

**Reporting trend magnitudes for different categories of short- and long-term trend**

During the reporting round for 2008–2012, it was not possible to enter the ‘-’ (or ‘+’) sign in trend magnitude fields (e.g. Annex B, field 3.1.3) in the Article 12 reporting tool, so the direction of trend magnitudes was inferred from the entry in the related trend direction field (e.g. Annex B, field 3.1.2) – for example, direction = ‘decreasing’, minimum = ‘10’ and maximum = ‘20’ represented a decline of between -10% and -20%. This worked satisfactorily for unidirectional trends (i.e. ‘decreasing’ and ‘increasing’; the two categories for which trend magnitudes were explicitly requested in the 2008–2012 guidelines), but didn't allow easy reporting of trend magnitudes spanning zero, such as: ‘stable’ trends where quantitative trend data were available, but didn't differ significantly from zero; ‘stable’ trends where a threshold had been used to distinguish them from ‘increasing’ or ‘decreasing’ trends (e.g. short-term trend probably between -10% and +10% ⇒ ‘stable’), and; ‘fluctuating’ trends.

The updated Art. 12 *Explanatory Notes and Guidelines for the period 2013–2018* (hereafter ‘guidelines’) indicate that trend magnitudes should now be provided for trends reported as ‘increasing’, ‘decreasing’ or ‘uncertain’, with reporting of magnitudes (where available) also encouraged for ‘stable’ and ‘fluctuating’ trends (see section 3.1.3 on pp.27–28 of the guidelines).

**This note provides additional technical guidance on the reporting of trend magnitudes for different categories of short- and long-term trend, particularly on practical implementation of the guidance provided in the May 2017 version of the guidelines.**

**Reporting magnitudes for ‘decreasing’ and ‘increasing’ trends**

In theory, the direction of trend magnitudes reported for unidirectional (i.e. ‘decreasing’ and ‘increasing’) trends could still be inferred based solely on the entry in the accompanying trend direction field. However, given the loosening of restrictions on trend magnitude fields in the reporting tool, the need for clarity still in certain other situations, plus the benefits of a consistent approach across all trend-direction categories, the guidance is now to include the ‘-’ sign for all negative trend magnitudes, including cases where the direction is already indicated as ‘decreasing’. Nevertheless, to avoid unnecessary data entry, it is not necessary to include the ‘+’ sign for positive trends (i.e. a trend magnitude of ‘15’ will be assumed to represent +15%). In the case of negative trends, note that the ‘Minimum’ and ‘Maximum’ fields relate to minimum and maximum values mathematically (not minimum and maximum declines). See Box 1 below for examples.

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| **Box 1: Examples of trend-magnitude reporting for ‘decreasing’ and ‘increasing’ trends**  In the case of a species with an estimated trend of -7 % over the relevant trend period, and 95 % confidence limits of -14 % and -2 % (i.e. not overlapping zero and hence indicating a statistically significant change), the trend direction should be reported as ‘decreasing’, the minimum trend magnitude as ‘-14’, the maximum as ‘-2’ and the best single value as ‘-7’.  In the case of a species with an estimated trend of +18 % over the relevant period, with 95 % confidence limits of +12 % and +24 %, the trend direction should be reported as ‘increasing’, and the minimum, maximum and best single value for magnitude as ‘12’, ‘24’ and ‘18’ respectively. |

**Reporting magnitudes for ‘uncertain’ trends**

As indicated in the guidelines (pp. 27 and 59–60), the new trend direction category ‘uncertain’ is intended to cover situations where monitoring information does exist for a species, but is currently inconclusive (perhaps as a consequence of small sample sizes and/or stochastic effects). In the case of trends categorised as ‘uncertain’ by TRIM[[1]](#footnote-1), for example, lower and upper confidence limits will span zero, and widely so in at least one direction (hence why the trend is not treated as ‘stable’). In most of these cases, it is probably not appropriate to report a ‘best single value’, even if an average is available, given the uncertainty over the true trend. See Box 2 below for an example.

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| **Box 2: Example of trend-magnitude reporting for an ‘uncertain’ trend**  In the case of a species that has a short-term trend with lower and upper 95 % confidence limits of -53 % (i.e. equivalent to a multiplicative trend of <0.95 per year; see footnote 1) and +38 % respectively over the relevant trend period, the trend direction should be reported as ‘uncertain’, the minimum trend magnitude as ‘-53’ and the maximum trend magnitude as ‘38’. |

**Reporting magnitudes for ‘stable’ trends**

Similar to ‘uncertain’ trends, minimum and maximum trend magnitudes for ‘stable’ trends will span zero. In the case of trends derived from a statistically robust monitoring scheme, for example, the lower 95 % confidence limit will be negative and the upper limit will be positive (with the two also sufficiently close to zero for the trend direction to be considered ‘stable’, rather than ‘uncertain’). In the case of trends categorised as ‘stable’ based on less robust data and/or expert opinion, the entries for minimum and maximum trend magnitude should be the negative and positive equivalents of the threshold used to distinguish ‘stable’ from ‘increasing’ or ‘decreasing’ trends (e.g. an overall change of <20% for long-term trends; see p.59 of the guidelines). Examples for both these types of scenario are provided in Box 3 below.

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| **Box 3: Examples of trend-magnitude reporting for ‘stable’ trends**  In the case of a species with an estimated trend of -4 % over the relevant trend period, and 95 % confidence limits of -11 % and +4 % (i.e. spanning zero), the trend direction should be reported as ‘stable’, the minimum magnitude as ‘-11’, the maximum as ‘4’ and the best single value as ‘-4’.  In the case of a species without robust monitoring data for (all of) the long-term trend period, but which is adjudged to have changed overall by less than 20 %, the trend direction should be reported as ‘stable’, the minimum magnitude as ‘-20’ and the maximum as ‘20’. |

**Reporting magnitudes for ‘fluctuating’ trends**

As indicated in the guidelines (pp. 27 and 59–60), the trend direction category ‘fluctuating’ is intended for species showing interannual increases and decreases of ≥50%, but no significant change in average population level over the trend period. Minimum and maximum trend magnitude values for ‘fluctuating’ trends will hence span zero widely, albeit usually not ‘symmetrically’ (owing to the skewed nature of percentage increases/decreases). The definition of the ‘fluctuating’ category means that the best single value – which may not be available in practice – is assumed to be zero (i.e. no net change over the relevant trend period). If a best single value is calculable and is larger than the threshold used elsewhere for ‘increasing’ or ‘decreasing’ trends, the trend direction should be reported as such instead (even if this net increase/decrease is ‘overlaid’ with marked fluctuations). See Box 4 below for examples for two types of ‘fluctuating’ trend scenario.

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| **Box 4: Examples of trend-magnitude reporting for ‘fluctuating’ trends**  In the case of a species that occurs at a relatively consistent ‘baseline’ of 50 most years, but with influxes of up to 3000 in certain years, the trend direction should be reported as ‘fluctuating’, the minimum trend magnitude as ‘-98’ (i.e. the percentage decrease from the peak to the baseline) and the maximum as ‘5900’ (i.e. the percentage increase from the baseline to the peak).  In the case of a rare breeding species – occurring in most (so ‘regular’), but not all, years – whose numbers vary between zero and two pairs, but which does not show signs of becoming more or less regular/common, the trend direction should be reported as ‘fluctuating’, the minimum trend magnitude as ‘-100’ (i.e. ‘disappearing’ in some years) and the maximum as ‘200’[[2]](#footnote-2). |

1. See, e.g., <http://www.ebcc.info/index.php?ID=634#Box%20Trend%20interpretation%20and%20classification> [↑](#footnote-ref-1)
2. Not strictly the percentage increase from zero to two (not calculable), but indicative of this nonetheless. [↑](#footnote-ref-2)