European Environment Agency
European Topic Centre on
Biological Diversity

Data quality coherence check

Summary of results checking quality of data collected under the Nature Directives

Fact sheet

BG

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Summary of task

Reporting under Articles 12 of the Birds Directive, Article 17 of the Habitats Directive and reporting on Natura 2000 sites are the most comprehensive and regularly updated and coordinated datasets on biodiversity in the European Union. These datasets are used in support to EU biodiversity policies (through generation of maps, indicators and other statistics) and also by the academic world and stakeholders. It is essential that the data are of the highest quality as possible. This task sets out to highlight critical gaps or inconsistencies in Article 12 and Article17 reporting to guide Member States to improve data quality for the nature reporting period 2019 – 2024. The task additionally addresses inconsistencies in reporting Natura 2000.

For which purposes are the data used at the European level?

The data collected under the nature directives have to be 'fit' for the following main purposes[1]:

- assessing and enhancing completeness of the Natura 2000 network (Natura 2000 sufficiency assessments)
  preparation of the Union Lists (sites designated under the Habitats Directive by biogeographical region)
- quantification of restoration needs and prioritization in the PAFs

[1] The list is not exclusive

- providing a regular assessment of the State of Nature in the EU
- informing on progress towards the EU biodiversity strategy to 2030
- providing the biodiversity component of "The European Environment – State and Outlook report" (SOER)
- underpinning outreach products such as the "Natura 2000 Barometer and Viewer"

Furthermore, the information reported on species and habitats distribution, conservation status and trends, as well as on threats and pressures is highly relevant to assess cross-sectoral policy impacts.

The following analyses are better understood when seen together with the relevant dashboards. A description of the methodologies used in the following analyses and the dashboards can be found in links below. In some cases, the numbers of reported habitat types or species are small and this makes the calculated percentages for these particular cases not statistically robust. Therefore, attention should be paid to these values. Where possible, the number of observations has been placed in brackets next to the percentages. The analysis below is based on Member State level. Some of the online dashboards may contain a filter for biogeographic/marine region should the user wish to further investigate. The EU average refers to EU28.

Summary of the results for BG

1. Coherence check of nature reporting data with data reported under Natura 2000

For the analysis comparing values in Natura 2000 with those reported in the Article 12 and 17 reports, 'comparable' records are those which could be linked between the 2 datasets based on a combination of fields for habitats (Member State, biogeographic/marine region, habitat code, area), non-bird species (Member State, biogeographic/marine region, species code, population unit, population value), and bird species (Member State, species code, season, population unit, population value). Where one or more of these links could not be made, the record was 'non-comparable'.

It must be noted that this is not a validity check of the reported habitat area and species population values.

1.1 Habitats: comparison of Article 17 and Natura 2000 habitat areas

There should be coherence in data between the Natura 2000 database and the information provided in the Article 17 report, e.g. for a given habitat type, the combined area reported in Natura 2000 sites in the Member State's Natura 2000 database should not exceed the national area reported in the Article 17 report. Additionally, the combined Natura 2000 habitat area reported in the Natura 2000 database should be the same (or similar) to the Natura 2000 habitat area submitted in the Article 17 report.

Article 17 area and Natura 2000 area from the Natura 2000 database:

95.6 % of habitats reported by BG could be compared with the equivalent in the Natura 2000 database.

Of this proportion, it was found that for 63.2 % of the habitats, the habitat area reported within Natura 2000 was smaller than or equal with that reported in Article 17. This is less than an EU average of 74.9%.

The remaining 36.9% of habitats reported had a similar proportion of Natura 2000 area of 1 - 1.5x and >2x greater than the Article 17 area (14.9%), only 6.9 % are between 1.5 and 2x the Natura 2000 area.

Natura 2000 area reported in Article 17 and Natura 2000 area from the Natura 2000 database:

Of the comparable proportion of records, the majority are reported with a Natura 2000 database area lower than that reported for the Natura 2000 area in Article 17 (43.2%, EU average 46.2%). This is followed by a similar proportion reported in the remaining categories: 1 to 1.5 times the Article 17 area (18.6%, EU average 32.7%), 1.5 to 2 times greater (16.3%, EU average 5.1%) and more than 2 times greater (22.1%, EU average 14.2%) than the Natura 2000 area reported in Article 17.

For further details see the online statistics here.

1.2 Non-bird species: comparison of Article 17 and Natura 2000 species population

There should be coherence in data between the Natura 2000 database and the information provided in the Article 17 report e.g. for a given species, the combined population reported in Natura 2000 sites in the Member State's Natura 2000 database should not exceed the national population reported in the Article 17 report. Additionally, the combined Natura 2000 population reported in the Natura 2000 database should be the same (or similar) to the Natura 2000 population submitted in the Article 17 report. However, it must be noted that for Art. 17 reporting, agreed population units are used which is not the case for Natura 2000. Therefore, it is not an obligation for Member States to use the same population units in both reporting flows. This is an added complication for comparing records between the two reporting flows.

Article 17 population and Natura 2000 population from the Natura 2000 database:

Only 13.9 % of all species reported in BG were compared between the Article 17 database and the Natura 2000 database. The highest comparable proportion among Member States does not exceed 34.2 %.

Of this comparable proportion, 36.4 % reported a species population value in Natura 2000 as smaller than or equal with that reported in Article 17, which is highly below the EU average of 80.5%. The remaining 63.6 % of species reported a Natura 2000 population greater than the Article 17 population, which is much more than the EU average of 19.4%. The population in Natura 2000 was more than 2x higher than that reported in Article 17 at 31.8 % of reported values, which is much more than EU average (7.3 %).

Natura 2000 population reported in Article 17 and Natura 2000 population from the Natura 2000 database:

The comparison of Natura 2000 species populations reported in Article 17 and Natura 2000 database results only in 13.9 % of comparable records.

Of this small comparable proportion, the majority 68.1 % of species report a population in Natura 2000 greater than in Article 17, percentage high above the EU mean of 32.5%. Also, there is the second EU-highest proportion of more than twice higher values from SDF (40.9 % compared to the EU mean 12%).

The proportion of species reported a population in Natura 2000 smaller than that in Article 17 (27.3%) is below the EU mean of 64.5%. For 4.6 % of species are reported comparable records of the population within the Natura 2000 equal to the population reported under Art. 17 (EU average is 3%).

For further details see the online statistics here.

1.3 Bird species: comparison of Article 12 and Natura 2000 species population

There should be coherence in data between the Natura 2000 database and the information provided in the Article 12 report e.g. for a given bird species, the combined population reported in Natura 2000 sites in the Member State's Natura 2000 database should not exceed the national population reported in the Article 12 report. Additionally, the combined Natura 2000 population reported in the Natura 2000 database should be the same (or similar) to the Natura 2000 population submitted in the Article 12 report. However, it must be noted that for Art. 12 reporting agreed population units are used which is not the case for Natura 2000. This is an added complication for comparing records between the two reporting flows.

Article 12 population and Natura 2000 population from the Natura 2000 database:

For Article 12 bird species, it was found that only 31% of bird records reported in the Natura 2000 database were comparable with an equivalent record in the Article 12 national report. The highest comparable proportion among Member States does not exceed 65%.

Of this proportion of comparable records, 38.2% report a larger population in Natura 2000 than the national population reported in Article 12, which is higher than the EU average of 20%.

Natura 2000 population reported in Article 12 and Natura 2000 population from the Natura 2000 database:

Regarding the comparison of Natura 2000 populations reported in Article 12 and Natura 2000 database, an even lower proportion of species could be compared: 30%.

Of this comparable proportion, 1.2% of species reported an equal population in Natura 2000 and Art 12, similar to the EU average of 3.2%. 69.7% of species reported a larger population in Natura 2000 compared with the Natura 2000 population in the Article 12 report, which is above the EU average of 40.5%. The largest proportion were reported with a population of >2 times that in Article 12 (33.3%, EU average 14.3%). 29.6% report a lower population in Natura 2000 than in Article 12 report, lower than the EU average of 56.2%.

For further details see the online statistics here.

2. Analysis of specific fields in Article 12 & 17 reporting formats

2.1 Data quality and completeness

Several fields in the Article 17 and 12 reports are highlighted as 'mandatory' and are essential to assessing the status of a habitat or species at both national and EU level. When such fields have been completed with 'unknown' or the values are simply missing, this presents a data quality issue. Moreover, when 'expert opinion' or 'insufficient data' is indicated as method used, this highlight a need for further monitoring effort. This analysis complements the relevant analysis already included in the national summaries of Article 12 and Article 17.

Habitats

The majority of mandatory missing information in BG habitat reports is seen with rocky habitats (24.9%, EU average 10.7%), grasslands (21.6%, EU average 98%) and sclerophyllous scrub (20.5%, EU average 9.9%). Missing information is largely seen with the 2 fields: short-term trend of habitat area in good condition and status of structure and functions for the habitat groups: bogs, mires & fens, coastal habitats, dune habitats, grasslands, heath & scrub habitats, rocky habitats and sclerophyllous scrub (all 100% missing information). Sclerophyllous scrub is the habitat group with the highest proportion of 100% missing information across all fields: overall trend in conservation status, short-term trend of habitat area in good condition, status of range, status of structure and functions.

The habitat group using 'complete survey' as the method used for parameters is forests (96.7%, EU average 41.7%). While the method extrapolation is the most frequently used method for most habitat groups (100% for bogs, mires & fens, dune habitats, freshwater habitats, sclerophyllous scrubs and high proportions for all other habitat groups) expert opinion is used with a small proportion for coastal, forests, grasslands, heath & scrub and rocky habitats. The use of insufficient data is seen mostly with coastal habitats (10.3%, EU average 15.4%), forests (1%, EU average 11.3%), grasslands (4.1%, EU average 16.2%) and rocky habitats (15.4%, EU average 16.6%).

Non-bird species

Relatively high proportion of missing mandatory information was found almost in all groups (non-vascular plants - 38 %, molluscs - 29 %, arthropods and fish - 27 %, amphibians - 25 %, other invertebrates - 21 %), only reptiles, vascular plants and mammals reached proportion lower than 16 % (15, 16, 13 %, respectively).

Where information was completely missing information, this is seen with parameters: short-term range trend (non-vascular plants), short-term trend inside the network (amphibians, non-vascular plants), status of population (other invertebrates) and short-term population trend (other invertebrates). Missing information on short-term population trend is also seen in a high proportion

with groups: molluscs 67.9% (EU average 39.1%), non-vascular plants 75% (EU average 39.2%), arthropods 51.1% (EU average 38.7%), fish 67.9% (EU average 25.5%). Generally, there is some level of mandatory missing information for the majority of the 24 parameters for each species group.

Expert opinion is the method reported for 80.2% of molluscs (EU average 21.9%). The highest reporting of insufficient data is seen with fish (17%, EU average 12.9%).

Bird species

The bird groups cuckoos, waders, gulls & auks and loons or divers are those which report the highest proportion of missing information across all mandatory fields in the reporting format (25%, 18.8% and 20% of all fields, respectively). This is higher than the respective EU averages of 12.9%, 15.4% for the first two groups.

Bird groups showing a high proportion of missing mandatory information for wintering species trend information (both short-term and long-term are the owls, passerines, loons or divers, bustards, gannets & cormorants. The group pheasants, partridges & grouse reports missing information on hunting bags are (16.7%). Where missing information on the short-term trend within the SPA network is reported, this is seen mainly with species groups: falcons (64.3%, EU average 42.7%), passerines (47.4%, EU average 34.1%) and waders, gulls & auks (46.1%, EU average 40.1%) but also with cranes, rails, gallinules & coots, grebes, hawks & eagles loons or divers, and Several species groups reported the long-term trend in breeding population as missing or unknown, the largest proportion is with cranes, rails, gallinules & coots 57.1% (EU average 38.8%), but also seen with cuckoos, ducks, geese & swans, grebes, pheasants, partridges & grouse, storks and flamingo and waders, gulls & auks . Waders, gulls and auks also report a high proportion of missing information for short-term breeding trend (83.3%, EU average 24.1%).

Where expert opinion is reported as the method used, this is seen in the highest proportion with the group cuckoos (75%, EU average 40%) and petrels, storm petrels and shearwaters (100%, EU average 38%). The highest proportion of insufficient data is reported for falcons (11%, EU average 49%).

For further details see the online statistics here.

2.2 Quality of conclusion of the parameters for assessing conservation status

The 'method used' field can be an indicator of the quality of data used to conclude on the parameters of the habitats and species. A complete survey indicates the best quality information, followed by partial estimate. Expert opinion indicates a lack of data and a reliance on opinion rather than empirical data. This analysis complements the assessments of conservation status delivered from the Member State, which is part of the National Summary and can be found here.

Habitats - methods used

For the area parameter, partial estimate is the most frequently reported method for all groups (except forests where complete survey is reported). Expert opinion is seen mainly with Rocky habitats (20%, EU average 18.9%) but also to a lower extent with coastal, heaths & scrub and forest habitats.

Partial estimate is the most frequent methods reported for the structure and function parameter across all habitat groups. Where expert opinion was reported this is seen in very low proportions with the grasslands and heaths & scrub habitat groups (5.1% to 7.1% of reports). The groups forests, coastal habitats and rocky habitats report absent data (1.5% to 20%).

Non-bird species – methods used

The complete survey is almost missing for the population and habitat parameters; only 7 reports (5,2%, EU average 19,1%) within all species groups. For plants (vascular and non- vascular) and other invertebrates are all parameters estimated based on partial estimates. Partial estimate represents the most frequent method used for the population parameter and habitat of the species across all other species groups. Expert opinion is most frequently used among molluscs (85% population, 69% habitat;

EU average 22%, resp. 21%). Exclusively for habitat for the species, absent data were reported in fish (17 %), mammals (6 %) and arthropods (3 %).

For further details see the online statistics here.

2.3 Use of the 'change & reason for change' field

The 'change and reason for change' field as reported in Article 17 is an important field that shows whether a change in conservation status or trend is a genuine change (i.e. an improvement or deterioration) or a non-genuine change (change of methodology, knowledge etc). Species and habitats which report genuine changes in status and trends are used to assess improvement.

Habitats

Lack of reporting a main reason for change is seen with rocky habitats in BG for both parameters overall conservation status (50% of the total of 16 cases, EU average 39%) and overall trend in conservation status (50%, EU average 41%). More than 1 reason is filled in (where the main reason was not given) in 3 habitat groups: bogs, mires & fens (overall conservation status & overall trend in conservation status), coastal habitats (area covered by the habitat) and forest habitats (area covered by the habitat).

There are no issues seen where the main change reported is incoherent with the changes selected in the field.

Non-bird species

There were 19 cases that no reason for change was filled in. Where no main reason for change was submitted for species reports in BG this is seen mainly with the parameter population (31.6%, EU average 15.7%), followed by range (26.3%, EU average 12.3%). It is also seen with the overall conservation status (21.1%, EU average 32.1%) and the overall trend in conservation status (21.1%, EU average 39.9%), although both below the EU average. This was observed only for fish species in BG. Where more than 1 reason for change was reported (i.e. where the main reason was missing and therefore not being able to determine the main reason for change) this is seen with 1 species from the mammal group for all 4 parameters (1371 *Rupicapra rupicapra balcanica).*

There are no issues seen where the main change reported is incoherent with the changes selected in the field.

For further details see the online statistics here.

2.4 Conservation measures

Where habitats and species are in an unfavourable conservation status or with a deteriorating trend it is necessary to understand if there are conservation measures in place to improve their status or if conservation measures have been identified but are not yet in place. Where conservation measures are needed but have neither been implemented nor identified, this can give an indication of a critical gap. This analysis complements the relevant analysis already included in the national summaries of Article 12 *and* Article 17*.*

Habitats

BG report that conservation measures have been taken for most habitats, the exception to this is for rocky habitats where 5% of reports (1 habitat) reported that measures were not needed.

The main purpose of the measures was reported to maintain the current range for all habitat groups, the only exception being 1 forest habitat report where the main purpose was to expand the current range.

Non-bird species

There is no species identified as it needs measures but they cannot be identified in Bulgaria. Only six species of fish are reported as not needing any measures which is in accordance with the EU average for the group (13.3%, EU mean 12.4%). All other groups are reported as they need measures and they are already taken (amphibians, arthropods, vascular plants) and this status is reported exclusively.

All measures intend to maintain the current status in all groups. No other measure is mentioned.

Bird species

Breeding: For the majority of breeding species reported in BG measures were reported as needed and taken, the second most reported category was needed but not yet taken. None of the breeding species was reported in the category of conservation measures needed but not identified.

Wintering: For the majority of wintering species in BG it was reported that conservation measures were needed but not taken, the second most reported was needed and taken.

Passage: For the majority of species reported in BG it was indicated that measures were needed but not taken, the second most reported category was needed and taken.

Restoration measures were not taken for the habitat of any species, whereas measures to increase the population size or improve the dynamics concern mostly storks & flamingo (100%, EU mean 25.6%). Measures to expand the current range were not taken for none of the species.

For further details see the online statistics here.

2.5 Favourable reference values

The operators are used for reporting on favourable reference values when information on actual values is limited or missing completely. Operators are used as a rough estimation and highlight an issue with data gathering and monitoring. Apart from the 'unknown' the operator 'much bigger than (>>)' is particularly problematic as there is no indication of its upper values.

Habitats

For BG habitats, for both the range and area parameters, either unknown or the actual favourable reference value were reported for all habitats.

For both range and area, rocky habitats had the highest proportion of reporting unknown (20% for each or 4 habitats) followed by coastal habitats (13.3% for each). Heath & scrub report unknown for range (7.1%) but not for area.

Non-bird species

In Bulgarian species report, the favourable range and population were reported in the majority of cases by actual value (> 83% for both across groups for range and). Only for an insignificant proportion of favourable reference range of fish (3.8%) and favourable reference population of fish (1.9 %) and mammals (2.9%) the operator "approximately equal" (in fact also an actual favourable reference value) was used. No other operators were used and a relatively significant portion of both favourable range and population were unknown.

For further details see the online statistics here.

2.6 Comparison of habitat condition area with total habitat area

For the coherence of areas reported it is expected that the combined habitat condition area (as reported under structure and functions) and the total habitat area would be the same.

All habitats reported in the groups bogs, mires & fens, coastal habitats, dune habitats, heath & scrub habitats, rocky habitats and sclerophyllous scrub report a habitat condition area equal to the area covered by the habitat (as expected).

Grasslands and forest habitat groups report a habitat condition area close to the area covered by the habitat (97% and 89% respectively), the small percentage of discrepancies reported with habitat condition areas lower or higher than the area covered by the habitat.

Of the remaining habitat groups, the freshwater group only reports 44% (EU average 50.6%) with a habitat condition area equal to the area covered by the habitat. The remaining freshwater habitats report a habitat condition area as lower than the area covered by the habitat (56%, EU mean 29%).

For further details see the online statistics here.

3 Further gaps in habitats

3.1 Analysis of Land area, sealed area, Article 17 Annex I terrestrial habitat type area and Natura 2000 habitat area

The combined Natura 2000 habitat area should not exceed the total Annex I habitat area. None of them should be bigger than the land area or land sealed area.

58% of the Annex I habitat area reported by BG is within the Natura 2000 network. In comparison to the land area (not including the sealed area) reported by BG, Annex I habitat area comprises 28%.

For further details see the online statistics here.