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

FR

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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 FR

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:

The majority of habitats reported by FR could be compared between the Natura 2000 database end_2018 and the Article 17 report (97.7% of reports).

Of these, 66.7% reported a Natura 2000 database area of less than or equal to the Article 17 area, slightly lower than the EU average of 74.9%. Where the habitat area in the Natura 2000 database was reported as higher than Article 17, this was seen with the category 1 to 1.5 times higher (18.6%, EU average 13.1%), 1.5 to 2 times higher (3.9%, EU average 3%) and more than 2 times higher than the area reported in Article 17 (10.9%, EU average 9%).

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

Where the Natura 2000 area reported in Article 17 could be compared with the area from the end_2018 database, the majority of habitats were reported in 2 categories: where the area was less than that reported for Natura 2000 in Article 17 (38.3%, EU average 46.2%) or where the area was 1 to 1.5 times greater than the Natura 2000 area reported in Article 17 (37.5%, EU average 32.7%). 18.8% of habitats reported an area of more than 2 times greater than that in Article 17 (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 15,9% of all species reported in FR 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, 84% reported a species population value in Natura 2000 as smaller than or equal with that reported in Article 17, which is higher to the EU average of 80.5%. The remaining 16% of species reported a Natura 2000 population greater than the Article 17 population, which is smaller 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, 13% of species records could be compared between the datasets based on the criteria noted above.

Of this comparable proportion, 43.9% 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 56.1% of species report a population in Natura 2000 smaller than that in Article 17, which is lower 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 19% 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, 11.7% 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: 15.1%.

Of this comparable proportion, none of the species reported an equal population in Natura 2000 and Art 12, lower than the EU average of 3.2%. 37.1% of species reported a larger population in Natura 2000 compared with the Natura 2000 population in the Article 12 report, which is lower than the EU average of 40.5%, whereas 62.9% 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

The majority of missing mandatory information with FR habitats is seen with bogs, mires & fens (21.8%, EU average 9.7%). All habitat groups report missing information for the majority of their parameters to some level. While not the parameter with the highest proportion of missing information for each group, there appears to be consistently a high proportion of missing information for short-term trend inside the network for all groups. This pattern is also seen with the short-term trend of habitat area in good condition across all groups.

Non-bird species

A high proportion of missing mandatory information was spotted in other invertebrates (43.7%, EU average 33.4%) and non-vascular plants (30.9%, EU average 22.1%). The highest proportion of missing mandatory information for mammals is the hunting bags (100% missing).

Fish (13.6%, EU average 13%) and vascular plants (15.8%, EU average 10.5%) had the lowest proportions of missing obligatory values.

The extrapolation and expert opinion are the most frequent methods used. Expert opinion is seen in the highest proportion with reptiles (56.3%, EU average 26.9%). Complete survey is used among mammals, reptiles, fish, amphibians, arthropods, molluscs, non-vascular and vascular plants. Where insufficient data is reported as the method used this is seen in the highest proportion with other invertebrates (67.9%, EU average 46.8%).

Bird species

The bird groups loons or divers and swifts & nightjars are those which report the highest proportion of missing information across all mandatory fields in the reporting format (29.2% and 22.2% of all fields, respectively). This is higher than the respective EU averages of 22.1% and 16.5%.

Some bird groups identified with high proportions of missing mandatory information for wintering species (short and long-term trend information) are the passerines, falcons and loons or divers (although several other groups also report missing information). Groups with missing information on hunting bags are ducks, geese & swans, the pigeons & doves (26.7% EU average 6.1% and 33.3% EU

average 16.1%, respectively). A high proportion of missing information on the short-term trend within the SPA network is seen with species groups, falcons, grebes, hawks & eagles, kingfishers, rollers, bee-eaters & hoopoe, loons or divers, passerines, petrels, storm-petrels & shearwaters, pheasants, partridges & grouse, and the woodpeckers (all >50% missing information). Several species groups reported the long-term trend in breeding population as field largely missing or unknown (cranes, rails, gallinules & coots, cuckoos, owls, and swifts & nightjars). Where high proportions of short-term breeding trend information is missing, this is with groups: cuckoos, grebes, loons or divers, owls and swifts and nightjars. As with the long-term trend. All of these listed above for the short and long-term trends have >50% missing information and there are several other groups which also list missing information in smaller proportions.

The highest proportion of reporting expert opinion as the method used is seen with loons or divers (67%, EU average 48%). The highest proportion of insufficient data reported is with swifts & nightjars (19.2%, EU average 41%).

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 structure and function parameter, there appears to be a high proportion of reporting the method used field as expert opinion or absent data for all habitat groups. Sclerophyllous scrub (58.8%, EU average 18.9%), freshwater habitats (42.1%, EU average 19%) and heath & scrub (35.3%, EU average 19.6%) have the highest reporting of expert opinion, although all habitat groups report >19.4% for this option. Where absent data is reported, this is a similar proportion for all habitat groups but the highest reporting is seen with bogs, mires & fens (57.1%, EU average 15.3%), heath & scrub (47.1%, EU average 20.9%) and grasslands (45.5%, EU average 14.7%). These are all above the EU average for reporting in these categories.

For the area parameter, there is also high reporting of expert opinion. The use of expert opinion ranges from 51.6% for coastal habitats (EU average 12.7%) to 88.6% for grasslands (EU average 11.7%). Absent data is reported less frequently than for structure and functions parameter, although 28.6% for bogs, mires & fens.

Bogs, mires & fens habitat group has the highest frequency of reporting absent data for both parameters.

Non-bird species – methods used

The complete survey is used only partially for the population parameter; frequently (57.9%, 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 20% (other invertebrates) to 70.6% (fish) - EU average 51%. Expert opinion is most frequently used among reptiles (57.8%). For the habitat for the species, expert opinion is the most used method.

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 discrepancies identified with reporting the main reason for change for habitats in FR for most habitat groups. Where no main reason for change was filled in, this is seen mainly with the parameter overall change in conservation status (54% of the total of 28 cases, EU average 38.5%).

There is only 1 case where the main reason for change is incoherent with the choices selected (habitat 4020 where knowledge is the main reason chosen but no information was the only option selected for the field).

Non-bird species

For all species groups the parameters overall conservation status and overall trend in conservation status showed the highest proportion of missing the main reason for change; overall CS 61.5% of teh total of 39 cases (EU average 32.1%), overall trend in CS 38.5% (EU average 39.9%). There were no cases where more than one reason was 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 the status of measures for FR habitats is reported as needed but none yet taken, the highest proportion is seen with coastal habitats (51.6%, EU average 28.2%) and rocky habitats (33.3%, EU average 17.1%). Where measures are needed but cannot be identified, this is seen mainly with sclerophyllous scrubs (11.8%, 2 habitats, EU average 4.1%), freshwater habitats (10.5%, EU average 2.3%) and rocky habitats (10.3%, EU average 1.9%).

The main purpose of the measures reported is mostly to maintain the current range for all habitat groups. However, there is a high proportion of reporting the purpose to restore the structure and functions: freshwater habitats (50%, EU average 27.5%), forests (45.5%, EU average 29.5%) and coastal habitats (42.9%, EU average 34%).

Non-bird species

Species where measures are needed but cannot be identified are mostly found with the groups: non-vascular plants (15%, EU average 4.4%), vascular plants (15.5%, EU average 6.5%) and molluscs (13%, EU average 4.5%). The groups with the highest percentage of measures needed but not yet taken are fish (37.2%, EU average 40%), non-vascular plants (40%, EU average 33%) and molluscs (47%, EU average 34.8%). For most of the species groups, measures are needed and have been taken.

The vast majority of measures intend to maintain the current status. The restoration of the habitat for the species is reported for mammals (33.3%, EU average 7.4%), molluscs (100%, EU average 17.8%), reptiles (33.3%, EU average 3.3%) and vascular plants (11.8%, EU average 5.5%). Where increasing teh popualtion size and/or improving dynamics was a main purpose provided, this was seen with vascular plants (23.5%, EU average 7.4%) and mammals (10.4%, EU average 11.2%).

Bird species

Breeding: For the majority of breeding species reported in FR measures were reported as needed and taken, the second most reported category was needed and not taken. Only 4 breeding species were reported in the category of conservation measures needed but not identified, belonging to the groups cranes, rails, gallinules & coots, waders, gulls and auks and woodpeckers.

Wintering: For the majority of wintering species in FR it was reported that conservation measures were not needed, the second most reported was as needed and not taken. Only 1 wintering species was reported in the category of conservation measures needed but not identified, belonging to the group of ducks, geese and swans.

Passage: For most of the species reported in FR it was indicated that measures were needed and not taken, then needed and taken and third as not needed. Only 4 passage species were indicated with measures needed but not identified, belonging to the group waders, gulls & auks.

Restoration measures taken for the habitat of the species seem to concern mainly pheasants, partridges and grouse (66.7% of the total number of records on the main purpose of measures that have been applied, EU mean 11.4%), whereas measures to increase the population size or improve the dynamics concern mostly sandgrouse (100%, EU mean 33.3%). Measures to expand the current range concern mostly storks and flamingo (50%, EU mean 5.1%).

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

Reporting unknown (x) for the range parameter is seen in all habitat groups in FR but the habitat groups with the highest proportion of reporting are: sclerophyllous scrubs (52.9%), dune habitats (47.6% and rocky habitats (46.2%). The use of operator >> is seen in a smaller proportion for 5 habitat groups and > is reported for 7 habitat groups: highest reporting for dune habitats (28.6%).

Unknown (x) is also reported for all habitat groups for the favourable reference area, the highest proportion of reporting is seen with: sclerophyllous scrubs (52.9%), dune habitats (47.6%) and rocky habitats (43.6%). Where >> is the operator reported this is seen in the highest proportion with habitat groups: grasslands (15.9%) and freshwater habitats (15.8%). > is reported across all habitat groups: the highest reporting seen is between 20% and 30% for groups bogs, mires & fens, coastal habitats, dune habitats, freshwater habitats, grasslands and heaths & scrubs.

Dune habitats, rocky habitats and sclerophyllous scrubs report the highest proportion of unknown (x) for both parameters.

There are 3 habitats where FR reported a favourable reference area of < the actual area but where the conclusion of the assessment is reported as either unfavourable or unknown: 7120 for bogs, mires & fens, 2260 for dune habitats and 3110 for freshwater habitats. This is an error in either the qualifier or the conclusion of the assessment.

Non-bird species

For the parameter range, the highest share of unknown (x) value was reported for molluscs (23.3%), non-vascular plants (22.2%) and other invertebrates (20%). The operator >> had a high share among fish (13.7%), and molluscs (16.7%).

For the favourable reference population, the highest share of unknown (x) was reported for arthropods (35%), non-vascular plants (33.3%) and reptiles (31.1%). The operator >> had a high share among molluscs (26.7%) and fish (17.6%).

There are several species which use the < operator but which report either a U1, U2 or XX overall conservation status: amphibians (1166, 1191, 1193, 1203, 1205, 1209, 1213, 6945, 6976, 6981), fish (1096), mammals (1316, 1317, 1328) and reptiles (1283, 5179). This operator cannot be used in conjunction of any unfavourable or unknown conclusion of the assessment.

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 heath & scrub habitat group (70.6%, EU average 59.8%)) and the coastal habitat group (65.5%, EU average 58%) show the highest proportion of equal reporting between habitat condition area and the area covered by the habitat. The group with the lowest equal reporting between areas is bogs, mires & fens (49%).

The habitat groups with the highest proportion of reporting of habitat condition are higher than the area covered by the habitat are freshwater habitats (75%, EU average 15.5%) and rocky habitats (63.9%, EU average 17%). For habitat condition being reported as lower than the area covered by the habitat, the coastal habitat groups (17.24%, EU average 18.4%) and rocky habitats (16.7%, EU average 23.8%) have the highest proportion.

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.

16% of Annex I habitat area reported by FR is covered by the Natura 2000 network. The Annex I habitat area covers about 28% of the land area of FR (minus the sealed area).

For further details see the online statistics here.