



Data quality coherence check

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

BE

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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 Article 17 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 purposes¹:

- 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 BE

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:

All habitats reported under Article 17 and in the Natura 2000 database could be compared, i.e. sufficient information was provided under both datasets to undertake a comparison.

Of this comparable proportion, BE had one of the highest proportions of reporting in the Natura 2000 area as equal to or less than the Article 17 area reported (94.9%), higher than the EU mean of 74.9%. The remaining 5% of habitats reported had a Natura 2000 area of 1 - 1.5x greater than the Article 17 area (3.4%) or >2x the Natura 2000 area (1.7%).

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

The same pattern is seen with the Natura 2000 area reported in Article 17 and that reported in the Natura 2000 data: all habitat records are comparable. However, the majority of these records reported a Natura 2000 area as less than that reported in the Article 17 report (62.1%, EU average 46.2%), when in theory these values should be the same. Where the Natura 2000 data area was higher than that reported in Article 17 this was either 1 - 1.5x the Natura 2000 area in Article 17 (29.3%, EU average 32.7%) or >2x the Natura 2000 area in Article 17 (5.2%, EU average 14.2%).

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:

About 20% 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, 88.9% reported a species population value in Natura 2000 as smaller than or equal with that reported in Article 17, which is above the EU average of 80.5%. The remaining 11.1% of species reported a Natura 2000 population greater than the Article 17 population, which is less than the EU average of 19.4%. The population in Natura 2000 was more than 2x higher than that reported in Article 17 at 5.6% of reported values, which is 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 reveals the same proportion of comparable values: 20%.

Of this comparable proportion, 27.8% of species report a population in Natura 2000 greater than in Article 17, which is less than the EU mean of 32.5%. The population reported in Natura 2000 was smaller than that in Article 17 at 72.2%, which is higher than the EU mean of 64.5%. For no species with comparable records the population within the Natura 2000 was equal to the population reported under Article 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 24% 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, 13.3% report a larger population in Natura 2000 than the national population reported in Article 12, which is lower 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: 16.1%.

Of this comparable proportion, 2.4% of species reported an equal population in Natura 2000 and Art 12, similar to the EU average of 3.2%. 41.5% 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%, whereas 56.1% report a lower population in Natura 2000 than in Article 12 report, which is similar 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 missing mandatory information fields for BE are seen with the freshwater habitat group (14% of fields missing information, EU average 12.3%). This is followed by coastal habitats (12%, EU average 12%) and grasslands (10%, EU average 12.3%). Of these 3 groups, the highest proportion of missing information was seen with the short-term trend inside the network (69% missing information, EU average 41.5%). This is also the field with the highest proportion of missing information for freshwater habitats (54%) and coastal habitats (57%), rocky habitats (62%), bogs, mires & fens (50%), heaths & scrubs (50%), forests (32%) and sclerophyllous scrub (33.3%). It is the second highest field with missing information for dune habitats (46%) with the short-term trend of habitat in good condition being the highest for this habitat group (55%).

The habitat groups with the highest proportion of 'expert opinion' to complete the methods used fields are the freshwater habitat group (29%, EU average 28%), followed by coastal habitats (23.2%, EU average 23.4%) and dune habitats (20%, EU average 28%). The highest proportion of reporting insufficient information in the methods used field is seen with rocky habitats (18%, EU average 16.6%), grasslands (17%, EU average 16.2%) and freshwater habitats (15.3%, EU average 18.4%).

Non-bird species

The majority of missing mandatory information for any species group occurred with other invertebrates (76% of mandatory fields missing information, EU average 33.4%). This missing information is 100% across several fields in the format. While there is no missing information for the overall trend on conservation status for other invertebrates, there is 100% missing information for fields such as short-term range trend, short-term trend of habitat for the species and short-term population trend.

For other groups, the mandatory missing information did not exceed 16.5% (non-vascular plants, EU average 22.1%) Non-vascular plants, the species group with the next highest proportion of missing information (16.5%, EU average 22.1%) shows a high proportion of missing information for some parameters: overall trend in conservation status (75%, EU average 22.1%), short-term population trend (75%, EU average 39.2%), short-term range trend (50%, EU average 33.1%) and short-term trend of habitat for the species (50%, EU average 33.9%).

Amphibians have the highest reporting of expert opinion of all groups (EU average 38.3%) and insufficient data is reported in 66.7% of other invertebrate reports (EU average 46.8%).

Bird species

The bird groups loons or divers, storks & flamingo, waders, gulls & auks and falcons are those which report the highest proportion of missing information across all mandatory fields in the reporting format (60.7%, 25%, 22.3% and 22.2 of all fields, respectively). This is higher than the respective EU averages of 22.7%, 11.5%, 15.4% and 15.2%, respectively

Two bird groups with primarily missing mandatory information for wintering species (trend information) are the Falcons and Owls (100% missing information for both short-term and long-term trends for both groups, EU average 80% for trends for owls and EU average 80% and 75% respectively for long-term trend and short-term trend for falcons).

Of all parameters reported, it is seen that the highest proportion of missing information on the short-term trend within the SPA network is with species cranes, rails, gallinules & coots, ducks, geese & swans, falcons, grebes, hawks & eagles, loons or divers, storks & flamingo and waders, gulls & auks. Species groups which report missing information for the long-term trend in breeding population are: pigeons & doves (20%, EU average 42.9%), swifts & nightjars (50%, EU average 43.8%) and woodpeckers (14.3%, EU average 38.2%).

The highest proportion of insufficient data is with loons or divers (59%, EU average 76%). The highest reporting of expert opinion is with pigeons and doves (23%).

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, for all habitat groups, the majority of methods used were reported as complete survey or partial estimate. Where expert opinion was used for this parameter, the highest reporting was with freshwater habitats (23%, EU average 18.3%). There was no reporting of absent data/no information.

A similar pattern is seen with the parameter structure and functions: more frequent reporting of complete survey/partial estimate across the groups in general. However, expert opinion was reported more often than for the area parameter and in a higher proportion for some habitat groups than complete survey/partial estimate. Coastal habitats (57.1%, EU average 18.8%), rocky habitats (50%, EU average 22%) and grasslands (31.3%, EU average 16.1%) are some of the highest reporting for expert opinion. Absent data was also seen for the structure and functions parameter for 4 habitat groups (coastal habitats, freshwater habitats, grasslands and rocky habitats ranging from 12.5% to 25% reporting of this method).

In general, there is more frequent reporting of lower quality methods for structure and function than those used for the area parameter and it is seen more with habitat groups: coastal habitats, freshwater habitats, grasslands and rocky habitats.

Non-bird species – methods used

The partial estimate represents the significant proportion for the population and habitat parameter; across all species groups. In Vascular and non-vascular plants complete survey constitute the highest

among all groups (71% and 57% for population and habitat for vascular plants and 50% for non-vascular plants) and significantly above EU average (44%-29% and 22%-7%, respectively). Partial estimate is the most frequent method used for the population parameter and habitat of the species across all other species groups (maximum value in population of fish 78.9%, EU average 63%). Expert opinion is dominantly used among reptiles (100% for both population and habitat; EU average 26%, resp. 27.9%) and in case of habitat for the species for amphibians (94%). Absent data were reported for habitat within other invertebrates (100%), mammals (20%) and molluscs and arthropods (11 and 5%, respectively).

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

There were 11 cases that no reason was filled in. The parameter 'overall trend in conservation status' showed the highest frequency of not providing a reason for change (36.4%, EU average 40.5%). This was seen with the habitat groups freshwater habitats, grasslands, rocky habitats and sclerophyllous scrubs.

There were no cases where more than 1 reason was reported for change with BE (where no main reason was given). There were also no coherence issues with the selected reasons for change (i.e. the main reason selected for change matched with the options selected for that field).

Non-bird species

Where main reason for change was not completed, this is seen mostly for the population parameter (45.5% of all 22 cases, EU average 15.7%) and across 7 species groups (does not apply to other invertebrates or molluscs). This is also seen to a lesser extent with the remaining 3 parameters: 18.2% for each range (EU average 12.3%), overall conservation status (EU average 32.1%) and overall trend in conservation status. (EU average 39.9%).

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

In BE 4 habitat groups report that measures are needed but have not yet been taken: rocky habitats (25%, EU average 17.1%), freshwater habitats (23.1%, EU average 26.8%), dune habitats (18.2%, EU average 23.6%) and grasslands (12.5%, EU average 22%). There are no reports for habitats where measures are needed but cannot be identified.

With regards restoration of structure and functions as the main purpose of the measures, the highest proportion is seen with forests (89.5%, EU average 29.5%), rocky habitats (80%, EU average 12.3%) and heath & scrub (50%, EU average 18.4%). Where the main purpose was to increase the surface area of

the habitat, the highest proportion is seen with dune habitats (88.9%, EU average 7.7%), bogs, mires & fens (75%, EU average 5.5%) and grasslands (57.1%, EU average 4.3%).

Non-bird species

Species where measures are needed but cannot be identified are only two species of arthropods (11.8%, EU mean 3%). The only group with only single species for which measures are needed but not yet taken are arthropods (5.9%, EU mean 20%). Only for reptiles there are no measures needed, exclusively. On the other hand, for all molluscs and non/vascular plants measures were needed and taken.

The categories of measures are scattered and balanced among most of the species groups. Habitat restoration predominates (> 50%) for mammals and molluscs. Measures were taken also to expand the current range (60% of vascular plants) or increase the population size (67% of amphibians).

Bird species

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

Wintering: For the majority of wintering species in BE it was reported that conservation measures were needed and taken, the second measure category was not needed.

Passage: For most of the passage species reported in BE it was indicated that measures were not needed, the second most reported measure was needed and taken.

Restoration measures taken for the habitat of the species seem to concern only cranes, rails, gallinules & coots (33.3% of the total number of records on the main purpose of measures that have been applied, EU mean 8.5%), whereas measures to increase the population size or improve the dynamics concern mostly pheasants, partridges & grouse and swifts and nightjars (100% for each, EU mean 20.5% and 23.1%, respectively). Measures to expand the current range concern cranes, rails, gallinules & coots, owls and storks & flamingo (25% for each, EU mean 4.2%, 5.8% and 5.1% respectively).

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 the range parameter, only freshwater habitats report an unknown favourable reference values (23.1%). The >> operator was used for the habitat groups sclerophyllous scrubs, forests, freshwater habitats, dune habitats and bogs, mires & fens, although ranging from 1 or 2 habitat reports within each group. The operator ≈ was mainly used for all habitat groups, the actual favourable reference range only being reported for 2 coastal habitats.

For the area parameter, the use of the unknown operator is also seen only with the freshwater habitat group (30.8% of reports). >> is reported more frequently with habitat groups bogs, mires & fens and grasslands (both 75%), sclerophyllous scrubs (66.7%) and dune habitats (63.6%). As with the parameter range, the actual favourable reference area is only reported for 2 coastal habitats.

The use of the unknown operator for both parameters range and area is seen with the freshwater habitat group (28.6%).

Non-bird species

BE used operators, there are only three species of mammals reported with the actual value for favourable reference range and population, which represents 6% for both. In all species groups the favourable reference range was reported mainly (>50%) by the operator ≈ (in fact also an actual favourable reference value). Favourable reference population was set with the operator ≈ frequently among non/vascular plants (50%), reptiles (40%), amphibians and molluscs (33%). Only one species of other invertebrates was reported of unknown value in both range and population. Highest proportions of unknown (x) values were reported in the population of molluscs, mammals and reptiles (22%, 22%, 20%).

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.

The strongest alignment between the habitat condition and the area covered by the habitat is with coastal habitats for BE (85.7%, EU average 58%). The lowest is seen with rocky habitats (14.3%, EU average 55%). No habitat group is seen with an equal habitat condition area and area covered by the habitat.

The Rocky habitat group reported mostly the habitat condition as greater than the area covered by the habitat (85.7%, EU mean 17%). The heath and scrub habitat group reported 50% (EU mean 23%) of reports where the habitat condition was lower than the area of the habitat.

Sufficient data was provided on area for all habitat reports (i.e. no habitat reported was classified as 'no data' for this analysis).

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.

The combined habitat area reported by BE in Natura 2000 is smaller than the total Article 17 habitat area, as expected. Around 9.2% of the country's sealed area is covered by Annex I habitat types. Around 53% of the Annex I habitat area reported is within the Natura 2000 network.

For further details see the online statistics [here](#).