

Turdus philomelos (Song Thrush)

European Red List of Birds

Supplementary Material

The European Union (EU28) 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 2019-20. 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 (2021).

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Recommended citation

BirdLife International (2021) European Red List of Birds. Luxembourg: Publications Office of the European Union.

Further information

<http://datazone.birdlife.org/info/euroredlist>
<http://www.birdlife.org/europe-and-central-asia/european-red-list-birds-0>
<http://www.iucnredlist.org/regions/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.

Turdus philomelos (Song Thrush)

Table 1. Reported national breeding population size and trends in Europe¹.

Country (or territory) ²	Population estimate				Short-term population trend ⁵				Long-term population trend ⁵				Subspecific population (where relevant)
	Size (pairs) ³	Europe (%)	Year(s)	Method ⁴	Direction ⁶	Magnitude (%) ⁷	Year(s)	Method ⁴	Direction ⁶	Magnitude (%) ⁷	Year(s)	Method ⁴	
Albania	2000–3900	<1	2007-2018	partial	+	-23 to 104	2007-2018	partial	0	-23 to 104	1980-2018	expert	
Andorra	300–660	<1	2014-2017	partial	?		2011-2018	complete	?				
Armenia	5600–8300	<1	2013-2018	complete	-	-9 to -5	2007-2018	complete	-	-20 to -10	2003-2018	partial	
Austria	350000–550000	2	2013-2018	partial	0		2007-2018	complete	?		1981-2018	deficient	
Azerbaijan	50000–100000	<1	1996-2019	expert	?		2013-2019	expert	?		1980-2019	expert	
Belarus	800000–1200000	3	2010-2018	partial	0	-10 to 10	2012-2019	expert	0	0	1980-2019	expert	
Belgium	92600–164000	<1	2013-2018	expert	-	-35 to -22	2008-2018	complete	-	-54 to -18	1973-2018	partial	
Bosnia & HG	80000–150000	<1	2015-2018	complete	?	-10 to 10	2007-2018	complete	?		1980-2018	deficient	
Bulgaria	150000–500000	<1	2005-2018	partial	+	0 to 45	2001-2018	complete	0	0 to 5	1980-2018	expert	
Croatia	600000–1000000	3	2013-2018	expert	?		2007-2018	deficient	?		1980-2018	deficient	
Czechia	450000–900000	2	2014-2017	complete	+		2007-2018	complete	+		1982-2018	complete	
Denmark	384000–385000	1	2017	partial	+	22 to 76	2006-2017	complete	0	-7 to 33	1980-2017	complete	
Estonia	300000–400000	1	2013-2017	expert	0	0 to 1	2007-2018	expert	0	-13 to 10	1983-2018	expert	
Finland	980000–1180000	4	2013-2018	complete	+	12 to 28	2007-2018	complete	+	13 to 46	1980-2018	complete	
France	1000000–2000000	5	2009-2012	partial	0	-3 to 11	2007-2017	complete	+	6 to 24	1996-2017	complete	
Georgia	11100–112000	<1	2013-2017	partial	?			deficient	?				
Germany	1600000–1950000	6	2016-2016	complete	+	8 to 24	2004-2016	complete	0		1980-2016	expert	
Greece	1000–3000	<1	2015	partial	0		2007-2018	partial	0	0	1980-2018	partial	
Hungary	366000–430000	1	2014-2018	complete	0		2007-2018	complete	?		1980-2018	deficient	
Rep. Ireland	687000–2060000	3	2011-2016	complete	0	-8 to 0	2006-2016	complete	?		1980-2016	deficient	
Italy	100000–300000	<1	2013-2018	expert	+	25 to 40	2000-2014	partial	0		1993-2018	expert	
Kosovo	30000–40000	<1	2007-2019	partial	+		2007-2018	partial	+		1990-2018	partial	
Latvia	430000–618000	2	2016-2016	complete	+	4 to 42	2005-2018	complete	+	130 to 131	1991-2016	partial	
Lithuania	200000–400000	<1	2013-2018	partial	0	0	2013-2018	partial	0	0	1980-2018	partial	
Luxembourg	5000–8000	<1	2013-2018	partial	0	0 to 10	2007-2018	expert	?		1980-2018	expert	
North Macedonia	30000–100000	<1	2014-2019	expert	0		2007-2018	expert	?		1980-2019		
Moldova	10000–30500	<1	2014-2017	partial	-		2007-2018	partial	0		1990-2018	expert	
Montenegro	40000–60000	<1	2002-2012	expert	0		2007-2018	expert	?				
Netherlands	110000–180000	<1	2013-2015	complete	0	0 to 12	2006-2017	complete	+	90 to 148	1984-2017	complete	
Norway	1000000–1500000	4	2013-2018	expert	0		2013-2018	partial	+	0 to 5	1980-2018	partial	
Poland	1120000–1850000	5	2013-2018	complete	+	11 to 29	2007-2018	complete	?		1980-2018	deficient	
Portugal	5000–10000	<1	2013-2018	partial	?		2007-2018	partial	+		1980-2018	partial	

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Country (or territory) ²	Population estimate				Short-term population trend ⁵				Long-term population trend ⁵				Subspecific population (where relevant)
	Size (pairs) ³	Europe (%)	Year(s)	Method ⁴	Direction ⁶	Magnitude (%) ⁷	Year(s)	Method ⁴	Direction ⁶	Magnitude (%) ⁷	Year(s)	Method ⁴	
Romania	1510000–1750000	5	2013-2015	complete	?	-1 to 5	2008-2018	complete	?		1980-2018	deficient	
Russia	6000000–11000000	27	2006-2018	partial	0		2006-2018	expert	0		1980-2018	expert	
Serbia	580000–795000	2	2013-2018	partial	0	0	2007-2018	complete	0	0	1980-2018	complete	
Slovakia	300000–600000	1	2013-2018	partial	0		2007-2018	partial	0		1980-2018	partial	
Slovenia	138000–277000	<1	2013-2018	complete	+		2008-2018	complete	?		1980-2018	deficient	
Spain	369000–664000	2	2004-2018	partial	+		2007-2018	complete	+		1980-2018	complete	
Sweden	1150000–2710000	6	2013-2018	partial	0	-2 to 8	2007-2018	partial	0	-9 to 7	1980-2018	partial	
Switzerland	300000–350000	1	2013–2016	partial	+	33 to 71	2007-2018	complete	+	23 to 66	1990-2018	complete	
Turkey	20000–100000	<1	2002-2012	expert	?		2008-2019	deficient	?		1980-2013	deficient	
Ukraine	1000000–1200000	4	2015-2017	partial	0		2010-2018	partial	0		1980-2018	partial	
United Kingdom	1300000–1310000	4	2016	partial	0		2004-2016	complete	-		1980-2016	complete	
EU28	13700000–22200000	57											
Europe	23600000–39000000	100											

¹ 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>.

² 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.

³ 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.

⁴ The 'method used' (replacing the data 'quality' assessment in the 2015 European Red List) is reported as: a) Complete: complete survey or a statistically robust estimate; b) Partial: based mainly on extrapolation from a limited amount of data; c) Expert: based mainly on expert opinion with very limited data; d) Defficient: insufficient or no data available.

⁵ 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.

⁶ Trend directions are reported as: increasing (+); decreasing (-); stable (0); fluctuating (F); or unknown (?).

⁷ Trend magnitudes are rounded to the nearest integer.

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Table 2. Reported national wintering population sizes and trends in Europe¹. Note that some countries within the species' wintering range did not report any data, and that only minimum totals are presented, to avoid double-counting of birds moving between countries.

Country (or territory) ²	Population estimate				Short-term population trend ⁵				Long-term population trend ⁵				Subspecific population (where relevant)
	Size (individuals) ³	Europe (%)	Year(s)	Method ⁴	Direction ⁶	Magnitude (%) ⁷	Year(s)	Method ⁴	Direction ⁶	Magnitude (%) ⁷	Year(s)	Method ⁴	
Cyprus	1300000–5000000	10	2013-2018	partial	?		2007-2018	deficient	?		1980-2018	deficient	
Gibraltar	11–50	<1	2014-2018	partial	0	0	2001-2018	partial	0	0	1980-2018	partial	
Greece	20400000–27500000	90	2015	partial	0		2007-2018	partial	?		1980-2018	deficient	
Malta	1500–9000	<1	2017-2018	expert	+		2008-2018	expert	+		1980-2018	expert	
Serbia	10–200	<1	2013-2018	partial	F		2013-2018	partial	?	-10 to 10	1980-2018	expert	
EU28	21700000–32500000	100											
Europe	21700000–32500000	100											

¹ 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>.

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³ 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.

⁴ The 'method used' (replacing the data 'quality' assessment in the 2015 European Red List) is reported as: a) Complete: complete survey or a statistically robust estimate; b) Partial: based mainly on extrapolation from a limited amount of data; c) Expert: based mainly on expert opinion with very limited data; d) Deficient: insufficient or no data available.

⁵ 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.

⁶ Trend directions are reported as: increasing (+); decreasing (-); stable (0); fluctuating (F); or unknown (?).

⁷ 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 (≥50%) | ↓ Large decrease (≥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: ≥10% of the European population
- ↑ Medium: 1–9% of the European population
- ↑ Small: <1% of the European population

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

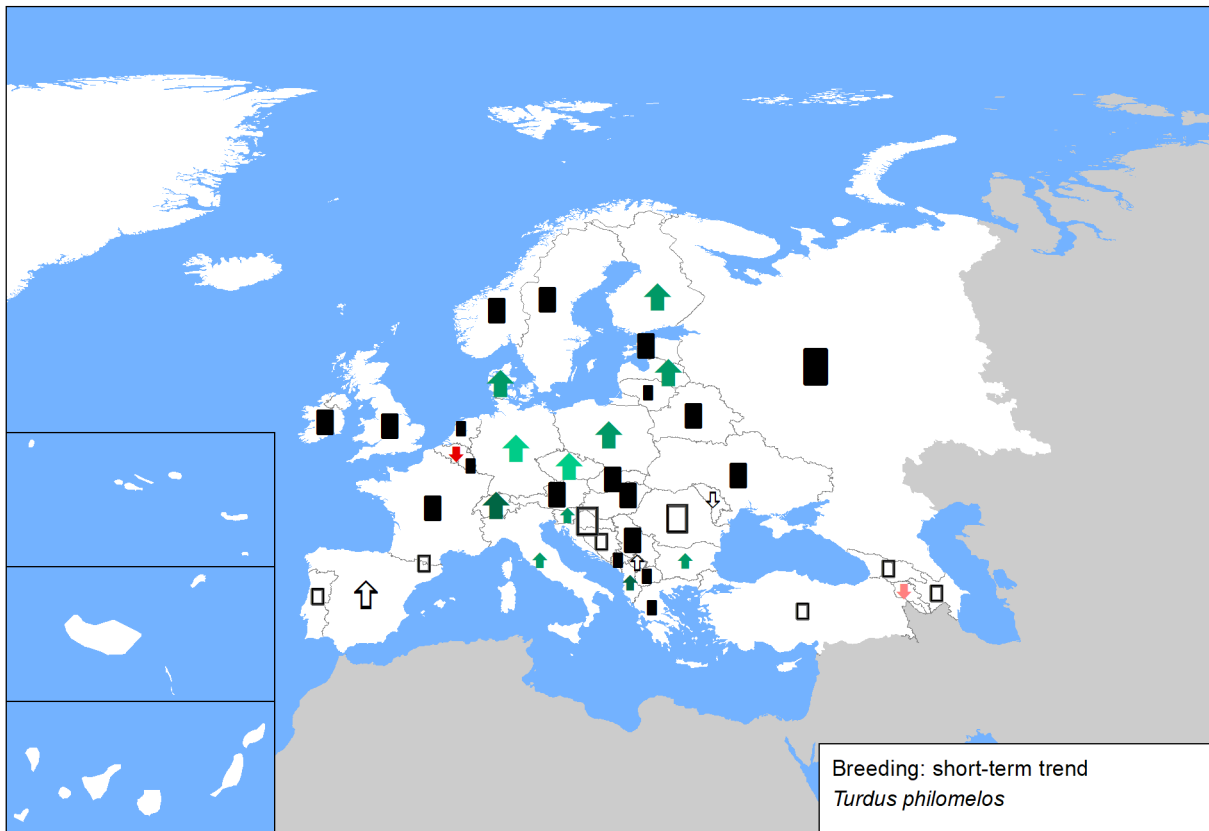


Figure 2. Breeding population sizes and long-term trends across Europe.

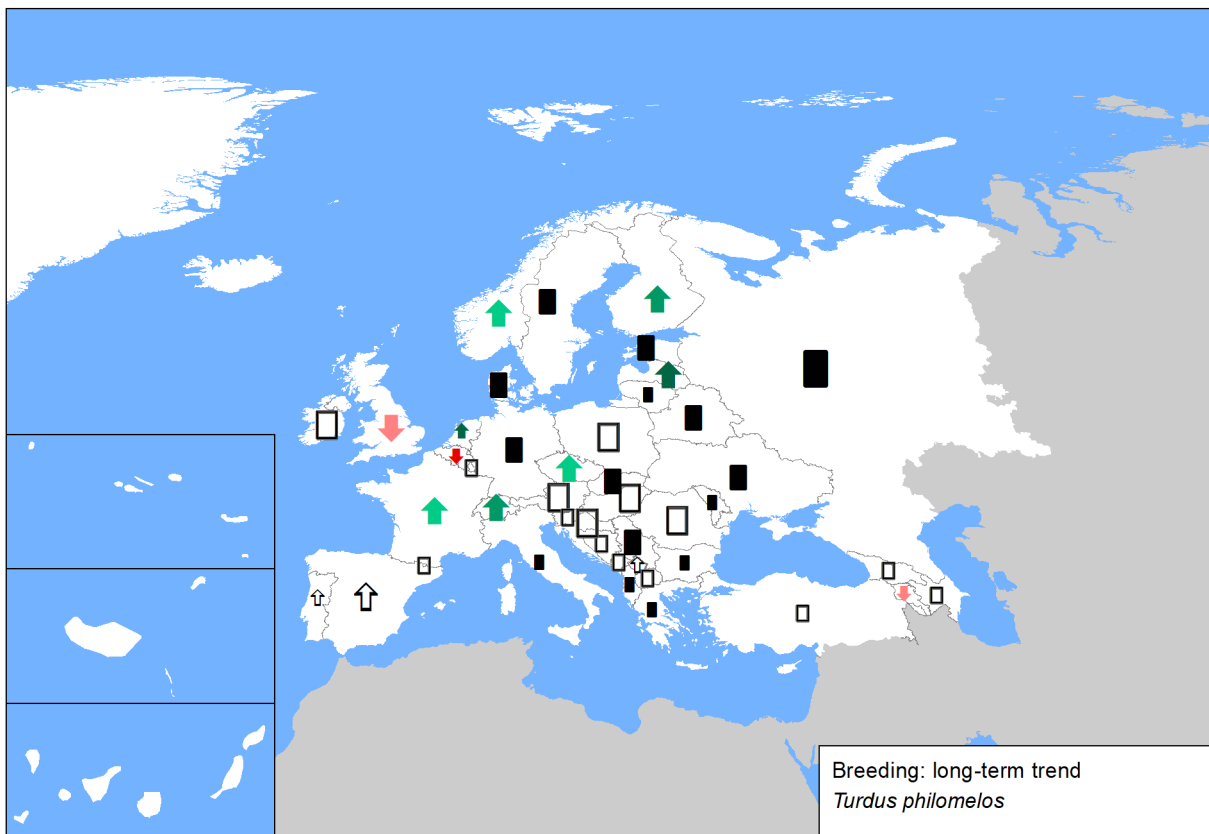


Figure 3. Reported wintering population sizes and short-term trends across Europe. Note that some countries within the species' wintering range did not report any data.

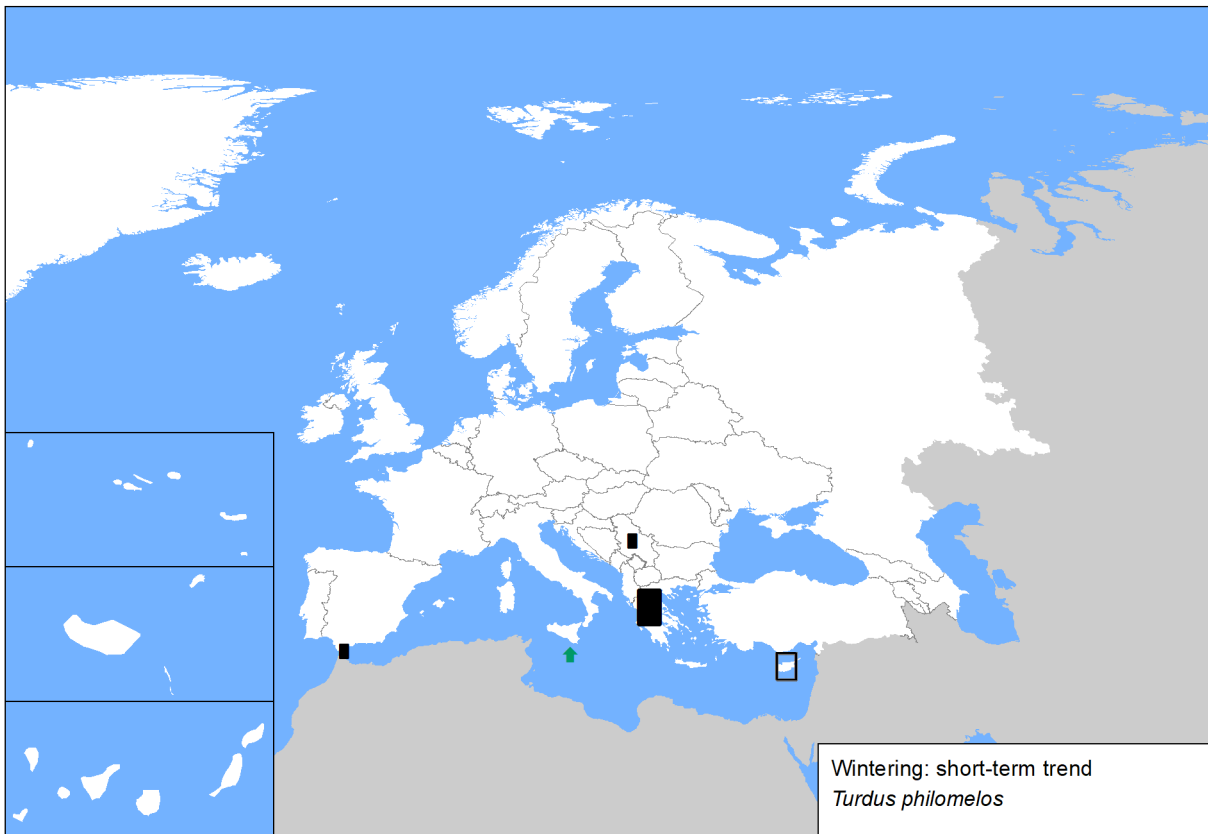
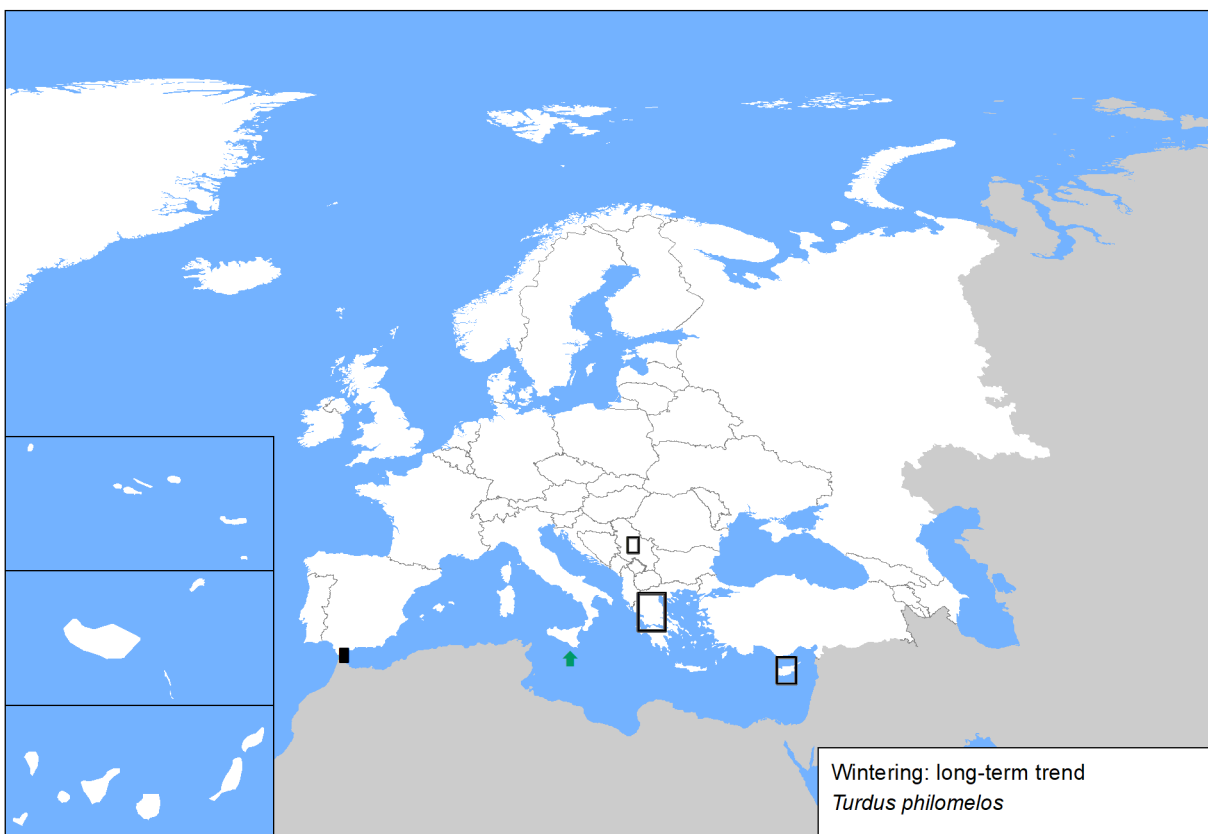


Figure 4. Reported wintering population sizes and long-term trends across Europe. Note that some countries within the species' wintering range did not report any data.



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Sources

Albania

Breeding population size: Bino & Xeka pers. obs.
Breeding short-term trend: Bino & Xeka pers. obs.
Breeding long-term trend: Bino pers. obs.

Andorra

Breeding population size: Fieldwork EBBA2, published at "Guia dels ocells d'Andorra. J. Nicolau & C. Pladevall, 2018"
Breeding short-term trend: Common Bird Monitoring Scheme of Andorra (SOCA)

Armenia

Breeding population size: TSE NGO National Bird Monitoring data.
Breeding short-term trend: TSE (2020) The Atlas of the Breeding Birds in Armenia. In preparation.
Breeding long-term trend: TSE (2020) The Atlas of the Breeding Birds in Armenia. In preparation.

Austria

Breeding population size: BirdLife Austria, estimate based on a sample of breeding densities from different sites and habitats and corrected by the results of the Austrian breeding bird monitoring ("Brutvogelmonitoring") for 1998- 2018
Breeding short-term trend: BirdLife Austria, results of the Austrian Breeding bird monitoring ("Brutvogelmonitoring")
Breeding long-term trend: BirdLife Austria, unpublished

Azerbaijan

Breeding population size: BirdLife International 2004
Breeding short-term trend: AOS data base
Breeding long-term trend: AOS Data Base

Belarus

Breeding population size: Research work of the National Academy of Sciences of the Republic of Belarus "Dynamics and predictive assessment of changes in the state of populations of the main resource and biocenotically most important bird species in Belarus"
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

Breeding population size: Vermeersch G. et al. (2018, in press). Broedvogels in Vlaanderen in de periode 2013-2018. Rapporten van het Instituut voor Natuur- en Bosonderzoek (INBO), Brussel. / Paquet, J-Y., Anselin, A., Vermeersch, G., Derouaux, A., Devos, K. (2019, in prep.). Contribution of Belgium to EBCC European Breeding Bird Atlas 2. Internal Report.
Breeding short-term trend: Vermeersch G. et al. (2018, in press). Broedvogels in Vlaanderen in de periode 2013-2018. Rapporten van het Instituut voor Natuur- en Bosonderzoek (INBO), Brussel. / Paquet, J-Y., Anselin, A., Vermeersch, G., Derouaux, A., Devos, K. (2019, in prep.). Contribution of Belgium to EBCC European Breeding Bird Atlas 2. Internal Report.
Breeding long-term trend: Vermeersch G. et al. (2018, in press). Broedvogels in Vlaanderen in de periode 2013-2018. Rapporten van het Instituut voor Natuur- en Bosonderzoek (INBO), Brussel. / Paquet, J-Y., Anselin, A., Vermeersch, G., Derouaux, A., Devos, K. (2019, in prep.). Contribution of Belgium to EBCC European Breeding Bird Atlas 2. Internal Report.

Bosnia and Herzegovina

Breeding population size: Based on data for EBBA2
Breeding short-term trend: more individual articles e.g published in magazine Bilten mreže posmatrača ptica u Bosni i Hercegovini-see https://ptice.ba/bs/category/bilteni_/ , individual reports (e.g. for EBBA2, projects etc)

Bulgaria

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.; National Art. 12 reporting database 2013-2018; SPAs mapping in 2012 Common Bird Monitoring Scheme http://bspb.org/monitoring/ Geographic Information System with Ornithological Information of BSPB
Breeding short-term trend: Common Bird Monitoring Scheme http://bspb.org/monitoring/ ; National Art. 12 reporting database 2013-2018; Population trend for the period 2005-2012.
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: Dumbović Mazal V., Pintar V., Zdravec M. (2019): Prvo izvješće o brojnosti i rasprostranjenosti ptica u Hrvatskoj sukladno odredbama Direktive o pticama.
Breeding short-term trend: Dumbović Mazal V., Pintar V., Zdravec M. (2019): Prvo izvješće o brojnosti i rasprostranjenosti ptica u Hrvatskoj sukladno odredbama Direktive o pticama.
Breeding long-term trend: Dumbović Mazal V., Pintar V., Zdravec M. (2019): Prvo izvješće o brojnosti i rasprostranjenosti ptica u Hrvatskoj sukladno odredbama Direktive o pticama.

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Cyprus

Winter population size: Monthly waterbird counts by BirdLife Cyprus and Game & Fauna Service, as published in BirdLife Cyprus monthly checklists and also by the Game & Fauna Service; Analysis of recent BirdLife Cyprus bird sightings records reported in the society's annual reports. Poor data (excluding bag data)
Winter short-term trend: Monthly waterbird counts by BirdLife Cyprus and Game & Fauna Service, as published in BirdLife Cyprus monthly checklists and also by the Game & Fauna Service; Analysis of recent BirdLife Cyprus bird sightings records reported in the society's annual reports. Very poor data
Winter long-term trend: Poor data

Czechia

Breeding population size: Šťastný et Bejček in prep. - Atlas hnízdního rozšíření ptáků ČR 2014-2017
Breeding short-term trend: ČSO (unpubl.): Common Bird Monitoring Programme
Breeding long-term trend: ČSO (unpubl.): Common Bird Monitoring Programme

Denmark

Breeding population size: Charlotte M. Moshøj, Daniel Palm Eskildsen, Michael Fink Jørgensen & Thomas Vikstrøm, (2018): Overvågning af de almindelige fuglearter i Danmark 1975-2017 & Mandrup, E. 1997. Hvor mange fugle yngler i Danmark, Dansk Ornitologisk Tidsskrift, nr 3, 1997
Breeding short-term trend: Charlotte M. Moshøj, Daniel Palm Eskildsen, Michael Fink Jørgensen & Thomas Vikstrøm, (2018): Overvågning af de almindelige fuglearter i Danmark 1975-2017
Breeding long-term trend: Charlotte M. Moshøj, Daniel Palm Eskildsen, Michael Fink Jørgensen & Thomas Vikstrøm, (2018): Overvågning af de almindelige fuglearter i Danmark 1975-2017

Estonia

Breeding population size: Estonian Working Group on Bird Status and Numbers
Breeding short-term trend: [1] Estonian Working Group on Bird Status and Numbers [2] Point counts of breeding birds. http://seire.keskkonnainfo.ee/index.php?option=com_content&view=article&id=3417&Itemid=5815
Breeding long-term trend: [1] Estonian Working Group on Bird Status and Numbers [2] Point counts of breeding birds. http://seire.keskkonnainfo.ee/index.php?option=com_content&view=article&id=3417&Itemid=5815

Finland

Breeding population size: Lehikoinen, A., Below, A., Jukarainen, A., Laaksonen, T., Lehtiniemi, T., Mikkola-Roos, M., Pessa, J., Rajasärkkä, A., Rusanen, P., Sirkkiä, P., Tiainen, J. & Valkama, J. 2019: Suomen lintujen pesimäkantojen koot. – Linnut-vuosikirja 2018: 38-45.
Breeding short-term trend: Väisänen, R. A., Lehikoinen, A. & Sirkkiä, P. 2018: Suomen pesivän maallinnuston kannanvaihtelut 1975-2017. Linnut-vuosikirja 2017: 16 31.
Breeding long-term trend: Väisänen, R. A., Lehikoinen, A. & Sirkkiä, P. 2018: Suomen pesivän maallinnuston kannanvaihtelut 1975-2017. Linnut-vuosikirja 2017: 16 31.

France

Breeding population size: Barbet-Massin, M., Dalloyau, S., Issa, N. & Jiguet, F. 2015. Méthodologie et organisation générale. in Issa, N. & Muller, Y. coord. (2015). Atlas des oiseaux de France métropolitaine. Nidification et présence hivernale. LPO/SEOF/MNHN, Paris, Delachaux et Niestlé30-38 ; Roché, J. E., Muller, Y. & Sibley, J.-P. 2013. Une méthode simple pour estimer les populations d'oiseaux communs nicheurs en France. Alauda, 81, 241-268 ; Olioso, G. 2015. Grive musicienne <i>Turdus philomelos</i> . in Issa, N. & Muller, Y. coord. (2015). Atlas des oiseaux de France métropolitaine. Nidification et présence hivernale. , LPO/SEOF/MNHN. Delachaux et Niestlé986-989
Breeding short-term trend: Onkelinx, T., Devos, K., Jansen, I., Van Calster, H., & Quataert, P 2017. Reply to the comment on 'Working with population totals in the presence of missing data comparing imputation methods in terms of bias and precision' by Bogaart et al. Journal of Ornithology, ; Onkelinx, T., Devos, K., & Quataert, P 2017. Working with population totals in the presence of missing data comparing imputation methods in terms of bias and precision. Journal of Ornithology, ; Fewster, R. M., Buckland, S. T., Siriwardena, G. M., Baillie, S. R. & Wilson, J. D. 2000. Analysis of population trends for farmland birds using generalized additive models. Ecology, 81, 1970-1984 ; Boutin, J.-M., Barbier, L. & Roux, D. 2001. Suivi des effectifs nicheurs d'alaudidés, colombidés, turdidés en France: le programme ACT. 53-61 ; Knape, J. 2016. Decomposing trends in Swedish bird populations using generalized additive mixed models. Journal of Applied Ecology, 53, 1852-1861 ; Roux, D., Body, G., Eraud, C. & Dej, F. (2017) Suivi des populations nicheuses (1996-2017) et hivernantes (2000-2017). Réseau national d'observation « Oiseaux de passage » ONCFS-FNC-FDC. Rapport interne ONCFS, novembre 2017, 28 p..
Breeding long-term trend: Fewster, R. M., Buckland, S. T., Siriwardena, G. M., Baillie, S. R. & Wilson, J. D. 2000. Analysis of population trends for farmland birds using generalized additive models. Ecology, 81, 1970-1984 ; Boutin, J.-M., Barbier, L. & Roux, D. 2001. Suivi des effectifs nicheurs d'alaudidés, colombidés, turdidés en France: le programme ACT. 53-61 ; Knape, J. 2016. Decomposing trends in Swedish bird populations using generalized additive mixed models. Journal of Applied Ecology, 53, 1852-1861 ; Roux, D., Body, G., Eraud, C. & Dej, F. (2017) Suivi des populations nicheuses (1996-2017) et hivernantes (2000-2017). Réseau national d'observation « Oiseaux de passage » ONCFS-FNC-FDC. Rapport interne ONCFS, novembre 2017, 28 p..

Georgia

Breeding population size: EBBA Georgia, prepared by Sabuko-Society for nature conservation, Iliia state university, NGO "psovi".

Germany

Breeding population size: Monitoring häufiger Brutvögel (http://www.dda-web.de/index.php?cat=monitoring&subcat=ha_neu&subsubcat=kontakt)
Breeding short-term trend: Monitoring häufiger Brutvögel (http://www.dda-web.de/index.php?cat=monitoring&subcat=ha_neu&subsubcat=kontakt)
Breeding long-term trend: Gerlach et al. (in Vorb.): Vögel in Deutschland – 2019. Dachverband Deutscher Avifaunisten, Bundesamt für Naturschutz und Länderarbeitsgemeinschaft der Vogelschutzwarten, Münster.

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Gibraltar

Winter population size: Bensusan, K.J. & Perez, C.E. (2003). A Conservation Action Plan for MOD sites in Gibraltar: Gibraltar Ornithological & Natural History Society. GONHS. Cortes, J. E. (1978). Conservation – A Future? Semi - natural Nature Reserve, Gibraltar: A Management Plan. Gibraltar Ornithological and Natural History Society. GONHS. Cortes, J.E. (1996). Windmill Hill Flats: a good view of migration across the Straits of Gibraltar. Almoraima 15:163-184. Cortes, J.E., Finlayson J.C., Garcia, E.F.J., Mosquera, M.A.J., (1980). The Birds of Gibraltar. Gibraltar Books. Gibraltar. Environmental Action & Management Plan (2012). Government of Gibraltar. Gibraltar Bird Reports (2006 - 2012). Gibraltar Ornithological & Natural History Society Gibraltar Nature News (2006 – 2012). Bi-annual Publication. Gibraltar Ornithological & Natural History Society. Nature Protection Act 1991 (2013). Perez, C.E. (2013). Report on the Conservation of Terrestrial Flora & Fauna in Gibraltar (2012). Wildlife (Gibraltar) Ltd Perez, C.E. & Bensusan, K. J. (2005). Upper Rock Nature Reserve A Management and Action. Plan. Gibraltar: The Gibraltar Ornithological & Natural History Society (GONHS). Perez, C.E. (2006). Biodiversity Action Plan, Gibraltar: Planning for Nature. Gibraltar: Gibraltar Ornithological & Natural History Society (GONHS). Southern Waters of Gibraltar Management Scheme EU Natura 2000 Site (2012).

Winter short-term trend: Bensusan, K.J. & Perez, C.E. (2003). A Conservation Action Plan for MOD sites in Gibraltar: Gibraltar Ornithological & Natural History Society. GONHS. Cortes, J. E. (1978). Conservation – A Future? Semi - natural Nature Reserve, Gibraltar: A Management Plan. Gibraltar Ornithological and Natural History Society. GONHS. Cortes, J.E. (1996). Windmill Hill Flats: a good view of migration across the Straits of Gibraltar. Almoraima 15:163-184. Cortes, J.E., Finlayson J.C., Garcia, E.F.J., Mosquera, M.A.J., (1980). The Birds of Gibraltar. Gibraltar Books. Gibraltar. Environmental Action & Management Plan (2012). Government of Gibraltar. Gibraltar Bird Reports (2006 - 2012). Gibraltar Ornithological & Natural History Society Gibraltar Nature News (2006 – 2012). Bi-annual Publication. Gibraltar Ornithological & Natural History Society. Nature Protection Act 1991 (2013). Perez, C.E. (2013). Report on the Conservation of Terrestrial Flora & Fauna in Gibraltar (2012). Wildlife (Gibraltar) Ltd Perez, C.E. & Bensusan, K. J. (2005). Upper Rock Nature Reserve A Management and Action. Plan. Gibraltar: The Gibraltar Ornithological & Natural History Society (GONHS). Perez, C.E. (2006). Biodiversity Action Plan, Gibraltar: Planning for Nature. Gibraltar: Gibraltar Ornithological & Natural History Society (GONHS). Southern Waters of Gibraltar Management Scheme EU Natura 2000 Site (2012).

Winter long-term trend: Bensusan, K.J. & Perez, C.E. (2003). A Conservation Action Plan for MOD sites in Gibraltar: Gibraltar Ornithological & Natural History Society. GONHS. Cortes, J. E. (1978). Conservation – A Future? Semi - natural Nature Reserve, Gibraltar: A Management Plan. Gibraltar Ornithological and Natural History Society. GONHS. Cortes, J.E. (1996). Windmill Hill Flats: a good view of migration across the Straits of Gibraltar. Almoraima 15:163-184. Cortes, J.E., Finlayson J.C., Garcia, E.F.J., Mosquera, M.A.J., (1980). The Birds of Gibraltar. Gibraltar Books. Gibraltar. Environmental Action & Management Plan (2012). Government of Gibraltar. Gibraltar Bird Reports (2006 - 2012). Gibraltar Ornithological & Natural History Society Gibraltar Nature News (2006 – 2012). Bi-annual Publication. Gibraltar Ornithological & Natural History Society. Nature Protection Act 1991 (2013). Perez, C.E. (2013). Report on the Conservation of Terrestrial Flora & Fauna in Gibraltar (2012). Wildlife (Gibraltar) Ltd Perez, C.E. & Bensusan, K. J. (2005). Upper Rock Nature Reserve A Management and Action. Plan. Gibraltar: The Gibraltar Ornithological & Natural History Society (GONHS). Perez, C.E. (2006). Biodiversity Action Plan, Gibraltar: Planning for Nature. Gibraltar: Gibraltar Ornithological & Natural History Society (GONHS). Southern Waters of Gibraltar Management Scheme EU Natura 2000 Site (2012).

Greece

Breeding population size: 1) 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: 1) 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: 1) Handrinos, G., & Akriotis, T., (1997) The birds of Greece. C. Helm, A & C Black, London. 2) BirdLife International (2004) Birds in Europe: Population estimates, trends and conservation status. Cambridge, UK: BirdLife International (BirdLife Conservation Series No. 12).

Winter population size: ARTEMIS Project 1995-2013. Recording and monitoring game species populations in Greece through harvest indices

Winter short-term trend: ARTEMIS Project 1995-2013. Recording and monitoring game species populations in Greece through harvest indices

Winter long-term trend: No data available

Hungary

Breeding population size: National common bird monitoring scheme (MMM) database.

Breeding short-term trend: National common bird monitoring scheme (MMM) database. MME Nomenclator Bizottság (2008): Magyarország madarainak névjegyzéke. Nomenclator avium Hungariae. Magyar Madártani és Természetvédelmi Egyesület, Budapest. 189-190 p.

Breeding long-term trend: National common bird monitoring scheme (MMM) database. Haraszthy L. (szerk.) (1984): Magyarország fészkelő madarai. Natura, Budapest. Haraszthy, L. (szerk.) (1998): Magyarország madarai. Mezőgazda Kiadó, Budapest. Magyar G., Hadarics T., Waliczky Z., Schmidt A., Nagy T. & Bankovics A. (1998): Magyarország madarainak névjegyzéke. Madártani Intézet, Budapest, 110 p. BirdLife International (2004) Birds in Europe: population estimates, trends and conservation status. Cambridge, UK: BirdLife International. (BirdLife Conservation Series No.12.), 223 p. MME Nomenclator Bizottság (2008): Magyarország madarainak névjegyzéke. Nomenclator avium Hungariae. Magyar Madártani és Természetvédelmi Egyesület, Budapest. 189-190 p.

Republic of Ireland

Breeding population size: Lewis, L. J., Coombes, D., Burke, B., O'Halloran, J., Walsh, A., Tierney, T. D. & Cummins, S. (2019) Countryside Bird Survey: Status and trends of common and widespread breeding birds 1998-2016. Irish Wildlife Manuals (in prep). National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

Breeding short-term trend: Lewis, L. J., Coombes, D., Burke, B., O'Halloran, J., Walsh, A., Tierney, T. D. & Cummins, S. (2019) Countryside Bird Survey: Status and trends of common and widespread breeding birds 1998-2016. Irish Wildlife Manuals (in prep). National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

Breeding long-term trend: Lewis, L. J., Coombes, D., Burke, B., O'Halloran, J., Walsh, A., Tierney, T. D. & Cummins, S. (2019) Countryside Bird Survey: Status and trends of common and widespread breeding birds 1998-2016. Irish Wildlife Manuals (in prep). National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

Italy

Breeding population size: Brichetti P & Fracasso G. 2008. Ornitologia Italiana. Vol.5 (Turdidae-Cisticolidae). Alberto Perdisa Editore, Bologna

Breeding short-term trend: Extrapolated data by the average annual trend, from: Rete Rurale Nazionale & LIPU (2015). Uccelli comuni in Italia. Aggiornamento degli andamenti di popolazione e del FBI per la Rete Rurale Nazionale dal 2000 al 2014. LIPU, 16 pp.

Breeding long-term trend: Brichetti P., Meschini E., 1993. Stima delle popolazioni di uccelli nidificanti. In Meschini E., Frugis S., 1993. Atlante degli uccelli nidificanti in Italia. Suppl. Ric. Biol. Selvaggina, 20, 1-345.

Kosovo

Breeding population size: Qenan Maxhuni

Turdus philomelos (Song Thrush)

Kosovo

Breeding short-term trend: Qenan Maxhuni
Breeding long-term trend: Puzovic, S. et al. (2004): Birds of Serbia and Montenegro – Size of nesting populations. I trends: 1990-2002. Ciconia 12

Latvia

Breeding population size: Aunins A., Mardega I. 2018. [Countrywide monitoring of the common birds. Final report for the year 2018.] (in Latvian) Latvian Ornithological society
Breeding short-term trend: Aunins A., Mardega I. 2018. [Countrywide monitoring of the common birds. Final report for the year 2018.] (in Latvian) Latvian Ornithological society
Breeding long-term trend: Strazds M., Priednieks J., Vaverins G. 1994. [Size of Latvian bird populations.] (in Latvian) In: Putni dabā, 4: 3–18 Aunins A., Mardega I. 2018. [Countrywide monitoring of the common birds. Final report for the year 2018.] (in Latvian) Latvian Ornithological society

Lithuania

Breeding population size: Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) 2015-2018. Lietuvos perinčių paukščių atlaso duomenų bazė (Lithuanian Breeding Birds Atlas Database). Vilnius. Ministry of Environment of the Republic of Lithuania. 2012. Status and trends of bird populations (Article 12, Birds Directive 2009/147/EC) National Summary 2008-2012 Lithuania.
Breeding short-term trend: Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) 2015-2018. Lietuvos perinčių paukščių atlaso duomenų bazė (Lithuanian Breeding Birds Atlas Database). Vilnius. Ministry of Environment of the Republic of Lithuania. 2012. Status and trends of bird populations (Article 12, Birds Directive 2009/147/EC) National Summary 2008-2012 Lithuania.
Breeding long-term trend: Logminas, V. (ed.). 1991. Lietuvos fauna: paukščiai. Vilnius: „Mokslas“. Kurlavičius, P. (ed.) 2006. Lietuvos perinčių paukščių atlasas. Kaunas: „Lututė“. Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) BirdLife International/European Bird Census Council. 2000. European bird populations: estimates and trends. Cambridge, UK: BirdLife International (BirdLife Conservation Series No. 10). Raudonikis L. 2004. Important Bird Areas of the European Union Importance in Lithuania. Lithuanian Ornithological Society & Institute of Ecology of Vilnius University. Lutute, Vilnius. Jusys, V., Karalius, S., Raudonikis, L. 2012. Lietuvos paukščių pažinimo vadovas. Kaunas: „Lututė“. Ministry of Environment of the Republic of Lithuania. 2012. Status and trends of bird populations (Article 12, Birds Directive 2009/147/EC) National Summary 2008-2012 Lithuania. Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) 2015-2018. Lietuvos perinčių paukščių atlaso duomenų bazė (Lithuanian Breeding Birds Atlas Database). Vilnius.

Luxembourg

Breeding population size: Ornitho.lu (2018): online database natur&émwelt asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&émwelt Luxembourg. ISBN: 978-2-919920-01-3
Breeding short-term trend: Ornitho.lu (2018): online database natur&émwelt asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&émwelt Luxembourg. ISBN: 978-2-919920-01-3; LUXOR (2018): natur&émwelt – Bird-database, Luxembourg
Breeding long-term trend: Experts' estimate

North Macedonia

Breeding population size: unpublished data from the European Breeding Bird Atlas 2
Breeding short-term trend: unpublished data from the European Breeding Bird Atlas 2

Malta

Winter population size: Birdlife Malta (Unpublished data) https://msdec.gov.mt/en/Documents/Downloads/CDCreport2013_openseasondata.pdf https://msdec.gov.mt/en/Document%20Repository/WBRU/CDC%20report%202014.pdf https://msdec.gov.mt/en/Documents/Downloads/WBRU/2016/Carnet%20de%20Chasse%20Report%202015.pdf https://msdec.gov.mt/en/Document%20Repository/WBRU/2017/reportsAndStats/Game%20reporting%20data%20report%202016.pdf https://msdec.gov.mt/en/Document%20Repository/WBRU/2018/reportsAndStats/grdReport18.pdf
Winter short-term trend: "BirdLife International (2017)European birds of conservation concern:populations, trends and national responsibilitiesCambridge, UK: BirdLife International Pan-European Common Bird Monitoring Scheme (PECBMS) (2018) Trends of common birds in Europe, https://pecbms.info/trends_2018/ "
Winter long-term trend: BirdLife International (2017)European birds of conservation concern:populations, trends and national responsibilitiesCambridge, UK: BirdLife International Pan-European Common Bird Monitoring Scheme (PECBMS) (2018) Trends of common birds in Europe, https://pecbms.info/trends_2018/

Moldova

Breeding population size: Moldova`s contribution for the second European Breeding Bird Atlas (EBBA2)
Breeding short-term trend: SPPN expert opinion (sppn.moldova@gmail.com)
Breeding long-term trend: SPPN expert opinion (sppn.moldova@gmail.com)

Montenegro

Breeding population size: Puzovic, S., Simic, D., Saveljić, D., Gergelj, J., Tucakov,M.,Stojnic,N., Hulo, I., Ham, I., Vizi,O., Sciban,M., Ruzic,M., Vucanovic,M., Jovanovic, T. (2004): Birds of Serbia and Montenegro – Size of nesting populations. I trends: 1990-2002. Ciconia 12,
--

Netherlands

Breeding population size: Sovon Bird atlas (Sovon 2018)
Breeding short-term trend: NEM (Sovon, RWS, CBS, provinces)
Breeding long-term trend: NEM (Sovon, RWS, CBS, provinces)

Norway

Breeding population size: Shimmings P. & Øien, I.J. 2015. Bestandsestimer og trender for norske hekkefugler. NOF-rapport 2015-2.
Breeding short-term trend: Terrestrial monitoring programme - extensive (TOV-e)

Turdus philomelos (Song Thrush)

Norway

Breeding long-term trend: (a) Shimmings, P. & Øien, I.J. 2015. Bestandsestimater for norske hekkefugler. NOF Rapport 2-2015. 268 pp. (b) Terrestrial monitoring programme - extensive (TOV-E)

Poland

Breeding population size: State Environmental Monitoring / Chief Inspectorate of Environmental Protection (survey: MPPL – Common Bird Survey)

Breeding short-term trend: State Environmental Monitoring / Chief Inspectorate of Environmental Protection (survey: MPPL)

Breeding long-term trend: Chief Inspectorate of Environmental Protection & Polish Society for the Protection of Birds (OTOP) / BirdLife Poland

Portugal

Breeding population size: eBird (2019). eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: <http://www.ebird.org/portugal/home>. (Accessed: October 22, 2018).

Breeding short-term trend: eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: <http://www.ebird.org/po>

Breeding long-term trend: eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: <http://www.ebird.org/po>; Relatório Nacional Directiva Aves (2008-2012).

Romania

Breeding population size: Romanian Common Bird Monitoring Programme, Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database

Breeding short-term trend: Romanian Common Bird Monitoring Programme, Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database

Breeding long-term trend: Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database, Rombird (Romanian Rarity Commission) Database

Russia

Breeding population size: Voltzit & Kalyakin 2013-2019; Database of the project on Atlas of breeding birds of European Russia

Breeding short-term trend: Mischenko 2017; Database of the project on Atlas of breeding birds of European Russia

Breeding long-term trend: Belik 2005; Khohlova & Artemiev 2007; Rykova 2007

Serbia

Breeding population size: EBBA2 project; Puzović, S., Radišić, D., Ružić, M., Rajković, D., Radaković, M., Pantović, U., Janković, M., Stojnić, N., Šćiban, M., Tucakov, M., Gergelj, J., Sekulić, G., Agošton, A. & Raković, M. 2015. Birds of Serbia: Breeding Population Estimates and Trends for the Period 2008-2013. Bird protection and study society of Serbia, and Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad.

Breeding short-term trend: Puzović, S., Radišić, D., Ružić, M., Rajković, D., Radaković, M., Pantović, U., Janković, M., Stojnić, N., Šćiban, M., Tucakov, M., Gergelj, J., Sekulić, G., Agošton, A. & Raković, M. 2015. Birds of Serbia: Breeding Population Estimates and Trends for the Period 2008-2013. Bird protection and study society of Serbia, and Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad.

Breeding long-term trend: Puzović, S., Radišić, D., Ružić, M., Rajković, D., Radaković, M., Pantović, U., Janković, M., Stojnić, N., Šćiban, M., Tucakov, M., Gergelj, J., Sekulić, G., Agošton, A. & Raković, M. 2015. Birds of Serbia: Breeding Population Estimates and Trends for the Period 2008-2013. Bird protection and study society of Serbia, and Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad.

Winter population size: Bioras database <http://www.bioras.petnica.rs/home.php>

Winter short-term trend: Bioras database <http://www.bioras.petnica.rs/home.php>

Winter long-term trend: Bioras database <http://www.bioras.petnica.rs/home.php>

Slovakia

Breeding population size: Coordinatory group for reporting 2019. Danko Štefan, Darolová Alžbeta, Krištín Anton: Rozšírenie vtákov na Slovensku. VEDA, vyd. SAV Bratislava, 2002.

Breeding short-term trend: Coordinatory group for reporting 2019, AVES-Symfony Database 2013-2018, KIMS Database 2013-2018. Danko Štefan, Darolová Alžbeta, Krištín Anton: Rozšírenie vtákov na Slovensku. VEDA, vyd. SAV Bratislava, 2002.

Breeding long-term trend: Coordinatory group for reporting 2019, AVES-Symfony Database 2013-2018, KIMS Database 2013-2018. Danko Štefan, Darolová Alžbeta, Krištín Anton: Rozšírenie vtákov na Slovensku. VEDA, vyd. SAV Bratislava, 2002.

Slovenia

Breeding population size: MIHELIČ T., KMECL P., DENAC K., KOCE U., VREZEC A., DENAC D. (eds.) (2019): Atlas ptic Slovenije. Popis gnezdičk 2002–2017. – DOPPS, Ljubljana.

Breeding short-term trend: KMECL P. & ŠUMRADA T. (2018): Monitoring splošno razširjenih vrst ptic za določitev slovenskega indeksa ptic kmetijske krajine - končno poročilo za leto 2018. – DOPPS, Ljubljana.

Breeding long-term trend: There are no sources for this information.

Spain

Breeding population size: Carrascal, L.M. & Palomino, D. (2008). Las aves comunes reproductoras en España. Población en 2004-2006. SEO/BirdLife. Madrid. 202 pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/19_paseriformes_2004_2006_tcm30-208258.pdf) Información proporcionada por las Comunidades Autónomas.

Breeding short-term trend: Database of the 'Atlas de las aves reproductoras de España'. Updated version 2011 with data from SEO/Birdlife's monitoring programmes. In: Inventario Español de Especies Terrestres, Inventario Español del Patrimonio Natural y de la Biodiversidad. Ministerio de Agricultura, Alimentación y Medio Ambiente (2013). (https://www.miteco.gob.es/fr/biodiversidad/temas/inventarios-nacionales/inventario-especies-terrestres/ieet_aves_sist_seg_tendencia_comunes_esp.aspx) Información proporcionada por las Comunidades Autónomas. SEO/BirdLife (2019). Programas de seguimiento y grupos de trabajo de SEO/BirdLife 2018. SEO/BirdLife. Madrid. (<https://doi.org/10.31170/0073>)

Turdus philomelos (Song Thrush)

Spain

Breeding long-term trend: Martí, R. & del Moral, J.C. (Eds.) (2003). Atlas de las Aves Reproductoras de España. Dirección General de Conservación de la Naturaleza-Sociedad Española de Ornitología. Madrid, 733 pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/inventario-especies-terrestres/inventario-nacional-de-biodiversidad/ieet_aves_atlas.aspx) Purroy, F.J. (Coord.) (1997). Atlas de las aves de España (1975-1995). SEO/BirdLife. Lynx Edicions. Barcelona. 583 pp. SEO/BirdLife (2019). Programas de seguimiento y grupos de trabajo de SEO/BirdLife 2018. SEO/BirdLife. Madrid. (<https://doi.org/10.31170/0073>)

Sweden

Breeding population size: Ottosson, U., Ottvall, R., Elmberg, J., Green, M., Gustafsson, R., Haas, F., Holmqvist, N., Lindström, Å., Nilsson, L., Svensson, M., Svensson, S. & Tjernberg, M. 2012. Fåglarna i Sverige – antal och förekomst. SOF, Halmstad. Swedish Bird Survey. BirdLife Sverige, Annual Bird reports.

Breeding short-term trend: Svensk fågeltaxering - Swedish Bird Survey

Breeding long-term trend: Svensk fågeltaxering - Swedish Bird Survey

Switzerland

Breeding population size: Knaus, P., S. Antoniazza, S. Wechsler, J. Guélat, M. Kéry, N. Strebel & T. Sattler (2018): Swiss Breeding Bird Atlas 2013–2016. Distribution and population trends of birds in Switzerland and Liechtenstein. Swiss Ornithological Institute, Sempach.

Breeding short-term trend: <https://www.vogelwarte.ch/en/projects/population-trends/breeding-population-indices/>

Breeding long-term trend: <https://www.vogelwarte.ch/en/projects/population-trends/breeding-population-indices/>

Turkey

Breeding population size: Ferdi Akarsu personal communication (2019), Arslangüdoğdu Z.2005. İstanbul Belgrad Ormanının Ornitofaunası Üzerinde Araştırmalar (Studies on the Ornithofauna of Istanbul Belgrade Forests). İ.Ü Fenbilimleri Enstitüsü. Phd Thesis. Birdlife International (2004) Birds in Europe: population estimates, trends and conservation status, Cambridge UK: Birdlife International (Birdlife Conservation series no: 12) Kusbank Bird Database (Ebird) Kirwan G.M., Boyla K. A., Castell P., Demirci B., Özen M., Welch H., Marlow T., 2008, Birds of Turkey. Londra, Christopher Helm, 978-1-4081-0475-

Ukraine

Breeding population size: Atlas work, non-published data

Breeding long-term trend: 1. Gorban, I.M. 2003. The estimate of the numbers of breeding birds in Ukraine. Visnyk of L'viv university. Biology Series. 34: 147-158 (in Ukr.).

United Kingdom

Breeding population size: Baseline = Gibbons, D.W., Reid, J.B. & Chapman, R.A. 1993. The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991. Poyser, London. Extrapolation from 1988-91 using Breeding Bird Survey monitoring trend.

Breeding short-term trend: BTO/JNCC/RSPB Breeding Bird Survey data: Harris, S.J., Massimino, D., Gillings, S., Eaton, M.A., Noble, D.G., Balmer, D.E., Procter, D., PearceHiggins, J.W. & Woodcock, P. 2018. The Breeding Bird Survey 2017. BTO Research Report 706 British Trust for Ornithology, Thetford. <https://www.bto.org/sites/default/files/bbs-report-2017.pdf>

Breeding long-term trend: Joint Common Bird Census/Breeding Bird Survey smoothed trend index. Woodward, I.D., Massimino, D., Hammond, M.J., Harris, S.J., Leech, D.I., Noble, D.G., Walker, R.H., Barimore, C., Dadam, D., Eglington, S.M., Marchant, J.H., Sullivan, M.J.P., Baillie, S.R. & Robinson, R.A. (2018) BirdTrends 2018: trends in numbers, breeding success and survival for UK breeding birds. Research Report 708. BTO, Thetford. www.bto.org/birdtrends

Bibliography

- Bird, J. P., Martin, R., Akçakaya, H. R., Gilroy, J., Burfield, I. J., Garnett, S. G., Symes, A., Taylor, J., Sekercioglu, Ç. H. and Butchart, S. H. M. 2020. Generation lengths of the world's birds and their implications for extinction risk. *Conservation Biology* 34(5): 1252-1261. DOI: 10.1111/cobi.13486.
- BirdLife International. 2004. *Birds in Europe: population estimates, trends and conservation status*. BirdLife International, Cambridge, U.K.
- Collar, N. 2015. Song Thrush (*Turdus philomelos*). In: J. del Hoyo, A. Elliott, J. Sargatal, D.A. Christie & E. de Juana (eds), *Handbook of the Birds of the World Alive*, Lynx Edicions, Barcelona.
- Eaton, M.A., Brown, A.F., Noble, D.G., Musgrove, A.J., Hearn, R., Aebischer, N.J., Gibbons, D.W., Evans, A. and Gregory, R.D. 2009. Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 102(6): 296-341.
- Gordo, O. and Sanz, J.J. 2005. Phenology and climate change: a long-term study in a Mediterranean locality. *Oecologia* 146: 484-495.
- Hagemeijer, E.J.M. and Blair, M.J. 1997. *The EBCC atlas of European breeding birds: their distribution and abundance*. T. and A.D. Poyser, London.
- Hüppop, O. and Hüppop, K. 2003. North Atlantic Oscillation and timing of spring migration in birds. *Proceedings of the Royal Society of London Series B* 270: 233-240.
- Jenkins, D. and Watson, A. 2000. Dates of first arrival and song of birds during 1974-1999 in mid-Deeside, Scotland. *Bird Study* 47: 249-251.
- Jenni, L. and Kery, M. 2003. Timing of autumn bird migration under climate change: advances in long-distance migrants, delays in short-distance migrants. *Proceedings of the Royal Society of London Series B* 270(1523): 1467-1471.
- Peach, W.J., Robinson, R.A. and Murray, K. A. 2004. Demographic and environmental causes of the decline of rural Song Thrushes *Turdus philomelos* in lowland Britain. *Ibis* 146(s2): 50-59.
- Robinson, R.A., Green, R.E., Baillie, S.R., Peach, W.J. and Thomson, D.L. 2004. Demographic mechanisms of the population decline of the song thrush *Turdus philomelos* in Britain. *Journal of Animal Ecology* 73(4): 670-682.
- Sinelschikova, A., Kosarev, V., Panov, I. and Baushev, A.N. 2007. The influence of wind conditions in Europe on the advance in timing of the spring migration of the song thrush (*Turdus philomelos*) in the south-east Baltic region. *International Journal of Biometeorology* 51: 431-440.
- Snow, D.W. and Perrins, C.M. 1998. *The Birds of the Western Palearctic, Volume 2: Passerines*. Oxford University Press, Oxford.
- Tryjanowski, P., Kuzniak, S. and Sparks, T.H. 2005. What affects the magnitude of change in first arrival dates of migrant birds? *Journal of Ornithology* 146: 200-205.
- Tøttrup, A.P., Thorup, K. and Rahbek, C. 2006. Patterns of change in timing of spring migration in North European songbird populations. *Journal of Avian Biology* 37: 84-92.
- Vähätalo, A.V., Rainio, K., Lehikoinen, A. and Lehikoinen, E. 2004. Spring arrival of birds depends on the North Atlantic Oscillation. *Journal of Avian Biology* 35: 210-216.
- Zalakevicius, M., Bartkeviciene, G., Raudonikis, L. and Janulaitis, J. 2006. Spring arrival response to climate change in birds: a case study from eastern Europe. *Journal of Ornithology* 147: 326-343.