



THE IUCN RED LIST  
OF THREATENED SPECIES™



## ***Troglodytes troglodytes (Winter Wren)***

### **European Red List of Birds**

### **Supplementary Material**

The European Union (EU27) Red List assessments were based principally on the official data reported by EU Member States to the European Commission under Article 12 of the Birds Directive in 2013-14.

For the European Red List assessments, similar data were sourced from BirdLife Partners and other collaborating experts in other European countries and territories. For more information, see BirdLife International (2015).

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#### **Recommended citation**

BirdLife International (2015) European Red List of Birds. Luxembourg: Office for Official Publications of the European Communities.

#### **Further information**

- <http://www.birdlife.org/datazone/info/euroredlist>
- <http://www.birdlife.org/europe-and-central-asia/european-red-list-birds-0>
- <http://www.iucnredlist.org/initiatives/europe>
- <http://ec.europa.eu/environment/nature/conservation/species/redlist/>

#### **Data requests and feedback**

To request access to these data in electronic format, provide new information, correct any errors or provide feedback, please email [science@birdlife.org](mailto:science@birdlife.org).

*Troglodytes troglodytes* (Winter Wren)

**Table 1.** Reported national breeding population size and trends in Europe<sup>1</sup>.

| Country (or territory) <sup>2</sup> | Population estimate       |            |           |         | Short-term population trend <sup>4</sup> |                            |           |         | Long-term population trend <sup>4</sup> |                            |           |         | Subspecific population (where relevant) |
|-------------------------------------|---------------------------|------------|-----------|---------|--|----------------------------|-----------|---------|---|----------------------------|-----------|---------|---|
|                                     | Size (pairs) <sup>3</sup> | Europe (%) | Year(s)   | Quality | Direction <sup>5</sup>                   | Magnitude (%) <sup>6</sup> | Year(s)   | Quality | Direction <sup>5</sup>                  | Magnitude (%) <sup>6</sup> | Year(s)   | Quality |   |
| Albania                             | 1,000-5,000               | <1         | 2002-2012 | medium  | 0  | 0                          | 2002-2012 | medium  | 0                                       | 0                          | 1980-2012 | poor    |   |
| Andorra                             | 500-700                   | <1         | 1999-2001 | medium  | ?  |                            |           |         | ?                                       |                            |           |         |   |
| Armenia                             | 15,000-25,000             | <1         | 2002-2012 | medium  | ?  |                            |           |         | ?                                       |                            |           |         |   |
| Austria                             | 170,000-270,000           | 1          | 2001-2012 | medium  | -  | 10-30                      | 2000-2011 | medium  | ?                                       |                            |           |         | all others                              |
| Azerbaijan                          | 20,000-100,000            | <1         | 1996-2000 | poor    | ?  |                            |           |         | ?                                       |                            |           |         |   |
| Belarus                             | 450,000-500,000           | 1          | 2000-2012 | medium  | 0  | 0                          | 2001-2012 | medium  | 0                                       | 0                          | 1980-2012 | medium  |   |
| Belgium                             | 230,000-640,000           | 1          | 2008-2012 | poor    | -  | 2-15                       | 2000-2012 | medium  | 0                                       | 0                          | 1973-2012 | medium  | all others                              |
| Bosnia & HG                         | 80,000-100,000            | <1         | 2010-2014 | poor    | ?  |                            |           |         | ?                                       |                            |           |         |   |
| Bulgaria                            | 50,000-100,000            | <1         | 2005-2012 | medium  | 0  | 5-10                       | 2000-2012 | medium  | 0                                       | 5-10                       | 1980-2012 | poor    | all others                              |
| Croatia                             | 100,000-200,000           | <1         | 2014      | poor    | ?  |                            |           |         | ?                                       |                            |           |         |   |
| Cyprus                              | 2,000-7,000               | <1         | 2006-2012 | medium  | ?  |                            |           |         | 0                                       | 0                          | 1980-2012 | poor    | all others                              |
| Czech Rep.                          | 94,800-189,600            | <1         | 2012      | medium  | -  | 16-39                      | 2000-2012 | good    | 0                                       | 0                          | 1982-2012 | good    | all others                              |
| Denmark                             | 130,000                   | <1         | 2011      | medium  | -  | 50-70                      | 1999-2011 | good    | +                                       | 25-50                      | 1980-2011 | good    | all others                              |
| DK: Faroe Is                        | 600-850                   | <1         | 2001      | medium  | ?  |                            |           |         | ?                                       |                            |           |         |   |
| Estonia                             | 250,000-300,000           | 1          | 2008-2012 | medium  | +  | 20-50                      | 2001-2012 | medium  | +                                       | 20-50                      | 1980-2012 | medium  | all others                              |
| Finland                             | 80,000-140,000            | <1         | 2006-2012 | good    | 0  | 0                          | 2001-2012 | good    | +                                       | 98-250                     | 1983-2012 | good    | all others                              |
| France                              | 4,000,000-7,000,000       | 13         | 2008-2012 | medium  | -  | 26                         | 2001-2011 | medium  | 0                                       | 0                          | 1989-2011 | medium  | all others                              |
| Georgia                             | Present                   | <1         |           |         | ?  |                            |           |         | ?                                       |                            |           |         |   |
| Germany                             | 2,500,000-3,350,000       | 7          | 2005-2009 | medium  | 0  | 0                          | 1998-2009 | good    | +                                       | 21-39                      | 1990-2009 | good    | all others                              |
| Greece                              | 50,000-100,000            | <1         | 2008-2012 | poor    | ?  |                            |           |         | ?                                       |                            |           |         | all others                              |
| Hungary                             | 27,000-53,000             | <1         | 2000-2012 | poor    | ?  |                            |           |         | ?                                       |                            |           |         | all others                              |
| Iceland                             | 3,000-5,000               | <1         | 2000      | poor    | ?  |                            |           |         | ?                                       |                            |           |         |   |
| Rep. Ireland                        | 4,545,510-12,372,360      | 13         | 2006-2011 | good    | 0  | 0                          | 1998-2011 | good    | ?                                       |                            |           |         | all others                              |
| Italy                               | 1,000,000-2,500,000       | 4          | 2007      | poor    | +  | 10-20                      | 2000-2012 | medium  | +                                       | 10-20                      | 1990-2012 | poor    | all others                              |
| Kosovo                              | 15,000-20,000             | <1         | 2009-2014 | medium  | ?  |                            |           |         | ?                                       |                            |           |         |   |
| Latvia                              | 319,617-463,008           | 1          | 2011      | good    | +  | 11-57                      | 2005-2012 | good    | +                                       | 42-293                     | 1994-2010 | good    | all others                              |
| Liechtenstein                       | 800-1,400                 | <1         | 2009-2014 | medium  | 0  | 0                          | 2003-2014 | medium  | 0                                       | 0                          | 1980-2014 | medium  |   |
| Lithuania                           | 80,000-150,000            | <1         | 2008-2012 | medium  | 0  | 0                          | 2001-2012 | medium  | 0                                       | 0                          | 1980-2012 | medium  | all others                              |
| Luxembourg                          | 10,000-15,000             | <1         | 2008-2012 | medium  | 0  | 0                          | 2000-2012 | poor    | ?                                       |                            |           |         | all others                              |
| FYRO Macedonia                      | 50,000-100,000            | <1         | 2001-2012 | poor    | ?  |                            |           |         | ?                                       |                            |           |         |   |
| Moldova                             | 5,000-8,000               | <1         | 2000-2010 | medium  | F  | 0                          | 2000-2010 | medium  | 0                                       | 0                          | 1980-2010 | medium  |   |
| Montenegro                          | 15,000-20,000             | <1         | 2002-2012 | poor    | ?  |                            |           |         | ?                                       |                            |           |         |   |

*Troglodytes troglodytes* (Winter Wren)

**Table 1.** Reported national breeding population size and trends in Europe<sup>1</sup>.

| Country (or territory) <sup>2</sup> | Population estimate       |            |           |            | Short-term population trend <sup>4</sup> |                            |           |         | Long-term population trend <sup>4</sup> |                            |           |         | Subspecific population (where relevant) |
|-------------------------------------|---------------------------|------------|-----------|------------|--|----------------------------|-----------|---------|---|----------------------------|-----------|---------|---|
|                                     | Size (pairs) <sup>3</sup> | Europe (%) | Year(s)   | Quality    | Direction <sup>5</sup>                   | Magnitude (%) <sup>6</sup> | Year(s)   | Quality | Direction <sup>5</sup>                  | Magnitude (%) <sup>6</sup> | Year(s)   | Quality |   |
| Netherlands                         | 547,662-657,194           | 2          | 2008-2011 | medium     | -  | 22-29                      | 2002-2011 | medium  | +                                       | 72-129                     | 1984-2011 | medium  | all others                              |
| Norway                              | 250,000-500,000           | 1          | 2000-2013 | poor       | F  | 0                          | 2006-2013 | good    | F                                       | 0                          | 1980-2013 | good    |   |
| Poland                              | 590,000-870,000           | 2          | 2008-2012 | good       | 0  | 0                          | 2000-2012 | good    | ?                                       |                            |           |         | all others                              |
| Portugal                            | 1,000,000-5,000,000       | 6          | 2008-2012 | medium     | 0  | 0                          | 2004-2011 | medium  | ?                                       |                            |           |         | all others                              |
| Romania                             | 270,000-540,000           | 1          | 2010-2013 | medium     | ?  |                            |           |         | ?                                       |                            |           |         | all others                              |
| Russia                              | 3,000,000-5,000,000       | 10         | 2000-2008 | medium     | F  | 0                          | 2000-2012 | medium  | +                                       | 5-30                       | 1980-2012 | medium  |   |
| Serbia                              | 77,000-110,000            | <1         | 2008-2012 | medium     | 0  | 0                          | 2000-2012 | medium  | 0                                       | 0                          | 1980-2012 | medium  |   |
| Slovakia                            | 100,000-200,000           | <1         | 2002      | medium     | 0  | 0                          | 2000-2012 | medium  | 0                                       | 0                          | 1980-2012 | medium  | all others                              |
| Slovenia                            | 85,000-115,000            | <1         | 2002-2012 | good       | ?  |                            |           |         | ?                                       |                            |           |         | all others                              |
| Spain                               | 2,755,000-3,595,000       | 8          | 2004-2006 | good       | +  | 31                         | 1998-2012 | good    | +                                       |                            | 1980-2012 | medium  | all others                              |
| Sweden                              | 302,000-689,000           | 1          | 2008-2012 | medium     | 0  | 0                          | 2001-2012 | good    | +                                       | 170-250                    | 1980-2012 | good    | all others                              |
| Switzerland                         | 250,000-350,000           | 1          | 2008-2012 | medium     | 0  | 0                          | 2001-2012 | good    | +                                       | 21-77                      | 1990-2012 | poor    |   |
| Turkey                              | 400,000-1,200,000         | 2          | 2013      | poor       | 0  | 0                          | 2000-2012 | poor    | 0                                       | 0-19                       | 1990-2013 | poor    |   |
| Ukraine                             | 140,000-160,000           | <1         | 2000      | medium     | F  | 5-10                       | 1998-2010 | medium  | F                                       | 10-20                      | 1980-2010 | medium  |   |
| United Kingdom                      | 8,600,000                 | 22         | 2009      | medium     | -  | 7                          | 1998-2010 | good    | +                                       | 22                         | 1980-2010 | good    | all others                              |
| United Kingdom                      | 29                        | <1         | 2006-2010 | good       | -  | 13                         | 1996-2008 | good    | +                                       | 71                         | 1980-2008 | good    | T. t. fridariensis                      |
| EU27                                | 27,800,000-48,000,000     | 85         |           | Decreasing |  |                            |           |         |   |                            |           |         |   |
| Europe                              | 32,700,000-56,500,000     | 100        |           | Stable     |  |                            |           |         |   |                            |           |         |   |

<sup>1</sup> See 'Sources' at end of factsheet, and for more details on individual EU Member State reports, see the Article 12 reporting portal at <http://bd.eionet.europa.eu/article12/report>.

<sup>2</sup> The designation of geographical entities and the presentation of the material do not imply the expression of any opinion whatsoever on the part of IUCN or BirdLife International concerning the legal status of any country, territory or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

<sup>3</sup> In the few cases where population size estimates were reported in units other than those specified, they were converted to the correct units using standard correction factors.

<sup>4</sup> The robustness of regional trends to the effects of any missing or incomplete data was tested using plausible scenarios, based on other sources of information, including any other reported information, recent national Red Lists, scientific literature, other publications and consultation with relevant experts.

<sup>5</sup> Trend directions are reported as: increasing (+); decreasing (-); stable (0); fluctuating (F); or unknown (?).

<sup>6</sup> Trend magnitudes are rounded to the nearest integer.

## Trend maps

A symbol appears in each country where the species occurs: the shape and colour of the symbol represent the population trend in that country, and the size of the symbol corresponds to the proportion of the European population occurring in that country.

### KEY

- |                                  |                                  |
|----------------------------------|----------------------------------|
| ▲ Large increase ( $\geq 50\%$ ) | ▼ Large decrease ( $\geq 50\%$ ) |
| ▲ Moderate increase (20–49%)     | ▼ Moderate decrease (20–49%)     |
| ▲ Small increase (<20%)          | ▼ Small decrease (<20%)          |
| ↑ Increase of unknown magnitude  | ↓ Decrease of unknown magnitude  |

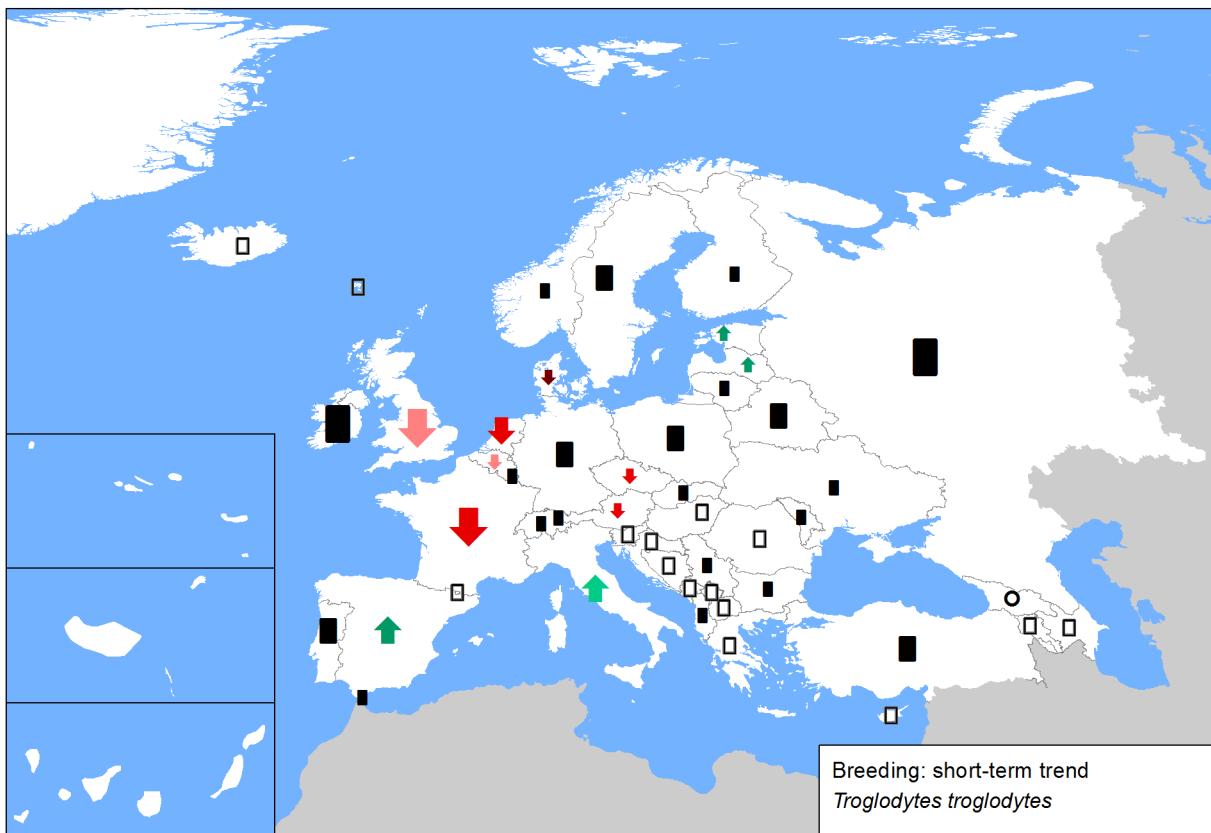
- Stable or fluctuating
- Unknown
- Present (no population or trend data)
- ✗ Extinct since 1980

Each symbol, with the exception of Present and Extinct, may occur in up to three different size classes, corresponding to the proportion of the European population occurring in that country.

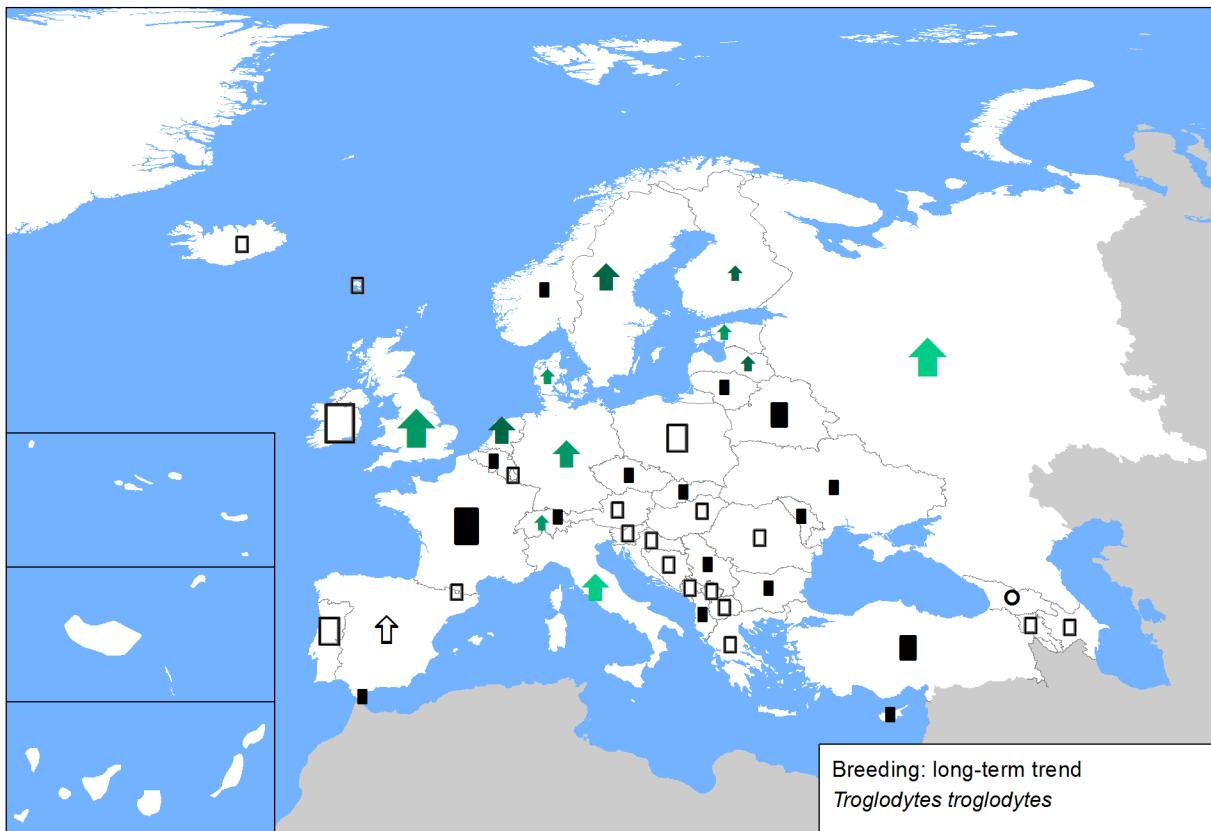
- ↑ Large:  $\geq 10\%$  of the European population
- ↑ Medium: 1–9% of the European population
- ↑ Small: <1% of the European population

The designation of geographical entities and the presentation of the material do not imply the expression of any opinion whatsoever on the part of IUCN or BirdLife International concerning the legal status of any country, territory or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

**Figure 1.** Breeding population sizes and short-term trends across Europe.



**Figure 2.** Breeding population sizes and long-term trends across Europe.



## Sources

### Albania

Breeding population size: Bino pers. obs.

Breeding short-term trend: Bino pers. obs.

Breeding long-term trend: Bino pers. obs.

### Andorra

Breeding population size: BirdLife International 2004

### Armenia

Breeding population size: ASPB data

### Austria: all others

Breeding population size: BirdLife Austria, extrapolation on the basis of available unpublished and published population and density data

Breeding short-term trend: N. Teufelbauer based on data from the Austrian Common Breeding Bird Monitoring

### Azerbaijan

Breeding population size: BirdLife International 2004

### Belarus

Breeding population size: Koloskov M.N. - personal communication

Breeding short-term trend: BirdLife International (2004) Birds in Europe: population estimates, trends and conservation status. Cambridge, UK: BirdLife International. (BirdLife Conservation Series, No 12).

Breeding long-term trend: Nikiforov M.E., Kozulin A.V., eds. Belarussian birds at the beginning of XXI century: status, numbers, distribution. - 1997. - Minsk. - 187 p.

### Belgium: all others

Breeding population size: Data Breeding Bird atlas Wallonia (Jacob et al 2010), Brussels (Weiserbs 2012) and Flanders (Vermeersch et al 2004) in combination with trend data.

Breeding short-term trend: Common bird monitoring schemes

Breeding long-term trend: Comparison between 2008-2012 estimate and Devillers, 1989 (Atlas of the Belgian Breeding Bird) population estimate

### Bosnia and Herzegovina

Breeding population size: unpublisht data

### Bulgaria: all others

Breeding population size: Iankov, P. (ed.) 2007 Atlas of Breeding Birds in Bulgaria. Bulgarian Society for the Protection of Birds, Conservation Series, Book 10, Sofia, BSPB, 679 p. BSPB Bird Database

Breeding short-term trend: Iankov, P. (ed.) 2007 Atlas of Breeding Birds in Bulgaria. Bulgarian Society for the Protection of Birds, Conservation Series, Book 10, Sofia, BSPB, 679 p.

Breeding long-term trend: Iankov, P. (ed.) 2007 Atlas of Breeding Birds in Bulgaria. Bulgarian Society for the Protection of Birds, Conservation Series, Book 10, Sofia, BSPB, 679 p.

### Croatia

Breeding population size: BiE III Work group, Croatia

Breeding short-term trend: BiE III Work group, Croatia

Breeding long-term trend: BiE III Work group, Croatia

### Cyprus: all others

Breeding population size: Unpublished analysis of monitoring data for the W of Cyprus by proff Derek Pomeroy; 2013 Common Birds Monitoring programme set up by BirdLife Cyprus, with relevant line transect survey data analysed using DISTANCE programme; Also similar analysis of field data from surveys carried out in some SPAs by Game & Fauna Service.

Breeding short-term trend: Analysis of recent BirdLife Cyprus bird sightings records reported in the society's annual reports.

Breeding long-term trend: Flint & Stewart BOU Checklist no 6 (1992) The Birds of Cyprus; Whaley DJ & Dawes JC, 2003 Cyprus breeding Birds' Atlas; Analysis of recent BirdLife Cyprus bird sightings records reported in the society's annual reports.

### Czech Republic: all others

Breeding population size: STASTNY K., BEJCEK V. & HUDEC K. 2006: Atlas hnizdniho rozsireni ptaku v České republice. Aventinum Praha. JPSP: <http://jpsp.birds.cz/vysledky.php?taxon=716>

Breeding short-term trend: JPSP: <http://jpsp.birds.cz/vysledky.php?taxon=716>

Breeding long-term trend: JPSP: <http://jpsp.birds.cz/vysledky.php?taxon=716>

## *Troglodytes troglodytes* (Winter Wren)

### **Denmark: all others**

**Breeding population size:** BIRDLIFE INTERNATIONAL (2004) Birds in Europe: population estimates, trends and conservation status. Wageningen, The Netherlands: BirdLife International. (BirdLife Conservation Series No. 12) Heldbjerg, H. & Lerche-Jørgensen, M. (2012): Overvågning af de danske almindelige fuglearter i Danmark 1975-2011. Årsrapport for Punkttællingsprojektet. Dansk Ornitoligisk Forening. (The Danish Point Count Census for breeding birds during the period 1999-2011)

**Breeding short-term trend:** Heldbjerg, H. & Lerche-Jørgensen, M. (2012): Overvågning af de danske almindelige fuglearter i Danmark 1975-2011. Årsrapport for Punkttællingsprojektet. Dansk Ornitoligisk Forening. (The Danish Point Count Census for breeding birds during the period 1999-2011)

**Breeding long-term trend:** Heldbjerg, H. & Lerche-Jørgensen, M. (2012): Overvågning af de danske almindelige fuglearter i Danmark 1975-2011. Årsrapport for Punkttællingsprojektet. Dansk Ornitoligisk Forening. (The Danish Point Count Census for breeding birds during the period 1980-2011)

### **DK: Faroe Is**

**Breeding population size:** Bengston (2001) per Hammer et al. (2014) Færøsk trækfugleatlas [Faroeese bird migration atlas]. Fróðskapur / Faroe University Press, Tórshavn.

### **Estonia: all others**

**Breeding population size:** Elts, J., Leito, A., Leivits, A., Luigjõe, L., Mägi, E., Nellis, Rein, Nellis, Renno, Ots, M., Pehlak, H. 2013. Status and numbers of Estonian birds, 2008-2012. Hirundo 26(2): 80-112. URL: [http://www.eoy.ee/hirundo/file\\_download/149/Elts\\_et\\_al\\_2013\\_2.pdf](http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf)

**Breeding short-term trend:** Elts, J., Leito, A., Leivits, A., Luigjõe, L., Mägi, E., Nellis, Rein, Nellis, Renno, Ots, M., Pehlak, H. 2013. Status and numbers of Estonian birds, 2008-2012. Hirundo 26(2): 80-112. URL: [http://www.eoy.ee/hirundo/file\\_download/149/Elts\\_et\\_al\\_2013\\_2.pdf](http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf)

**Breeding long-term trend:** Elts, J., Leito, A., Leivits, A., Luigjõe, L., Mägi, E., Nellis, Rein, Nellis, Renno, Ots, M., Pehlak, H. 2013. Status and numbers of Estonian birds, 2008-2012. Hirundo 26(2): 80-112. URL: [http://www.eoy.ee/hirundo/file\\_download/149/Elts\\_et\\_al\\_2013\\_2.pdf](http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf)

### **Finland: all others**

**Breeding population size:** Bird monitoring schemes of the Finnish Museum of Natural History, University of Helsinki.

**Breeding short-term trend:** Bird monitoring schemes of the Finnish Museum of Natural History, University of Helsinki.

**Breeding long-term trend:** Bird monitoring schemes of the Finnish Museum of Natural History, University of Helsinki.

### **France: all others**

**Breeding population size:** <http://www.atlas-ornitho.fr/> Atlas des oiseaux nicheurs de France

**Breeding short-term trend:** <http://vigenature.mnhn.fr/page/troglodyte-mignon>

**Breeding long-term trend:** <http://vigenature.mnhn.fr/page/troglodyte-mignon>

### **Georgia**

**Breeding population size:** BirdLife International 2004

### **Germany: all others**

**Breeding population size:** Gedeon, K., C. Grüneberg, A. Mitschke & C. Sudfeldt (in Vorb.): Atlas Deutscher Brutvogelarten. SVD & DDA, Münster.

**Breeding short-term trend:** Monitoring häufiger Brutvögel

**Breeding long-term trend:** Monitoring häufiger Brutvögel

### **Greece: all others**

**Breeding population size:** BirdLife International 2004. Birds in Europe - Population estimates, trends and conservation status. Cambridge, UK, BirdLife International (BirdLife Conservation Series No 12).

**Breeding short-term trend:** Hellenic Common Birds Monitoring Scheme database, Hellenic Ornithological Society

### **Hungary: all others**

**Breeding population size:** MME Nomenclator Bizottság (2008): Magyarország madarainak névjegyzéke. Nomenclator avium Hungariae. Magyar Madártani és Természetvédelmi Egyesület, Budapest. p. 278.

**Breeding short-term trend:** National common bird monitoring scheme (MMM) database. Szép, T., Nagy, K., Nagy, Zs. & Halmos, G. (2012): Population trends of common breeding and wintering birds in Hungary, decline of long-distance migrant and farmland birds during 1999-2012. Ornis Hungarica 2012. 20(2): 13-63.

### **Iceland**

**Breeding population size:** The Icelandic Institute of Natural History 2000

### **Republic of Ireland: all others**

**Breeding population size:** Crowe, O., Musgrove, A.J. & O'Halloran, J. (2014). Generating population estimates for common and widespread breeding birds in Ireland. Bird Study 61 (1) 82 - 90.

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**Breeding long-term trend:** Balmer, D., Gillings, S., Caffrey, B., Swan, B., Downie, I. & Fuller, R. (2013) Bird Atlas 2007-11 The breeding and wintering birds of Britain and Ireland. British Trust for Ornithology. Expert opinion: O. Crowe, BirdWatch Ireland, <http://birdwatchireland.ie/>. Sharrock, J.T.R. (1976) The Atlas of Breeding Birds in Britain and Ireland. T. & AD Poyser.

### **Italy: all others**

**Breeding population size:** Brichetti P & Fracasso G. 2007. Ornitologia italiana. Vol.4 (Apodidae-Prunellidae). Alberto Perdisa Editore, Bologna

**Breeding short-term trend:** Rete Rurale Nazionale & LIPU 2013. Uccelli comuni in Italia. Gli andamenti di popolazione dal 2000 al 2012

**Breeding long-term trend:** BirdLife International 2004. Birds in Europe: population estimates, trends and conservation status Cambridge, UK: BirdLife International. BirdLife Conservation Series No. 12 Rete Rurale Nazionale & LIPU 2013. Uccelli comuni in Italia. Gli andamenti di popolazione dal 2000 al 2012

## *Troglodytes troglodytes* (Winter Wren)

### Kosovo

Breeding population size: NGO "Finch" (2014)

### Latvia: all others

Breeding population size: Calculation based on data collected in Latvian Breeding bird monitoring scheme: Aunins A., Keišs O. 2012. [Monitoring for the Farmland Bird Population Index. Final report for the year 2012. ] (in Latvian) Latvian Ornithological society, 47 pp

Breeding short-term trend: Aunins A. 2012. [Changes in the Abundance of Common Birds in Latvia during the Previous Seven Years]. Putni Dabā 2013/1, 10 - 13. Aunins A., Keišs O. 2012. [Monitoring for the Farmland Bird Population Index. Final report for the year 2012. ] Latvian Ornithological society, 47 pp.

Breeding long-term trend: Kerus V. 2011. Latvijas ligzdojoso putnu stavokla parmainas laika no 1980. līdz 2010. gadam. Promocijas darbs. Riga: Latvijas Universitate Strazds M., Priednieks J., Vaverins G. 1994. Latvijas putnu skaits. – Putni daba, 4: 3–18.

### Liechtenstein

Breeding population size: Willi, G. (2014) Unpublished collection data

Breeding short-term trend: Willi, G. (2006) Die Vögel des Fürstentums Liechtenstein. Amtlicher Lehrmittelverlag, Vaduz (Naturkundliche Forschung im Fürstentum Liechtenstein, Bd. 22.

Breeding long-term trend: Willi, G. & M.F. Broggi (1986) Die Vogelwelt des Fürstentums Liechtenstein unter Berücksichtigung der benachbarten Gebiete; Teil III: Passeriformes. Ber. Bot.-Zool. Ges. Liechtenstein-Sargans-Werdenberg, Band 15, S. 37-82.; Willi, G. (2006) Die Vögel des Fürstentums Liechtenstein. Amtlicher Lehrmittelverlag, Vaduz (Naturkundliche Forschung im Fürstentum Liechtenstein, Bd. 22.

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