# European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC)

## Fourth Report by the United Kingdom under Article 17

on the implementation of the Directive
from January 2013 to December 2018

Supporting documentation for the
conservation status assessment for the species:

**S1322 - Natterer's bat (*Myotis nattereri*)**

NORTHERN IRELAND

## IMPORTANT NOTE - PLEASE READ

- The information in this document is a country-level contribution to the UK Report on the conservation status of this species, submitted to the European Commission as part of the 2019 UK Reporting under Article 17 of the EU Habitats Directive.
- The 2019 Article 17 UK Approach document provides details on how this supporting information was used to produce the UK Report.
- The UK Report on the conservation status of this species is provided in a separate document.
- The reporting fields and options used are aligned to those set out in the European Commission guidance.
- Explanatory notes (where provided) by the country are included at the end. These provide an audit trail of relevant supporting information.
- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; (ii) completion of the field was not obligatory; (iii) the field was not relevant to this species (section 12 Natura 2000 coverage for Annex II species) and/or (iv) the field was only relevant at UK-level (sections 9 Future prospects and 10 Conclusions).
- For technical reasons, the country-level future trends for Range, Population and Habitat for the species are only available in a separate spreadsheet that contains all the country-level supporting information.
- The country-level reporting information for all habitats and species is also available in spreadsheet format.

Visit the JNCC website, https://jncc.gov.uk/article17, for further information on UK Article 17 reporting.

# Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

## NATIONAL LEVEL

## 1. General information

| | |
|---|---|
| 1.1 Member State | **UK (Northern Ireland information only)** |
| 1.2 Species code | **1322** |
| 1.3 Species scientific name | **Myotis nattereri** |
| 1.4 Alternative species scientific name | |
| 1.5 Common name (in national language) | Natterer's bat |

## 2. Maps

| | |
|---|---|
| 2.1 Sensitive species | No |
| 2.2 Year or period | 1994-2018 |
| 2.3 Distribution map | Yes |
| 2.4 Distribution map Method used | Based mainly on extrapolation from a limited amount of data |
| 2.5 Additional maps | No |

## 3. Information related to Annex V Species (Art. 14)

| | | |
|---|---|---|
| 3.1 Is the species taken in the wild/exploited? | No | |
| 3.2 Which of the measures in Art. 14 have been taken? | a) regulations regarding access to property | No |
| | b) temporary or local prohibition of the taking of specimens in the wild and exploitation | No |
| | c) regulation of the periods and/or methods of taking specimens | No |
| | d) application of hunting and fishing rules which take account of the conservation of such populations | No |
| | e) establishment of a system of licences for taking specimens or of quotas | No |
| | f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens | No |
| | g) breeding in captivity of animal species as well as artificial propagation of plant species | No |
| | h) other measures | No |

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

| b) Statistics/ quantity taken | Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period | | | | | |
|---|---|---|---|---|---|---|
| | Season/ year 1 | Season/ year 2 | Season/ year 3 | Season/ year 4 | Season/ year 5 | Season/ year 6 |
| Min. (raw, ie. not rounded) | | | | | | |
| Max. (raw, ie. not rounded) | | | | | | |
| Unknown | No | No | No | No | No | No |

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

## BIOGEOGRAPHICAL LEVEL

## 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

**Atlantic (ATL)**

4.2 Sources of information

Lundy, M. & Montgomery, I. (2010) Summer habitat associations of bats between riparian landscapes and within riparian areas, European Journal of Wildlife Research, 56(3): 385-394.
Lundy, M.G., Aughney, T., Montgomery, W.I., and Roche, N. (2011). Landscape conservation for Irish bats & species: specific roosting characteristics. Bat Conservation Ireland. Unpublished.
Russ, J.M. & Montgomery, W.I. (2002). Habitat association of bats in Northern Ireland: implications for conservation. Biological Conservation. 108: 49-58.
Lundy, M.G., Buckley, D.J., Boston, E.S.M., Scott, D.D., Prodohl, P.A., Marnell, F.,Teeling, E.C., Montgomery, W.I., (2012). Behavioural context of multi-scale species distribution models assessed by radio-tracking. Basic Appl. Ecol., http://dx.doi.org/10.1016/j.baae.2011.1012.1003.
Hutson, A.M., Mickleburgh, S.P., and Racey, P.A. (comp.). (2001). Microchiropteran bats: global status survey and conservation action plan. IUCN/SSC Chiroptera Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK. x + 258 pp.
Hutson, A.M., Mickleburgh, S.P. & Racey, P.A. (comp.). (2001) Global Status Survey and Conservation Action Plan Microchiropteran Bats, The Nature Conservation Bureau Ltd, ISBN: 2-8317-0595-9, http://www.uni-giessen.de/faculties/f08/departments/tsz/mammalian-ecology-group/downloads/iucn-microchiroptera
Russ, J.M. (1999). The Microchiroptera of Northern Ireland: community composition, habitat associations and ultrasound. Unpublished Ph.D thesis. The Queen's University of Belfast.
Boston, E. (2016) A report on Article 17 reporting for Northern Ireland on the

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eight bat species listed in annex IV of the UK Habitats Directive, unpublished report compiled for CEDaR
Mathews, F., Richardson, S., Lintott, P., and Hosken, D. 2016. Understanding the Risk to European Protected Species (bats) at Onshore Wind Turbine Sites to inform Risk Management. University of Exeter. Report to DEFRA.

## 5. Range

| | | |
|---|---|---|
| 5.1 Surface area (km²) | | |
| 5.2 Short-term trend Period | | |
| 5.3 Short-term trend Direction | Uncertain (u) | |
| 5.4 Short-term trend Magnitude | a) Minimum | b) Maximum |
| 5.5 Short-term trend Method used | | |
| 5.6 Long-term trend Period | | |
| 5.7 Long-term trend Direction | | |
| 5.8 Long-term trend Magnitude | a) Minimum | b) Maximum |
| 5.9 Long-term trend Method used | | |
| 5.10 Favourable reference range | a) Area (km²)<br>b) Operator<br>c) Unknown<br>d) Method | |
| 5.11 Change and reason for change in surface area of range | No change<br>The change is mainly due to: | |
| 5.12 Additional information | | |

## 6. Population

| | | |
|---|---|---|
| 6.1 Year or period | 1994-2018 | |
| 6.2 Population size (in reporting unit) | a) Unit | number of map 1x1 km grid cells (grids1x1) |
| | b) Minimum | |
| | c) Maximum | |
| | d) Best single value | 28 |
| 6.3 Type of estimate | Best estimate | |
| 6.4 Additional population size (using population unit other than reporting unit) | a) Unit | number of individuals (i) |
| | b) Minimum | |
| | c) Maximum | |
| | d) Best single value | 48000 |
| 6.5 Type of estimate | Best estimate | |
| 6.6 Population size Method used | Based mainly on extrapolation from a limited amount of data | |
| 6.7 Short-term trend Period | 2007-2018 | |
| 6.8 Short-term trend Direction | Uncertain (u) | |

| | |
|---|---|
| 6.9 Short-term trend Magnitude | a) Minimum<br>b) Maximum<br>c) Confidence interval |
| 6.10 Short-term trend Method used | Insufficient or no data available |
| 6.11 Long-term trend Period | |
| 6.12 Long-term trend Direction | |
| 6.13 Long-term trend Magnitude | a) Minimum<br>b) Maximum<br>c) Confidence interval |
| 6.14 Long-term trend Method used | |
| 6.15 Favourable reference population (using the unit in 6.2 or 6.4) | a) Population size<br>b) Operator<br>c) Unknown<br>d) Method |
| 6.16 Change and reason for change in population size | No change<br>The change is mainly due to: |
| 6.17 Additional information | |

## 7. Habitat for the species

| | | |
|---|---|---|
| 7.1 Sufficiency of area and quality of occupied habitat | a) Are area and quality of occupied habitat sufficient (to maintain the species at FCS)? | Yes |
| | b) Is there a sufficiently large area of occupied AND unoccupied habitat of suitable quality (to maintain the species at FCS)? | |
| 7.2 Sufficiency of area and quality of occupied habitat Method used | Based mainly on extrapolation from a limited amount of data | |
| 7.3 Short-term trend Period | 2007-2018 | |
| 7.4 Short-term trend Direction | Uncertain (u) | |
| 7.5 Short-term trend Method used | Insufficient or no data available | |
| 7.6 Long-term trend Period | | |
| 7.7 Long-term trend Direction | | |
| 7.8 Long-term trend Method used | | |
| 7.9 Additional information | | |

## 8. Main pressures and threats

8.1 Characterisation of pressures/threats

| Pressure | Ranking |
|---|---|
| Conversion from one type of agricultural land use to another (excluding drainage and burning) (A02) | M |

| | |
|---|---|
| Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (A05) | H |
| Use of other pest control methods in agriculture (excluding tillage) (A23) | M |
| Conversion to other types of forests including monocultures (B02) | M |
| Logging without replanting or natural regrowth (B05) | M |
| Clear-cutting, removal of all trees (B09) | H |
| Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01) | H |
| Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (F02) | M |
| Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (F24) | H |
| Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01) | H |

| Threat | Ranking |
|---|---|
| Conversion from one type of agricultural land use to another (excluding drainage and burning) (A02) | M |
| Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (A05) | H |
| Use of other pest control methods in agriculture (excluding tillage) (A23) | M |
| Conversion to other types of forests including monocultures (B02) | M |
| Logging without replanting or natural regrowth (B05) | M |
| Clear-cutting, removal of all trees (B09) | H |
| Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01) | H |
| Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (F02) | M |
| Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (F24) | H |
| Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01) | H |

### 8.2 Sources of information

### 8.3 Additional information

## 9. Conservation measures

### 9.1 Status of measures

a) Are measures needed? Yes

b) Indicate the status of measures Measures identified and taken

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| | |
|---|---|
| 9.2 Main purpose of the measures taken | Maintain the current range, population and/or habitat for the species |
| 9.3 Location of the measures taken | Both inside and outside Natura 2000 |
| 9.4 Response to the measures | Medium-term results (within the next two reporting periods, 2019-2030) |
| 9.5 List of main conservation measures | |
| 9.6 Additional information | |

## 10. Future prospects

| | |
|---|---|
| 10.1 Future prospects of parameters | a) Range<br>b) Population<br>c) Habitat of the species |
| 10.2 Additional information | |

## 11. Conclusions

| | |
|---|---|
| 11.1. Range | |
| 11.2. Population | |
| 11.3. Habitat for the species | |
| 11.4. Future prospects | |
| 11.5 Overall assessment of Conservation Status | |
| 11.6 Overall trend in Conservation Status | |
| 11.7 Change and reasons for change in conservation status and conservation status trend | a) Overall assessment of conservation status<br>No change<br>The change is mainly due to:<br>b) Overall trend in conservation status<br>No change<br>The change is mainly due to: |
| 11.8 Additional information | |

## 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

| | |
|---|---|
| 12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present) | a) Unit<br>b) Minimum<br>c) Maximum<br>d) Best single value |
| 12.2 Type of estimate | |
| 12.3 Population size inside the network Method used | |

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12.4 Short-term trend of population size within the network Direction

12.5 Short-term trend of population size within the network Method used

12.6 Additional information

## 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

# Distribution Map

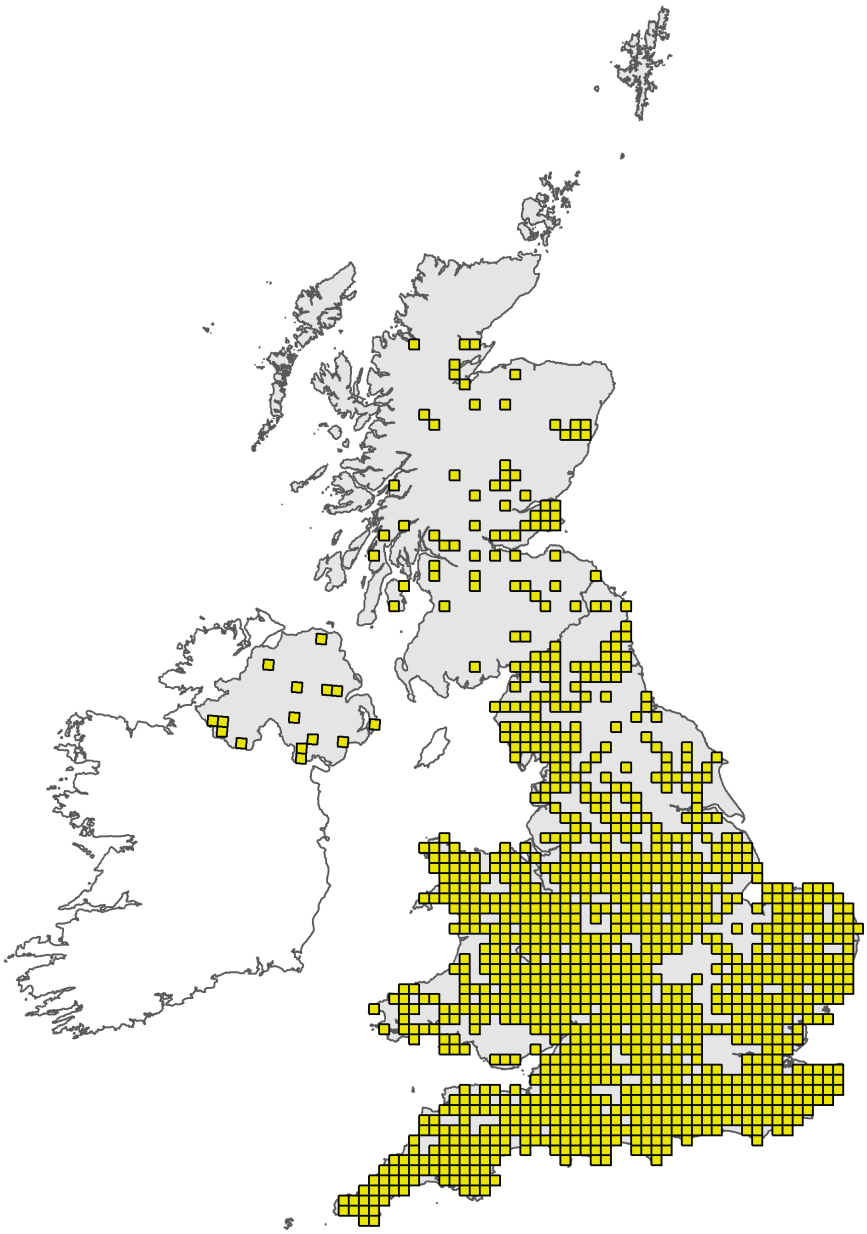

Figure 1: UK distribution map for S1322 - Natterer's bat (*Myotis nattereri*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The 10km grid square distribution map is based on available species records within the current reporting period. For further details see the 2019 Article 17 UK Approach document.

# Range Map

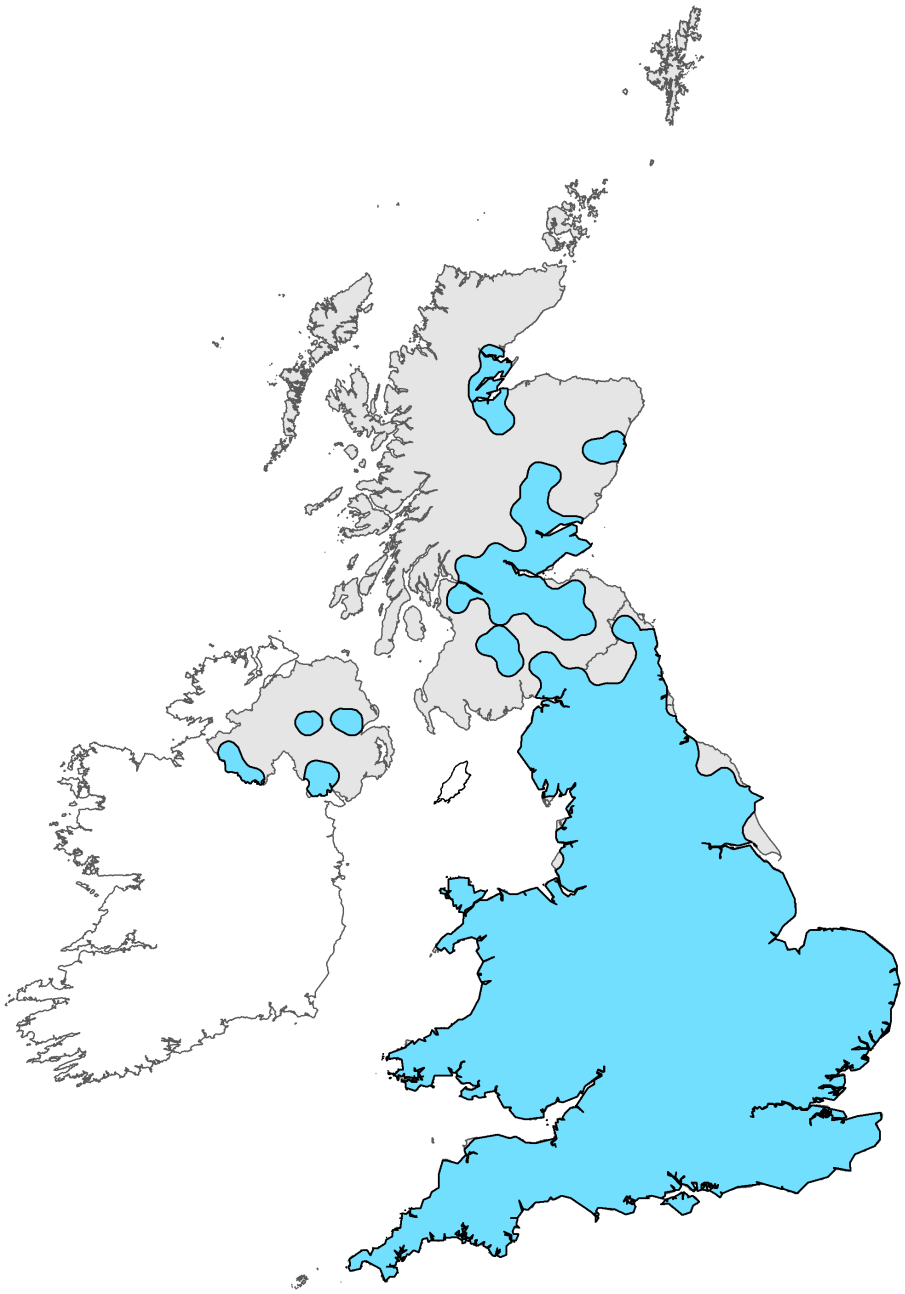

Figure 2: UK range map for S1322 - Natterer's bat (*Myotis nattereri*).Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The range map has been produced by The Mammal Society applying a range mapping tool as outlined in Matthews et al. (2018), to the 10km grid square distribution map presented in Figure 1. The alpha value for this species was 20km. For further details see the 2019 Article 17 UK Approach document.

# Explanatory Notes

**Species name: Myotis nattereri (1322) Region code: ATL**

| Field label | Note |
|---|---|
| 5.3 Short term trend; Direction | The short-term trend direction for the range has been reported as 'uncertain' because there is insufficient monitoring data available to accurately interpret range trends. We cannot infer any trend in range between this period and the last, due to the quality and amount of data available. |
| 5.5 Short term trend; Method used | There are relatively few records for this species from across Ireland. Records have been collected since 1985 by the NIBG, BCT and BCI, and since it can be difficult to separate the Myotis species using ultrasound detectors a large portion of these known records are roost records. Currently there is no monitoring scheme in place to monitor populations of this species. It is likely that there a number of additional incidental records that have not been added to the species recording databases. The omission of these records may influence the interpretation of the overall distribution of the species within this report. |
| 5.11 Change and reason for change in surface area of range | We have stated that there has been 'no' change in the surface area of this species' range because there is insufficient monitoring data available to determine whether an actual change in range surface area has occurred within this reporting period. |
| 6.1 Year or Period | Due to inconsistent recording, population estimates (1x1km squares presence) for all bat species have been based upon available data from the period 1994-2018. |
| 6.5 Type of estimate | Based upon estimate used in 2013 Report. This estimate was based on a number of assumptions that are as yet untested and should be treated with caution. |
| 6.6 Population size; Method used | NI Records for this species are scarce and it may be under-recorded. There is currently no systematic monitoring scheme in place in Northern Ireland to monitor this species' populations. The records used in this report are collected by NI Bat Group, Bat Conservation Trust and Bat Conservation Ireland are available upon request, from databases managed by CEDaR, NI Bat Group, Bat Conservation Ireland and the National Biodiversity Data Centre. There may be additional incidental records that have not been added to these databases. The absence of records will affect the interpretation of the overall distribution and population estimate of the species. |
| 6.8 Short term trend; Direction | The short-term trend direction for the population has been reported as 'uncertain' because there is insufficient monitoring data available to accurately interpret population trends. |
| 6.16 Change and reason for change in population size | No' genuine change in population size, due to insufficient monitoring data available to determine whether an actual change in population size has occurred within this reporting period. |
| 7.2 Sufficiency of area and quality of occupied habitat; Method used | Although the species is not well-recorded in NI, habitat area and quality has been assessed as sufficient. This has been calculated from Maximum Entropy modelling of bat records 2000-2009 combined with CORINE landcover, altitude, soil pH, climate and human bias layers (see Lundy et al. 2011). |
| 7.4 Short term trend; Direction | Natterer's bats can occupy a variety of habitats. There is little information on habitat associations of the species available. Given that there have been no systematic surveys carried out across Natterer's bat sites in all of the possible habitats to assess their condition in relation to Natterer's bat requirements, we cannot infer any directional trend between this period and the last for 'habitat for the species' with confidence. Therefore the short-term trend direction for the habitat for the species has been reported as 'uncertain'. Note that no trend can be estimated from Maximum Entropy Modelling. |

| | |
|---|---|
| 8.1 Characterisation of pressures/ threats | Natterer's bats forage in relatively dense woodland and also above water. Frequently, this species gleans out in the open over fields and other grassland, some distance away from linear features such as hedgerows. Threats and Pressures similar to many other bat species - i.e. A02: Conversion from one type of agricultural land use to another (excluding drainage and burning); A05: Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.); A23: Use of other pest control methods in agriculture (excluding tillage); B02: Conversion to other types of forests including monocultures; B05: Logging without replanting or natural regrowth; B09: Clear-cutting, removal of all trees; E01: Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels); F02: Construction or modification (of e.g. housing and settlements) in existing urban or recreational areas; F24: Residential or recreational activities and structures generating noise, light, heat or other forms of pollution; J01: Mixed source pollution to surface and ground waters (limnic and terrestrial). |
| 10.1 Future prospects of parameters | The future prospects for range, population and habitat for species have been reported as 'unknown' because there is insufficient monitoring data available to accurately interpret trends. It is impossible to infer any directional range trend between this period and the last, due to the quality and amount of data available. |