

**Examples of population size/trend reporting for species with limited data – DRAFT**

*N.B.: The examples illustrate how the available information could have been interpreted for the previous (2008–2012) reporting cycle, but making sure they are also relevant for the 2013–2018 cycle.*

**Population size**

**Species A** is a widespread species with regularly occurring breeding populations in all 28 Member States. However, during the reporting period 2008–2012, one Member State provided a breeding-season report for the species without any indication of breeding population size. In the absence of any reported information on the national breeding population size, the latter could in theory be just one breeding pair (in which case the data gap would not be at all significant at the EU level) or the largest breeding population of any Member State (and hence have important implications for assessment of the species’ EU population status). Either way, some indication of the plausible limits of national population size (however tentative or broad) – based, e.g., on older sources of information and/or expert judgement – would be very helpful (and certainly preferable to a complete lack of reported information).

In this example, various pieces of relevant information do in fact exist, including:

* a breeding population estimate of **10 000 – 100 000** **pairs** from the first national breeding bird atlas (referred to in, e.g., Snow & Perrins 1998 and BirdLife/EBCC 2000);
* an updated estimate by national experts of **5 000 – 50 000 pairs** in 2002 (BirdLifeInternational 2004a);
* and an indication in the 2005 national Red List that the species had a large population (and wide distribution), and was categorised as ‘**Least Concern[[1]](#footnote-1)’**.

Based on the information above, the actual breeding population size in 2012 seems likely to have fallen between 4,000 and 100,000 pairs, assuming the minimum and maximum estimates from 2002 were broadly accurate, and the population had neither decreased by more than 20 %[[2]](#footnote-2), nor doubled in size, in the intervening ten years.

Even this relatively broad range of minimum and maximum estimate would have helped to clarify the importance of the national population in the EU context[[3]](#footnote-3), but other sources of information could have refined it further. In this case, for example, a **recent estimate of the size of the national breeding distribution** was also available[[4]](#footnote-4), and **extrapolation of the range of densities** derived from overall totals for breeding population size and distribution area provided by other Member States that reported both (i.e. *c*.0.4–0.6 pairs/km²) produces an estimate of 21 246 – 32 025 pairs, suggesting that (assuming the species’ density in the Member State in question is not wholly atypical of the rest of the EU) it would probably be justifiable to ‘tighten’ the range of the preliminary minimum and maximum suggested above.

Either way, a textual explanation/justification of the estimate reported (perhaps alongside a note on the need for more rigorous and/or up-to-date data) could also be provided in the relevant ‘Additional information’ field (2.7).

**Population trend**

**Species B** has relatively specific ecological requirements, with a breeding distribution that is restricted to 12 Member States, four of which together are estimated to host more than 80 % of the EU breeding population. During the reporting period 2008–2012, all four of these key Member States reported one or both of their short-/long-term population trends for the species as ‘unknown’, with the result that the overall EU population status had to be categorised as ‘Unknown’ in 2014 (despite the species having been categorised as ‘Secure’ in BirdLife International 2004b[[5]](#footnote-5)). Had one or more of the key Member States provided additional information on their ‘unknown’ trends, it may have been possible to assess plausible scenarios – or at least discount the least likely ones (see also p.27 of the Art. 12 *Explanatory Notes and Guidelines for the period 2013–2018*; hereafter ‘guidelines’) – and allocate the species to an EU status category other than ‘Unknown’.

In the Member State that is the focus of this example, the species’ short-term population trend was reported in 2013 as ‘stable’ (with a data quality categorisation of ‘moderate’), but the long-term breeding population trend was reported as ‘unknown’. In theory, the long-term population trend could hence have been, e.g., a >20 % decline between 1980 and 2000, but stable at this reduced level from 2000 onwards (i.e. comparable to the EU population status category ‘Depleted’), or, e.g., a marked increase during 1980–2000 followed by stability (which would correspond to the EU population status category ‘Secure’ instead).

In practice, however, various pieces of information relevant to the species’ long-term population trend do exist, most notably:

* the assessment by national experts that the breeding population (and range) trend was probably ‘**stable’** (category defined as “overall change less than 20%”) **during both 1970–1990** (BirdLife/EBCC 2000) **and 1990–2000** (albeit with a data categorisation of ‘poor’; BirdLifeInternational 2004a);
* the categorisation of the species **in the** **2005 national Red List as ‘Least Concern’** (implying that the population had not declined by >20 % in the preceding 10–15 years[[6]](#footnote-6); see also footnote 2), and;
* although it is possible for a species’ population size to increase or decrease without a corresponding change in the size of its overall range (e.g. a reduction in density within a stable range), **the long-term trend of the breeding range** was reported as **‘stable’** (with a data quality categorisation of ‘moderate’) in 2013.

Given the above – particularly the various ‘stable’ population trend assessments for the periods 1970–1990, 1990–2000 and 2001–2012 – it doesn't seem unreasonable to conclude that the long-term breeding population trend is also likely to have been ‘stable’ overall.

Alternatively, the worst- and best-case scenarios covered by past ‘stable’ categorisations could have been used to estimate the overall limits of population change since 1980 (see also Box 4 on p.58 of the guidelines). For example, from a starting population index of 1 in 1980, the worst-case population index in 2012 could be estimated as 0.59 (i.e. 1 × 0.81 × 0.81 × 0.9[[7]](#footnote-7)) and the best-case as 1.56 (i.e. 1 × 1.19 × 1.19 × 1.1), with the respective percentage changes – i.e. -41 % and +56 % – provided in the relevant ‘Additional information’ field (3.3), or as the minimum and maximum trend magnitudes accompanying an ‘uncertain’ trend direction category[[8]](#footnote-8). Any supplementary information or expert assessment along the lines of the above would substantially reduce the uncertainty inherent in a simple ‘unknown’ population trend, and hence increase the likelihood that a species could be allocated to a category other than ‘Unknown’ when it comes to the overall EU population status assessment.

**References cited**

BirdLife International (2004a) *Birds in Europe: population estimates, trends and conservation status*. BirdLife Conservation Series No. 12. BirdLife International, Cambridge, U.K.

BirdLife International (2004b) *Birds in the European Union: a status assessment*. BirdLife International, Wageningen, The Netherlands.

BirdLife International / European Bird Census Council (2000) *European bird populations: estimates and trends*. BirdLife Conservation Series No. 10. BirdLife International, Cambridge, U.K.

IUCN Species Survival Commission (2017) *Guidelines for using the IUCN Red List categories and criteria. Version 13*. Prepared by the Standards and Petitions Subcommittee of the IUCN Species Survival Commission. Downloadable from <http://www.iucnredlist.org/documents/RedListGuidelines.pdf>.

Snow, D.W. & Perrins, C.M., eds. (1998) *The Birds of the Western Palearctic. Concise Edition. Volume 1: Non-passerines*. Oxford University Press, Oxford, U.K.

1. Not meeting the threshold for the IUCN Red List category ‘Near Threatened’ (in the case of widespread and large populations, criterion A: decline >20%). [↑](#footnote-ref-1)
2. The ‘threshold’ mentioned in the IUCN Red List guidelines (IUCN SSC 2017) for categorisation as Near Threatened under criterion A (relating to rapid population declines), for example. [↑](#footnote-ref-2)
3. I.e. between 0.5 % and 8.2 % of the overall EU breeding population size, with the relevant geomeans suggesting a figure of around 2 %. [↑](#footnote-ref-3)
4. From the breeding distribution map submitted, which was based on the second national breeding bird atlas. [↑](#footnote-ref-4)
5. I.e. the adopted ‘baseline’ for assessing progress towards Target 1(ii) of the EU Biodiversity Strategy to 2020. [↑](#footnote-ref-5)
6. Depending on the estimate of generation length used to assess the rate of any population size reduction. [↑](#footnote-ref-6)
7. 0.81 is the multiplier for a 19 % (i.e. <20%) decline during both 1980–1990 (‘worst-case’ scenario assuming that all of a 19 % decline in 1970–1990 occurred during the latter of the two decades) and 1990–2000; 0.9 is the multiplier for a 10 % decline (a plausible lower limit for a ‘stable’ short-term trend) during 2001–2012. The 1.19 and 1.1 multipliers in the ‘best-case’ calculation obviously relate to the positive equivalents of these values. [↑](#footnote-ref-7)
8. Reflecting the fact that some (semi-quantitative) trend information is available for the species's trend over the long-term trend period, so the latter isn't entirely ‘unknown’ (see also p.27 of the guidelines). [↑](#footnote-ref-8)