Mareca strepera (Gadwall)

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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Reported national population sizes and trends
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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.

Table 1. Reported national breeding population size and trends in Europe[1].

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	0	<1	2007-2018	complete	-	-100 to 0	2007-2018	complete	-	-100 to 0	1980-2018	expert	
Armenia	310–480	<1	2013-2018	complete	-	-10 to -5	2007-2018		?		2003-2018	deficient	
Austria	150–300	<1	2013-2017	complete	-	-30 to -10	2007-2018	complete	+	150 to 200	1981-2018	complete	
Azerbaijan	100–200	<1	1996-2000	partial	+		2013-2019	expert	+		1980-2019	expert	
Belarus	10000–12000	11	2010-2018	partial	+	50 to 100	2012-2019	expert	+	50 to 100	1980-2019	expert	
Belgium	1100–1600	1	2013-2018	partial	+		2008-2018	partial	+	12122 to 17678	1973-2018	partial	
Bosnia & HG	50–100	<1	2015-2018	complete	?	-10 to 10	2007-2018	complete	?		1980-2018	deficient	
Bulgaria	80–120	<1	2005-2018	partial	0	0	2001-2018	partial	0	0	1980-2018	partial	
Croatia	30–40	<1	2015-2018	expert	?		2007-2018	expert	?		1980-2018	deficient	
Czechia	2000–4000	3	2014-2017	complete	+	11 to 25	2001-2017	complete	-		1981-2017	partial	
Denmark	500	<1	2017	complete	-	0	2011-2017	complete	+	386 to 1325	1980-2017	complete	
Estonia	2000–3000	2	2013-2017	partial	+	105 to 109	2007-2018	partial	+	188 to 327	1980-2017	partial	
Finland	700–1500	1	2013-2018	partial	+		2007-2018	partial	+		1980-2018	partial	
France	1500–1800	2	2009-2012	partial	?		2007-2018	deficient	?		1980-2018	expert	
Georgia	present	<1		deficient	?			deficient	?				
Germany	9500–12500	11	2016-2016	expert	+		2004-2016	expert	+		1985-2016	expert	
Greece	10–45	<1	2015	partial	0		2007-2018	partial	?		1980-2018	deficient	
Hungary	160–400	<1	2013-2018	expert	0		2007-2018	partial	+	220 to 300	1980-2018	expert	
Iceland	600–800	<1	2018	partial	+		2006-2018	complete	+		1980-2018	complete	
Rep. Ireland	40–60	<1	2013-2018	partial	+		2011-2018	partial	+		1991-2018	partial	
Italy	200–300	<1	2010-2016	expert	+	200 to 300	2007-2018	expert	+	500 to 900	1993-2018	expert	
Kosovo	0–5	<1	2007-2019	partial	?		2007-2018	deficient	?		1990-2018	partial	
Latvia	150–350	<1	2013-2018	expert	+	249 to 295	2000-2018	partial	+	26 to 39	1991-2017	partial	
Lithuania	500–650	<1	2013-2018	partial	+	86 to 100	2013-2018	partial	+	200 to 340	1980-2018	partial	
North Macedonia	5–30	<1	2014-2019	expert	0		2007-2018	expert	?		1980-2019		
Moldova	12–30	<1	2014-2017	partial	0		2007-2018	partial	0		1990-2018	expert	
Netherlands	21000–26000	23	2013-2015	complete	+	66 to 83	2006-2017	complete	+	905 to 1375	1984-2017	complete	
Norway	10–50	<1	2013-2018	complete	F		2013-2018	complete	+	20 to 5000	1980-2018	partial	
Poland	3000–4000	3	2013-2018	expert	+	6 to 194	2007-2018	complete	+	130 to 150	1980-2018	expert	
Portugal	500–4000	1	2013-2018	partial	+		2007-2018	partial	+		1980-2018	partial	
Romania	500–9000	2	2013-2015	complete	?		2007-2018	deficient	?		1980-2018	deficient	
Russia	20000–35000	26	2008-2018	partial	?		2008-2018	partial	?		1980-2018	expert	

Table 1. Reported national breeding population size and trends in Europe[1].

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]	
Serbia	240–450	<1	2013-2018	partial	+	30 to 49	2007-2018	complete	+	30 to 49	1980-2018	complete	
Slovakia	100–200	<1	2013-2018	partial	+	1 to 10	2007-2018	partial	+	50 to 100	1980-2018	partial	
Slovenia	7–15	<1	2013-2018	complete	?		2007-2018	complete	+	600 to 1400	1980-2018	partial	
Spain	2500–3900	3	1998-2002	partial	+	0 to 255	2007-2018	complete	+		1980-2018	complete	
Sweden	2800–3100	3	2013-2018	partial	+	70 to 90	2007-2018	partial	+	400 to 600	1980-2018	partial	
Switzerland	5–10	<1	2013–2016	complete	0	-39 to 92	2007-2018	complete	+	18 to 457	1990-2018	complete	
Turkey	300–400	<1	2002-2012	expert	?		2008-2019	deficient	?		1980-2013	deficient	
Ukraine	480–770	<1	2010-2018	partial	-		2010-2018	partial	-		1980-2018	partial	
United Kingdom	1200–3200	2	2016	partial	+		2004-2016	complete	+		1973-2016	partial	
EU28	50300–80500	60											
Europe	**82400–131000**	**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.

Table 2. Reported national wintering population sizes and trends in Europe[1]. 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]	
Albania	110–1200	<1	2007-2018	complete	+	10 to 95	2007-2018	complete	0	-18 to 10	1980-2018	complete	
Armenia	1000–2000	<1	2013-2018	partial	-	-5 to -3	2007-2018	partial	?		2003-2018	deficient	
Austria	1100–2200	<1	2013-2018	complete	+		2007-2018	complete	+		1981-2014	complete	
Azerbaijan	5000–50000	6	1996-2019	complete	+		2010-2019	complete	?		1980-2019	expert	
Belgium	11000–17000	6	2013-2018	complete	+	9 to 67	2007-2018	complete	+	423 to 699	1992-2018	complete	
Bosnia & HG	200–500	<1	2015-2018	complete	?		2007-2018	deficient	?		1980-2018	deficient	
Bulgaria	160–660	<1	2013-2018	partial	F		2000-2018	partial	F		1980-2018	partial	
Croatia	50–300	<1	2012-2012	expert	?		2007-2018	deficient	?		1980-2013	deficient	
Cyprus	18–30	<1	2013-2018	partial	F		2007-2018	partial	+	50 to 200	1980-2018	expert	
Czechia	300–700	<1	2015-2019	complete	+		2008-2019	complete	+		1980-2019	complete	
France	25600–38000	13	2013-2018	complete	0	0	2006-2017	complete	+	33	1980-2017	complete	
Georgia	17–22	<1	2014-2019	expert	?				?				
Germany	33000	13	2011-2016	complete	+	36 to 49	2003-2016	complete	+	367 to 399	1980-2016	complete	
Greece	3400–9500	2	2013-2018	partial	?		2007-2018	partial	?		1980-2018	deficient	
Iceland	20–50	<1	2018	expert	0		2002-2014	partial	?		1980-2018	partial	
Rep. Ireland	510–520	<1	2011-2016	complete	-		2004-2016	complete	+		1987-2016	partial	
Italy	10000–14800	5	2013-2015	partial	+	25 to 45	2009-2015	partial	+	75 to 160	1991-2015	partial	
Kosovo		<1	2019		?				?				
Luxembourg	20–100	<1	2013-2018	complete	F		2007-2018	complete	+	50 to 100	1980-2018	partial	
North Macedonia	20–50	<1	2013-2018	complete	0		2010-2019	complete	0		1988-2018	complete	
Moldova	1–5	<1	2018-2019	partial	F		2007-2018	partial	0		1990-2018	expert	
Montenegro	100–200	<1	2013-2018	expert	0		2007-2018	expert	?				
Netherlands	60000–88700	28	2013-2017	complete	+	62 to 173	2006-2017	complete	+	2339 to 3937	1981-2017	complete	
Portugal	870–3600	<1	2013-2018	complete	?	-48 to -20	2007-2018	complete	?		1988-2018	partial	
Romania	600–4800	<1	2013-2018	partial	+	6 to 16	2013-2018	complete	?	0 to 20	2000-2018	complete	
Serbia	800–4000	<1	2013-2018	complete	F		2013-2018	complete	?	-10 to 10	1980-2018	expert	
Slovenia	40–180	<1	2013-2018	complete	0		2007-2018	complete	+	350 to 700	1980-2018	expert	
Spain	17500–21900	8	2007-2018	complete	+	1 to 95	2007-2018	complete	+	1 to 431	1980-2018	complete	
Switzerland	4700–8600	2	2015-2019	complete	+	19 to 24	2008-2019	complete	+	265 to 275	1980-2019	complete	
Turkey	180–6600	<1	2013-2019	complete	?		2014-2019	deficient	?		1980-2019	deficient	
Ukraine	15–50	<1	2014-2017	partial	?		2007-2018	partial	?		1980-2018	partial	

Table 2. Reported national wintering population sizes and trends in Europe[1]. 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]	
United Kingdom	31200–31300	12	2012-2016	complete	+		2005-2016	complete	+		1980-2016	complete	
EU28	195000–262000	89											
Europe	**207000–340000**	**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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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%)
- Moderate increase (20–49%)
- Small increase (<20%)
- Increase of unknown magnitude
- Large decrease (≥50%)
- Moderate decrease (20–49%)
- Small decrease (<20%)
- 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.

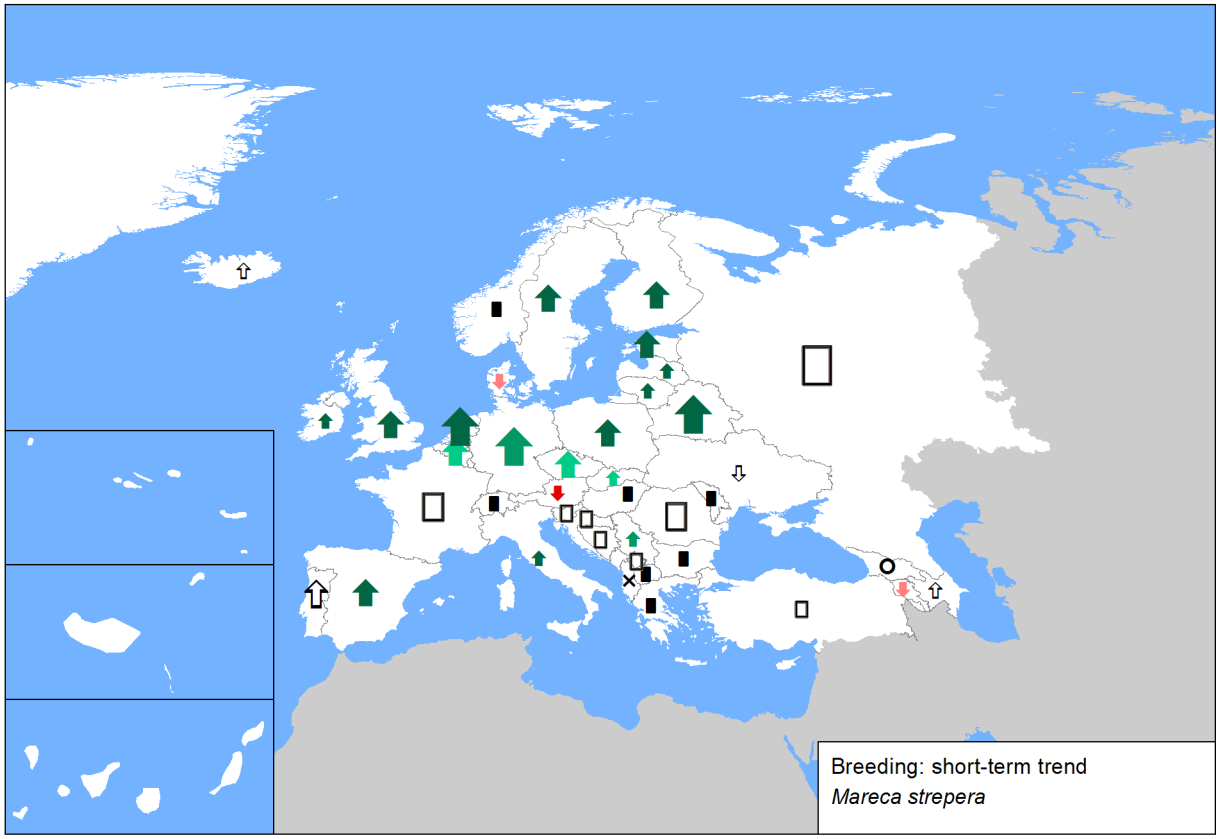


Figure 2. Breeding population sizes and long-term trends across Europe.

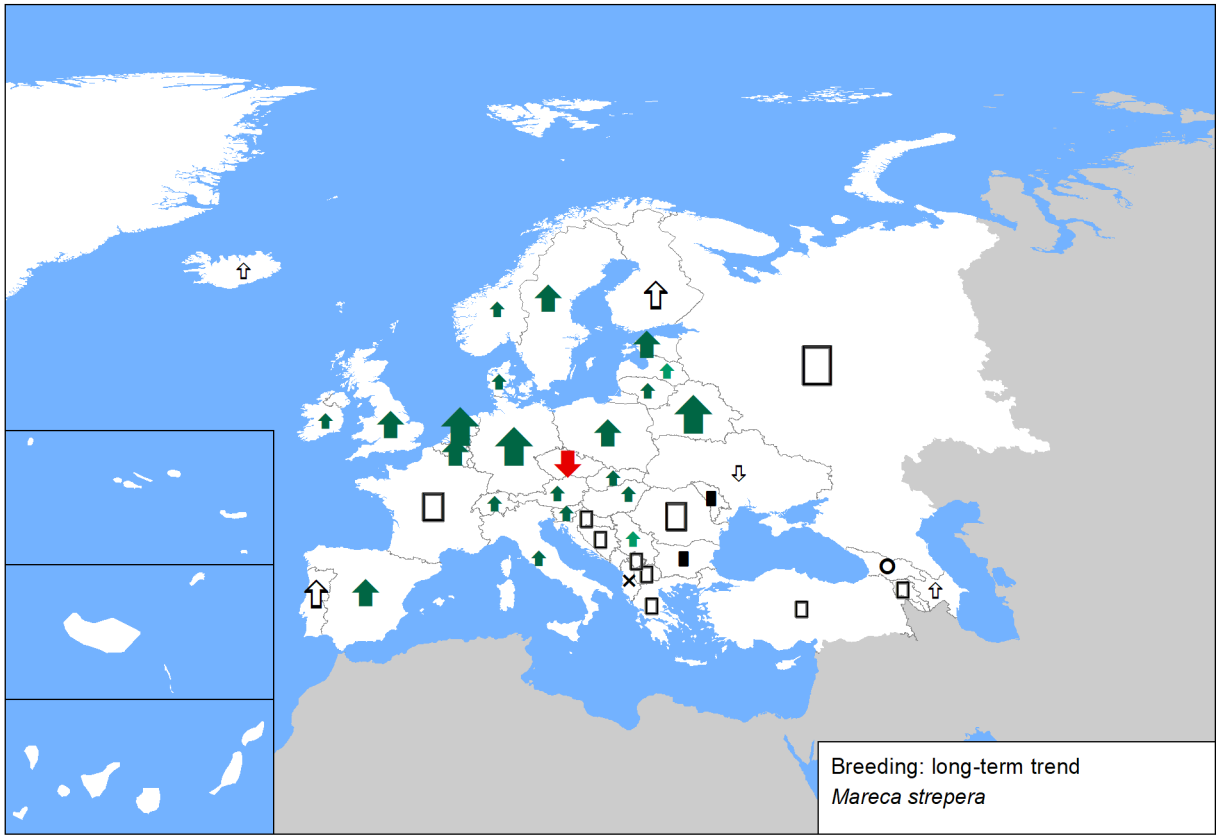


Figure 3. Reported wintering population sizes and short-term trends across Europe. Note that some countries within the species' wintering range did not report any data.

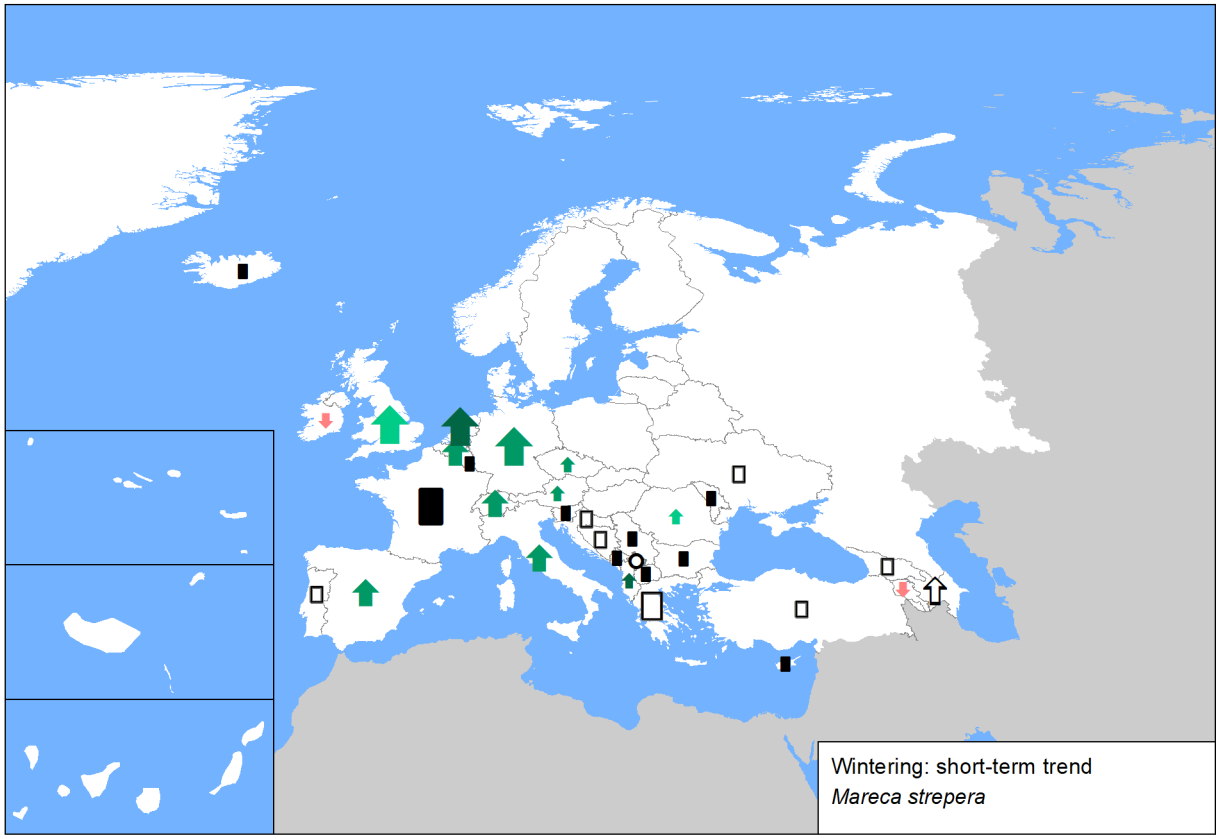
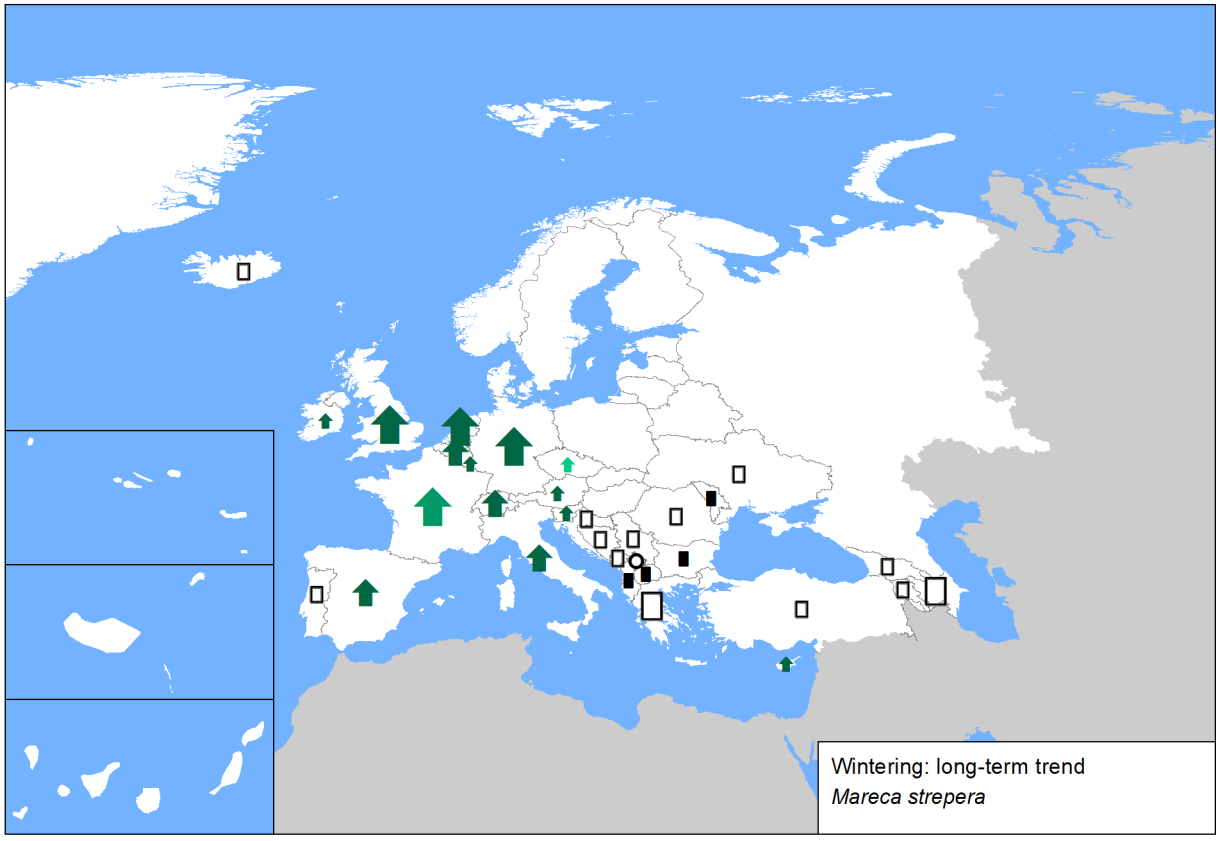


Figure 4. Reported wintering population sizes and long-term trends across Europe. Note that some countries within the species' wintering range did not report any data.



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.
Winter population size: Bino pers. obs.
Winter short-term trend: Bino et al. 2018
Winter long-term trend: Bino et al. 2018

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.
Winter population size: TSE NGO, National Bird Monitoring
Winter short-term trend: TSE calculations using TRIM
Winter long-term trend: TSE calculations using TRIM

Austria

Breeding population size: BirdLife Austria unpublished data from specific monitoring projects and from www.ornitho.at, Alexander Schuster unpublished data (Trauntal), Thomas Zuna-Kratky & Johannnes Frühauf (March/Thaya-Auen)
Breeding short-term trend: BirdLife Austria unpublished data from specific monitoring projects and from www.ornitho.at, Alexander Schuster unpublished data (Trauntal)
Breeding long-term trend: BirdLife Austria unpublished data from specific monitoring projects and from www.ornitho.at; data from Dvorak et al. 1994
Winter population size: BirdLife Austria, data of the International Waterfowl Counts (January count)
Winter short-term trend: BirdLife Austria, data of the International Waterfowl Counts (January count)
Winter long-term trend: BirdLife Austria, unpublished data based on indices calculated by the program TRIM

Azerbaijan

Breeding population size: AOS data base
Breeding short-term trend: AOS data base
Breeding long-term trend: AOS Data Base
Winter population size: AOS data base
Winter short-term trend: AOS Data Base
Winter 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.
Winter population size: Waterbird database INBO
Winter short-term trend: Waterbird database INBO & Aves
Winter long-term trend: Waterbird database INBO & Aves

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)
Winter population size: based on IWC reports-all reports published in magazine Bilten mreže posmatrača ptica (www.ptice.ba)
Winter short-term trend: based on IWC reports-all reports published in magazine Bilten mreže posmatrača ptica (www.ptice.ba)

Bosnia and Herzegovina

Winter long-term trend: There are no qualitative data before 2005 to make estimates

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; Green Balkans. 2009. Integrated management plan for Special Protection Area "Pomorie Lake" (BG0000152) under the Bird Directive, Site of Community Interest "Pomorie" (BG0000620) under the Habitat Directive, "Pomorie Lake" Protected Area and "Pomorie Lake" Ramsar site, 212 c. BSPB Bird Database Po sledite na pticite (http://www.worldbirds.org) Shurulinkov, P. G. Daskalova, R. Tzonev, 2013. Breeding Waterbirds in Temporally Flooded Wetlands in Northern Bulgaria. Acta zool. bulg., 65 (2), 2013: 207-215

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Croatia

Breeding population size: Dumbović Mazal V., Pintar V., Zadravec M. (2019): Prvo izvješće o brojnosti i rasprostranjenosti ptica u Hrvatskoj sukladno odredbama Direktive o pticama. Zavod za ornitologiju (Sanja Barišić, Davor Ćiković, 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 Leskovar, Duje Lisičić, Ivica Lolić, Gordan Lukač. Kristijan Mandić, Krešimir Mikulić, Tibor Mikuska, Gvido Piasevoli, Andrej Radalj, Zlatko Ružanović, Vlatka Šćetarić, Mirko Šetina, Adrian Tomik (2015): Procjene brojnosti za SPA područja. Državni zavod za zaštitu prirode, Zagreb Tutiš, V., Kralj, J., Radović, D., Ćiković, D., Barišić, S. (ur.) (2013): Crvena knjiga ptica Hrvatske. Ministarstvo zaštite okoliša i prirode, Državni zavod za zaštitu prirode, Zagreb, 258 str.

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Winter population size: Tutiš, V., Kralj, J., Radović, D., Ćiković, D., Barišić, S. (ur.) (2013): Crvena knjiga ptica Hrvatske. Ministarstvo zaštite okoliša i prirode, Državni zavod za zaštitu prirode, Zagreb, 258 str.

Winter short-term trend: Tutiš, V., Kralj, J., Radović, D., Ćiković, D., Barišić, S. (ur.) (2013): Crvena knjiga ptica Hrvatske. Ministarstvo zaštite okoliša i prirode, Državni zavod za zaštitu prirode, Zagreb, 258 str.

Winter long-term trend: Tutiš, V., Kralj, J., Radović, D., Ćiković, D., Barišić, S. (ur.) (2013): Crvena knjiga ptica Hrvatske. Ministarstvo zaštite okoliša i prirode, Državni zavod za zaštitu prirode, Zagreb, 258 str.

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.

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

Winter long-term trend: More recent records (2000 onwards) as above, pre-2000 records based on birdwatching records as reported in BirdLife Cyprus annual reports

Czechia

Breeding population size: Šťastný et Bejček in prep. - Atlas hnízdního rozšíření ptáků ČR 2014-2017

Breeding short-term trend: Trends in waterbird breeding population size were estimated using changes in population data from nation-wide numbers project of "Atlas of Breeding Bird Distribution" carried out in whole Czech Republic in 2001 -2003 and 2014 – 2017. Range of relative change in breeding population size was used as the measurement of population trend. The values of relative rate of change were compared with data from annual monitoring (census in May – see Musil & Fuchs 1994, Musil et al. 2001, Čehovská et al. 2019 for the methods) on limited amount of sites (fishpond regions in south and central Bohemia - see Musil & Fuchs 1994). Čehovská M., Musil P., Musilová Z., Poláková, K. & Zouhar J. 2019: Diving duck census efficiency based on monitoring of individually marked females: the influence of breeding stage of individual females and timing of census. Bird Study in press. Musil P. Cepák J. Hudec K. & Zárybnický J. 2001. The long-term trends in the breeding waterfowl populations in the Czech Republic. OMPO, Institute of Applied Ecology, Kostelec nad Černými lesy. Musil P. & Fuchs R. 1994: Changes in abundance of water birds species in southern Bohemia (Czech Republic) in the last 10 years. Development in Hydrobiology. In: Kerekes J. J. [ed.]: Aquatic Birds in Trophic Web of Lakes. Hydrobiologia 279/280: 511–519.

Breeding long-term trend: The long-term trends were analysed using data from annual waterbird census carried out in May (see Musil & Fuchs 1994, Musil et al. 2001, Čehovská et al. 2019 for the methods) on limited amount of sites (fishpond regions in south and central Bohemia – see Musil & Fuchs 1994). The individual species trends in numbers were calculated by Trends and Indices for Monitoring data (TRIM) software (Statistics Netherlands version 3.52, Pannekoek and Van Strien, 2005). The additive slope (i.e. the change in indices from one year to the next) was used to estimate the Czech trend, see also Fouque et al. (2009), Musil et al. (2011). Čehovská M., Musil P., Musilová Z., Poláková, K. & Zouhar J. 2019: Diving duck census efficiency based on monitoring of individually marked females: the influence of breeding stage of individual females and timing of census. Bird Study in press. Fouque C, Guillemain M, Schricke V (2009) Trends in the numbers of Coot Fulica atra and wildfowl Anatidae wintering in France and their relationship with hunting activity at wetland sites. Wildfowl. Special Issue Musil P. Cepák J. Hudec K. & Zárybnický J. 2001. The long-term trends in the breeding waterfowl populations in the Czech Republic. OMPO, Institute of Applied Ecology, Kostelec nad Černými lesy. Musil P. & Fuchs R. 1994: Changes in abundance of water birds species in southern Bohemia (Czech Republic) in the last 10 years. Development in Hydrobiology. In: Kerekes J. J. [ed.]: Aquatic Birds in Trophic Web of Lakes. Hydrobiologia 279/280: 511–519. Musil P, Musilová Z, Fuchs R, Poláková S (2011) Long-term changes in numbers and distribution of wintering waterbirds in the Czech Republic, 1966–2008. Bird Study 58: 450–460.

Czechia

Winter population size: Waterbird numbers were recorded in mid-January by regular citizen-science monitoring programme - the International Waterbird Census (IWC) – see Gilissen et al. 2002, Wetlands International 2006, Wetlands International 2019. Hundreds of volunteer birdwatchers conduct the mid-January counts on predetermined dates and sites each year, aiming to maximize synchrony (Gilissen et al. 2002, Musil et al. 2011, Musilová et al. 2014). The estimation of population size was calculated by Trends and Indices for Monitoring data (TRIM) software (Statistics Netherlands version 3.52, Pannekoek and Van Strien, 2005). 'Time Totals' values of the data (i.e. the actual count values plus the numbers of birds estimated by the TRIM software) for all 1155 sites included in the analysis were used to generate total estimates of the range of numbers of the waterbird species wintering in the Czech Republic between 2015 and 2019. We use the range (min–max) of population estimates due to the effect of between-year variation in numbers because of variable climatic conditions (Musil et al. 2008, Musilová et al. 2018). Gilissen N, Haanstra L, Delany S, Boere G, Hagemeijer W (2002) Numbers and distribution of wintering waterbirds in the Western Palearctic and Southwest Asia in 1987, 1988 and 1999. Results from the International Waterbird Census. Wetlands International Global Series No. 11, Wetlands International, Wageningen, The Netherlands. Musil P, Darolová A, Jureček J, Musilová Z, Podhrázský M, Slabeyová K (2008) The long-term trends in numbers of wintering geese in the Czech Republic and Slovakia in 1991–2007. Tichodroma 20: 61–67. Musil P, Musilová Z, Fuchs R, Poláková S (2011) Long-term changes in numbers and distribution of wintering waterbirds in the Czech Republic, 1966–2008. Bird Study 58: 450–460. Musilová Z, Musil P, Zouhar J, Adam M (2018) Changes in habitat suitability influence non-breeding distribution of waterbirds in central Europe. Ibis: 160: 582–596. Musilová Z, Musil P, Zouhar J, Bejček V, Šťastný K, Hudec K (2014) Numbers of wintering waterbirds in the Czech Republic: long-term and spatial-scale approaches to assess population size. Bird Study 61: 321–331.

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Breeding population size: www.dofbasen.dk & Nyegaard,T. et al.,Truede og sjældne ynglefugle i Danmark 1998-2012, Dansk Ornitologisk Forenings Tidsskrift 108, nr 1, 2014 & Atlas III 2014-2017 (www.dofbasen.dk/atlas) & DOF BirdLifeDK Fugleåret 2006-2017 &

Breeding short-term trend: www.dofbasen.dk & Nyegaard,T. et al.,Truede og sjældne ynglefugle i Danmark 1998-2012, Dansk Ornitologisk Forenings Tidsskrift 108, nr 1, 2014 & Atlas III 2014-2017 (www.dofbasen.dk/atlas) & DOF BirdLifeDK Fugleåret 2006-2017

Breeding long-term trend: www.dofbasen.dk & Nyegaard,T. et al.,Truede og sjældne ynglefugle i Danmark 1998-2012, Dansk Ornitologisk Forenings Tidsskrift 108, nr 1, 2014 & Atlas III 2014-2017 (www.dofbasen.dk/atlas) & DOF BirdLifeDK Fugleåret 2006-2017

Estonia

Breeding population size: Estonian Working Group on Bird Status and Numbers

Breeding short-term trend: Estonian Working Group on Bird Status and Numbers

Breeding long-term trend: Estonian Working Group on Bird Status and Numbers

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.

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France

Breeding population size: Broyer J. . Nidification des anatidés en France : analyse des variations dans les principales régions. Faune sauvage, 2774-11

Winter population size: Deceuninck B. et Fouque C. 2010. Canards dénombrés en France en hiver : importance des zones humides et tendances. Ornithos, 17266-285 ; . Gaudard C., Quaintenne G., Deceuninck B., Ward A., Dronneau Ch. & Dalloyau S. 2017. Synthèse des dénombrements d'Anatidés et de foulques hivernant en France à la mi-janvier 2016. WI, LPO, DEB. Rochefort..

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Georgia

Breeding population size: BirdLife International 2004

Winter population size: www.observation.org

Germany

Breeding population size: Gerlach et al. (in Vorb.): Vögel in Deutschland – 2019. Dachverband Deutscher Avifaunisten, Bundesamt für Naturschutz und Länderarbeitsgemeinschaft der Vogelschutzwarten, Münster.

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Breeding long-term trend: Gerlach et al. (in Vorb.): Vögel in Deutschland – 2019. Dachverband Deutscher Avifaunisten, Bundesamt für Naturschutz und Länderarbeitsgemeinschaft der Vogelschutzwarten, Münster.

Winter population size: Dachverband Deutscher Avifaunisten e.V. (http://www.dda-web.de)

Winter short-term trend: Dachverband Deutscher Avifaunisten e.V. (http://www.dda-web.de)

Winter long-term trend: Dachverband Deutscher Avifaunisten e.V. (http://www.dda-web.de)

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). 2) Λεγάκις, Α. & Μαραγκού, Π. (επιμ.). 2009. Το Κόκκινο Βιβλίο των Απειλούμενων Ζώων της Ελλάδας. Ελληνική Ζωολογική Εταιρεία, Αθήνα, 528 σελ. 3) Natura Viewer (http://natura2000.eea.europa.eu/#). 4) Δημαλέξης, Τ., Καστρίτης, Θ., Γρίβας, Κ., Μανωλόπουλος, Α., Καρδακάρη, Ν., Κακαλής, Λ., Ξηρουχάκης, Σ., Τσαϊτουρίδης, Χ., Papazoglou, C. & Barov, B. 2009. Προσδιορισμός συμβατών δραστηριοτήτων σε σχέση με τα είδη χαρακτηρισμού των Ζωνών Ειδικής Προστασίας της ορνιθοπανίδας. Παραδοτέο 8. Οδηγός οικολογικών απαιτήσεων, απειλών και ενδεδειγμένων μέτρων για τα είδη χαρακτηρισμού. 5) Πορτόλου, Δ., Μπουρδάκης, Σ., Βλάχος, Χ., Καστρίτης, Θ. & Δημαλέξης, Τ. (επιμ.).2009. Οι Σημαντικές Περιοχές για τα Πουλιά της Ελλάδας: Περιοχές Προτεραιότητας για τη Διατήρηση της Βιοποικιλότητας. Ελληνική Ορνιθολογική Εταιρεία, Αθήνα. 6) Βλάχος Χ., Μπίρτσας Π., Θωμαΐδης Χ., Χατζηνίκος Ε., Μποντζώρλος Β., Μπραζιώτης Σ., Κόντος Κ., Βλαχάκη Δ., Δεδουσοπούλου Ε., Κιούσης Δ., Ξένος Α., Στεφάνου Λ.Μ., Κασάμπαλης Δ., και Μελικώκη Κ. (Συντονιστές έκδοσης). 2015. Γ' Φάση της Μελέτης 9 «Εποπτεία και Αξιολόγηση της Κατάστασης Διατήρησης Ειδών Ορνιθοπανίδας στην Ελλάδα» ΥΠΑΠΕΝ, Αθήνα, Σύμπραξη Γραφείων Μελετών «"Φ.ΦΑΣΟΥΛΑΣ-Ν.ΜΑΝΤΖΙΟΣ" Ε.Ε. – ΡΟΔΟΥΛΑ ΚΩΝΣΤΑΝΤΙΝΙΔΟΥ ΤΟΥ ΓΕΩΡΓΙΟΥ – "ΑΘ.ΤΖΑΚΟΠΟΥΛΟΣ ΚΑΙ ΣΙΑ" Ε.Ε.», Θεσσαλονίκη.

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Breeding long-term trend: No data available

Winter population size: 1) Research Program: "Phenology of Bird Migration in Greece". 2005 - present day Financiation: Hellenic Hunters Confederation Realization: LKN Analysis Ltd. The methodology of the Research Program has been prepared by the Department of Forestry and Natural Environemt of the Aristotle University of Thessaloniki and the Research Organizations Oiseaux Migrateurs du Palearctique Occidental (OMPO) και Institut Mediterraneen du Patrimoine Cynegetique et Faunistique (IMPCF). The program is realized since 2005 in annual basis, with 38 specialized observers, in 22 major wetlands of the country, with observations taking place during 10 months per year, for 3 times within each month (in 10-days period intervals). 2) Λεγάκις Α. & Μαραγκού Π. 2009. Το Κόκκινο Βιβλίο των Απειλούμενων Ζώων της Ελλάδος. Ελληνική Ζωολογική Εταιρεία, Αθήνα, 528 σελίδες. 3) Δημαλέξης Τάσος. 2009. Προσδιορισμός συμβατών δραστηριοτήτων σε σχέση με τα είδη χαρακτηρισμού των Ζωνών Ειδικής Προστασίας της Ορνιθοπανίδας. Παραδοτέο 8. Οδηγός οικολογικων απαιτήσεων, απειλών και ενδεδειγμένων μέτρων για τα είδη χαρακτηρισμού. 4) Natura Viewer 2000 Internet Tool 4) Βλάχος Χ., Μπίρτσας Π., Θωμαΐδης Χ., Χατζηνίκος Ε., Μποντζώρλος Β., Μπραζιώτης Σ., Κόντος Κ., Βλαχάκη Δ., Δεδουσοπούλου Ε., Κιούσης Δ., Ξένος Α., Στεφάνου Λ.Μ., Κασάμπαλης Δ., και Μελικώκη Κ. (Συντονιστές έκδοσης). 2015. Γ' Φάση της Μελέτης 9 «Εποπτεία και Αξιολόγηση της Κατάστασης Διατήρησης Ειδών Ορνιθοπανίδας στην Ελλάδα» ΥΠΑΠΕΝ, Αθήνα, Σύμπραξη Γραφείων Μελετών «"Φ.ΦΑΣΟΥΛΑΣ-Ν.ΜΑΝΤΖΙΟΣ" Ε.Ε. – ΡΟΔΟΥΛΑ ΚΩΝΣΤΑΝΤΙΝΙΔΟΥ ΤΟΥ ΓΕΩΡΓΙΟΥ – "ΑΘ.ΤΖΑΚΟΠΟΥΛΟΣ ΚΑΙ ΣΙΑ" Ε.Ε.», Θεσσαλονίκη. 5) Midwinter Counts Database (1967 - 2019), Hellenic Ornithological Society 6) BirdLife International (2017). European birds of conservation concern: populations, trends and national responsibilities. Cambridge. UK: BirdLife Internationa. ISBN 978-1-912086-00-9, 7) Portolou, D., Bourdakis, S., Vlachos, C., Kastritis, T., and Dimalexis. T. (eds.) 2009. Important Bird Areas of Greece: Priority sites for conservation. Hellenic Ornithological Society. Athens.

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Winter long-term trend: No data available

Hungary

Breeding population size: National Park Directorates' databases "A közösségi jelentőségű természeti értékek hosszú távú megőrzését és fejlesztését, valamint az EU Biológiai Sokféleség Stratégia 2020 célkitűzéseinek hazai szintű megvalósítását megalapozó stratégiai vizsgálatok" programme http://map.mme.hu/maps/map2

Breeding short-term trend: Barabás, L. (2013): Breeding distribution of Hungarian Duck species. Hungarian Waterfowl Publications 23: 79-120. Expert opinions MME Nomenclator Bizottság (2008): Magyarország madarainak névjegyzéke. Nomenclator avium Hungariae. Magyar Madártani és Természetvédelmi Egyesület, Budapest. P. 278 National Park Directorates' databases http://map.mme.hu/maps/map2

Breeding long-term trend: Barabás, L. (2013): Breeding distribution of Hungarian Duck species. Hungarian Waterfowl Publications 23: 79-120. Ecsedi Z. (2004): A Hortobágy madárvilága. Hortobágy Természetvédelmi Egyesület, Winter Fair, Balmazújváros-Szeged, 602 p. Expert opinions MME Nomenclator Bizottság (2008): Magyarország madarainak névjegyzéke. Nomenclator avium Hungariae. Magyar Madártani és Természetvédelmi Egyesület, Budapest. P. 278 National Park Directorates' databases http://map.mme.hu/maps/map2

Iceland

Breeding population size: Yann Kolbeinsson, Árni Einarsson, Arnþór Garðarsson, Aðalsteinn Örn Snæþórsson og Þorkell Lindberg Þórarinsson 2019. Ástand fuglastofna í Þingeyjarsýslum árið 2018. Unnið fyrir Umhverfis- og auðlindaráðuneytið. Náttúrustofa Norðausturlands, NNA-1902; NNA unpubl. data; Icelandic Institute of Natural History, unpubl. data.

Breeding short-term trend: Yann Kolbeinsson, Árni Einarsson, Arnþór Garðarsson, Aðalsteinn Örn Snæþórsson og Þorkell Lindberg Þórarinsson 2019. Ástand fuglastofna í Þingeyjarsýslum árið 2018. Unnið fyrir Umhverfis- og auðlindaráðuneytið. Náttúrustofa Norðausturlands, NNA-1902; NNA unpubl. data; Icelandic Institute of Natural History, unpubl. data.

Breeding long-term trend: Yann Kolbeinsson, Árni Einarsson, Arnþór Garðarsson, Aðalsteinn Örn Snæþórsson og Þorkell Lindberg Þórarinsson 2019. Ástand fuglastofna í Þingeyjarsýslum árið 2018. Unnið fyrir Umhverfis- og auðlindaráðuneytið. Náttúrustofa Norðausturlands, NNA-1902; NNA unpubl. data; Icelandic Institute of Natural History, unpubl. data.

Winter population size: Icelandic Institute of Natural History. Mid-winter bird counts, https://www.ni.is/greinar/vetrarfuglatalningar-nidurstodur; Icelandic Institute of Natural History, unpubl.data.

Winter short-term trend: Icelandic Institute of Natural History. Mid-winter bird counts, https://www.ni.is/greinar/vetrarfuglatalningar-nidurstodur; Icelandic Institute of Natural History, unpubl.data.

Winter long-term trend: Icelandic Institute of Natural History. Mid-winter bird counts, https://www.ni.is/greinar/vetrarfuglatalningar-nidurstodur; Icelandic Institute of Natural History, unpubl.data.

Republic of Ireland

Breeding population size: Crowe, O. (2019). Status of rare breeding birds in the Republic of Ireland 2013 - 2018. Unpublished report to the National Parks and Wildlife Service, Dublin, Ireland

Breeding short-term trend: Short-term trend derived by comparing mid-point of current population estimate (i.e. 50) to previous population estimate (2008-2012 report estimated 14 to 23 pairs for period 2008-2011; mid-point = 19 pairs). Crowe, O. (2019). Status of rare breeding birds in the Republic of Ireland 2013 - 2018. Unpublished report to the National Parks and Wildlife Service, Dublin, Ireland

Breeding long-term trend: Long-term trend derived by comparing mid-point of current population estimate (i.e. 50) to previous estimate derived from the 1988-1991 Bird Atlas (Gibbons et al. 1993). Gibbons et al. (1993) estimated 30 pairs within the island of Ireland; given half of the confirmed 10km square records for Gadwall at this time were in Northern Ireland, a realistic estimate for the Republic for that period is 15 pairs. Crowe, O. (2019). Status of rare breeding birds in the Republic of Ireland 2013 - 2018. Unpublished report to the National Parks and Wildlife Service, Dublin, Ireland

Winter population size: Burke, B., Lewis, L. J., Fitzgerald, N., Frost, T., Austin, G. & Tierney, T. D. (2018) Estimates of waterbird numbers wintering in Ireland, 2011/12 – 2015/16. Irish Birds 11, 1-12.

Winter short-term trend: Lewis, L. J., Burke, B., Fitzgerald, N., Tierney, T. D. & Kelly, S. (2019) Irish Wetland Bird Survey: Waterbird Status and Distribution 2009/10-2015/16. Irish Wildlife Manuals, No. 106. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

Winter long-term trend: Lewis, L. J., Burke, B., Fitzgerald, N., Tierney, T. D. & Kelly, S. (2019) Irish Wetland Bird Survey: Waterbird Status and Distribution 2009/10-2015/16. Irish Wildlife Manuals, No. 106. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

Italy

Breeding population size: Brichetti P., Fracasso G., 2018. The Birds of Italy. Vol. I. Anatidae-Alcidae. Ed. Belvedere, Latina (Italy), "historia naturae" (6), pp. 512.

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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.

Winter population size: ISPRA-IWC Database

Winter short-term trend: ISPRA-IWC Database - Zenatello M., Baccetti N., Borghesi F., 2014. Risultati dei censimenti degli uccelli acquativi svernanti in Italia. Distribuzione, stima e trend delle popolazioni nel 2001-2010. ISPRA, Serie Rapporti, 206/2014, pp: 24-28.

Winter long-term trend: ISPRA-IWC Database; Baccetti N, Dall'Antonia P, Magagnoli P, Melega L, Serra L, Soldatini C, Zenatello M 2002. Risultati dei censimenti degli uccelli acquatici svernanti in Italia: distribuzione, stima e trend delle popolazioni nel 1991-2000. Biol. Cons. Fauna 111: 19-20.

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: Unpublished data for European Breeding Bird Atlas (2013-2017); Expert: Andris Dekants, andris.dekants@lob.lv

Breeding short-term trend: Ķerus V. 2011. Changes in the status of breeding birds of Latvia during 1980-2010. Doctoral Thesis. Riga: University of Latvia Unpublished data for European Breeding Bird Atlas (2013-2017); Expert: Andris Dekants, andris.dekants@lob.lv

Latvia

Breeding long-term trend: Strazds M., Priednieks J., Vaverins G. 1994. [Size of Latvian bird populations.] (in Latvian) In: Putni dabā, 4: 3–18 Unpublished data for European Breeding Bird Atlas (2013-2017); Expert: Andris Dekants, andris.dekants@lob.lv

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)

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)

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Luxembourg

Winter population size: Biver, G. (2013): Waterbird count - recensement hivernal des oiseaux d'eau 2009-2012. Regulus Wissenschaftliche Berichte, 28: 43-58.; Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&ëmwelt Luxembourg. ISBN: 978-2-919920-01-3 ; Ornitho.lu (2018): online database natur&ëmwelt asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg

Winter short-term trend: Biver, G. (2013): Waterbird count - recensement hivernal des oiseaux d'eau 2009-2012. Regulus Wissenschaftliche Berichte, 28: 43-58.; Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&ëmwelt Luxembourg. ISBN: 978-2-919920-01-3 ; Ornitho.lu (2018): online database natur&ëmwelt asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg ; LUXOR (2018): natur&ëmwelt – Bird-database, Luxembourg

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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

Winter population size: unpublished IWC data of the Macedonian Ecological Society

Winter short-term trend: unpublished IWC data of the Macedonian Ecological Society

Winter long-term trend: Micevski, B. (1991). Faunistical analysis and structure of Dojran Lake winter ornithofauna. God. zb., Biol. 43–44: 65–73; Micevski, B. (1999). Winter census of the waterfowl on the Macedonian part of Ohrid Lake in January 1998 (with structural, dietary and evaluation analyses. In: Special issues of Macedonian Ecological Society. pp. 313–323. MES.; Micevski, B. (1992). Structural and faunistical characteristics of the Prespa Lake winter ornithofauna. God. zb., Biol. 45: 51–55; Micevski, B., Schneider, M. (1997). Winter census of waterfowl in Macedonian part of Prespa Lake in January 1997 (with structural, dietary and evaluation analyses). In: Towards Integrated Conservation and Sustainable Development of Transboundary Macro and Micro Prespa Lakes pp. 160–164. Towards Integrated Conservation and Sustainable Development of Transboundary Macro and Micro Prespa Lakes. Preservation and Protection of Natural Environment in Albania, Korcha, Albania.; Micevski, B. (1996). Ohrid Lake winter ornitofauna (Faunistical and Structural Characteristics). God. Zb., Biol. 49: 85–93; Fremuth, W., Bino, T., Bego, F., Jorgo, G., Micevski, B., Anastasovski, V., Tzvetkov, T., Hristov, I., Schneider-Jacoby, M., Shumka, S. (2000). Four years of simultaneous wintering waterbird census at the Ohrid and Prespa Lakes 1997-2000. In: Grupche, Lj. & Kungulovski, Gj. (eds.). Proceedings of the International Symposium 'Sustainable development of Prespa Region' pp. 28–38. Macedonian Ecological Society; Catsadorakis, G., Aleksi, P., Avramoski, O., Bino, T., Bojadzi, A., Brajanoski, Z., Fremuth, W., Kazoglou, Y., Koutseri, I., Logotheti, A., Malakou, M., Nikolaou, H., Nikolaou, L., Putilin, K., Shumka, S., Uzunova, D., Velevski, M. (2013). Waterbirds wintering at the Prespa lakes as revealed by simultaneous counts in the three adjoining littoral states. Macedonian Journal of Ecology and Environment 15(1): 23–31; unpublished IWC data of the Macedonian Ecological Society

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)

Winter population size: International Waterbird Census

Winter short-term trend: SPPN expert opinion (sppn.moldova@gmail.com)

Winter long-term trend: SPPN expert opinion (sppn.moldova@gmail.com)

Montenegro

Winter population size: IWC reports (2013-2018): Dubak, Vešović, N., Jovićević, M., Vizi O., Vizi,A.

Netherlands

Breeding population size: Sovon Bird atlas (Sovon 2018)

Breeding short-term trend: NEM (Sovon, RWS, CBS, provincies)

Breeding long-term trend: NEM (Sovon, RWS, CBS, provincies)

Winter population size: NEM waterbird monitoring scheme (Sovon, RWS, CBS, provincies)

Netherlands

Winter short-term trend: NEM waterbird monitoring scheme (Sovon, RWS, CBS, provincies)
Winter long-term trend: NEM waterbird monitoring scheme (Sovon, RWS, CBS, provincies)

Norway

Breeding population size: (a) Shimmings P. & Øien, I.J. 2015. Bestandsestimater og trender for norske hekkefugler. NOF-rapport 2015-2. (b) Artsobservasjoner www.artsobservasjoner.no
Breeding short-term trend: Artsobservasjoner www.artsobservasjoner.no
Breeding long-term trend: Shimmings, P. & Øien, I.J. 2015. Bestandsestimater for norske hekkefugler. NOF Rapport 2-2015. 268 pp.

Poland

Breeding population size: Chodkiewicz T., Kuczyński L., Sikora A., Chylarecki P., Neubauer G., Ławicki Ł., Stawarczyk T. 2015. Ocena liczebności populacji ptaków lęgowych w Polsce w latach 2008–2012. Ornis Polonica 56: 149-189.
Breeding short-term trend: State Environmental Monitoring / Chief Inspectorate of Environmental Protection (survey: MPM)
Breeding long-term trend: Tucker G.M., Heath M.F. 1994. Birds in Europe: their conservation status. BirdLife International, Cambridge, UK.; BirdLife International 2004. Birds in Europe: population estimates, trends and conservation status. BirdLife International, Cambridge, UK; To

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)
Winter population size: Programa Nacional de Monitorização de Aves Aquáticas Invernantes
Winter short-term trend: Programa Nacional de Monitorização de Aves Aquáticas Invernantes
Winter long-term trend: Sousa J (2002b). Tendências populacionais de aves aquáticas. Relatório de estudo integrado no Projecto do Instituto da Conservação da Natureza "Livro Vermelho dos Vertebrados de Portugal - Revisão"/Programa Operacional do Ambiente, não publicado.; Programa Nacional de Monitorização de Aves Aquáticas Invernantes

Romania

Breeding population size: Romanian Common Bird Monitoring Programme, Breeding Waterbird Monitoring Programme, Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database
Breeding short-term trend: Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database, Rombird (Romanian Rarity Commission) Database
Breeding long-term trend: Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database, Rombird (Romanian Rarity Commission) Database
Winter population size: International Waterbird Census, Romania, Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database
Winter short-term trend: International Waterbird Census, Romania, Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database
Winter long-term trend: International Waterbird Census, Romania, Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database The trend is based on the national trend. Based on expert opinion, the Natura 2000 network status for this species is similar with the national one.

Russia

Breeding population size: Voltzit & Kalyakin 2013-2019; Database of the project on Atlas of breeding birds of European Russia
Breeding short-term trend: Belik 2014; Kouzov 2015; Mischenko & Sukhanova 2015
Breeding long-term trend: Belik 2014; Kouzov 2015; Mischenko & Sukhanova 2015

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.
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Winter population size: IWC database
Winter short-term trend: IWC database
Winter long-term trend: IWC database; Bioras database http://www.bioras.petnica.rs/home.php

Slovakia

Breeding population size: Coordinatory group for reporting 2019. Karaska D., Trnka A., Krištín A., Ridzoň J.: Chránené vtáčie 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.
Breeding long-term trend: Coordinatory group for reporting 2019, AVES-Symfony Database 2013-2018, KIMS Database 2013-2018.

Mareca strepera (Gadwall)

Slovenia

Breeding population size: Mihelič T., Kmecl P., Denac K., Koce U., Vrezec A., Denac D. (eds.) (2019): Atlas ptic Slovenije. Popis gnezdilk 2002–2017. – DOPPS, Ljubljana.
Breeding short-term trend: Denac K., Mihelič T., Božič L., Kmecl P., Jančar T., Figelj J., Rubinić B. (2011): Strokovni predlog za revizijo posebnih območij varstva (SPA) z uporabo najnovejših kriterijev za določitev mednarodno pomembnih območij za ptice (IBA). Končno poročilo (dopolnjena verzija). – DOPPS, Ljubljana. Mihelič T., Kmecl P., Denac K., Koce U., Vrezec A., Denac D. (eds.) (2019): Atlas ptic Slovenije. Popis gnezdilk 2002–2017. – DOPPS, Ljubljana.
Breeding long-term trend: Birdlife International (2004): Birds in Europe: population estimates, trends and conservation status. BirdLife Conservation Series No. 12. – Birdlife International, Cambrige. Bordjan D., Božič L. (2009): Pojavljanje vodnih ptic in uped na območju vodnega zadrževalnika Medvedce (Dravsko polje, SV Slovenija) v obdobju 2002–2008. – Acrocephalus 30 (141/142/143): 55–163. Denac, K., T. Mihelič, L. Božič, P. Kmecl, T. Jančar, J. Figelj & B. Rubinić (2011): Strokovni predlog za revizijo posebnih območij varstva (SPA) z uporabo najnovejših kriterijev za določitev mednarodno pomembnih območij za ptice (IBA). Končno poročilo (dopolnjena verzija). Naročnik: Ministrstvo za okolje in prostor. DOPPS – BirdLife, Ljubljana. Geister I. (1995): Ornitološki atlas Slovenije. Razširjenost gnezdilk. – DZS, Ljubljana. Mihelič T., Kmecl P., Denac K., Koce U., Vrezec A., Denac D. (eds.) (2019): Atlas ptic Slovenije. Popis gnezdilk 2002–2017. – DOPPS, Ljubljana.
Winter population size: Božič L. (2013): Rezultati januarskega štetja vodnih ptic leta 2013 v Sloveniji. – Acrocephalus 34 (156/157): 93–103. Božič L. (2014): Rezultati januarskega štetja vodnih ptic leta 2014 v Sloveniji. – Acrocephalus 35 (160/161): 73–83. Božič L. (2015): Rezultati januarskega štetja vodnih ptic leta 2015 v Sloveniji. – Acrocephalus 36 (164/165): 57–67. Božič L. (2016): Rezultati januarskega štetja vodnih ptic leta 2016 v Sloveniji. – Acrocephalus 37 (170/171): 209–219. Božič L. (2017): Rezultati januarskega štetja vodnih ptic leta 2017 v Sloveniji. – Acrocephalus 38 (174/175): 203–215. Božič L. (2018): Rezultati januarskega štetja vodnih ptic leta 2018 v Sloveniji. – Acrocephalus 39 (178/179): xx–xx.
Winter short-term trend: Božič L. (2007): Rezultati januarskega štetja vodnih ptic leta 2007 v Sloveniji. – Acrocephalus 28 (132): 23–31. Božič L. (2008a): Rezultati januarskega štetja vodnih ptic leta 2008 v Sloveniji. – Acrocephalus 29 (136): 39–49. Božič L. (2008b): Rezultati januarskega štetja vodnih ptic leta 2009 v Sloveniji. – Acrocephalus 29 (138/139): 169–179. Božič L. (2010): Rezultati januarskega štetja vodnih ptic leta 2010 v Sloveniji. – Acrocephalus 31 (145/146): 131–141. Božič L. (2011): Rezultati januarskega štetja vodnih ptic leta 2011 v Sloveniji. – Acrocephalus 32 (148/149): 67–77. Božič L. (2012): Rezultati januarskega štetja vodnih ptic leta 2012 v Sloveniji. – Acrocephalus 33 (152/153): 109–119. Božič, L. (2008): Monitoring populacij izbranih vrst ptic – Zimsko štetje vodnih ptic 2002–2008. Končno poročilo. – DOPPS, Maribor. Rubinić, B. & Božič, L. (2009): Monitoring populacij izbranih vrst ptic. Rezultati zimskega štetja vodnih ptic 2009, rezultati popisov preleta uped v jesenski sezoni 2008. 2. vmesno poročilo. – DOPPS, Ljubljana. Božič, L. (2010): Monitoring populacij izbranih ciljnih vrst ptic – Zimsko štetje vodnih ptic. Poročilo. – DOPPS, Ljubljana. Božič, L. (2011): Monitoring populacij izbranih ciljnih vrst ptic – Zimsko štetje vodnih ptic. Poročilo. – DOPPS, Ljubljana.
Winter long-term trend: Birdlife International (2004): Birds in Europe: population estimates, trends and conservation status. BirdLife Conservation Series No. 12. – Birdlife International, Cambrige. Sovinc, A. (1994): Zimski ornitološki atlas Slovenije. – Tehniška založba Slovenije, Ljubljana.

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