



THE IUCN RED LIST
OF THREATENED SPECIES™



***Podiceps cristatus* (Great Crested Grebe)**

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.

Podiceps cristatus (Great Crested Grebe)

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	120–240	<1	2007-2018	complete	0	-22 to 20	2007-2018	complete	0	2 to 9	1980-2018	expert	
Armenia	670–890	<1	2013-2018	complete	0		2007-2018		0		2003-2018	expert	
Austria	1000–1700	<1	2013-2018	complete	?	20 to 50	2007-2018	expert	+	20 to 40	1981-2018	complete	
Azerbaijan	2500–5000	<1	1996-2019	partial	0		2013-2019	expert	0		1980-2019	expert	
Belarus	13000–16000	3	2010-2018	partial	+	0 to 20	2012-2019	expert	+	15 to 30	1980-2019	expert	
Belgium	1400–2000	<1	2013-2018	partial	+	21 to 72	2008-2018	partial	+	273 to 433	1973-2018	partial	
Bosnia & HG	700–1000	<1	2015-2018	complete	?	-10 to 10	2007-2018	complete	?		1980-2018	deficient	
Bulgaria	550–1500	<1	2013-2018	partial	0	0	2000-2018	partial	0	0	1980-2018	partial	
Croatia	1000–1200	<1	2013-2018	expert	?		2007-2018	deficient	?		1980-2018	deficient	
Czechia	2500–5000	<1	2014-2017	complete	0	0	2001-2017	complete	-		1981-2017	partial	
Denmark	3400–3500	<1	2017	partial	-	-59 to -32	2006-2017	complete	-	-69 to -51	1982-2017	complete	
Estonia	2000–3000	<1	2017-2018	expert	+	52 to 65	2006-2017	expert	-	-50 to -20	1980-2017	expert	
Finland	31500–39700	8	2013-2018	complete	-	-35 to -10	2007-2018	complete	-	-40 to -27	1986-2018	complete	
France	15000–20000	4	2009-2012	deficient	?		2007-2018	deficient	+	200 to 300	1985-2012	complete	
Georgia	140–1500	<1	2013-2016	partial	?			deficient	?				
Germany	18500–27000	5	2016-2016	expert	-		2004-2016	expert	0		1980-2016	expert	
Greece	1100–1500	<1	2013-2018	partial	0		2007-2018	partial	?		1980-2018	deficient	
Hungary	2000–3000	<1	2014-2018	expert	0		2007-2018	expert	-	-71 to -67	1980-2018	expert	
Rep. Ireland	1000–2500	<1	2008-2011	expert	0		2000-2011	partial	?		1975-2011	deficient	
Italy	2300–3100	<1	2013-2018	expert	?		2007-2018	deficient	+	115 to 325	1993-2018	expert	
Kosovo	60–80	<1	2007-2019	partial	+		2007-2018	partial	+		1990-2018	partial	
Latvia	3000–6200	1	2013-2017	partial	?		2000-2017	deficient	-	-33 to -32	1991-2017	partial	
Lithuania	10000–13000	2	2013-2018	partial	0		2013-2018	partial	0		1980-2018	partial	
Luxembourg	18–20	<1	2013-2018	complete	0	0 to 10	2007-2018	complete	+	400 to 500	1980-2018	complete	
North Macedonia	200–800	<1	2014-2019	expert	0		2007-2018	expert	?		1980-2019		
Moldova	350–500	<1	2014-2017	partial	+		2007-2018	partial	0		1990-2018	expert	
Montenegro	300–800	<1	2002-2012	partial	0		2007-2018	expert	?				
Netherlands	11000–15000	3	2013-2015	complete	-	-22 to -6	2006-2017	complete	-	-42 to -16	1984-2017	complete	
Norway	220–380	<1	2013-2018	complete	?		2013-2018	deficient	F		1980-2018	partial	
Poland	15000–25000	4	2013-2018	expert	0	0 to 56	2007-2018	complete	?		1980-2018	deficient	
Portugal	600–5000	<1	2013-2018	partial	?		2007-2018	partial	?		1980-2018	deficient	
Romania	15000–30000	5	2013-2018	expert	?		2007-2018	deficient	?		1980-2018	deficient	

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Country (or territory) ²	Population estimate				Short-term population trend ⁵				Long-term population trend ⁵				Subspecific population (where relevant)
	Size (pairs) ³	Europe (%)	Year(s)	Method ⁴	Direction ⁶	Magnitude (%) ⁷	Year(s)	Method ⁴	Direction ⁶	Magnitude (%) ⁷	Year(s)	Method ⁴	
Russia	160000–200000	40	2008-2018	partial	0		2010-2018	expert	0		1980-2018	partial	
Serbia	1200–1900	<1	2013-2018	partial	0	0	2007-2018	complete	0	0	1980-2018	complete	
Slovakia	500–1000	<1	2013-2018	partial	0		2007-2018	partial	+	20 to 30	1980-2018	partial	
Slovenia	120–270	<1	2013-2018	complete	+	20 to 35	2007-2018	complete	+	200 to 400	1980-2018	partial	
Spain	22000–22100	5	2007	partial	?	-27 to 139	2007-2018	expert	0		1980-2018	complete	
Sweden	18000–26000	5	2013-2018	partial	?	-1 to 91	2007-2018	partial	-	-45 to -15	1980-2018	expert	
Switzerland	3500–5000	<1	2013–2016	complete	0	-30 to 34	2007-2018	complete	-	-44 to -10	1990-2018	complete	
Turkey	5000–8000	1	2002-2012	partial	?		2008-2019	deficient	?		1980-2013	deficient	
Ukraine	15000–25000	4	2015-2018	partial	F	10 to 20	2007-2018	expert	F	10 to 30	1980-2018	expert	
United Kingdom	4800–4900	1	2016	complete	0		2004-2016	complete	-		1975-2016	complete	
EU28	183000–263000	49											
Europe	386000–530000	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) Deficient: insufficient or no data available.

⁵ The robustness of regional trends to the effects of any missing or incomplete data was tested using plausible scenarios, based on other sources of information, including any other reported information, recent national Red Lists, scientific literature, other publications and consultation with relevant experts.

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

⁷ Trend magnitudes are rounded to the nearest integer.

Podiceps cristatus (Great Crested Grebe)

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	
Albania	650–1900	<1	2007-2018	complete	-	-13 to 0	2007-2018	complete	0	0 to 3	1980-2018	complete	
Armenia	1000–2000	<1	2013-2018	partial	0		2007-2018		?		2003-2018	deficient	
Austria	1400–2500	<1	2013-2018	complete	0		2007-2018	complete	+		1981-2014	complete	
Azerbaijan	1000–3500	<1	1996-2019	expert	0		2010-2019	partial	?		1980-2019	expert	
Belarus	1–10	<1	2013-2018	partial	0	-10 to 10	2000-2012	partial	?				
Belgium	3000–9000	2	2013-2018	partial	0	-18 to 15	2007-2018	complete	-	-26 to -2	1992-2018	complete	
Bosnia & HG	500–1000	<1	2015-2018	complete	?		2007-2018	deficient	?		1980-2018	deficient	
Bulgaria	1800–5000	<1	2013-2018	partial	+	40 to 100	1999-2018	partial	-	-25 to -5	1980-2018	partial	
Croatia	1500–2500	<1	2011-2011	expert	?		2007-2018	deficient	?		1980-2013	deficient	
Czechia	310–610	<1	2015-2019	complete	+		2008-2019	complete	+		1980-2019	complete	
France	33600–45500	12	2013-2018	complete	0	-13 to 4	2007-2017	complete	+	10 to 80	1980-2017	expert	
Georgia	53000–53100	16	2002	deficient	?				?				
Germany	43000	13	2011-2016	complete	+	10 to 40	2003-2016	complete	+	229 to 255	1980-2016	partial	
Greece	15000–30000	7	2013-2018	partial	+		2007-2018	partial	?		1980-2018	deficient	
Hungary	150–200	<1	2013-2018	partial	F		2007-2018	complete	F		1996-2018	complete	
Rep. Ireland	1700–1800	<1	2011-2016	partial	-		2004-2016	partial	?		1987-2016	deficient	
Italy	22300–25200	7	2013-2015	partial	0		2009-2015	partial	+	45 to 65	1991-2015	partial	
Kosovo	13	<1	2019	complete	?				?				
Latvia	10–950	<1	2013-2018	complete	?	-91 to 587	2009-2018	complete	?		1991-2018	complete	
North Macedonia	1000–8000	<1	2013-2018	complete	+	20 to 100	2010-2019	complete	+	350 to 800	1988-2018	complete	
Moldova	1000–2000	<1	2018-2019	partial	+		2007-2018	partial	0		1990-2018	expert	
Montenegro	500–2000	<1	2013-2018	expert	0		2007-2018	expert	?				
Netherlands	16200–20200	6	2013-2017	complete	0	-18 to 17	2006-2017	complete	+	5 to 50	1981-2017	complete	
Norway	250–350	<1	1994-2018	partial	?		2013-2018	deficient	?		1980-2018	deficient	
Poland	3200–7900	2	2013-2018	complete	+	296 to 631	2011-2018	complete	?		1980-2018	deficient	
Serbia	200–500	<1	2013-2018	complete	F		2013-2018	complete	?		1980-2018	deficient	
Spain	7400–7500	2	2013-2018	complete	+		2008-2018	expert	0		1991-2016	expert	
Switzerland	21000–26300	7	2015-2019	complete	-	-29 to -28	2008-2019	complete	+	68 to 70	1980-2019	complete	
Turkey	29100–57700	13	2013-2019	complete	?		2008-2019	deficient	?		1980-2019	deficient	
Ukraine	1500–3000	<1	2014-2017	partial	0		2007-2018	partial	F		1980-2018	partial	
United Kingdom	17700–17800	6	2012-2016	complete	-		2005-2016	complete	+		1984-2016	complete	

Podiceps cristatus (Great Crested Grebe)

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Country (or territory) ²	Population estimate				Short-term population trend ⁵				Long-term population trend ⁵				Subspecific population (where relevant)
	Size (individuals) ³	Europe (%)	Year(s)	Method ⁴	Direction ⁶	Magnitude (%) ⁷	Year(s)	Method ⁴	Direction ⁶	Magnitude (%) ⁷	Year(s)	Method ⁴	
EU28	168000–220000	59											
Europe	279000–381000	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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⁷ Trend magnitudes are rounded to the nearest integer.

Trend maps

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

KEY

- | | |
|---|---------------------------------|
| ↑ Large increase (≥50%) | ↓ Large decrease (≥50%) |
| ↑ Moderate increase (20–49%) | ↓ Moderate decrease (20–49%) |
| ↑ Small increase (<20%) | ↓ Small decrease (<20%) |
| ↑ Increase of unknown magnitude | ↓ Decrease of unknown magnitude |
| ■ Stable or fluctuating | |
| □ Unknown | |
| ○ Present (no population or trend data) | |
| × Extinct since 1980 | |

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

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

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

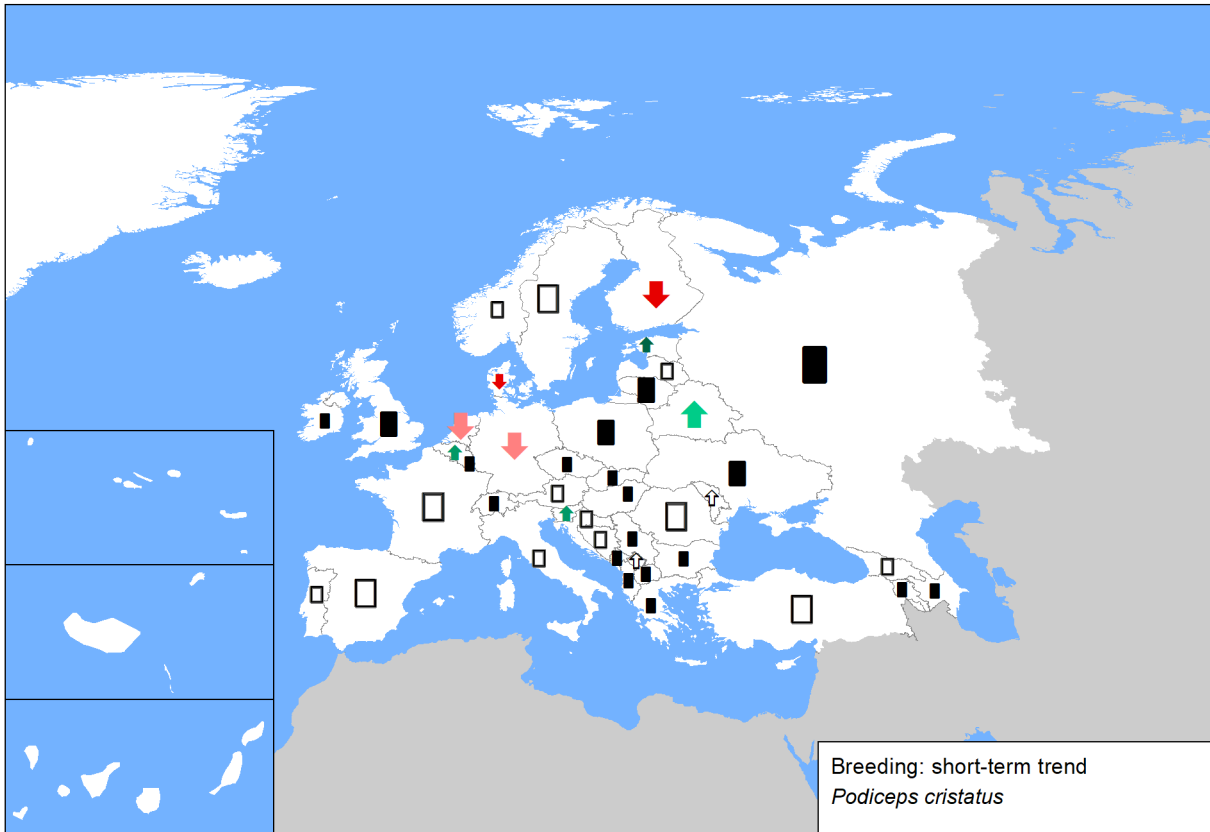


Figure 2. Breeding population sizes and long-term trends across Europe.

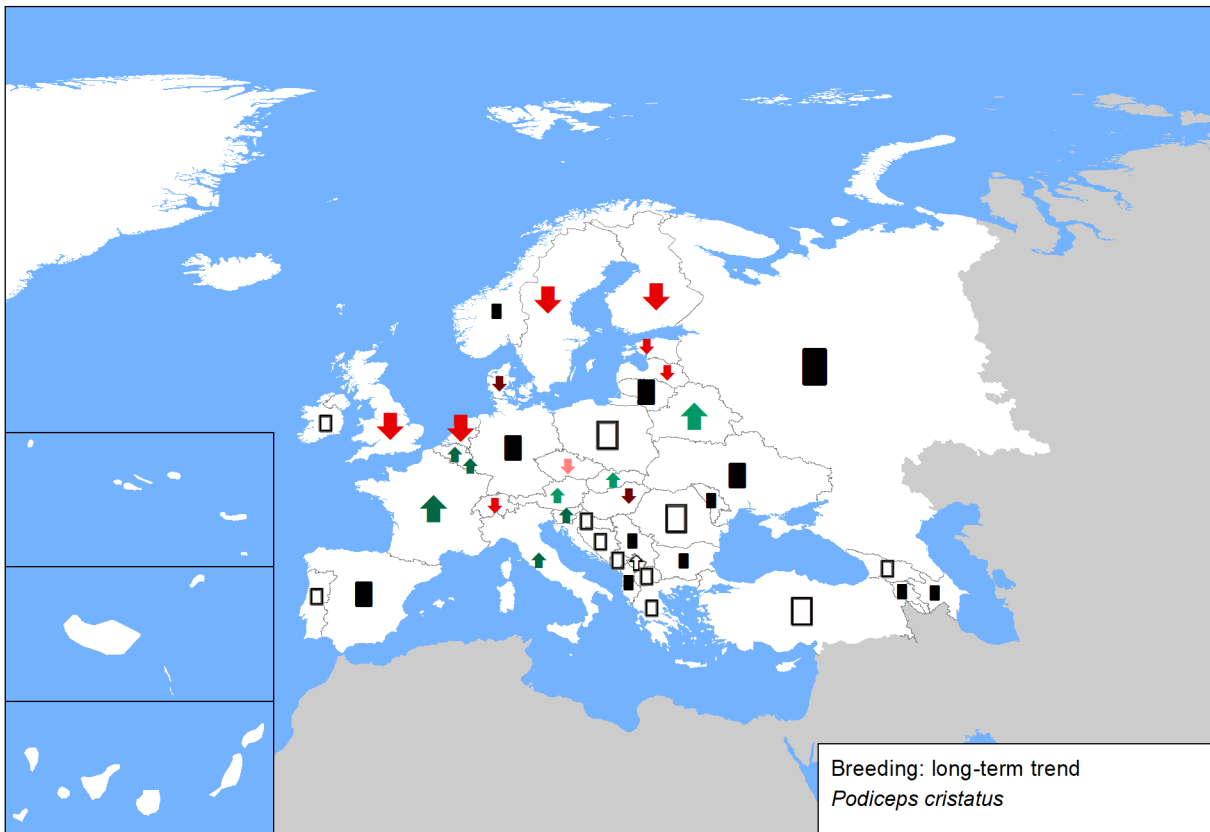


Figure 3. Reported wintering population sizes and short-term trends across Europe. Note that some countries within the species' wintering range did not report any data.

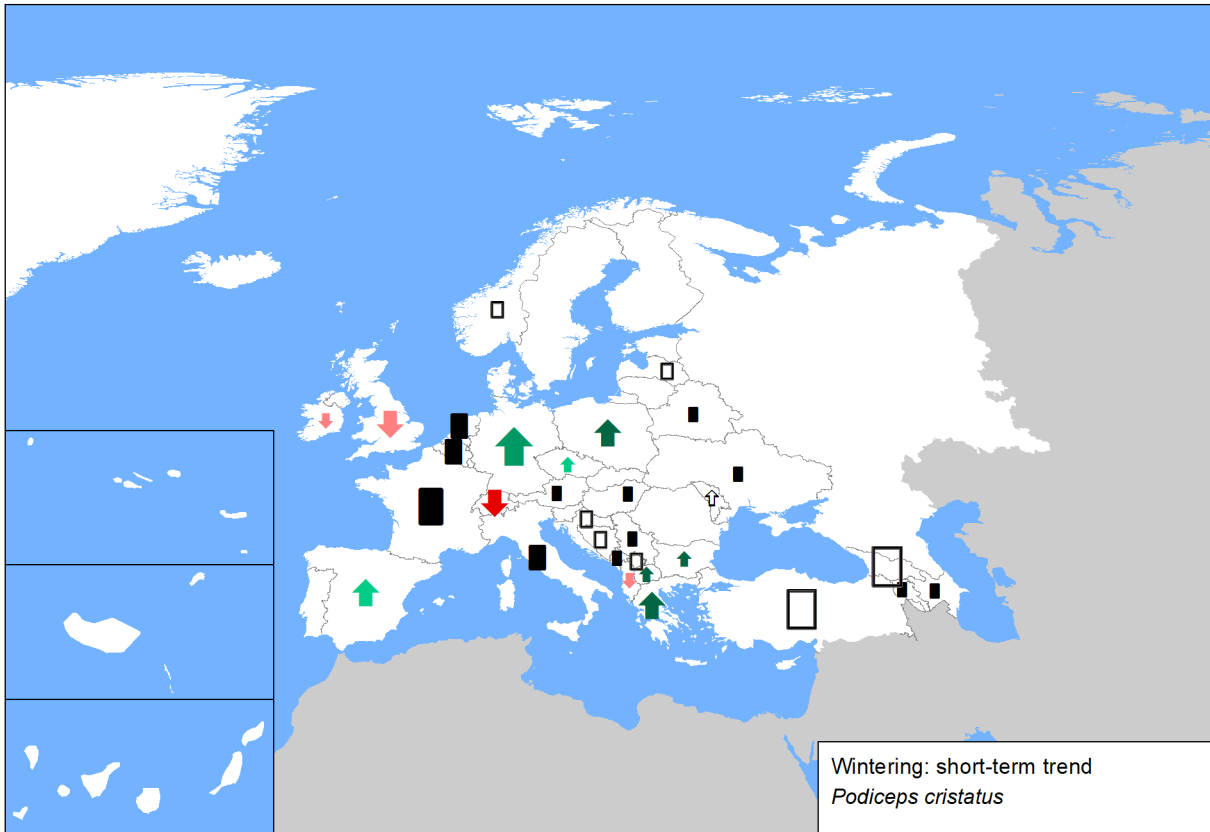
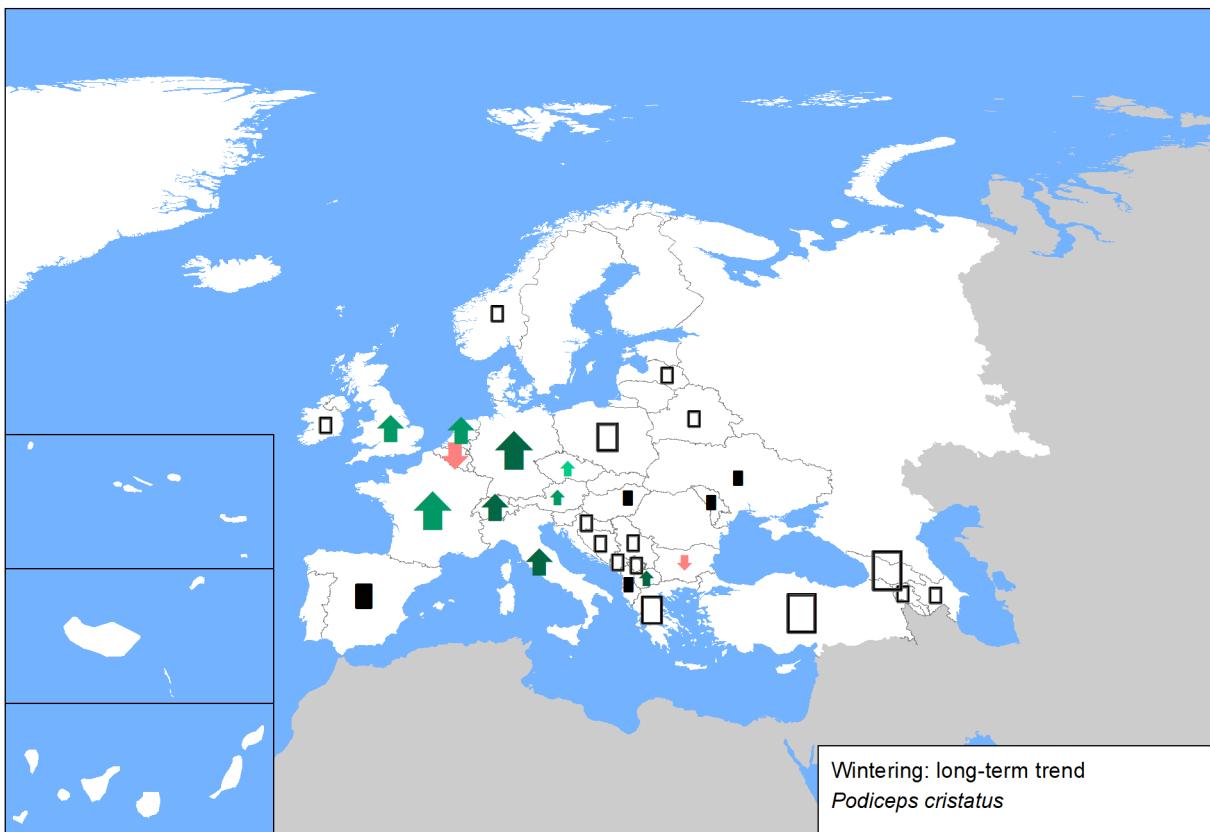


Figure 4. Reported wintering population sizes and long-term trends across Europe. Note that some countries within the species' wintering range did not report any data.



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Sources

Albania

Breeding population size: Bino & Xeka pers. obs.
Breeding short-term trend: Bino & Xeka pers. obs.
Breeding long-term trend: Bino pers. obs.
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
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 www.ornitho.at
Breeding short-term trend: BirdLife Austria, unpublished data from www.ornitho.at ; BirdLife Austria, unpublished archive data
Breeding long-term trend: Dvorak et al. 1994; representativeness of short term trend uncertain because no recent data on population sizes for several important breeding populations on large lakes (e.g. Wörther See, Ossiacher See) and in fish pond areas (e.g. Waldviertel)
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.
Winter population size: Bogdanovich I.A. - personal communication

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)

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Bosnia and Herzegovina

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

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, 46-47; National Art. 12 reporting database 2013-2018; Nikolov H. (2011). *Podiceps cristatus*. In: Red Data Book of Bulgaria, Golemanski G. (ed.), (web edition, <http://e-ecodb.bas.bg/rdb/bg/>). SPAs mapping in 2012 Common Bird Monitoring Scheme <http://bspb.org/monitoring/>

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, 46-47; National Art. 12 reporting database 2013-2018; Nikolov H. (2011). *Podiceps cristatus*. In: Red Data Book of Bulgaria, Golemanski G. (ed.), (web edition, <http://e-ecodb.bas.bg/rdb/bg/>).

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, 46-47; Nikolov H. (2011). *Podiceps cristatus*. In: Red Data Book of Bulgaria, Golemanski G. (ed.), (web edition, <http://e-ecodb.bas.bg/rdb/bg/>).

Winter population size: Wetlands International (2019): Submitted IWC data for Bulgaria for period 2013-2018; National Art. 12 reporting database 2013-2018; Golemanski V. (ed.) 2011. Red Data Book of the Republic of Bulgaria. Digital edition, Vol. 2, Animals. BAS-MOEWS, Sofia, <http://e-ecodb.bas.bg/rdb/en/vol2/>;

Winter short-term trend: Kostadinova I., S. Dereliev. 2001. Results from the Mid-Winter Counts of Waterbirds in Bulgaria for the period 1997-2001. BSPB Conservation Series. Book 3, BSPB, Sofia, BG, 96 pp.; National Art. 12 reporting database 2013-2018; Michev T., Profirov L. 2003. Mid-Winter Numbers of Waterbirds in Bulgaria (1977-2001). Pensoft, Sofia, 160 pp.

Winter long-term trend: Kostadinova I., S. Dereliev. 2001. Results from the Mid-Winter Counts of Waterbirds in Bulgaria for the period 1997-2001. BSPB Conservation Series. Book 3, BSPB, Sofia, BG, 96 pp. Michev T., Profirov L. 2003. Mid-Winter Numbers of Waterbirds in Bulgaria (1977-2001). Pensoft, Sofia, 160 pp.; Golemanski V. (ed.) 2011. Red Data Book of the Republic of Bulgaria. Digital edition, Vol. 2, Animals. BAS-MOEWS, Sofia, <http://e-ecodb.bas.bg/rdb/en/vol2/>;

Croatia

Breeding population size: Dumbović Mazal V., Pintar V., Zdravec M. (2019): Prvo izvješće o brojnosti i rasprostranjenosti ptica u Hrvatskoj sukladno odredbama Direktive o pticama.

Breeding short-term trend: Dumbović Mazal V., Pintar V., Zdravec M. (2019): Prvo izvješće o brojnosti i rasprostranjenosti ptica u Hrvatskoj sukladno odredbama Direktive o pticama.

Breeding long-term trend: Dumbović Mazal V., Pintar V., Zdravec M. (2019): Prvo izvješće o brojnosti i rasprostranjenosti ptica u Hrvatskoj sukladno odredbama Direktive o pticama.

Winter population size: Report on the implementation of AEWA for the period 2009-2011 - Croatia. <http://www.unep-aewa.org/en/document/national-report-croatia-2>

Winter short-term trend: no data available

Winter long-term trend: no data available

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. & Zárbynický 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. & Zárbynický 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.

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, Hagemeyer 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.

Podiceps cristatus (Great Crested Grebe)

Czechia

Winter short-term trend: 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 individual species trends in numbers was 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), Musilová et al. (2015), Musilová et al. (2018 a, b). 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 2*: 42–59. Gilissen N, Haanstra L, Delany S, Boere G, Hagemeyer 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, 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 (2018a) Changes in habitat suitability influence non-breeding distribution of waterbirds in central Europe. *Ibis*: 160: 582–596. Musilová Z, Musil P, Zouhar J, Adam M, Bejček V (2018b) Importance of Natura 2000 sites for wintering waterbirds: Low preference, species' distribution changes and carrying capacity of Natura 2000 could fail to protect the species. *Biological Conservation* 228: 79–88. Musilová Z, Musil P, Zouhar J, Bejček V, Štastrný 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. Musilová Z, Musil P, Zouhar J, Romportl D (2015) Long-term trends, total numbers and species richness of increasing waterbird populations at sites on the edge of their winter range: cold-weather refuge sites are more important than protected sites. *J Ornithol*: 1–10. Pannekoek J, Van Strien AJ (2005) TRIM 3 Manual (TRends and Indices for Monitoring Data). Statistics Netherlands, Voorburg, The Netherlands. Wetlands International (2006) *Waterbird population estimates*. Fourth Edition. Wetlands International, Wageningen, The Netherlands. Wetlands International (2019) *Waterbird Population Estimates*. Available at: wpe.wetlands.org (accessed 10 March 2019).

Winter long-term trend: 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 individual species trends in numbers was 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), Musilová et al. (2015), Musilová et al. (2018 a, b). 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 2*: 42–59. Gilissen N, Haanstra L, Delany S, Boere G, Hagemeyer 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, 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 (2018a) Changes in habitat suitability influence non-breeding distribution of waterbirds in central Europe. *Ibis*: 160: 582–596. Musilová Z, Musil P, Zouhar J, Adam M, Bejček V (2018b) Importance of Natura 2000 sites for wintering waterbirds: Low preference, species' distribution changes and carrying capacity of Natura 2000 could fail to protect the species. *Biological Conservation* 228: 79–88. Musilová Z, Musil P, Zouhar J, Bejček V, Štastrný 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. Musilová Z, Musil P, Zouhar J, Romportl D (2015) Long-term trends, total numbers and species richness of increasing waterbird populations at sites on the edge of their winter range: cold-weather refuge sites are more important than protected sites. *J Ornithol*: 1–10. Pannekoek J, Van Strien AJ (2005) TRIM 3 Manual (TRends and Indices for Monitoring Data). Statistics Netherlands, Voorburg, The Netherlands. Wetlands International (2006) *Waterbird population estimates*. Fourth Edition. Wetlands International, Wageningen, The Netherlands. Wetlands International (2019) *Waterbird Population Estimates*. Available at: wpe.wetlands.org (accessed 10 March 2019).

Denmark

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

Breeding short-term trend: Charlotte M. Moshøj, Daniel Palm Eskildsen, Michael Fink Jørgensen & Thomas Vikstrøm, (2018): *Overvågning af de almindelige fuglearter i Danmark 1975-2017*

Breeding long-term trend: Charlotte M. Moshøj, Daniel Palm Eskildsen, Michael Fink Jørgensen & Thomas Vikstrøm, (2018): *Overvågning af de almindelige fuglearter i Danmark 1975-2017*

Estonia

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

Breeding short-term trend: 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., Sirkkiä, P., Tiainen, J. & Valkama, J. 2019: Suomen lintujen pesimäkantojen koot. – *Linnut-vuosikirja* 2018: 38-45.

Breeding short-term trend: Laaksonen, T., Lehikoinen, A., Pöysä, H., Sirkkiä, P. & Ikonen, K. 2019: Sisävesien vesilintujen kannanvaihtelut 1986-2018. – *Linnut vuosikirja* 2018:46-55. Waterfowl monitoring schemes of Finnish Museum of Natural History (LUOMUS) and Natural Resources Institute Finland (LUKE; previously Fisheries and Game Research Institute RKTL).

Breeding long-term trend: Laaksonen, T., Lehikoinen, A., Pöysä, H., Sirkkiä, P. & Ikonen, K. 2019: Sisävesien vesilintujen kannanvaihtelut 1986-2018. – *Linnut vuosikirja* 2018:46-55. Waterfowl monitoring schemes of Finnish Museum of Natural History (LUOMUS) and Natural Resources Institute Finland (LUKE; previously Fisheries and Game Research Institute RKTL).

France

Breeding population size: Issa, N. & Muller, Y. 2015. *Atlas des oiseaux nicheurs de France métropolitaine. Volume 1: des Anatidés aux Alcédés*. Delachaud et Niestlé,

Breeding short-term trend: Issa, N. & Muller, Y. 2015. *Atlas des oiseaux nicheurs de France métropolitaine. Volume 1: des Anatidés aux Alcédés*. Delachaud et Niestlé,

Breeding long-term trend: Yeatman-Berthelot D. & G. Jarry 1994. *Nouvel atlas des oiseaux nicheurs de France 1985-1989*. Société Ornithologique de France 775 p ; Issa N. & Muller Y. 2015. *Atlas des oiseaux nicheurs de France métropolitaine*. LPO/SEOF/MNHN/Delachaux et Niestlé, Paris

Winter population size: Gaudard C., Quaintenne G., Dupuy J. (2018) *Comptage des Oiseaux d'eau à la mi-janvier en France. Résultats 2018 du comptage Wetlands International*. LPO BirdLife France - Service Connaissance, Wetlands International, Ministère de la Transition écologique et solidaire. pp. 24, et Annexes pp. 104, Rochefort. ; Dubois P.J., Gaudard C. & Quaintenne G. 2018. *Plongeurs, grèbes et grands échassiers hivernant en France : évolution récente des effectifs*. *Ornithos* 25-4, p. 185-215

Podiceps cristatus (Great Crested Grebe)

France

Winter short-term trend: Quintenne G. & Gaudard C. (2018) Analyses de tendances oiseaux d'eau recensés en France à la mi-janvier 1980-2017. Rapport technique préalable à la rédaction de la synthèse Wetlands de Gaudard et al. (2018), pp. 53. Ligue Pour la Protection des Oiseaux, BirdLife France - Wetlands International, Rochefort, France.; Dubois P.J., Gaudard C. & Quintenne G. 2018. Plongeurs, grèbes et grands échassiers hivernant en France : évolution récente des effectifs. Ornithos 25-4, p. 185-215

Winter long-term trend: YEATMAN-BERTHELOT D. assistée de JARRY G. 1991. Atlas des oiseaux de France en hiver, Société Ornithologique de France. 575 p.; Gaudard C., Quintenne G., Dupuy J. (2018) Comptage des Oiseaux d'eau à la mi-janvier en France. Résultats 2018 du comptage Wetlands International. LPO BirdLife France - Service Connaissance, Wetlands International, Ministère de la Transition écologique et solidaire. pp. 24, et Annexes pp. 104, Rochefort..

Georgia

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

Winter population size: BirdLife International 2004

Germany

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

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

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. und Forschungs- und Technologiezentrum Westküste, Universität Kiel

Winter short-term trend: Dachverband Deutscher Avifaunisten e.V. und Forschungs- und Technologiezentrum Westküste, Universität Kiel

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

Greece

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, 2) 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. 3) Dimalexis, T., Bousbouras, D., Kastritis, T., Manolopoulos, A. & Saravia, V. (eds.) 2009. Evaluation of 69 Important Bird Areas as Special Protection Areas. Hellenic Ministry for the Environment, Physical Planning and Public Works, Athens. 4. Δημαλέξης, Τ., Καστρίτης, Θ., Γρίβας, Κ., Μανωλόπουλος, Α., Καρδακάρη, Ν., Κακαλής, Λ., Ξηρουχάκης, Σ., Τσαϊτουρίδης, Χ., Παρραζογλου, C. & Βαρον, Β. 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. Natura viewer (<http://natura2000.eea.europa.eu/#>). 6. Βλάχος Χ., Μπίρτσας Π., Θωμαΐδης Χ., Χατζηνίκος Ε., Μποντζώρλος Β., Μπραζιζιώτης Σ., Κόντος Κ., Βλαχάκη Δ., Δεδουσοπούλου Ε., Κιούσης Δ., Ξένος Α., Στεφάνου Λ.Μ., Κασάμπης 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.

Breeding short-term trend: 1. BirdLife International (2017). European birds of conservation concern: populations, trends and national responsibilities. Cambridge. UK: BirdLife International. ISBN 978-1-912086-00-9 2. Δημαλέξης, Τ., Καστρίτης, Θ., Γρίβας, Κ., Μανωλόπουλος, Α., Καρδακάρη, Ν., Κακαλής, Λ., Ξηρουχάκης, Σ., Τσαϊτουρίδης, Χ., Παρραζογλου, C. & Βαρον, Β. 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. 3. Natura viewer (<http://natura2000.eea.europa.eu/#>). 4. Βλάχος Χ., Μπίρτσας Π., Θωμαΐδης Χ., Χατζηνίκος Ε., Μποντζώρλος Β., Μπραζιζιώτης Σ., Κόντος Κ., Βλαχάκη Δ., Δεδουσοπούλου Ε., Κιούσης Δ., Ξένος Α., Στεφάνου Λ.Μ., Κασάμπης 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.

Breeding long-term trend: no data available

Winter population size: 1) Midwinter Counts Database (1967 - 2019), Hellenic Ornithological Society 2) BirdLife International (2017). European birds of conservation concern: populations, trends and national responsibilities. Cambridge. UK: BirdLife International. ISBN 978-1-912086-00-9, 3) 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. 4) Δημαλέξης, Τ., Καστρίτης, Θ., Γρίβας, Κ., Μανωλόπουλος, Α., Καρδακάρη, Ν., Κακαλής, Λ., Ξηρουχάκης, Σ., Τσαϊτουρίδης, Χ., Παρραζογλου, C. & Βαρον, Β. 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) Natura viewer (<http://natura2000.eea.europa.eu/#>). 6) Βλάχος Χ., Μπίρτσας Π., Θωμαΐδης Χ., Χατζηνίκος Ε., Μποντζώρλος Β., Μπραζιζιώτης Σ., Κόντος Κ., Βλαχάκη Δ., Δεδουσοπούλου Ε., Κιούσης Δ., Ξένος Α., Στεφάνου Λ.Μ., Κασάμπης 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.

Winter short-term trend: (1) Midwinter Counts Database (1967 - 2019), Hellenic Ornithological Society (2) BirdLife International (2017). European birds of conservation concern: populations, trends and national responsibilities. Cambridge. UK: BirdLife International. ISBN 978-1-912086-00-9, (3) 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.

Winter long-term trend: no data available

Hungary

Breeding population size: KEHOP-4.3.0-15-2016-00001 project results, unpublished. National park directorates' databases <http://map.mme.hu/maps/map2>

Breeding short-term trend: http://www.termesztvedelem.hu/_user/browser/File/Natura2000/BD_12_jelentes_2013_anyagai/Podiceps_cristatus.pdf National park directorates' databases <http://map.mme.hu/maps/map2>

Breeding long-term trend: Magyar G., Hadarics T., Waliczky Z., Schmidt A., Nagy T. & Bankovics A. (1998): Magyarország madarainak névjegyzéke. Madártani Intézet, Budapest, 26 p. BirdLife International (2004) Birds in Europe: population estimates, trends and conservation status. Cambridge, UK: BirdLife International. (BirdLife Conservation Series No.12.), 30 p. Ecsedi Z. (szerk.) (2004): A Hortobágy madárvilága. Hortobágy Természetvédelmi Egyesület, Winter Fair, Balmazújváros - Szeged. 2004. 105-107 p. MME Nomenclator Bizottság (2008): Magyarország madarainak névjegyzéke. Nomenclator avium Hungariae. Magyar Madártani és Természetvédelmi Egyesület, Budapest. 69 p. KEHOP-4.3.0-15-2016-00001 project results, unpublished. National park directorates' databases <http://map.mme.hu/maps/map2>

Winter population size: Expert opinions Faragó S. (2017): Magyar Vízivad Közlemények No. 29. Soproni Egyetem Kiadó, 304 p. Hungarian Waterfowl Monitoring database

Winter short-term trend: Expert opinions Faragó S. (2017): Magyar Vízivad Közlemények No. 29. Soproni Egyetem Kiadó, 304 p. Hungarian Waterfowl Monitoring database

Podiceps cristatus (Great Crested Grebe)

Hungary

Winter long-term trend: Expert opinions Faragó S. (2006): A vonuló vízvad populációk fenntartásának alapjai Magyarországon. Doktori Értekezés. Mellékletek, 305 p. Faragó S. (2017): Magyar Vízvad Közlemények No. 29. Soproni Egyetemi Kiadó, 304 p. Hungarian Waterfowl Monitoring database

Republic of Ireland

Breeding population size: Balmer, D., Gillings, S., Caffrey, B., Swan, B., Downie, I. & Fuller, R. (2013) Bird Atlas 2007-11 The breeding and wintering birds of Britain and Ireland. British Trust for Ornithology. BirdLife International (2004) Birds in Europe: population estimates, trends and conservation status. Cambridge, UK: BirdLife International. (BirdLife Conservation Series No. 12). Gibbons D.W., Reid J.B. & Chapman R.A. (1993) The New Atlas of Breeding Birds in Britain and Ireland 1988-1991. Poyser, London. Preston, K. (1976). Census of Great Crested Grebes, summer 1975. Irish Bird Rep. 1975:38-43. Perry, K. (2000) The Ecology and Conservation of Great Crested Grebes *Podiceps cristatus* at Lough Neagh, Northern Ireland. PhD Thesis, University of Ulster

Breeding short-term trend: BirdLife International (2004) Birds in Europe: population estimates, trends and conservation status. Cambridge, UK: BirdLife International. (BirdLife Conservation Series No. 12). Balmer, D., Gillings, S., Caffrey, B., Swan, B., Downie, I. & Fuller, R. (2013) Bird Atlas 2007-11 The breeding and wintering birds of Britain and Ireland. British Trust for Ornithology. Gibbons D.W., Reid J.B. & Chapman R.A. (1993) The New Atlas of Breeding Birds in Britain and Ireland 1988-1991. Poyser, London.

Breeding long-term trend: Preston, K. 1976. Census of Great Crested Grebes, summer 1975. Irish Bird Rep. 1975:38-43. Perry, K. (2000) The Ecology and Conservation of Great Crested Grebes *Podiceps cristatus* at Lough Neagh, Northern Ireland. PhD Thesis, University of Ulster. BirdLife International (2004) Birds in Europe: population estimates, trends and conservation status. Cambridge, UK: BirdLife International. (BirdLife Conservation Series No. 12). Balmer, D., Gillings, S., Caffrey, B., Swan, B., Downie, I. & Fuller, R. (2013) Bird Atlas 2007-11 The breeding and wintering birds of Britain and Ireland. British Trust for Ornithology. Gibbons D.W., Reid J.B. & Chapman R.A. (1993) The New Atlas of Breeding Birds in Britain and Ireland 1988-1991. Poyser, London.

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: No long term trend can be calculated

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.

Breeding short-term trend: No recent data available

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 acquatici 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

Winter population size: Maxhuni, Q., Bino, T., Xeka, E., Sevo, B., Bejko, E. & Muhaxhiri, J. (2019) First International Waterbird Census (IWC) in Kosovo, MESP/KEPA

Latvia

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

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

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

Winter population size: Aunins A., Stipniece A. 2016. [Waterfowl counts at the seacoast. Final report for the year 2016.] (in Latvian). Latvian Ornithological society Stipniece A. 2018. [Waterfowl counts in inland water bodies. Final report for the year 2018.] (in Latvian). Latvian Ornithological society

Winter short-term trend: Stipniece A. 2018. [Waterfowl counts in inland water bodies. Final report for the year 2018.] (in Latvian). Latvian Ornithological society

Winter long-term trend: Stipniece A. 2018. [Waterfowl counts in inland water bodies. Final report for the year 2018.] (in Latvian). Latvian Ornithological society

Lithuania

Breeding population size: Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) 2015-2018. Lietuvos perinčių paukščių atlaso duomenų bazė (Lithuanian Breeding Birds Atlas Database). Vilnius. Ministry of Environment of the Republic of Lithuania. 2012. Status and trends of bird populations (Article 12, Birds Directive 2009/147/EC) National Summary 2008-2012 Lithuania.

Breeding short-term trend: Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) 2015-2018. Lietuvos perinčių paukščių atlaso duomenų bazė (Lithuanian Breeding Birds Atlas Database). Vilnius. Ministry of Environment of the Republic of Lithuania. 2012. Status and trends of bird populations (Article 12, Birds Directive 2009/147/EC) National Summary 2008-2012 Lithuania.

Breeding long-term trend: Logminas, V. (ed.). 1991. Lietuvos fauna: paukščiai. Vilnius: „Mokslas“. Kurlavičius, P. (ed.) 2006. Lietuvos perinčių paukščių atlasas. Kaunas: „Lututė“. Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) BirdLife International/European Bird Census Council. 2000. European bird populations: estimates and trends. Cambridge, UK: BirdLife International (BirdLife Conservation Series No. 10). Raudonikis L. 2004. Important Bird Areas of the European Union Importance in Lithuania. Lithuanian Ornithological Society & Institute of Ecology of Vilnius University. 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.

Podiceps cristatus (Great Crested Grebe)

Luxembourg

Breeding population size: Melchior E., E. Mentgen, R. Peltzer, R. Schmitt, J. Weiss (1987): Atlas der Brutvögel Luxemburgs. Lëtzebuurger Natur- a Vulleschutzliga. Kremer-Muller & Cie, Foetz, Luxembourg; Konter A. (2004): The Great Crested Grebe in Luxembourg. Regulus Wissenschaftliche Berichte, 20: 8-18; Konter A. (2009): Erster Brutnachweis des Haubentauchers *Podiceps cristatus* an der Sauer. Regulus Wissenschaftliche Berichte, 24: 61-62; Konter A. (2010): Wasservogel an der Sauer im Raum Echternach: Bestand und Ausblick. Wissenschaftliche Berichte, 25: 41-55; Konter A. (2012): Hoher Bruterfolg des Haubentauchers *Podiceps cristatus* in Steinheim – Zweitbrut mit Schwierigkeiten. Regulus Wissenschaftliche Berichte, 27: 73-81; Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&environment Luxembourg. ISBN: 978-2-919920-01-3; Ornitho.lu (2018): online database natur&environment asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg

Breeding short-term trend: Konter A. (2004): The Great Crested Grebe in Luxembourg. Regulus Wissenschaftliche Berichte, 20: 8-18; Konter A. (2009): Erster Brutnachweis des Haubentauchers *Podiceps cristatus* an der Sauer. Regulus Wissenschaftliche Berichte, 24: 61-62; Konter A. (2010): Wasservogel an der Sauer im Raum Echternach: Bestand und Ausblick. Wissenschaftliche Berichte, 25: 41-55; Konter A. (2012): Hoher Bruterfolg des Haubentauchers *Podiceps cristatus* in Steinheim – Zweitbrut mit Schwierigkeiten. Regulus Wissenschaftliche Berichte, 27: 73-81; Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&environment Luxembourg. ISBN: 978-2-919920-01-3; Ornitho.lu (2018): online database natur&environment asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg; LUXOR (2018): natur&environment – 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 Vulleschutzliga. Kremer-Muller & Cie, Foetz, Luxembourg; LUXOR (2018): natur&environment – Bird-database, Luxembourg; Konter A. (2004): The Great Crested Grebe in Luxembourg. Regulus Wissenschaftliche Berichte, 20: 8-18; Konter A. (2009): Erster Brutnachweis des Haubentauchers *Podiceps cristatus* an der Sauer. Regulus Wissenschaftliche Berichte, 24: 61-62; Konter A. (2010): Wasservogel an der Sauer im Raum Echternach: Bestand und Ausblick. Wissenschaftliche Berichte, 25: 41-55; Konter A. (2012): Hoher Bruterfolg des Haubentauchers *Podiceps cristatus* in Steinheim – Zweitbrut mit Schwierigkeiten. Regulus Wissenschaftliche Berichte, 27: 73-81; Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&environment Luxembourg. ISBN: 978-2-919920-01-3; Ornitho.lu (2018): online database natur&environment asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; 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

Winter population size: unpublished 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 ornithofauna (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., Alekski, 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., Veleviski, 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

Breeding population size: Saveljić, D (2014):Unpub.data

Winter population size: IWC reports (20013-2018): Dubak, Vešović, N., Jovičević, M., Vizi O., Vizi,A.

Netherlands

Breeding population size: Sovon Bird atlas (Sovon 2018)

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

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

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

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

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

Norway

Breeding population size: Shimmings P. & Øien, I.J. 2015. Bestandsestimater og trender for norske hekkfugler. NOF-rapport 2015-2.

Breeding short-term trend: Toppdykker *Podiceps cristatus*, unpublished factsheet BirdLife Norway

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

Winter population size: Svorkmo-Lundberg, T., Bakken, V., Helberg, M., Mørk, K., Røer, J.E. & Sæbø, S. 2006. Norsk VinterfuglAtlas. Fuglenes utbredelse, bestandsstørrelse og økologi vinterstid. Norsk Ornitologisk Forening, Trondheim. 496 pp.

Podiceps cristatus (Great Crested Grebe)

Norway

Winter short-term trend: Artsobservasjoner www.artsobservasjoner.no

Poland

Breeding population size: Chodkiewicz T., Kuczyński L., Sikora A., Chylarecki P., Neubauer G., Ławicki L., Stawarczyk T. 2015. Ocena liczebności populacji ptaków lęgowych w Polsce w latach 2008–2012. *Ornis Polonica* 56: 149-189; State Environmental Monitoring / Chief Inspectorate of Environmental Protection (survey: MFGP – Flagship Species Survey); expert assessment

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

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

Winter population size: State Environmental Monitoring / Chief Inspectorate of Environmental Protection (survey: MZPW – Wintering Waterbird Survey & MZPM – Wintering Seabirds Survey)

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

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

Portugal

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

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

Romania

Breeding population size: Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database, Rombird (Romanian Rarity Commission) 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

Russia

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

Breeding short-term trend: Shepel et al. 2008; Sarychev unpublished. vssar@yandex.ru

Breeding long-term trend: Belik et al. 2003; Krivenko & Vinogradov 2008; Shepel et al. 2008

Serbia

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

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

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

Winter population size: 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. 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.

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

Slovenia

Breeding population size: Deberšek B., Bordjan D. (2016): Letna dinamika, naravovarstveno vrednotenje in pregled podatkov o pojavljanju vodnih ptic na Šaleških jezerih (S Slovenija). – *Acrocephalus* 37 (168/169): 5–47. Mihelič T., Kmecl P., Denac K., Koce U., Vrezec A., Denac D. (eds.) (2019): Atlas ptic Slovenije. Popis gnezdičk 2002–2017. – DOPPS, Ljubljana.

Breeding short-term trend: Mihelič T., Kmecl P., Denac K., Koce U., Vrezec A., Denac D. (eds.) (2019): Atlas ptic Slovenije. Popis gnezdičk 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, Cambridge. Bordjan D. (2012): Vodne ptice in ujede Cerkniškega polja (južna Slovenija) v letih 2007 in 2008, s pregledom zanimivejših opazovanj do konca leta 2010. – *Acrocephalus* 33 (152/153): 25–104. Bordjan D., Božič L. (2009): Pojavljanje vodnih ptic in ujed na območju vodnega zadrževalnika Medvedce (Dravsko polje, SV Slovenija) v obdobju 2002–2008. – *Acrocephalus* 30 (141/142/143): 55–163. Geister I. (1995): Ornitološki atlas Slovenije. Razširjenost gnezdičk. – DZS, Ljubljana. Mihelič T., Kmecl P., Denac K., Koce U., Vrezec A., Denac D. (eds.) (2019): Atlas ptic Slovenije. Popis gnezdičk 2002–2017. – DOPPS, Ljubljana. Stumberger, B. (1981): Razširjenost in pojavljanje čopastega ponirka *Podiceps cristatus* v Slovenskih goricah in na Ptujskem polju. – *Acrocephalus* 2 (8/9): 29-35.

Podiceps cristatus (Great Crested Grebe)

Spain

Breeding population size: Información proporcionada por las Comunidades Autónomas. Palomino, D. & Molina, B. (Eds) (2009). Aves acuáticas reproductoras en España. Población en 2007 y método de censo. SEO/BirdLife. Madrid, 210 pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/26_aves_acuaticas_reproductoras_tcm30-208250.pdf)
Breeding short-term trend: Hagemeyer, E.J. & Blair, M.J. (Eds.) (1997). The EBCC Atlas of European Breeding birds: Their distribution and abundance. T & A D Poyser, London. Información proporcionada por las Comunidades Autónomas. Palomino, D. & Molina, B. (Eds) (2009). Aves acuáticas reproductoras en España. Población en 2007 y método de censo. SEO/BirdLife. Madrid, 210 pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/26_aves_acuaticas_reproductoras_tcm30-208250.pdf)
Breeding long-term trend: Hagemeyer, E.J. & Blair, M.J. (Eds.) (1997). The EBCC Atlas of European Breeding birds: Their distribution and abundance. T & A D Poyser, London. Información proporcionada por las Comunidades Autónomas. Palomino, D. & Molina, B. (Eds) (2009). Aves acuáticas reproductoras en España. Población en 2007 y método de censo. SEO/BirdLife. Madrid, 210 pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/26_aves_acuaticas_reproductoras_tcm30-208250.pdf)
Winter population size: Información proporcionada por las Comunidades Autónomas SEO/BirdLife (2018). Censos de aves acuáticas. (http://www.acuaticas.org/WebForms/ConsultaContenidos/Paginas/RealMapasDistAbunEspecie.aspx)
Winter short-term trend: 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)
Winter long-term trend: 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)

Sweden

Breeding population size: Ottosson, U., Ottvall, R., Elmberg, J., Green, M., Gustafsson, R., Haas, F., Holmqvist, N., Lindström, Å., Nilsson, L., Svensson, M., Svensson, S. & Tjernberg, M. 2012. Fåglarna i Sverige – antal och förekomst. SOF, Halmstad. Swedish Bird Survey. BirdLife Sverige, Annual Bird reports.
Breeding short-term trend: Svensk fågeltaxering - Swedish Bird Survey
Breeding long-term trend: Expert judgement based on regional inventories

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/
Winter population size: Strebel, N. (2019): Überwinternde Wasservogel in der Schweiz: Ergebnisse der Wasservogelzählungen 2018/2019. Schweizerische Vogelwarte, Sempach./Strebel, N. (2019): Monitoring hivernal des oiseaux d'eau en Suisse: Résultats des recensements des oiseaux d'eau 2018/2019. Station ornithologique suisse, Sempach.
Winter short-term trend: Strebel, N. (2019): Überwinternde Wasservogel in der Schweiz: Ergebnisse der Wasservogelzählungen 2018/2019. Schweizerische Vogelwarte, Sempach./Strebel, N. (2019): Monitoring hivernal des oiseaux d'eau en Suisse: Résultats des recensements des oiseaux d'eau 2018/2019. Station ornithologique suisse, Sempach.
Winter long-term trend: Strebel, N. (2019): Überwinternde Wasservogel in der Schweiz: Ergebnisse der Wasservogelzählungen 2018/2019. Schweizerische Vogelwarte, Sempach./Strebel, N. (2019): Monitoring hivernal des oiseaux d'eau en Suisse: Résultats des recensements des oiseaux d'eau 2018/2019. Station ornithologique suisse, Sempach.

Turkey

Breeding population size: Birdlife International (2004) Birds in Europe: population estimates, trends and conservation status, Cambridge UK: Birdlife International (Birdlife Conservation series no: 12) Kusbank Bird Database (Ebird) Kirwan G.M., Boyla K. A., Castell P., Demirci B., Özen M., Welch H., Marlow T., 2008, Birds of Turkey. Londra, Christopher Helm, 978-1-4081-0475-
Winter population size: Ebird Database and Midwinter Fowl Counts (2013-2018), Birdlife Estimate
Winter short-term trend: Midwinter bird counts 2012-2019
Winter long-term trend: Midwinter bird counts 1980-2019 and Historical Records come from OSME and other midwinter counts

Ukraine

Breeding population size: Expert: V. Grishchenko
Breeding short-term trend: 1. Горбань І. (2003): Оцінка чисельності гніздових птахів України. - Вісн. Львів. ун-ту. Сер. біол. 34: 147-158. 2. Birds in Europe: Population Estimates, Trends and Conservation Status. BirdLife Conservation Series 12, 2004. 374 p.
Breeding long-term trend: 1. Hagemeyer W.J.M., Blair M.J. The EBCC Atlas of European Breeding Birds: Their Distribution and Abundance. Poyser. London. 1997. 903 p. 2. Горбань І. (2003): Оцінка чисельності гніздових птахів України. - Вісн. Львів. ун-ту. Сер. біол. 34: 147-158. 3. Birds in Europe: Population Estimates, Trends and Conservation Status. BirdLife Conservation Series 12, 2004. 374 p.

United Kingdom

Breeding population size: Baseline = Gibbons, D.W., Reid, J.B. & Chapman, R.A. 1993. The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991. Poyser, London. Extrapolation using Breeding Bird Survey monitoring trends since 1995 (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, Theford. https://www.bto.org/sites/default/files/bbs-report-2017.pdf)
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, Theford. https://www.bto.org/sites/default/files/bbs-report-2017.pdf
Breeding long-term trend: Hughes, S.W.M., Bacon, P. & Flegg, J.J.M. 1979. The 1975 census of Great Crested Grebe in Britain. Bird Study 26: 213-226. BTO in litt. - this report

Podiceps cristatus (Great Crested Grebe)

United Kingdom

Winter population size: Frost, T.M., Austin, G.E., Hearn, R.D., McAvoy, S.G., Robinson, A., Stroud, D.A., Woodward, I.D. & Wotton, S.R. 2019. Population estimates of wintering waterbirds in Great Britain. *British Birds* 112: 130-145. 112: 130-145. Burke, B., Lewis, L.J., Frost, T., Austin, G. & Tierney, T.D. 2019. Estimates of waterbird numbers wintering in Ireland, 2011/12 - 2015/16. *Irish Birds* in press.

Winter short-term trend: Frost, T.M., Austin, G.E., Calbrade, N.A., Mellan, H.J., Hearn, R.D., Stroud, D.A., Wotton, S.R. & Balmer, D.E. (2018). *Waterbirds in the UK 2016/17: The Wetland Bird Survey*. BTO, RSPB and JNCC, in association with WWT. British Trust for Ornithology, Thetford. 40 pp.

Winter long-term trend: Frost, T.M., Austin, G.E., Calbrade, N.A., Mellan, H.J., Hearn, R.D., Stroud, D.A., Wotton, S.R. & Balmer, D.E. (2018). *Waterbirds in the UK 2016/17: The Wetland Bird Survey*. BTO, RSPB and JNCC, in association with WWT. British Trust for Ornithology, Thetford. 40 pp.

Bibliography

- Balmaki, B. and Barati, A. 2006. Harvesting status of migratory waterfowl in northern Iran: a case study from Gilan Province. In: Boere, G., Galbraith, C. and Stroud, D. (eds), *Waterbirds around the world*, pp. 868-869. The Stationary Office, Edinburgh, UK.
- Billerman, S.M., Keeney, B.K., Rodewald, P.G. and Schulenberg, T.S. (eds). 2020. *Birds of the World*. Cornell Laboratory of Ornithology, Ithaca.
- 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.
- Brazil, M. 2009. *Birds of East Asia: eastern China, Taiwan, Korea, Japan, eastern Russia*. Christopher Helm, London.
- Delany, S. and Scott, D. 2006. *Waterbird population estimates*. Wetlands International, Wageningen, The Netherlands.
- Fjeldså, J. 2004. *The grebes*. Oxford University Press, Oxford, U.K.
- Gorski, W., Jakuczun, B., Nitecki, C. & Petryna, A. 1977. Investigation of oil pollution on the Polish Baltic coast in 1974-1975. *Przegląd Zoologiczny* 21(1): 20-23.
- Marchant, S. & Higgins, P.J. 1990. *Handbook of Australian, New Zealand and Antarctic Birds, 1: ratites to ducks*. Oxford University Press, Melbourne.
- Melville, D.S. and Shortridge, K.F. 2006. Migratory waterbirds and avian influenza in the East Asian-Australasian Flyway with particular reference to the 2003-2004 H5N1 outbreak. In: G. Boere, C. Galbraith & D. Stroud (eds), *Waterbirds around the World*, pp. 432-438. The Stationery Office, Edinburgh, U.K.
- O'Donnel, C. and Fjeldså, J. 1997. *Grebes: Status survey and conservation action plan*. IUCN/SSC Grebe Specialist Group, Cambridge, U.K.
- Quan, R C. Wen, W. and Yang, X. 2002. Effects of human activities on migratory waterbirds at Lashihai Lake, China. *Biological Conservation* 108: 273-279.
- Snow, D.W. and Perrins, C.M. 1998. *The Birds of the Western Palearctic, Volume 1: Non-Passerines*. Oxford University Press, Oxford.
- Vähätalo, A.V., Rainio, K., Lehtikoinen, A. and Lehtikoinen, E. 2004. Spring arrival of birds depends on the North Atlantic Oscillation. *Journal of Avian Biology* 35: 210-216.
- del Hoyo, J., Elliot, A. & Sargatal, J. (ed.). 1992. *Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks*. Lynx Edicions, Barcelona, Spain.