

***Fringilla coelebs* (Common Chaffinch)**

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.

Fringilla coelebs (Common Chaffinch)

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	12600–25100	<1	2007-2018	partial	-	-75	2007-2018	partial	-	-75 to -72	1980-2018	expert	
Andorra	5700–29300	<1	2014-2017	partial	-		2011-2018	complete	?				
Armenia	16100–21900	<1	2013-2018	complete	0		2007-2018		0		2003-2018	partial	
Austria	1400000–2100000	<1	2013-2018	partial	0		2007-2018	complete	?		1981-2018	deficient	all others
Azerbaijan	100000–1000000	<1	1996-2019	expert	0		2013-2019	expert	?		1980-2019	expert	
Belarus	5000000–6500000	3	2010-2018	partial	0	-10 to 10	2012-2019	expert	0	0	1980-2019	expert	
Belgium	461000–743000	<1	2013-2018	expert	0	-4 to 8	2008-2018	complete	+	85 to 197	1973-2018	partial	all others
Bosnia & HG	300000–500000	<1	2015-2018	complete	?	-10 to 10	2007-2018	complete	?		1980-2018	deficient	
Bulgaria	2000000–4000000	2	2005-2018	partial	0	0	2001-2018	expert	0	0	1980-2018	expert	all others
Croatia	3000000–4000000	2	2013-2018	expert	?		2007-2018	deficient	?		1980-2018	deficient	all others
Cyprus	25000–50000	<1	2013-2018	partial	+	11 to 66	2007-2018	partial	?		1980-2018	deficient	all others
Czechia	4000000–8000000	3	2014-2017	complete	+		2007-2018	complete	-		1982-2018	complete	all others
Denmark	1280000–1290000	<1	2017	partial	-	-33 to -23	2006-2017	complete	-	-20 to -5	1980-2017	complete	all others
Estonia	1600000–2000000	1	2013-2017	expert	0	1 to 5	2007-2018	expert	0	-11 to -7	1983-2018	expert	all others
Finland	6800000–7690000	4	2013-2018	complete	0	-7 to 0	2007-2018	complete	0	-6 to 7	1980-2018	complete	all others
France	7000000–11000000	5	2009-2012	partial	0		2007-2018	complete	0		2001-2018	partial	all others
Georgia	154000–1550000	<1	2013-2017	partial	?			deficient	?				
Germany	7550000–9050000	4	2016-2016	complete	0	-1 to 6	2004-2016	complete	0		1980-2016	expert	all others
Greece	430000–550000	<1	2013-2018	partial	0		2007-2018	partial	0		1980-2018	partial	all others
Hungary	1270000–1340000	<1	2014-2018	complete	0		2007-2018	partial	?		1980-2018	deficient	all others
Rep. Ireland	2060000–4340000	1	2011-2016	complete	+	16 to 25	2006-2016	complete	?		1980-2016	deficient	all others
Italy	1000000–2000000	<1	2013-2018	expert	+	0 to 5	2000-2014	partial	0		1993-2018	expert	all others
Kosovo	150000–200000	<1	2007-2019	partial	0		2007-2018	partial	0		1990-2018	partial	
Latvia	1750000–2050000	1	2016-2016	complete	0	-1 to 23	2005-2018	complete	-		1991-2016	partial	all others
Lithuania	1200000–2000000	<1	2013-2018	partial	-	-20 to -10	2013-2018	partial	0	0	1980-2018	partial	all others
Luxembourg	50000–70000	<1	2013-2018	partial	0	0	2007-2018	partial	?		1980-2018	expert	all others
North Macedonia	300000–500000	<1	2014-2019	expert	0		2007-2018	expert	?		1980-2019		
Malta	4–9	<1	2017-2018	complete	+		2008-2018	complete	0		1980-2018	complete	all others
Moldova	60000–110000	<1	2014-2017	partial	0		2007-2018	partial	0		1990-2018	expert	
Montenegro	200000–300000	<1	2002-2012	expert	0		2007-2018	expert	?				
Netherlands	400000–500000	<1	2013-2015	complete	0	-5 to 3	2006-2017	complete	+	56 to 89	1984-2017	complete	all others
Norway	2000000–4000000	2	2013-2018	expert	0		2013-2018	partial	?		1980-2018	partial	

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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	
Poland	8560000–8930000	5	2013-2018	complete	0	-6 to 2	2007-2018	complete	?		1980-2018	deficient	all others
Portugal	1000000–5000000	1	2013-2018	partial	0		2004-2018	partial	0		1980-2018	partial	all others
PT: Azores	1840000–2890000	1	2013-2017	partial	+	0 to 50	2007-2017	complete	?		1980-2018	deficient	all others
PT: Madeira	50000–100000	<1	2013-2018	partial	+	91 to 149	2008-2018	partial	0		1980-2018	expert	all others
Romania	7150000–8120000	4	2013-2015	complete	0	-3 to 1	2008-2018	complete	?		1980-2018	deficient	all others
Russia	50000000–70000000	32	2006-2018	partial	0		2006-2019	expert	0		1978-2018	expert	
Serbia	1400000–1750000	<1	2013-2018	partial	0	0	2007-2018	complete	0	0	1980-2018	complete	
Slovakia	3000000–5000000	2	2013-2018	partial	0		2007-2018	partial	0		1980-2018	partial	all others
Slovenia	815000–1360000	<1	2018-2018	complete	+		2008-2018	complete	?		1980-2018	deficient	all others
Spain	8960000–10900000	5	2004-2018	partial	+		2007-2018	complete	+		1980-2018	complete	all others
ES: Canary Is	1000–5000	<1	1997-2018	expert	?		2007-2018	deficient	?		1980-2018	deficient	ombriosa
Sweden	5720000–10900000	4	2013-2018	partial	0	-3 to 4	2007-2018	partial	0	-10 to 20	1980-2018	partial	all others
Switzerland	900000–1100000	<1	2013–2016	partial	0	-5 to 14	2007-2018	complete	+	22 to 38	1990-2018	complete	
Turkey	3000000–15000000	4	2002-2012	expert	?		2008-2019	deficient	?		1980-2013	deficient	
Ukraine	5000000–7000000	3	2015-2017	partial	F	5 to 10	2007-2019	expert	?		1980-2019	deficient	
United Kingdom	5060000–5070000	3	2016	partial	-		2004-2016	complete	0		1980-2016	complete	all others
EU28	85400000–121000000	54											
Europe	154000000–231000000	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	
Gibraltar	50–100	100	2014-2018	partial	0	0	2000-2012	partial	0	0	1980-2018	partial	
EU28	50–100	100											
Europe	50–100	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) 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 ($\geq 50\%$) | ↓ 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

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

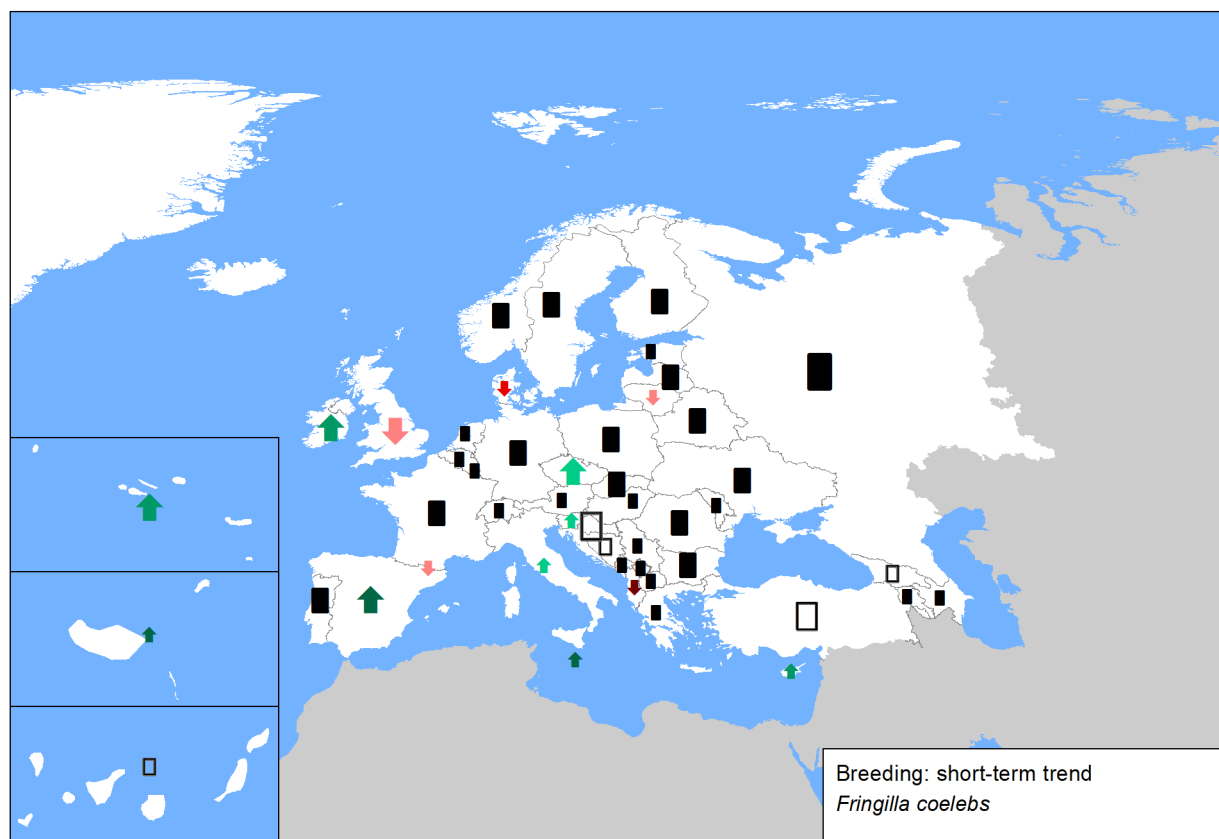


Figure 2. Breeding population sizes and long-term trends across Europe.

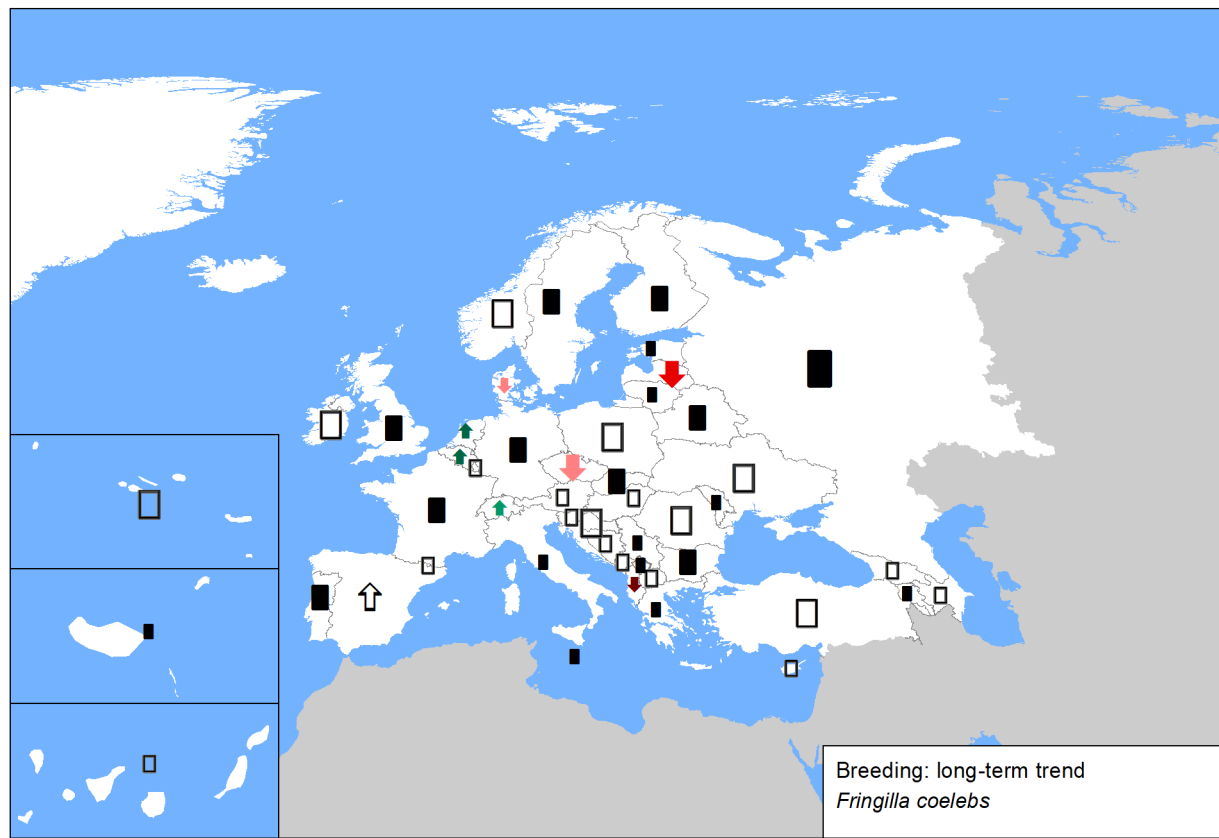


Figure 3. Reported wintering population sizes and short-term trends across Europe. Note that some countries within the species' wintering range did not report any data.

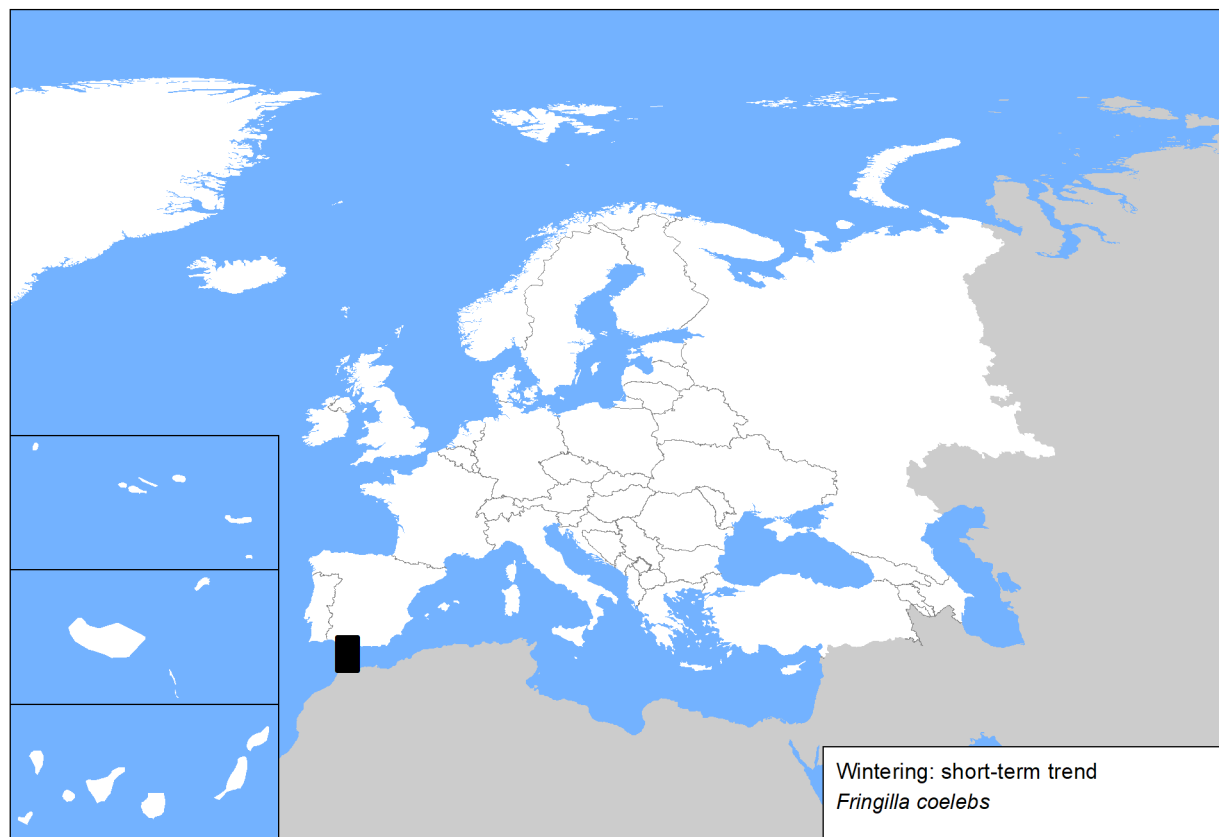
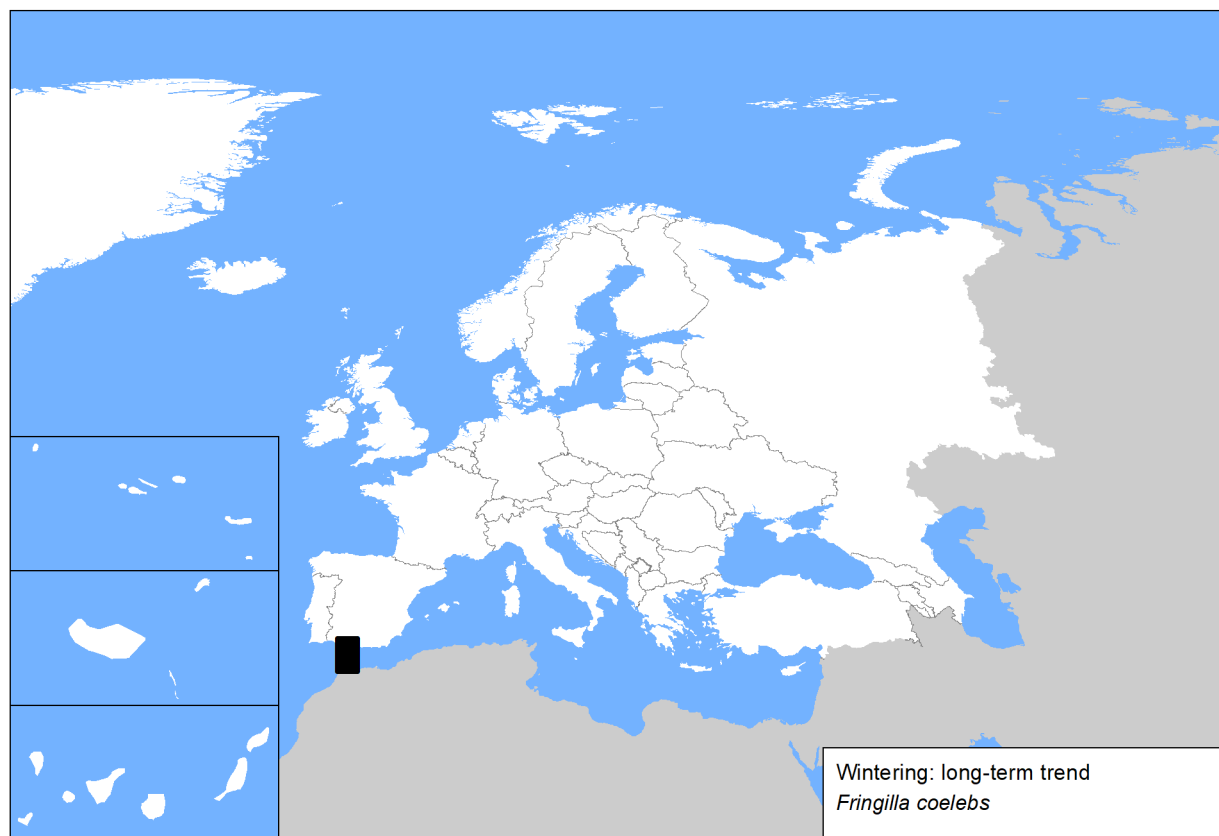


Figure 4. Reported wintering population sizes and long-term trends across Europe. Note that some countries within the species' wintering range did not report any data.



Sources

Albania

Breeding population size: Bino & Xeka 2020 in EBBA 2
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: all others

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: all others

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: 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 pp.; National Art. 12 reporting database 2013-2018;
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 pp.; National Art. 12 reporting database 2013-2018;
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 pp.

Croatia: all others

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: all others

Breeding population size: Expert opinion based on the "Study on FBI and CBI Indicators" (Birdlife Cyprus, 2017)
Breeding short-term trend: Study on FBI and CBI Indicators, Birdlife Cyprus, 2017
Breeding long-term trend: Bird sightings records as published in BirdLife Cyprus annual reports; No systematic data is available for before 2006

Czechia: all others

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: all others

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: all others

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: all others

Breeding population size: Lehtinen, 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., Lehtinen, A. & Sirkkiä, P. 2018: Suomen pesivän maallinnuston kannanvaihtelut. — Linnut -vuosikirja 2017:16–31
Breeding long-term trend: Väisänen R. A., Lehtinen, A. & Sirkkiä, P. 2018: Suomen pesivän maallinnuston kannanvaihtelut. — Linnut -vuosikirja 2017:16–31

France: all others

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: all others

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.

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).

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Gibraltar

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: all others

Breeding population size: 1) BirdLife International (2017). European birds of conservation concern: populations, trends and national responsibilities. Cambridge. UK: BirdLife International. ISBN 978-1-912086-00-9
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: all others

Breeding population size: National common bird monitoring scheme (MMM) database.
Breeding short-term trend: Expert opinions. National common bird monitoring scheme (MMM) database.
Breeding long-term trend: Expert opinions. National common bird monitoring scheme (MMM) database.

Republic of Ireland: all others

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: all others

Breeding population size: Brichetti P & Fracasso G. 2013. Ornitologia italiana. Vol.8 (Sturnidae-Fringillidae). 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
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: all others

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: all others

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. Lututė, 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.

Fringilla coelebs (Common Chaffinch)

Luxembourg: all others

Breeding population size: Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&mwelt Luxembourg. ISBN: 978-2-919920-01-3; Ornitho.lu (2018): online database natur&mwelt asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg
Breeding short-term trend: Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&mwelt Luxembourg. ISBN: 978-2-919920-01-3; Ornitho.lu (2018): online database natur&mwelt asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg ; LUXOR (2018): natur&mwelt – Bird-database, Luxembourg
Breeding long-term trend: Melchior E., E. Mentgen, R. Peltzer, R. Schmitt, J. Weiss (1987): Atlas der Brutvögel Luxemburgs. Lëtzebuurger Natur- a Vulleschützliga. Kremer-Muller & Cie, Foetz, Luxembourg; Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&mwelt Luxembourg. ISBN: 978-2-919920-01-3; Ornitho.lu (2018): online database natur&mwelt asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg ; LUXOR (2018): natur&mwelt – Bird-database, 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

Malta: all others

Breeding population size: Malta Breeding Bird Atlas (2018) in preparation, (included a complete breeding bird population census in Malta together with a wintering bird census in 2017-2018) Fenech N. (2017) Birds of the Maltese Islands, Nature Guide Series (BDL Books)
Breeding short-term trend: Malta Breeding Bird Atlas (2018) in preparation, (included a complete breeding bird population census in Malta together with a wintering bird census in 2017-2018) Fenech N. (2017) Birds of the Maltese Islands, Nature Guide Series (BDL Books)
Breeding long-term trend: Malta Breeding Bird Atlas (2018) in preparation, (included a complete breeding bird population census in Malta together with a wintering bird census in 2017-2018) Sultana, J., Borg, J.J., Gauci, C. & Falzon, V. (2011): The Breeding Birds of Malta. Malta: BirdLife Malta & BDL Publishing. Raine, A., Sultana, J. & Gillings, S. (2009) Malta Breeding Bird Atlas 2008, Malta: BirdLife Malta. BirdLife International (2004) Birds in Europe: population estimates, trends and conservation status. BirdLife International (BirdLife Conservation Series No. 12), Cambridge, UK. Tucker, G.M. & Heath, M.F. (1994) Birds in Europe: their conservation status. BirdLife International (BirdLife Conservation Series No. 3), Cambridge, UK.

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: all others

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

Poland: all others

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: all others

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).
Breeding long-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); Relatório Nacional Directiva Aves (2008-2012).

PT: Azores: all others

Breeding population size: Count data extracted from CAC (Common Bird Census; 2013-2018), provided by SPEA (not published).
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. URL: http://www.spea.pt/pt/estudo-e-conservacao/censos/censo-de-aves-comuns/
Breeding long-term trend: No sources available.

Fringilla coelebs (Common Chaffinch)

PT: Madeira: all others

Breeding population size: Equipa Atlas, 2013 - http://www.atlasdasaves.netmadeira.com/index.php?option=com_content&view=article&id=160&Itemid=66&lang=pt Meirinho, A., Leal, A., Marques, A.T., Fagundes, A.I., Sampaio, H., Costa, J. & Leitão, D. 2013. O estado das aves comuns em Portugal 2011: Relatório do projeto Censo de Aves Comuns. Sociedade Portuguesa para o Estudo das Aves, Lisboa http://www.spea.pt/fotos/editor2/relatoriocac_2011.pdf 1º Atlas das Aves Invernantes e Migradoras de Portugal https://drive.google.com/drive/folders/1MJWLVRhU9A8lgbvY2DhPiFm_Tp1hD25
Breeding short-term trend: Meirinho, A., Leal, A., Marques, A.T., Fagundes, A.I., Sampaio, H., Costa, J. & Leitão, D. 2013. O estado das aves comuns em Portugal 2011: Relatório do projeto Censo de Aves Comuns. Sociedade Portuguesa para o Estudo das Aves, Lisboa http://www.spea.pt/fotos/editor2/relatoriocac_2011.pdf
Breeding long-term trend: Oliveira, P. & Menezes, D. 2004. Aves do Arquipélago da Madeira. Serviço do Parque Natural da Madeira

Romania: all others

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: Khohlova et al. 2017; Morkovin et al. 2017; Preobrazhenskaya unpublished. voop21@rambler.ru; Sarychev unpublished. vssar@yandex.ru
Breeding long-term trend: Khohlova et al. 2017; Preobrazhenskaya unpublished. voop21@rambler.ru; Sarychev unpublished. vssar@yandex.ru

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: all others

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: all others

Breeding population size: Mihelič T., Kmecl P., Denac K., Koce U., Vrezec A., Denac D. (eds.) (2019): Atlas ptic Slovenije. Popis gnezdičk 2002–2017. (The atlas of birds of Slovenia. The census of breeding birds 2002-2017.) – DOPPS, Ljubljana. Kmecl P. & Šumrada T. (2018): Monitoring splošno razširjenih vrst ptic za določitev slovenskega indeksa ptic kmetijske krajine - končno poročilo za leto 2018. (Monitoring of common bird species for the determination of Slovenian farmland bird index - final report for the year 2018.) – 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. (Monitoring of common bird species for the determination of Slovenian farmland bird index - final report for the year 2018.) – DOPPS, Ljubljana.
Breeding long-term trend: There are no sources for this information.

Spain: all others

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)
Breeding long-term trend: 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) 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)

Fringilla coelebs (Common Chaffinch)

ES: Canary Is: *ombriosa*

Breeding population size: Lorenzo, J.A. (2007) (Ed). Atlas de las Aves Nidificantes en el Archipiélago Canario (1997-2003). Dirección General de Conservación de la Naturaleza-Sociedad Española de Ornitología. Madrid. 520 pp.
Breeding short-term trend: Lorenzo, J.A. (2007) (Ed). Atlas de las Aves Nidificantes en el Archipiélago Canario (1997-2003). Dirección General de Conservación de la Naturaleza-Sociedad Española de Ornitología. Madrid. 520 pp.
Breeding long-term trend: Lorenzo, J.A. (2007) (Ed). Atlas de las Aves Nidificantes en el Archipiélago Canario (1997-2003). Dirección General de Conservación de la Naturaleza-Sociedad Española de Ornitología. Madrid. 520 pp. Madroño, A., González, C. & Atienza, J.C. (Eds.). (2004). Libro Rojo de las Aves de España. Dirección General para la Biodiversidad-SEO/BirdLife, Madrid. 452 pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/Ircompletoparaweb_tcm30-207942.pdf) Martín, A. & Lorenzo, J.A. (2001). Aves del Archipiélago Canario. Francisco Lemus Editor. La Laguna. 787 pp

Sweden: all others

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.
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), Arslangündoğdu 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)
--

Ukraine

Breeding population size: Atlas work, non-published data

United Kingdom: all others

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

Ahas, R.; Aasa, A. 2006. The effects of climate change on the phenology of selected Estonian plant, bird and fish populations. *International Journal of Biometeorology* 51: 17-26.

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.

Brazil, M. 2009. Birds of East Asia: eastern China, Taiwan, Korea, Japan, eastern Russia. Christopher Helm, London.

Clement, P. 2016. Common Chaffinch (*Fringilla coelebs*). In: del Hoyo, J., Elliott, A., Sargatal, J., Christie, D.A. and de Juana, E. (eds), *Handbook of the Birds of the World Alive*, Lynx Edicions, Barcelona.

Crick, H.Q.P. and Sparks, T.H. 1999. Climate change related to egg-laying trends. *Nature* 399: 423-424.

Crick, H.Q.P., Dudley, C., Glue, D.E. and Thomson, D.L. 1997. UK birds are laying earlier. *Nature* 388: 526.

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.

Madroño, A., González, C. and Atienza, J.C. 2004. *Libro Rojo de las aves de España*. Sociedad Española de Ornitología, Madrid.

Snow, D.W. and Perrins, C.M. 1998. *The Birds of the Western Palearctic, Volume 2: Passerines*. Oxford University Press, Oxford.

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.