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

GR

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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)

[1] The list is not exclusive

- quantification of restoration needs and prioritization in the PAFs
- 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 GR

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:

91% of GR habitat areas could be compared between Article 17 and the Natura 2000 database end_2018.

Of this comparable proportion, 83.5% report a Natura 2000 area of less than or equal to the Article 17 area. The remainder are reported in the categories 1 to 1.5 times the Article 17 area (15.3%, EU average 13.1%) and a small proportion with more than 2 times the Article 17 habitat area (1.2%, EU average 9%).

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

When comparing the Natura 2000 area reported in Article 17 with the Natura 2000 database, the majority of habitats fall into the 2 categories: 1 to 1.5 times greater habitat area that reported in Article 17 (49.3%, EU average 32.7%) and smaller habitat area than reported in Article 17 (46.6%, EU average 46.2%). A small proportion is reported with a Natura 2000 database area of more than 2 times that Article 17 Natura 2000 area (4.1%, 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:

Only 20% of all species reported in GR 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, 80.4% reported a species population value in Natura 2000 as smaller than or equal with that reported in Article 17, which is similar to the EU average of 80.5%. The remaining 19.6% of species reported a Natura 2000 population greater than the Article 17 population, which is also similar to the EU average of 19.4%.

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

Regarding the Natura 2000 population reported in the Article 17 national report, 21,7% of species records could be compared between the datasets based on the criteria noted above.

Of this comparable proportion, 38% of species report a population in Natura 2000 greater than in Article 17, percentage that is higher than the EU mean of 32.5%. The remaining 44% of species report a population in Natura 2000 smaller than that in Article 17, which is smaller than the EU mean of 64.5%. 18% of species with comparable records the population within the Natura 2000 was 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 13% 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, 19.7% 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: 7.6%.

Of this comparable proportion, 8.1% of species reported an equal population in Natura 2000 and Art 12, higher than the EU average of 3.2%. 41.9% 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 50% 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 habitat group bogs, mires & fens has the highest proportion of missing mandatory information of all habitat groups in GR (21.7, EU average 9.7%). Within this group, there is missing information for all parameters except distribution maps, overall trend in conservation and pressures and threats. The next highest reporting of missing mandatory information is seen with grasslands (12.2%, EU average 9.8%), coastal habitats (10.4%, EU average 12%) and rocky habitats (10.1%, EU average 10.7%).

Heath and scrub habitats do not have any missing mandatory information for any parameter.

Overall, complete survey and extrapolation are the methods reported most frequently across all habitat groups. Where expert opinion is the method reported it is only for the groups coastal habitats (8.3%, EU average 23.4%), grasslands (12.2%, EU average 24.4%) and rocky habitats (2.1%, EU average 26.2%). Insufficient data is reported more frequently than expert opinion as the methodology, the highest proportion reported for bogs, mires & fens (18.8%, EU average 20.5%).

Non-bird species

The highest proportion of missing mandatory information was spotted in mammals (38.3%, EU average 19.1%), non-vascular plants (37.5%, EU average 22.1%) and arthropods (23.5%, EU average 18.9%).

Where 100% of information is missing, this is seen with the short-term trend inside the network (amphibians - EU average 47.1%, non-vascular plants - EU average 40.3%). 91.7% is missing for reptiles - EU average 59.4%, and 91.3% missing for mammals - EU average 44.8%. The sufficiency of unoccupied habitat is 100% missing for other invertebrates (EU average 33.4%) and non-vascular plants (EU average 22.1%). The non-vascular plants group shows the highest proportion of 100% missing mandatory across all parameters for a species group (100% missing for 9 parameters).

The extrapolation is the most frequent method used. Where expert opinion is reported as the method used, this is seen in the highest proportion with arthropods (41.5%, EU average 26.6%). Insufficient data is reported in the highest proportion with mammals (41.6%, EU average 17.5%).

Bird species

The bird groups loons or divers, bustards, cranes, rails, gallinules & coots, swifts & nightjars are those which report the highest proportion of missing information across all mandatory fields in the reporting format (68.8%, 61.1%, 47.3% and 47.2% of all fields, respectively). This is higher than the respective EU averages of 22.7%, 11.4%, 17.1% and 16.5%.

Two bird groups with primarily missing mandatory information for wintering species (trend information) are the loons or divers, falcons, grebes, hawks & eagles, passerines, pigeons & doves, bustards and cranes, rails, gallinules & coots. None of the groups have missing information on hunting bags. A high proportion of missing information on the short-term trend within the SPA network is seen with species groups bustards, cranes, rails, gallinules & coots, ducks, geese & swans, falcons, gannets & cormorants, grebes, herons, pelicans, ibises & spoonbills, kingfishers, rollers, bee-eaters & hoopoe, loons or divers, owls, passerines, pheasants, partridges & grouse, storks & flamingo, swifts & nightjars and woodpeckers (100% missing information). Several species groups reported the long-term trend in breeding population as field largely missing or unknown (>50% missing): cranes, rails, gallinules & coots, cuckoos, grebes, petrels, storm-petrels & shearwaters, pheasants, partridges & grouse, pigeons & doves, storks & flamingo, swifts & nightjars, waders, gulls & auks and woodpeckers. Missing information on the long-term trend is also seen on lower proportions with: ducks, geese & swans, falcons, gannets & cormorants, kingfishers, rollers, bee-eaters & hoopoe, and owls. A high proportion of missing information for the short-term trend is seen with kingfishers, rollers, bee-eaters & hoopoe (75%), swifts and nightjars (50%) and pheasants, partridges & grouse (50%).

There are very low percentages of bird groups assessed with 'expert opinion'. The highest proportion of insufficient data as the method used is with cuckoos (58.3%, EU average 51%).

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

The majority of habitats report complete survey as the method used to assess the structure and function parameter. Where expert opinion is used this is seen with 3 coastal habitats (20%, EU average 18.8%). Absent data is also reported for 2 grassland reports (20%, EU average 14.7%) and for 1 rocky habitat reports (16.7%, EU average 19.9%) and 1 coastal habitat (6.7%, EU average 22.3%).

Partial estimate is the main method used for assessing the area parameter. Expert opinion is reported one time for a grassland habitat. Absent data is reported as the method for 1 habitat from each of the groups: bogs, mires & fens, coastal habitats and rocky habitats.

Non-bird species – methods used

The complete survey is used only partially for the population parameter; frequently (58.1%, EU average 44.9%) for vascular plants. Partial estimate is the most frequent method used for the population parameter across all other species groups - from 22.9% (arthropods) to 100% (molluscs, non-vascular plants). Expert opinion is most frequently used among arthropods (77.1%), amphibians (52.9%) and other invertebrates (50%). For the habitat for the species the methods mostly used are partial estimate followed by absent data.

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

For most of the habitat reports for GR there is no issue with reporting the field change and reason for change. There is one case where no main reason is given for 1 grassland habitat (6260 in MED) for the parameter range. There is a second case where more than 1 main reason for change is provided for a forest habitat (9310 in MED) for the area covered by the habitat.

No issues are seen where the main reason given is incoherent with options selected in the field. Additionally, no issues are seen with incoherence between the main reason for change in overall conservation status between reporting periods.

Non-bird species

In 10 species, more than one reason for change has been given (amphibians, arthropods, mammals and reptiles), for the population parameter (60%, EU average 51.9%) and for the parameter range (40%, EU average 33.3%). There was no case category "no reason filled in".

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

Where measures are needed but cannot be identified, this is seen with freshwater habitats (33.3%, EU average 2.3%), bogs, mires & fens (25%, EU average 2.3%), grasslands (20%, EU average 1%) and dune habitats (12.5%, EU average 2.7%). Where measures are needed but none are yet taken, this is reported for all habitat groups (14.3% to 87.5%) with the highest proportion reported for dune habitats (87.5%, dune habitats 23.6%) and coastal habitats (86.7%, EU average 28.2%). No measures needed and taken were reported.

Non-bird species

Species where measures are needed but cannot be identified are mostly found with the groups: non-vascular plants (100%, EU average 4.4%), arthropods (60.6%, EU average 3%) and molluscs (60%, EU average 4.5%). The groups with the highest percentage of measures needed but not yet taken are fish (57.4%, EU average 40%), arthropods (24.2%, EU average 20.2%) and molluscs (20%, EU average 34.8%). All of measures taken intend to maintain the current status .

Bird species

Breeding: For the majority of breeding species reported in GR, measures were reported as needed but not identified. The second most reported category was not needed. Only 1 breeding species was reported in the category of conservation measures needed but unknown, belonging to the group petrels, storm-petrels & shearwaters

Wintering: For the majority of wintering species in GR it was reported that conservation measures were either needed but not identified or not needed.

Passage: For all species reported in GR it was indicated that measures were not needed. The second most reported category was needed but not identified.

Restoration measures taken for the habitat of the species seem to concern only herons, pelicans, ibises & spoonbills and ducks, geese & swans (100% and 33.3% of the total number of records on the main purpose of measures that have been applied, EU means 14.7% and 2.8%), whereas measures to increase the population size or improve the dynamics concern petrels, storm-petrels & shearwaters and hawks & eagles (100% and 50% respectively, EU means 29.2% and 33.5%). Measures to expand the current range concern hawks & eagles and ducks, geese and swans (50% and 33.3%, EU means 6.3% and 5.3%).

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

Unknown (x) was reported for the favourable reference range for 1 habitat from the groups bogs, mires & fens (25%), coastal habitat (6.7%) and grasslands (10%). Missing information is also reported for 1 grassland habitat.

For the area parameter, unknown was reported for the same habitats as above, and additionally with the rocky habitat group. The > operator is also used for area: the highest proportion is seen with coastal habitats (40%) and dune habitats (75%). This is also reported with freshwater habitats and forests.

≈ is the primary operator for reporting both the range and area parameters for all habitat groups.

Non-bird species

For the parameter range, the highest share of unknown (x) value was reported for other invertebrates (50%), followed by mammals (25.9%). The operator >> has not been used.

For the favourable reference population, the highest share of unknown (x) value was reported for mammals (44.8%) and vascular plants (14.5%). The operator >> had a high share among molluscs (16.7%).

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.

GR report a high proportion of habitat groups with equal areas for both habitat condition and area covered by the habitat (100% for dune habitats, forests, freshwater habitats, grasslands, heath & scrubs and sclerophyllous scrubs). 93% of coastal habitats (EU average 58%), 83% of rocky habitats (EU average 55%) and 75% of bogs, mires & fens habitats (EU average 49%) also report an equal area.

The remaining proportion of habitats from these habitat groups do not report enough data to undertake this analysis (i.e. shown under 'no data').

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.

38% of the Annex I habitat area reported by GR is covered by the Natura 2000 network. Overall, Annex I habitat area reported covers 35% of land area (minus sealed area).

For further details see the online statistics here.