed above are executed by running an automatic FME (Feature Manipulation Engine – Software, using EEA common workspace) script on each of the separate national deliveries. The script loads the relevant database entries from the tabular database as well as the attributes and geometries from the spatial component to perform the checks. Within different sub-steps, information such as the number of sites, potential double-assigned site codes or the comparison between the number of tabular and spatial sites is derived and checked. The QA results for each separate country are recorded in a separate database, which contains information on all encountered inconsistencies identified during the checks.

4.3 Verification steps spatial data

In the following chapter, the verification of the spatial data will be explained.
All countries that submitted spatial data in the 2017 delivered shape files.

The spatial validation consisted of the following stages:

- Projection validation
- Geometry validation
    - Geometry must be valid - if not repair geometry.
    - Singlepart polygons with same SITE_CODE are not allowed – if this is the case: dissolve features by SITE_CODE
- Geographical and Attribute validation
    - Data must lie within the country extent (terrestrial + marine).

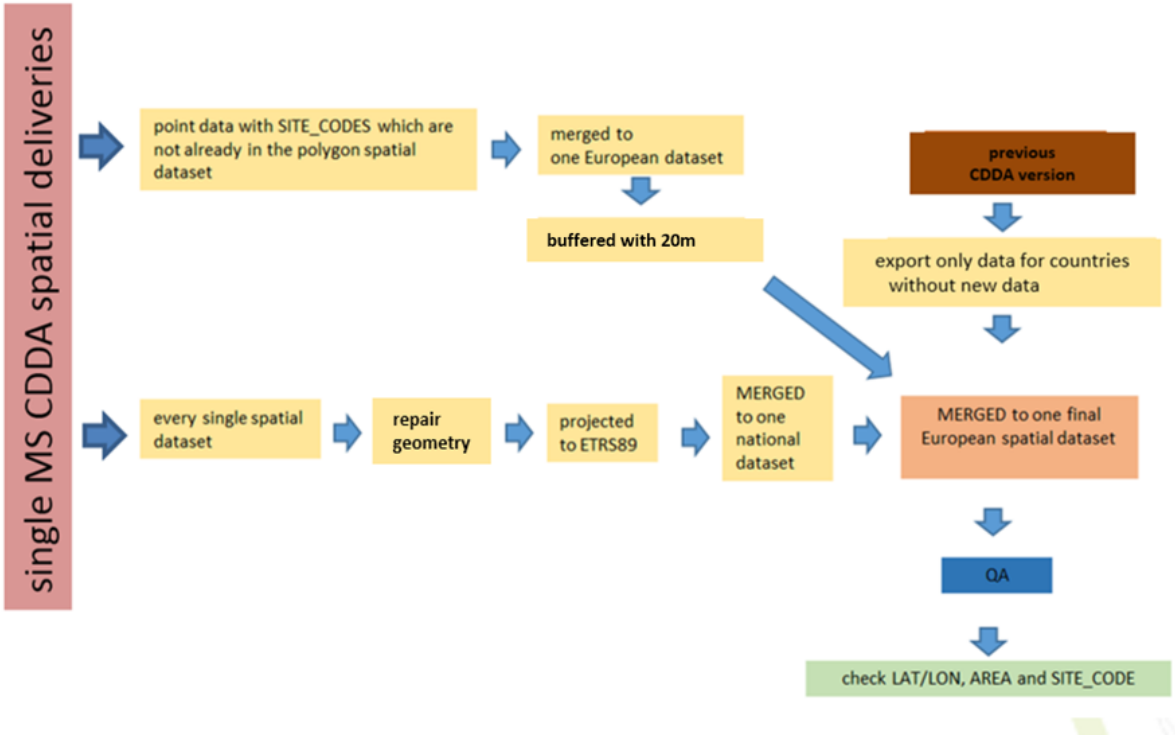
- Attribute validation, check that each feature has a SITE_CODE, if not link by another field, if not possible check site name and try to link using site name, grid coordinates, area
- Calculate coordinates for each polygon and compare them to the coordinates as supplied by country. (The coordinates of the centroid of each CDDA site in LAT/LON;WGS84)
- Comparison of the Area, area calculated using GIS and compared to that supplied by the Country.

Also for the QA of the spatial CDDA data FME scripts were used which were stored on the common workspace.

4.4 European CDDA layer production and verification

Once the spatial and tabular checks were complete, the single datasets were merged to one European spatial and one tabular dataset.
If sites are represented in form of a spatial point layer, the single points were buffered by 20m to form polygons and added to the polygon data sets. Subsequently, all single files were merged to one spatial CDDA dataset in File-Geodatabase format by ETC/BD and uploaded to the EEA SVN server. Finally, the uploaded CDDA dataset was checked by EEA before publication.

Figure 4-4 Workflow: merging single spatial datasets (point & polygons)



5 QA

In this chapter, a selection of information and results about the new CDDA dataset will be presented.

5.1 Semantic check

In the following table, a selection of comments on the single CDDA deliveries are presented.

Table 5-1 *Selection* of semantic check results and information

Country	**ISO3**	**Comment**
Albania	ALB	• one spatial site without SITE_CODE • for some marine-terrestrial sites the marine percentage is missing • 544 sites without LAT/LON information
Austria	AUT	• no comments
Bosnia - Herzegovina	BIH	• no data was uploaded
Belgium	BEL	• no "national_overview" information
Bulgaria	BGR	• no comments
Switzerland	CHE	• no comments
Cyprus	CYP	• no comments
Czech Republic	CZE	• wrong projection (EPSG:5514)
Germany	DEU	• one spatial site found which has been reported spatially but no corresponding tabular entry can be found (site_code 20664)→ based on the previous reporting the site has been identified as site 26064 - Müritz-Nationalpark; site code in spatial data has been corrected by ETC-BD • Mandatory values regarding SITES_AREA and YEAR of designation missing for multiple sites. • 62 sites found in sites table for which the coordinates are supposed to be calculated by EEA/ETC-BD (CDDA_COODINATE_CODE = 02) but no site_boundaries have been reported neither in tabular nor in spatial form; by this no coordinates can be calculated
Denmark	DNK	• Site_code_nat missing for 113 sites • Marine_area_perc missing for one site • Invalid IUCNCAT code "NA" used instead of "notApplicable", "notAssigned" or "notReported" • For 5 sites no corresponding site_boundary has been found • two sites for which the CDDA_Coordinate_code has been set to "02" the corresponding site_boundary states that the boundaries for these sites are not available (Availability_code 00 - boundaries not available)
Estonia	EST	• wrong projection • Mandatory values LAT/LON missing for 3294 sites
Spain	ESP	• no comments
Finland	FIN	• definition of YEAR is missing for 756 records • Valid codes: IUCNCAT field not filled correctly for 12119 sites (12108 sites to be maintained thereof) → value "NA" is according to the data dictionary an invalid value for the IUCN category. Presumably categories "notApplicable", "notAssigned" or "notReported" are meant by "NA" and should have been used instead.
France	FRA	• definition of YEAR is missing for 779 records • LAT/LON: coordinates for 28 are located outside the country • site_area is missing for two sites
Greece	GRC	• site_code_nat missing for all sites • marine percentage values for 29 sites incorrect: values range between 0 and 971%

Croatia	HRV	• spatial data:
		  ○ wrong attribute name: "CDDA_kod" instead of "SITE_CODE"
		  ○ wrong projection

Hungary	HUN	• For 8 sites the LAT/LON values are missing • For two sites the dissemination code is missing • IUCN category "NA" found for 64 sites. Instead notApplicable, notAssigned or notReported should be used.
Ireland	IRL	• no comments
Iceland	ISL	• no comments
Italy	ITA	• Marine_area_perc and Major_ecosystem_type: for 33 sites specified as marine via the major ecosystem type field the marine percentage value has been set to "0". By definition a site defined as marine must hold a significant part (whole area except for some small negligible parts) of marine area.

Country	ISO3	Comment
Liechtenstein	LIE	• no data was uploaded
Lithuania	LTU	• Spatial data delivered in 6 separate files instead of being combined in one file • wrong projection • "site_boundary" table contains entry for site "330642" which is flagged for deletion. Sites marked to be erased from the database should not be included in the boundaries and spatial data.
Luxembourg	LUX	• no comments
Latvia	LVA	• no comments
FYROM	MKD	• no mdb file was delivered – only .xml files • Year of designation missing for site 176334 • LAT/LON coordinates missing for 7 sites • CDDA_Coordinate_Code missing for 10 sites
Malta	MLT	• for 22 sites IUCN category "NA" found. Instead notApplicable, notAssigned or notReported should be used.
Montenegro	MNE	• for 46 sites no national site code has been defined • For 33 sites no coordinates have been reported, which furthermore cannot be calculated as the spatial data only includes 4 sites. • Additionally for 32 out of these 33 sites the coordinate code as well as the dissemination code are missing • For one site no IUCN category is reported • CDDA_Dissemination_Code missing for 32 sites
Netherlands	NLD	• wrong projection • single spatial files instead of one file • no national_overview information
Norway	NOR	• no comments
Poland	POL	• wrong projection
Portugal	PRT	• no comments
Romania	ROU	• no data was uploaded
Serbia	SRB	• three sites are only delivered as spatial site
Sweden	SWE	• wrong projection
Slovakia	SVK	• no projection assigned • for 86 sites the IUCN category has been defined to "NA". • for 41 sites no site boundaries have been described in the site_boundary table
Slovenia	SVN	• One site (site 124158) contained in spatial data which is flagged to be deleted
Turkey	TUR	• wrong projection • protected sites distributed in 14 separate files whereof only 12 sites contain any site_code information. • 274 spatial sites are delivered without SITE_CODE • 275 tabular sites reported without a SITE_CODE • no site_code_nat values • for 2404 sites the major ecosystem is missing • NUTS code missing for 2404 sites • 32 sites reported without area information • 32 site boundaries contained for which the sites are marked for deletion
United Kingdom	GBR	• Total_area per major ecosystem not reported
Kosovo (UNSCR 1244/99)	XKK	• For 34 sites the site code reported in the spatial data has been found to be incorrect

5.2 Comparison of the new CDDA with the previous version

Another output of the semantic checks is the comparison of the site count between the new spatial CDDA version and the previous version 14 from 2016.

Table 5-2 CDDA site count comparison: CDDA_v14 vs CDDA_v15 (spatial datasets)

Country	PARENT_ISO	count 2016	count 2017	Difference 2017-2016	Difference 2017-2016 [%points]	INFO
Albania	ALB	54	55	1	1.9	increase
Austria	AUT	1199	1159	-40	-3.3	decrease
Bosnia - Herzegovina	BIH	33	33	0	0.0	no changes
Belgium	BEL	1421	1465	44	3.1	increase
Bulgaria	BGR	1014	1016	2	0.2	increase
Switzerland	CHE	5890	5891	1	0.0	no changes
Czech Republic	CZE	2594	2625	31	1.2	increase
Cyprus	CYP	16	59	43	268.8	increase
Germany	DEU	17423	17540	117	0.7	increase
Denmark	DNK	1929	1929	0	0.0	no changes
Estonia	EST	11693	11786	93	0.8	increase
Spain	ESP	1783	1779	-4	-0.2	decrease
Finland	FIN	12102	12692	590	4.9	increase
France	FRA	2994	3050	56	1.9	increase
Greece	GRC	803	803	0	0.0	no changes
Croatia	HRV	408	407	-1	-0.2	decrease
Hungary	HUN	307	307	0	0.0	no changes
Ireland	IRL	309	309	0	0.0	no changes
Iceland	ISL	114	114	0	0.0	no changes
Italy	ITA	871	871	0	0.0	no changes
Liechtenstein	LIE	41	41	0	0.0	no changes
Lithuania	LTU	360	479	119	33.1	increase
Luxembourg	LUX	113	118	5	4.4	increase
Latvia	LVA	707	709	2	0.3	increase
FYROM	MKD	75	75	0	0.0	no changes
Malta	MLT	204	228	24	11.8	increase
Montenegro	MNE	4	4	0	0.0	no changes
Netherlands	NLD	251	180	-71	-28.3	decrease
Norway	NOR	2941	2962	21	0.7	increase
Poland	POL	2027	2034	7	0.3	increase
Portugal	PRT	221	225	4	1.8	increase
Romania	ROU	943	943	0	0.0	no changes
Serbia	SRB	312	321	9	2.9	increase
Sweden	SWE	14456	14849	393	2.7	increase

Slovakia	SVK	1174	1174	0	0.0	no changes
Slovenia	SVN	2046	2041	-5	-0.2	decrease
Turkey	TUR	839	3655	2816	335.6	increase
United Kingdom	GBR	9298	9387	89	1.0	increase
Kosovo (UNSCR 1244/99)	XKX	35	53	18	51.4	increase
TOTAL EEA39	**EEA39**	**99004**	**103368**	**4364**	**4.4**	**increase**

The tabular database contains more CDDA sites than the spatial dataset. In the following table, the total area in km² per country of the two CDDA versions are compared.

Table 5-3 CDDA area comparison: CDDA_v14 vs CDDA_v15 (tabular site-table)

Country	PARENT_ISO	AREA [km²] 2016	AREA [km²] 2017	Difference 2017-2016	Difference 2017-2016 [%pts]	INFO
Albania	ALB	4648	4823	175	3.8	increase
Austria	AUT	26312	26324	12	0.04	increase
Belgium	BEL	8394	8409	15	0.2	increase
BosniaHerzegovina	BIH	391	391	0	0.00	no new data
Bulgaria	BGR	15169	15167	-2	-0.02	decrease
Croatia	HRV	8064	8120	56	0.7	increase
Cyprus	CYP	3789	5156	1368	36.1	increase
Czech Republic	CZE	13690	13709	19	0.1	increase
Denmark	DNK	996448	996448	0	0.00	no changes
Estonia	EST	23811	24107	296	1.2	increase
Finland	FIN	35529	35696	167	0.5	increase
France	FRA	304694	310950	6256	2.1	increase
Germany	DEU	144209	140931	-3278	-2.3	decrease
Greece	GRC	38103	38103	0	0.00	no changes
Hungary	HUN	14194	14196	2	0.02	increase
Iceland	ISL	20089	20870	781	3.9	increase
Ireland	IRL	2006	2006	0	0.00	no changes
Italy	ITA	60227	60227	0	0.00	no changes
Kosovo	XKX	1300	1410	110	8.4	increase
Latvia	LVA	16851	16851	0	0.00	no changes
Liechtenstein	LIE	82	82	0	0.00	no new data
Lithuania	LTU	10933	11504	571	5.2	increase
Luxembourg	LUX	1520	1528	9	0.6	increase
Macedonia,	MKD	2297	2297	0	0.00	no changes
Malta	MLT	343	5022	4679	1364.8	increase
Montenegro	MNE	1314	1795	481	36.6	increase
Netherlands	NLD	12862	22013	9151	71.1	increase
Norway	NOR	182582	185835	3253	1.8	increase
Poland	POL	103837	103998	161	0.2	increase
Portugal	PRT	121990	257456	135466	111.0	increase
Romania	ROU	20328	20328	0	0.00	no new data
Serbia	SRB	5520	5568	48	0.9	increase
Slovakia	SVK	12225	12226	0	0.00	no changes
Slovenia	SVN	28104	28100	-3	-0.01	decrease
Spain	ESP	102179	102572	393	0.4	increase
Sweden	SWE	58271	58676	405	0.7	increase
Switzerland	CHE	3485	3489	4	0.1	increase

Turkey	TUR	111531	60412	-51119	-45.8	decrease
United Kingdom	GBR	173640	178568	4928	2.8	increase
TOTAL EEA39	**EEA39**	**2690962**	**2800259**	**109297**	**4.1**	**increase**

The total tabular CDDA area increased from 2 690 962 km² to 2 800 259km² between the versions 14 and 15. **That´s an increase of 109 297 km²**.

The extreme changes can be found in Cyprus (+1368km²), Malta (+4679km²), Germany (-3277km²), Portugal (+135 466km²), Turkey(-51119km²).
Malta reported large new marine CDDA sites. In Germany for some sites the area size was updated (e.g. for the site 555589395: (Mittlere Elbe) the site area was decreased from 340641ha to 39414 ha → minus 3012km²). That means the site area update is the reason for the large decrease of protected sites in Germany. Cyprus has updated also all site areas between the last delivery and the new delivery. The CDDA data from Turkey could not be fully integrated into the CDDA database because of missing important information. Portugal has reported four large marine sites which have together a size of 135466km².

5.3 Major ecosystem information

One important CDDA information is the "Major ecosystem type" - http://dd.eionet.europa.eu/dataelements/69878. For every CDDA site the major ecosystem type: marine, marine-terrestrial or terrestrial should be specified.

The following table shows the overview of delivered major ecosystem type information by country.

Table 5-1 Major ecosystem type information by country [count of sites]

Country	PARENT_ISO	no type info	Marine	Marine/terrestrial	Terrestrial
Albania	ALB	0	1	1	797
Austria	AUT	0	0	0	1159
Belgium	BEL	0	2	15	1730
Bulgaria	BGR	0	1	3	1040
Bosnia -Herzegovina	BIH	156	0	0	0
Switzerland	CHE	0	0	0	5891
Cyprus	CYP	0	2	0	57
Czech Republic	CZE	0	0	0	2625
Germany	DEU	0	6	81	17458
Denmark	DNK	0	0	6	2273
Spain	ESP	0	31	89	1659
Estonia	EST	0	27	311	11497
Finland	FIN	0	9	806	11888
France	FRA	0	31	35	2987
United Kingdom	GBR	0	109	267	9011
Greece	GRC	0	3	40	802
Croatia	HRV	0	2	20	385
Hungary	HUN	0	0	0	371
Ireland	IRL	0	3	45	261
Iceland	ISL	0	0	0	115
Italy	ITA	0	33	5	833
Liechtenstein	LIE	41	0	0	0
Lithuania	LTU	0	4	2	473
Luxembourg	LUX	0	0	0	118

Latvia	LVA	0	7	2	700
Macedonia	MKD	0	0	0	86
Malta	MLT	0	17	0	211
Montenegro	MNE	0	0	0	73
Netherlands	NLD	0	7	3	170
Norway	NOR	0	10	914	2039
Poland	POL	0	0	14	2020
Portugal	PRT	0	46	16	163
Romania	ROU	0	1	1	949
Serbia	SRB	0	0	0	369
Slovakia	SVK	0	0	0	1215
Slovenia	SVN	0	6	15	2020
Sweden	SWE	0	1	780	14248
Turkey	TUR	2404	0	5	1247
Kosovo	XKX	0	0	0	171

In the current CDDA version there are still 3 countries which did not deliver information on the major ecosystem type for all reported sites.

5.4 IUCN management category information

Another important CDDA information is the IUCN management category of the site, http://dd.eionet.europa.eu/dataelements/74678.
The following table shows the count of sites classified by their IUCN category.

Table 5-2 IUCN management categories by country [count of sites]

Country	PARENT ISO	Ia	Ib	II	III	IV	V	VI	notApplicable	notAssigned	notReported	UA	NA
Albania	ALB	2		15	749	24	5	4					
Austria	AUT			9	145	657	344	3	1				
Belgium	BEL					1026	10	303	408				
Bulgaria	BGR	55		3	350	35	11	562	28				
Bosnia - Herzegovina	BIH				2		1				153		
Switzerland	CHE	547				5296				48			
Cyprus	CYP	11		11	6	24	2	5					
Czech Republic	CZE	9	5	3	645	1929	34						
Germany	DEU			16		8249	8654			626			
Denmark	DNK	6	14	10	23	312	1617						297
Spain	ESP	13	61	97	270	180	315	48		795			
Estonia	EST	29	1240		1156	998	897	859	6656				
Finland	FIN	20	123	38	2	394	3	15					12108
France	FRA	55	1	9	13	2905	70						
United Kingdom	GBR			19	343	8633	93		43	70	186		
Greece	GRC	10		26	71	623	5	73	37				
Croatia	HRV										407		
Hungary	HUN			5	88	157	57						64
Ireland	IRL	73		6		230							
Iceland	ISL	2	2	5	45	19	29	13					
Italy	ITA	116		24	55	491	185						
Liechtenstein	LIE		9			31	1						
Lithuania	LTU	6		5		404	32	32					
Luxembourg	LUX		49	2		67							
Latvia	LVA		4	45	357	293	10						
Macedonia	MKD	2		3	67	12	1	1					
Malta	MLT	3		1	6	182	13	1					22
Montenegro	MNE	7		5	54		6			1			

Netherlands	NLD			20		160							
Norway	NOR	2212	1	46	110	271	134				189		
Poland	POL			16		1434	120			464			
Portugal	PRT	13	25	1	21	68	45	52					
Romania	ROU	45		13	206	671	16						
Serbia	SRB	7	1	3	177	34	22	2			123		
Slovakia	SVK	351	23	8	326	406	15						86
Slovenia	SVN	6	50	1	1164		43		777				
Sweden	SWE	3121	161	23	312	1292	307		7204	2609			
Turkey	TUR	1576	6	41		80	194	1650				109	
Kosovo	XKX	18	1	2	144		6						

On update in the CDDA version 15 are the changes of the IUCNCAT codelist (lutbl_IUCN_categories) which should be used in the database:

Table 5-3 IUCN codelist

IUCNCAT	Title
Ia	strict nature reserve
Ib	wilderness area
II	national park
III	national monument or feature
IV	habitat/species management area
V	protected landscape/seascape
VI	protected area with sustainable use of natural resources
notApplicable	not applicable
notAssigned	not assigned
notReported	not reported

But some countries have not updated there IUCNCAT value and still used the codes NA and UA.

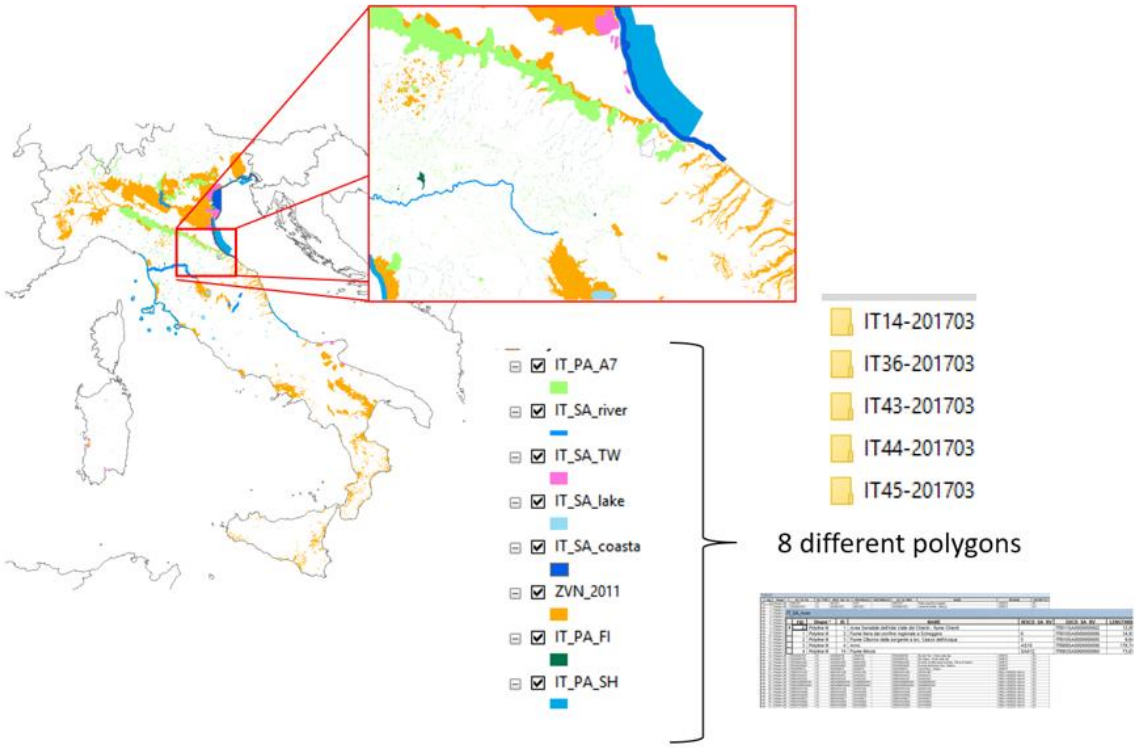
5.5 Designation boundaries

The designation boundaries concept is used for the reporting of areas protected by a designation type which does not create individual sites that can be identified by a SITE_CODE. Designation boundaries are always reported as a spatial dataset http://dd.eionet.europa.eu/tables/9117

Only Italy, Serbia and the Netherlands delivered designation boundaries.

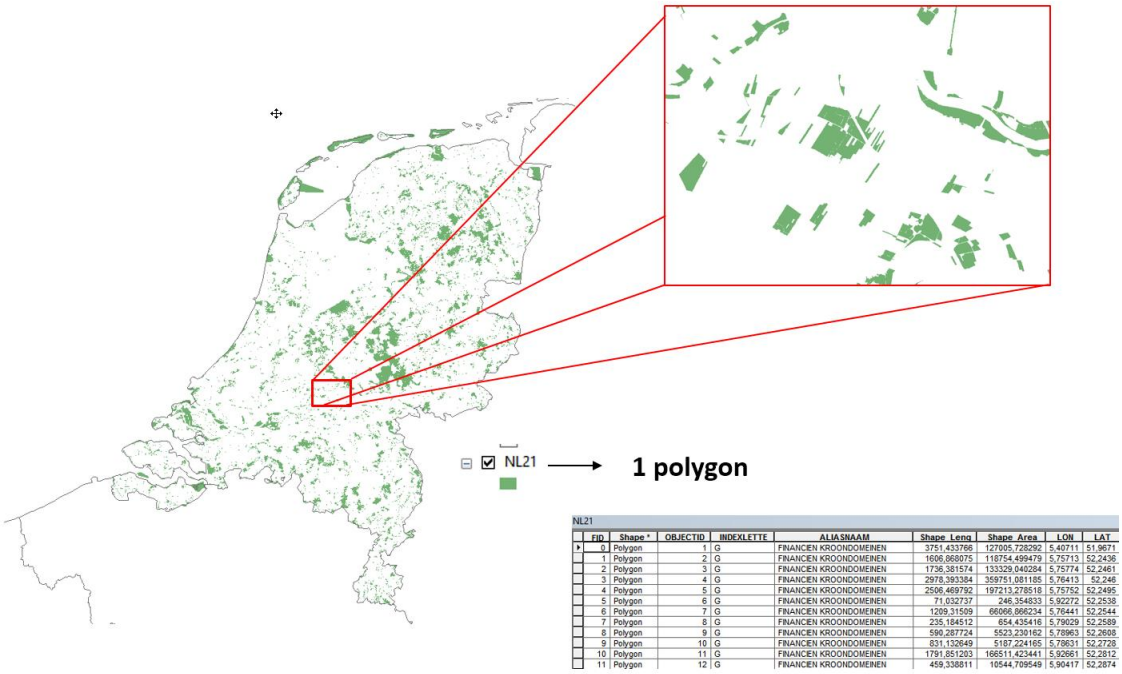
Italy delivered eight separate spatial dataset:

Figure 5-1 Spatial designation boundary delivery from Italy



The Netherlands delivered one designation boundary dataset covering the designation type NL21:

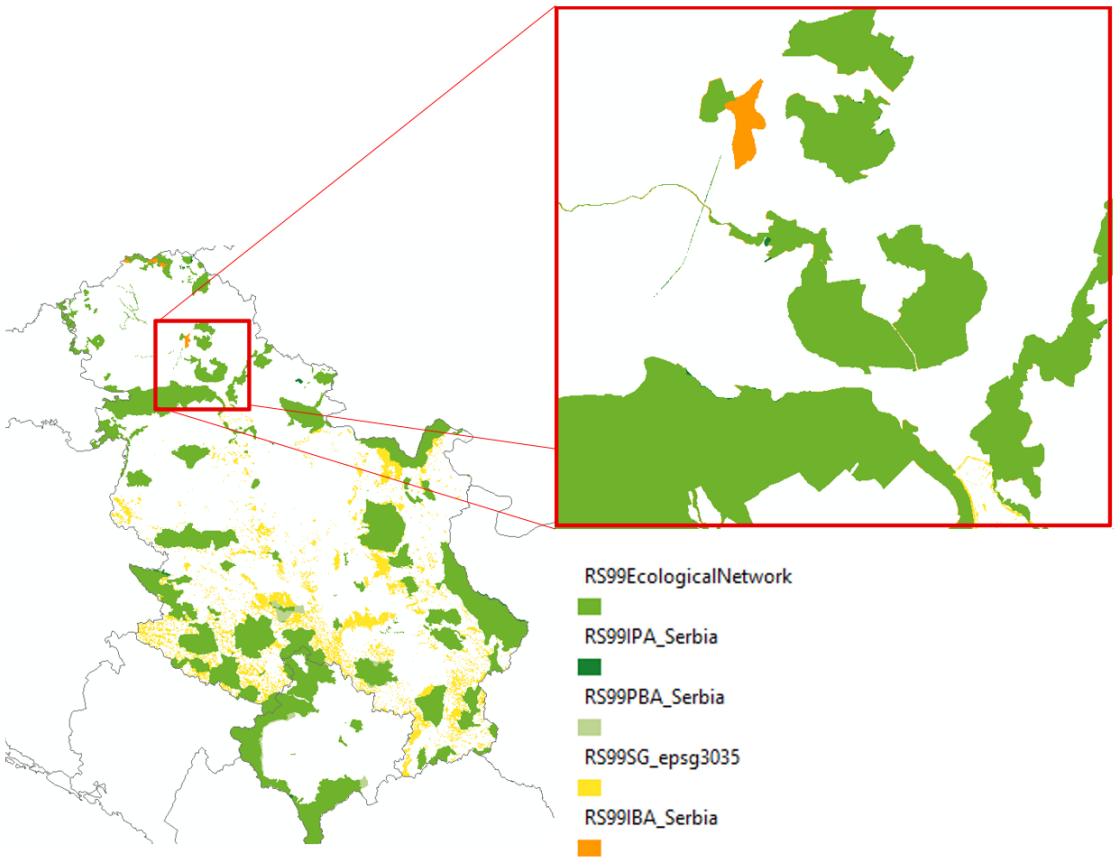
Figure 5-2 Designation boundary delivery from the Netherlands



Serbia delivered five different spatial designation boundaries files for designation type RS99:

- RS99EcologicalNetwork for category Ecological Network of Serbia
- RS99IBA_Serbia for category Important Birds Area in Serbia
- RS99IPA_Serbia for category Important Plants Area in Serbia
- RS99PBA_Serbia for category Prime Butterfly Area in Serbia
- RS99SG for category State Forests under Management Plan in Central Serbia

Figure 5-3 Designation boundary delivery from Serbia



6 Concluding remarks

While the majority of the data delivered under the CDDA reporting cycle is of a high quality, there are still some problematic issues for data processing:

- LAT/LON coordinates outside the country
- National overview in many cases not filled *(or information only provided partially)*
- Un-needed fields added to spatial dataset causing problems → only the field *"site_code"* is required. Different spelling of fieldnames (especially for field *"site_code"*)
- Both spatial as well as tabular information delivered by some countries are reported as designation boundaries. Often the reported features are actually identical with designated sites reported or they are not conform with the designation boundaries concept or they have not been described sufficiently to be used
- Marine area percentages in some cases are incorrect or missing for marine-terrestrial sites
- Spatial datasets reported in the wrong projection or with distorted location information
- Site boundaries table often shows gaps in details as well as in completeness. For many sites no corresponding site boundaries have been described.