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

IT

Table of contents

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)

[1] The list is not exclusive

preparation of the Union Lists (sites designated under the Habitats Directive by biogeographical region)
- 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 IT

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 habitat types reported by IT were comparable between the Article 17 report and the Natura 2000 database end_2018.

Of this comparable proportion, it was found that for 82.4% of the habitats, the habitat area reported within Natura 2000 was smaller than or equal with that reported in Article 17. This compares with an EU average of 74.9%.

For the remaining 17.6% of habitats, the reported habitat area in Natura 2000 was greater than that

reported in Article 17, which is lower than the EU average of 25.1%. Of these records, approximately one sixth (3%) reported an area in Natura 2000 >2times the Article 17 area.

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

It was possible to compare all IT habitats for the Natura 2000 area reported in Article 17 and the area reported in the Natura 2000 database end_2018. The majority of habitats reports a Natura 2000 database of 1 to 1.5 times the Article 17 Natura 2000 area (53.4%, EU average 32.7%) or where the Natura 2000 database area is less than that reported for Natura 2000 in Article 17 (38.2%, EU average 46.2%). The remaining small proportion is reported across the 2 categories (Natura 2000 database area 1.5 to 2 times greater or more than 2 times greater).

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:

15.6% of all species reported in IT 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, 86.36% reported a species population value in Natura 2000 as smaller than or equal with that reported in Article 17, which is higher than the EU average of 80.5%. The remaining 13.74% of species reported a Natura 2000 population greater than the Article 17 population, which is lower than 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, only 15.6% of species records could be compared between the datasets based on the criteria noted above.

Of this small comparable proportion, 18.6% of species report a population in Natura 2000 greater than in Article 17, percentage that is lower than the EU mean of 32.5%. The remaining 81.4% of species report a population in Natura 2000 smaller than that in Article 17, 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 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 11% 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, 7.5% 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, a similar proportion of species could be compared: 11%.

Of this comparable proportion, 13.3% of species reported an equal population in Natura 2000 and Art 12, lower than the EU average of 3.2%. 10.2% of species reported a larger population in Natura 2000 compared with the Natura 2000 population in the Article 12 report, which is below the EU average of 40.5%, whereas 76.5% report a lower population in Natura 2000 than in Article 12 report, which is higher 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

Habitat groups in IT with the highest proportion of missing mandatory information for the parameters are: coastal habitats (13.8%, EU average 12%) followed closely by forests (12.8%, EU average 8.9%) and freshwater habitats (12.6%, EU average 12.3%). Only dune habitats do not report any missing mandatory information.

Expert opinion is reported as a method used for all habitat group, although it is not the majority of the method used for any. The highest proportion reported is 29.5% for forest habitats (EU average 22.4%). The highest reporting of insufficient data is seen with coastal habitats (20.2%, EU average 15.4%). The majority of the method used for each habitat group is extrapolation.

Non-bird species

The majority of missing mandatory information for any species group occurred with other invertebrates (17.5% of mandatory fields missing information) and non-vascular plants (21.1%). This is lower than the EU average of 33.4% for other invertebrates and higher than the EU average of 18.1% for non-vascular plants.

All species groups reported either the 'short-term population trend' or 'short-term population trend in the network' as the two fields with the highest proportion of missing/unknown information. The

groups which reported the highest percentages of missing/unknown information for both these fields are: arthropods, mammals, other invertebrates and vascular plants.

The species groups with the highest percentage of 'expert opinion' as used method while filling in the fields on main results of surveillance are non vascular plants (66%) and other invertebrates (53.6%), which is higher than the relevant EU average (20.9% and 39.6%, respectively). Those indicated with 'insufficient data' are other invertebrates (28.6%) and non-vascular plants (25.8%). The percentage is lower than the EU average for other invertebrates (46.8%) and for non-vascular plants (30.1%).

Bird species

The bird groups owls, grebes and loons or divers are those which report the highest proportion of missing information across all mandatory fields in the reporting format (12.5% each). This is lower than the respective EU averages of 16.3%, 14.1% and 22.7%.

Three bird groups with primarily missing mandatory information for wintering species (trend information) are the owls, falcons and passerines (100% missing for both short-term and long-term trend, 50% missing for short-term trend for passerines. A group with missing information on hunting bags is the pheasants, partridges & grouse (11.1%). Missing information on the short-term trend within the SPA network is seen with species groups hawks & eagles (32%), owls (60%) and woodpeckers (40%). Several species groups reported either the short-term or long-term trend in breeding population as missing or unknown, including 100% of missing short-term trends for grebes and petrels, storm petrels and shearwaters

The highest proportion of expert opinion is reported with bustards (50%, EU average 33%). The highest reporting of insufficient data is within the methods field are pheasants, partridges & grouse (24%, EU average 30%),

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 reports for all habitat groups report partial estimate as the methods to assess the area parameter in IT. 3 forest habitats (4.1%, EU average 10.9%) report expert opinion.

While there is also a high frequency of reporting of partial estimate across most habitat groups (except bogs, mires & fens) for the structure and functions parameter: 18.2% for heath & scrub (EU average 41.7%) to 100% for dune habitats (EU average 40.3%), there is also a high proportion of reporting both expert opinion: reported in 100% of bogs, mires & fens habitats (EU average 24%) and 54% of heath and scrub habitats (EU average 19.6%) and 1 sclerophyllous scrub habitat, and absent data: reported for rocky habitats (37%, EU average 19.9%), coastal habitats (34.8%, EU average 22.3%) and heath & scrubs (27.3%, EU average 20.9%).

Absent data is only reported for teh structure and function parameter in IT.

Non-bird species – methods used

The majority of the assessments for the species population are based on partial estimate followed by expert opinion. The species group with the highest share of complete survey are arthropods (36.7%, EU average 15.9%) and vascular plants (35.6%, EU average 44.9%).

The majority of assessments on habitat of the species are based on partial estimate followed by expert opinion. The species group with the highest share of absent data are mammals (15%, EU average 15.2%) and non-vascular plants (16.7%, EU average 13.9%).

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 are some issues seen with 4 coastal habitats reported by IT where the main reason for change is not completed for the parameters: overall conservation status (20% of the total of 5 cases, EU average 40.3%) and overall trend in conservation status (80%, EU average 43.5%).

There are no inconsistencies where the main reason for change selected is incoherent with the reasons selected for this field.

For the overall change in conservation status, there is one case where a main reason was not provided (1150 on CON).

Non-bird species

For all species groups, the population parameter showed the highest share of cases where no reason was filled in for the change and reason for change (38.9% of the total of 72 cases, EU average 15.7%).

The species groups where reason for change was not filled in for some parameters are identified are arthropods, fish and both vascular and non-vascular plants. There was just one case where more than one reason was filled in. There were no coherence issues with the selected reasons for change.

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

The majority of habitat reports in IT report that measures are needed and have been taken. A small proportion report measures needed but not yet taken: 3 coastal habitats (13%, EU average 28.2%) and 3 forest habitats (4.1%, EU average 22.6%). Where measures are needed but cannot be identified this is seen with 3 sclerophyllous scrub habitats (15%, EU average 4.1%) and 1 each of coastal habitats (4.3%, EU average 1%) and grasslands (2.6%, EU average 1%).

Where the main purpose of the measures is reported as the restoration of structure and functions (where measures have been taken) the highest proportion is seesaw with forest reports (50%, EU average 29.5%). Restoration is also reported as a main measure for a small proportion of coastal habitat reports (2), freshwater habitat reports (2), grassland habitat reports (1) and rocky habitat

reports (1). Maintaining the current range of the habitat is the main purpose of the measures reported for the majority of the habitat reports in all groups (except forests).

Non-bird species

Species where measures are needed but cannot be identified are mostly found with the groups: vascular plants (17.8% of the total number of records on the status of measures in the species group, EU mean 6.5%) and non-vascular plants (7.7%, EU average 4.4%). The groups with the highest percentage of measures needed but not yet taken are molluscs (75%, EU average 34.8%) and non-vascular plants (38.5%, EU average 33%). The groups with the highest percentage of measures not needed are other invertebrates (100%, EU average 77.8%) and amphibians (48.1%, EU average 54.1%).

Restoration measures taken for the habitat of the species seem to concern only arthropods (2.4% of the total number of records on the main purpose of measures that have been applied, EU average 8.5%), whereas measures to increase the population size or improve the dynamics concern mostly mammals (15.6%, EU average 11.2%), fish (13.7%, EU average 11.5%) and again arthropods (64.3%, EU average 7.8%). Expand the current range measures concern mostly amphibians (10%, EU average 3.9%) and vascular plants (9.1%, EU average 3.6%)

Bird species

Breeding: For the majority of breeding species reported in IT measures were reported as needed and taken, the second most reported category was needed but not taken. Only 3 breeding species were reported in the category of conservation measures not needed.

Wintering: For the majority of wintering species in IT it was reported that conservation measures were needed and taken, though there were several species that the measures were needed but not taken.

Passage: For most species reported in IT it was indicated that measures were needed but not yet taken.

Restoration measures taken for the habitat of the species were not taken for any of the species, whereas measures to increase the population size or improve the dynamics concern mostly cranes, rails, gallinules & coots, hawks & eagles, herons, pelicans, ibises & spoonbills (40%, 21.4% and 22.2% for each, EU mean 19.7%, 33.5% and 27.3%, respectively). Measures to expand the current range were not taken for any 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

In general, for the range parameter, IT reports the ≈ operator for all groups. Where > is reported the highest proportion is with coastal habitats (26.1%) and >> is used with 58.8% dune habitats and 52.8% of freshwater habitats. Unknown (x) is reported for 12 freshwater habitats (33.3%) (also reported with coastal, forests, grasslands, heath & scrub and sclerophyllous scrub habitats).

For area, > is used most frequently for sclerophyllous scrubs (55%, 11 habitats) and bogs, mires & fens (9 habitats), the >> operator is used more frequently in dune habitats (82.4%, 14 habitats). The highest frequency reporting of unknown (x) is seen with freshwater habitats (19.4%, 7 habitats).

Non-bird species

For the parameter range, the highest share of unknown (x) was reported for mammals (10.2% of the values for the species group), followed by non-vascular plants (8.3%). The highest share of ≈ was

reported for molluscs (94.4%) and reptiles (89.5%). The operator >> had a high share among fish (41.1%).

For the favourable reference population, the highest share of unknown (x) was reported for other invertebrates (40%). The highest share of ≈ was reported for reptiles (68.4%) and non-vascular plants (66.7%). The operator >> had a high share among fish (53.6%).

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.

Overall, in IT there is a low proportion of equality between habitat condition area and the area covered by the habitat for all habitat groups. This ranges from 36.4% for heath & scrub (EU average 59.8%) to 5.6% for bogs, mires & fens (EU average 49.1%). All of these habitat groups report the majority of habitat condition area as lower than the area covered by the habitat.

For the groups dune habitats and grasslands none are reported with a habitat condition area as equal to the area covered by the habitat. Both these habitat groups report the majority of habitat condition area as lower than the area covered by the habitat - dune habitats 88.2% (EU average 20%) and grasslands 86.9% (EU average EU average 29%).

In IT the main issue with reporting habitat condition is that it is consistently reported as less than the area covered by the habitat for all habitat groups.

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 Annex I habitat area reported in IT is covered by the Natura 2000 network. 27% of the land area (minus the sealed area) is covered by Annex I habitat area.

For further details see the online statistics here.