



THE IUCN RED LIST
OF THREATENED SPECIES™



***Lullula arborea* (Woodlark)**

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).

Contents

Reported national population sizes and trends
Trend maps of reported national population data
Sources of reported national population data
Species factsheet bibliography

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.

Lullula arborea (Woodlark)

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	3000–5700	<1	2007-2018	partial	+	-29 to 53	2007-2018	partial	-	-43 to 2	1980-2018	expert	
Andorra	50–270	<1	2014-2017	partial	?		2011-2018	deficient	?				
Armenia	11000–15700	<1	2013-2018	complete	0		2007-2018		0		2003-2018	partial	
Austria	1100–1800	<1	2013-2018	complete	?		2007-2018	partial	+	20 to 100	1981-2018	expert	
Azerbaijan	5000–50000	<1	1996-2019	expert	?		2013-2019	expert	?		1980-2019	expert	
Belarus	20000–35000	<1	2010-2018	partial	0	-10 to 10	2012-2019	expert	0	0	1980-2019	expert	
Belgium	1200–2000	<1	2013-2018	partial	+	60 to 167	2008-2018	complete	+	471 to 852	1973-2018	partial	
Bosnia & HG	2500–5000	<1	2015-2018	complete	?	-10 to 10	2007-2018	complete	?		1980-2018	deficient	
Bulgaria	40000–90000	2	2013-2018	partial	+	10 to 20	2001-2018	complete	0	0	1980-2018	expert	
Croatia	10000–30000	<1	2013-2018	partial	?		2007-2018	deficient	?		1980-2018	deficient	
Cyprus	1000–2500	<1	2013-2018	expert	+	14 to 25	2007-2018	expert	?		1980-2018	deficient	
Czechia	600–1000	<1	2014-2017	complete	?		2007-2018	deficient	?		1980-2018	deficient	
Denmark	350–450	<1	2017-2017	expert	0		2004-2017	expert	0		1980-2017	expert	
Estonia	3000–6000	<1	2013-2017	partial	-	-39 to -12	2007-2018	partial	-	-109 to -90	1983-2018	partial	
Finland	1500–4000	<1	2013-2018	partial	-	-67 to 17	2007-2018	partial	+		1988-2018	partial	
France	110000–170000	5	2013-2018	partial	-		2007-2018	complete	-		2001-2018	complete	
Georgia	72500–726000	8	2013-2017	partial	?			deficient	?				
Germany	27000–47000	1	2016-2016	complete	-	-29 to -10	2004-2016	complete	0	-30 to 40	1980-2016	expert	
Greece	5000–20000	<1	2000-2012	partial	0		2007-2018	partial	0		1980-2018	partial	
Hungary	8000–15000	<1	2014-2018	complete	-		2007-2018	expert	-		1980-2018	expert	
Italy	20000–40000	<1	2013-2018	expert	+	5 to 20	2000-2014	partial	0		1993-2018	expert	
Kosovo	1500–2000	<1	2007-2019	partial	-		2007-2018	partial	?		1990-2018	partial	
Latvia	6400–31000	<1	2016-2016	complete	-	-48 to 26	2005-2018	complete	+	469 to 492	1991-2016	partial	
Lithuania	9000–17000	<1	2013-2018	partial	-	-10 to -5	2013-2018	partial	0	0	1980-2018	partial	
Luxembourg	20–25	<1	2013-2018	complete	0	-10 to 0	2007-2018	complete	-	-90 to -50	1980-2018	partial	
North Macedonia	5000–15000	<1	2014-2019	expert	0		2007-2018	expert	?		1980-2019		
Moldova	2300–2500	<1	2014-2017	partial	0		2007-2018	partial	0		1990-2018	expert	
Montenegro	5000–10000	<1	2013-2018	partial	+		2007-2018	expert	?				
Netherlands	4300–5300	<1	2013-2015	complete	+	31 to 71	2006-2017	complete	+	278 to 662	1984-2017	complete	
Norway	110–240	<1	2013-2018	complete	?		2013-2018	deficient	+	0 to 45	1980-2018	complete	
Poland	201000–367000	9	2013-2018	complete	-	-38 to -21	2007-2018	complete	?		1980-2018	deficient	
Portugal	100000–500000	7	2013-2018	partial	-		2004-2018	partial	?		1980-2018	deficient	

Lullula arborea (Woodlark)

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	
Romania	282000–396000	11	2013-2015	complete	?	-4 to 6	2008-2018	complete	?		1980-2018	deficient	
Russia	35000–80000	2	2008-2018	partial	-	-49 to -30	2008-2018	expert	-	-79 to -50	1980-2018	expert	
Serbia	20000–32000	<1	2013-2018	partial	0	0	2007-2018	complete	0	0	1980-2018	complete	
Slovakia	1000–1500	<1	2013-2018	expert	-	-30 to -10	2007-2018	expert	-	-50 to -30	1980-2018	expert	
Slovenia	2800–3800	<1	2016-2018	complete	0		2008-2018	complete	?		1980-2018	deficient	
Spain	921000–1410000	38	2004-2017	partial	+	4 to 2	2007-2018	complete	+	10	1980-2018	complete	
Sweden	9000–20000	<1	2013-2018	partial	0	-30 to 28	2007-2018	partial	+	100 to 300	1980-2018	partial	
Switzerland	250–300	<1	2013–2016	complete	0	-1 to 103	2007-2018	complete	0	-18 to 33	1990-2018	complete	
Turkey	150000–350000	8	2002-2012	expert	?		2008-2019	deficient	?		1980-2013	deficient	
Ukraine	45000–60000	2	2015-2017	partial	0		2010-2018	partial	F		1980-2018	partial	
United Kingdom	1800–2800	<1	2016	complete	+	86 to 178	2001-2016	complete	+	470 to 749	1970-2016	complete	
EU28	1760000–3180000	78											
Europe	2140000–4570000	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.

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

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.

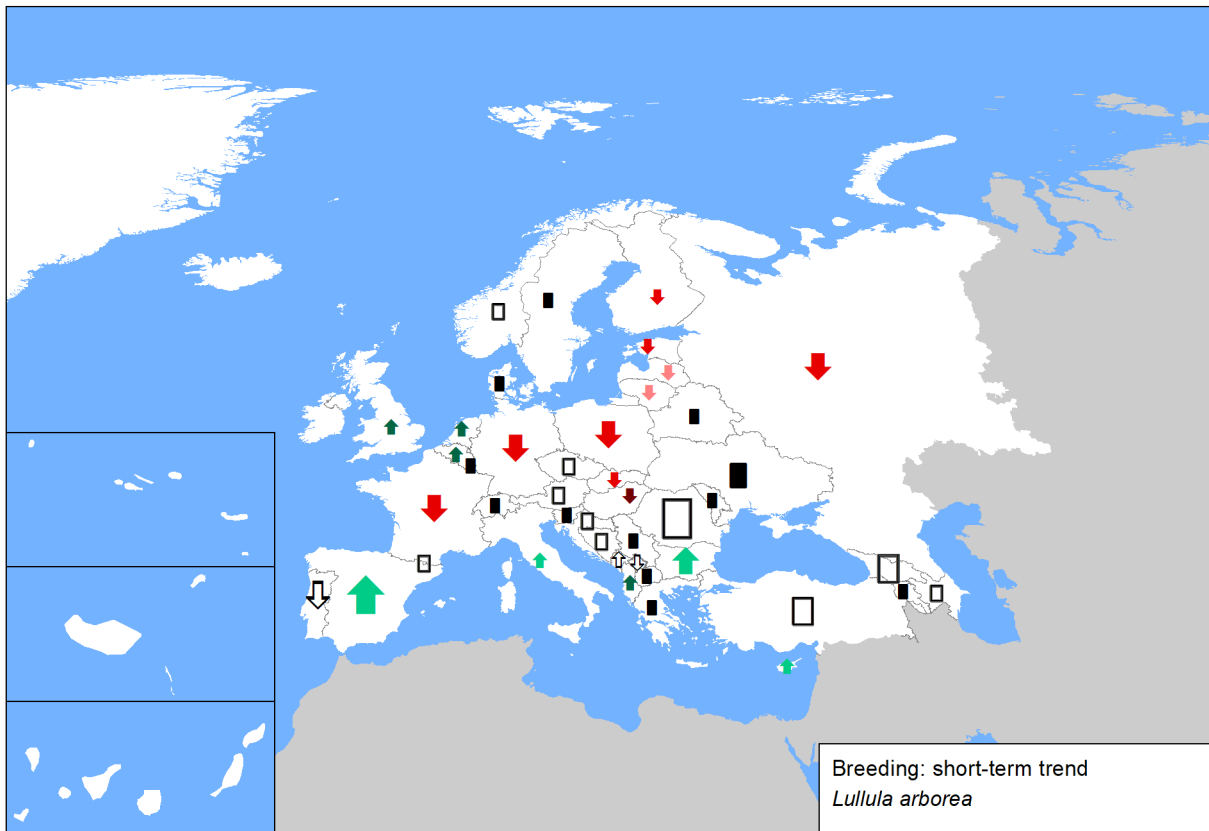
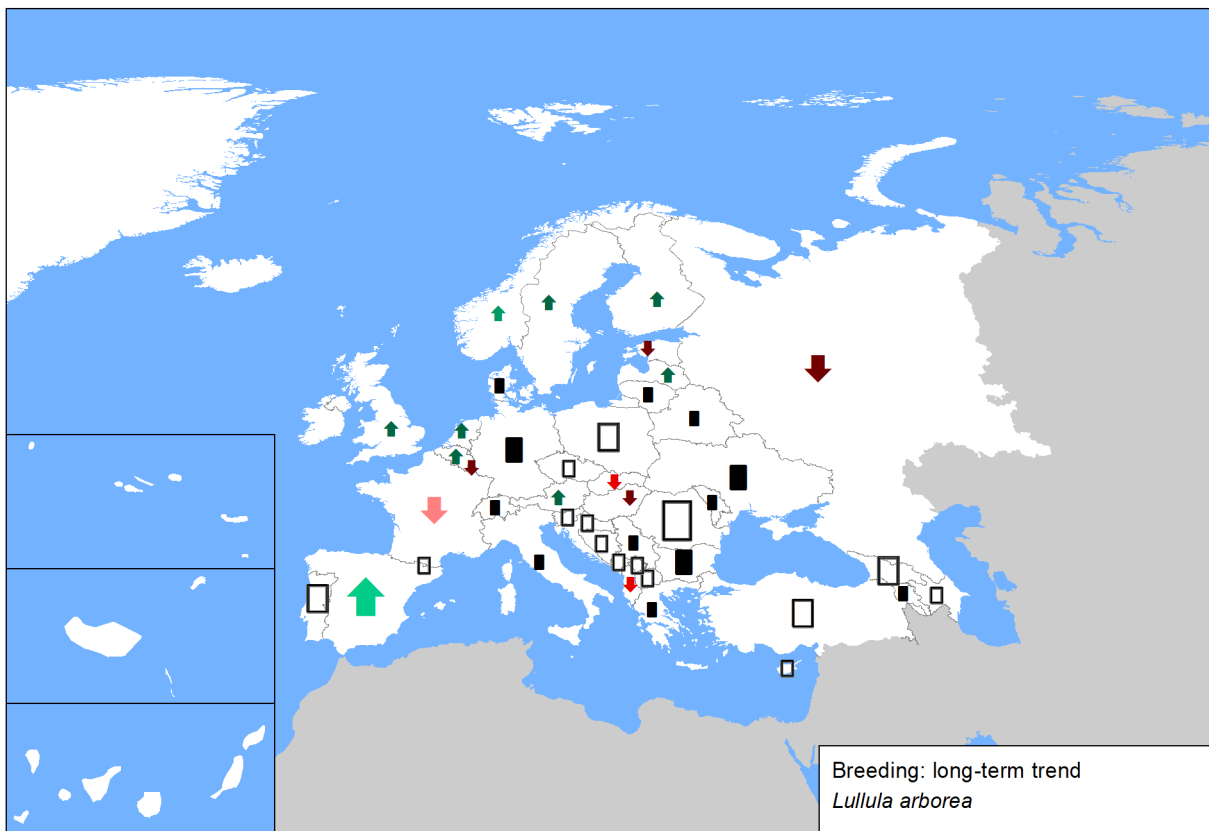


Figure 2. Breeding population sizes and long-term trends across Europe.



Lullula arborea (Woodlark)

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, unpublished data from www.ornitho.at
Breeding short-term trend: BirdLife Austria, unpublished data from www.ornitho.at; BirdLife Austria, unpublished archive data
Breeding long-term trend: BirdLife Austria, unpublished archive data; Dvorak, Ranner & Berg 1993 (Atlas of Austrian Breeding Birds)

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; Nankinov D. 2009. Studies on Fauna of Bulgaria, Aves, Passeriformes, 33-38 p.;
Breeding short-term trend: Common Bird Monitoring Scheme http://bspb.org/monitoring/ ; National Art. 12 reporting database 2013-2018; The population trend is 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: Zavod za ornitologiju (Sanja Barišić, Davor Čiković, Jelena Kralj, Goran Sušić, Vesna Tutiš), Dragan Radović, Ivan Budinski, Robert Crnković, Antun Delić, Dubravko Dender, Vlatka Dumbović, Ivan Darko Grlica, Bariša Ilić, Luka Jurinović, Davor Krnjeta, Krešimir Lesković, Duje Lisičić, Ivica Lolić, Gordan Lukač, Kristijan Mandić, Krešimir Mikulić, Tibor Mikuska, Gvido Piasevoli, Andrej Radalj, Zlatko Ružanović, Vlatka Ščetarić, Mirko Šetina, Adrian Tomik (2015): Procjene brojnosti za SPA područja. Državni zavod za zaštitu prirode, Zagreb
Breeding short-term trend: no data available
Breeding long-term trend: no data available.

Lullula arborea (Woodlark)

Cyprus

Breeding population size: Expert opinion (Game & Fauna Service); Game & Fauna Service, SPAs Management Plans, 2016 (Ministry of the Interior)
Breeding short-term trend: Analysis of recent BirdLife Cyprus bird sightings records reported in the society's annual reports
Breeding long-term trend: Analysis of BirdLife Cyprus bird sightings records reported in the society's annual reports; Flint & Stewart BOU Checklist no.6 (1992) The Birds of Cyprus

Czechia

Breeding population size: Šťastný et Bejček in prep. - Atlas hnízdního rozšíření ptáků ČR 2014-2017
Breeding short-term trend: expert opinion
Breeding long-term trend: expert opinion

Denmark

Breeding population size: Pihl, S. & Fredshavn, J.R. 2015. Størrelse og udvikling af fuglebestande i Danmark. Artikel 12 rapportering til Fuglebeskyttelsesdirektivet. Aarhus Universitet, DCE - Nationalt Center for Miljø og Energi, 44 s. - Videnskabelig rapport fra DCE - Nationalt Center for Miljø og Energi nr. 176.
Breeding short-term trend: Pihl, S. & Fredshavn, J.R. 2015. Størrelse og udvikling af fuglebestande i Danmark. Artikel 12 rapportering til Fuglebeskyttelsesdirektivet. Aarhus Universitet, DCE - Nationalt Center for Miljø og Energi, 44 s. - Videnskabelig rapport fra DCE - Nationalt Center for Miljø og Energi nr. 176.
Breeding long-term trend: Pihl, S. & Fredshavn, J.R. 2015. Størrelse og udvikling af fuglebestande i Danmark. Artikel 12 rapportering til Fuglebeskyttelsesdirektivet. Aarhus Universitet, DCE - Nationalt Center for Miljø og Energi, 44 s. - Videnskabelig rapport fra DCE - Nationalt Center for Miljø og Energi nr. 176.

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., Sirkiä, P., Tiainen, J. & Valkama, J. 2019: Suomen lintujen pesimäkantojen koot. – Linnut-vuosikirja 2018: 38-45.
Breeding short-term trend: BirdLife Finland 2019: Regional observation summary database of Finnish Birdwatching societies on scarce bird species. Bird monitoring schemes of the Finnish Museum of Natural History, University of Helsinki.
Breeding long-term trend: BirdLife Finland 2019: Regional observation summary database of Finnish Birdwatching societies on scarce bird species.

France

Breeding population size: Issa N. & Muller Y. 2015. Atlas des oiseaux nicheurs de France métropolitaine. , LPO/SEOF/MNHN/Delachaux et Niestlé, Paris
Breeding short-term trend: . STOC EPS / MNHN.

Georgia

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

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).

Hungary

Breeding population size: KEHOP-4.3.0-15-2016-00001 project results, unpublished. National park directorates' databases http://map.mme.hu/maps/map2
Breeding short-term trend: http://www.termeszetvedelem.hu/_user/browser/File/Natura2000/BD_12_jelentes_2013_anyagai/Lullula_arborea.pdf National park directorates' databases http://map.mme.hu/maps/map2
Breeding long-term trend: Tucker, G. M. – Heath, M. F. (1994): Birds in Europe – Their Conservation Status. Royal Society for the Protection of Birds, BirdLife International, 364-365 p. Magyar G., Hadarics T., Waliczky Z., Schmidt A., Nagy T. & Bankovics A. (1998): Magyarország madarainak névjegyzéke. Madártani Intézet, Budapest, 95 p. Haraszthy, L. (szerk.) (1998): Magyarország madarai. Mezőgazda Kiadó, Budapest. 249-250 p. Ecsedi Z. (szerk.) (2004): A Hortobágy madárvilága. Hortobágy Természetvédelmi Egyesület, Winter Fair, Balmazújváros - Szeged. 2004. 406-407 p. MME Nomenclator Bizottság (2008): Magyarország madarainak névjegyzéke. Nomenclator avium Hungariae. Magyar Madártani és Természetvédelmi Egyesület, Budapest. 161-162 p. BirdLife International (2004) Birds in Europe: population estimates, trends and conservation status. Cambridge, UK: BirdLife International. (BirdLife Conservation Series No.12.), 184 p. KEHOP-4.3.0-15-2016-00001 project results, unpublished. National park directorates' databases http://map.mme.hu/maps/map2

Lullula arborea (Woodlark)

Italy

Breeding population size: BirdLife International 2017. European birds of conservation concern: populations, trends and national responsibilities. Cambridge, UK: BirdLife International.
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
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. Ministry of Environment of the Republic of Lithuania. 2016-2018. Leidinio "Lietuvos raudonoji knyga" parengimo paslaugos (Red data book of Lithuania). (Agreement No VPS-2016-104-ES) Ministry of Environment of the Republic of Lithuania. 2017-2018. Lietuvos saugomų gyvūnų, augalų ir grybų vertinimo pagal IUCN kategorijas ir rūšių aprašymų parengimo paslaugos (Protected species of animals, plants and mushrooms IUCN status estimation and descriptions in Lithuania (Agreement No VPS-2017-16-AARP))
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. Ministry of Environment of the Republic of Lithuania. 2016-2018. Leidinio "Lietuvos raudonoji knyga" parengimo paslaugos (Red data book of Lithuania). (Agreement No VPS-2016-104-ES) Ministry of Environment of the Republic of Lithuania. 2017-2018. Lietuvos saugomų gyvūnų, augalų ir grybų vertinimo pagal IUCN kategorijas ir rūšių aprašymų parengimo paslaugos (Protected species of animals, plants and mushrooms IUCN status estimation and descriptions in Lithuania (Agreement No VPS-2017-16-AARP))
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. Ministry of Environment of the Republic of Lithuania. 2016-2018. Leidinio "Lietuvos raudonoji knyga" parengimo paslaugos (Red data book of Lithuania). (Agreement No VPS-2016-104-ES) Ministry of Environment of the Republic of Lithuania. 2017-2018. Lietuvos saugomų gyvūnų, augalų ir grybų vertinimo pagal IUCN kategorijas ir rūšių aprašymų parengimo paslaugos (Protected species of animals, plants and mushrooms IUCN status estimation and descriptions in Lithuania (Agreement No VPS-2017-16-AARP))

Luxembourg

Breeding population size: Ornitho.lu (2018): online database natur&environment 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&environment Luxembourg. ISBN: 978-2-919920-01-3; Biver G., Peltzer R., Cungs J. (2009): Plans d'actions espèces Alouette lulu Lullula arborea. Ministère du Développement Durable et des Infrastructures & Centrale ornithologique Luxembourg & Sicona.
Breeding short-term trend: Ornitho.lu (2018): online database natur&environment 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&environment Luxembourg. ISBN: 978-2-919920-01-3; LUXOR (2018): natur&environment – Bird-database, Luxembourg
Breeding long-term trend: Ornitho.lu (2018): online database natur&environment 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&environment Luxembourg. ISBN: 978-2-919920-01-3; LUXOR (2018): natur&environment – Bird-database, Luxembourg; Melchior E., E. Mentgen, R. Peltzer, R. Schmitt, J. Weiss (1987): Atlas der Brutvögel Luxemburgs. Lëtzebuerger Natur- a Vulleschutzliga. Kremer-Muller & Cie, Foetz, Luxembourg

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

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)

Lullula arborea (Woodlark)

Montenegro

Breeding population size: Rubinić, B., Sackl, P. & Gramatikov, M. (2019): Conserving of wild birds in Montenegro. The first inventory of potential Special Protection Areas in Montenegro. Aam Consulting. Budapest xiii + 328 pp.

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. Bestandsestimater og trender for norske hekkefugler. NOF-rapport 2015-2.

Breeding long-term trend: Shimmings, P. & Øien, I.J. 2015. Bestandsestimater for norske hekkefugler. NOF Rapport 2-2015. 268 pp.

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: Alonso, H., Coelho, R., Costa, J., Gouveia, C., Leitão, D., Machado, R., & Teodósio, J. 2019. Relatório do Censo de Aves Comuns 2004-2018. Sociedade Portuguesa para o Estudo das Aves, Lisboa (relatório não publicado).

Romania

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

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

Breeding long-term trend: Omitodata (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: Tilba 2016; Kalyakin et al. 2019; Belik unpublished. vpbelik@mail.ru; Sarychev unpublished. vssar@yandex.ru

Breeding long-term trend: Belik et al. 2003; Sarychev (ed.) 2009

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.

Slovakia

Breeding population size: Coordinatory group for reporting 2019. Danko Štefan, Darolová Alžbeta, Krištin Anton: Rozšírenie vtákov na Slovensku. VEDA, vyd. SAV Bratislava, 2002. Karaska D., Trnka A., Krištin A., Ridzoň J.: Chránené vtácie územia Slovenska. ŠOP SR Banská Bystrica, 2015.

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

Slovenia

Breeding population size: Denac K. (2018): Hribski škrljanec *Lullula arborea*. pp. 120-125. In: Denac K., Jančar T., Božič L., Mihelič T., Koče U., Kmecl P., Kljun I., Denac D., Bordjan D. (2018): Monitoring populacij izbranih ciljnih vrst ptic na območjih Natura 2000 v letu 2018 in sinteza monitoringa 2016-2018. Poročilo. Naročnik: Ministrstvo za kmetijstvo, gozdarstvo in prehrano. 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.

Lullula arborea (Woodlark)

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) SEO/BirdLife (2019). Programas de seguimiento y grupos de trabajo de SEO/BirdLife 2018. SEO/BirdLife. Madrid. (<https://doi.org/10.31170/0073>)

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/BidLife. 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, Migration counts Falsterbo

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), 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)

Ukraine

Breeding population size: Atlas work, non-published data

United Kingdom

Breeding population size: Baseline = Conway, G.J., Wotton, S., Henderson, I., Eaton, M., Drewitt, A. & Spencer, J. 2009. The status of breeding Woodlarks *Lullula arborea* in Britain in 2006. *Bird Study* 56: 310-325. Total adjusted based on BBS monitoring trend since 2006.

Breeding short-term trend: RBBP; Holling, M. & the Rare Breeding Birds Panel. 2012. Rare breeding birds in the United Kingdom in 2010. *British Birds* 105: 352-416. vs Conway, G.J., Wotton, S., Henderson, I., Eaton, M., Drewitt, A. & Spencer, J. 2009. The status of breeding Woodlarks *Lullula arborea* in Britain in 2006. *Bird Study* 56: 310-325. Total adjusted based on BBS monitoring trend since 2006.

Breeding long-term trend: Sharrock, J.T.R. 1976. The Atlas of Breeding Birds in Britain and Ireland. Berkhamsted, T. & A.D. Poyser. vs Conway, G.J., Wotton, S., Henderson, I., Eaton, M., Drewitt, A. & Spencer, J. 2009. The status of breeding Woodlarks *Lullula arborea* in Britain in 2006. *Bird Study* 56: 310-325. Total adjusted based on BBS monitoring trend since 2006.

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.
- Donald, P. 2004. Woodlark (*Lullula arborea*). 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., Balmer, D., Conway, G.J., Gillings, S., Grice, P.V., Hall, C., Hearn, R.D., Musgrove, A.J., Riseley, K. and Wotton, S. 2009. The state of the UK's birds 2008.
- 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.
- Tucker, G.M. and Heath, M.F. 1994. *Birds in Europe: Their Conservation Status*. BirdLife International, Cambridge, U.K.