



THE IUCN RED LIST
OF THREATENED SPECIES™



***Phoenicopterus roseus* (Greater Flamingo)**

European Red List of Birds

Supplementary Material

The European Union (EU28) Red List assessments were based principally on the official data reported by EU Member States to the European Commission under Article 12 of the Birds Directive in 2019-20. For the European Red List assessments, similar data were sourced from BirdLife Partners and other collaborating experts in other European countries and territories. For more information, see BirdLife International (2021).

Contents

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

Recommended citation

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

Further information

<http://datazone.birdlife.org/info/euroredlist>
<http://www.birdlife.org/europe-and-central-asia/european-red-list-birds-0>
<http://www.iucnredlist.org/regions/europe>
<http://ec.europa.eu/environment/nature/conservation/species/redlist/>

Data requests and feedback

To request access to these data in electronic format, provide new information, correct any errors or provide feedback, please email science@birdlife.org.

Phoenicopterus roseus (Greater Flamingo)

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	30–60	<1	2007-2018	complete	+		2007-2018	partial	+		1980-2018	expert	
Azerbaijan	1000–10000	4	1996-2020	partial	?		2013-2019	expert	?		1980-2019	expert	
France	2200–13800	8	2013-2018	complete	F		2012-2018	complete	F		1980-2018	complete	
Italy	13500–31500	29	2017	expert	+	225 to 660	2010-2017	expert	+	1349900 to 3149900	1993-2018	expert	
Montenegro	300–350	<1	2002-2012	expert	0		2007-2018	expert	?				
Spain	8900–39300	32	2013-2018	complete	+	3 to 22	2007-2018	complete	+	2 to 100	1980-2018	complete	
Turkey	9900–37500	27	2013-2019	complete	F		2012-2018	complete	-		1980-2019	complete	
Ukraine	12	<1	2017	complete	F	0 to 100	2009-2018	complete	?				
EU28	24600–84500	68											
Europe	35900–133000	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.

Phoenicopterus roseus (Greater Flamingo)

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	70–3800	<1	2007-2018	complete	+	0 to 216	2007-2018	complete	+	0 to 40	1980-2018	complete	
Azerbaijan	7000–18000	4	1996-2019	complete	?		2010-2019	complete	?		1980-2019	expert	
Cyprus	3000–20000	2	2013-2018	partial	0	0	2007-2018	partial	0	0	1980-2018	expert	
France	34200–44300	13	2013-2018	complete	+	28 to 82	2007-2017	complete	+	120 to 200	1980-2018	complete	
Greece	18000–30000	8	2015	partial	+		2007-2018	partial	+		1980-2018	partial	
Italy	41600–44500	14	2013-2015	partial	+	40 to 55	2009-2015	partial	+	280 to 310	1991-2015	partial	
Montenegro	300–2500	<1	2013-2018	expert	0		2007-2018	expert	?				
Portugal	2800–8900	2	2013-2018	complete	?	16 to 82	2007-2018	complete	+		1988-2018	partial	
Spain	68600–102000	27	2013-2018	complete	+	32 to 52	2007-2018	complete	+	1000 to 2500	1980-2018	complete	
Turkey	58300–146000	30	2013-2019	complete	F		2008-2019	complete	F		1980-2019	complete	
EU28	168000–250000	66											
Europe	234000–420000	100											

¹ See 'Sources' at end of factsheet, and for more details on individual EU Member State reports, see the Article 12 reporting portal at <http://bd.eionet.europa.eu/article12/report>.

² The designation of geographical entities and the presentation of the material do not imply the expression of any opinion whatsoever on the part of IUCN or BirdLife International concerning the legal status of any country, territory or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

³ In the few cases where population size estimates were reported in units other than those specified, they were converted to the correct units using standard correction factors.

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

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

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

⁷ Trend magnitudes are rounded to the nearest integer.

Trend maps

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

KEY

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

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

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

The designation of geographical entities and the presentation of the material do not imply the expression of any opinion whatsoever on the part of IUCN or BirdLife International concerning the legal status of any country, territory or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

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

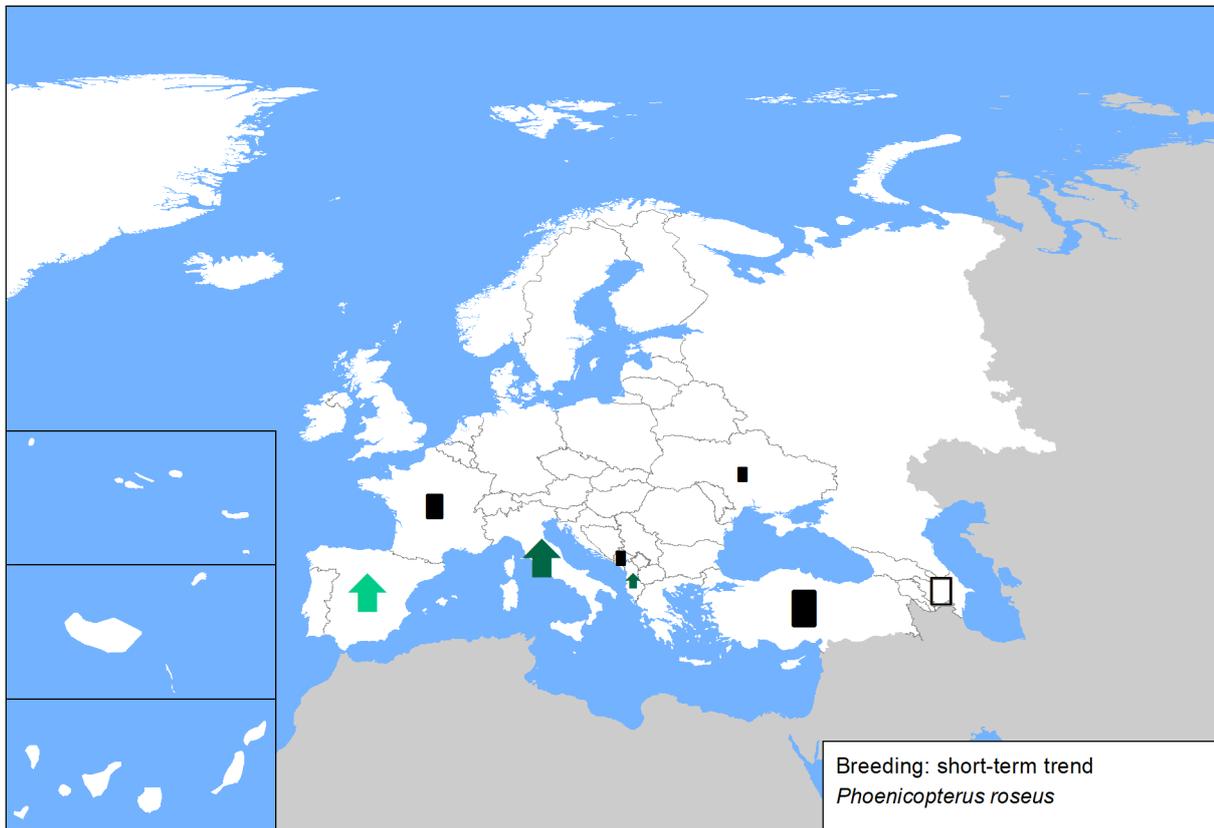


Figure 2. Breeding population sizes and long-term trends across Europe.

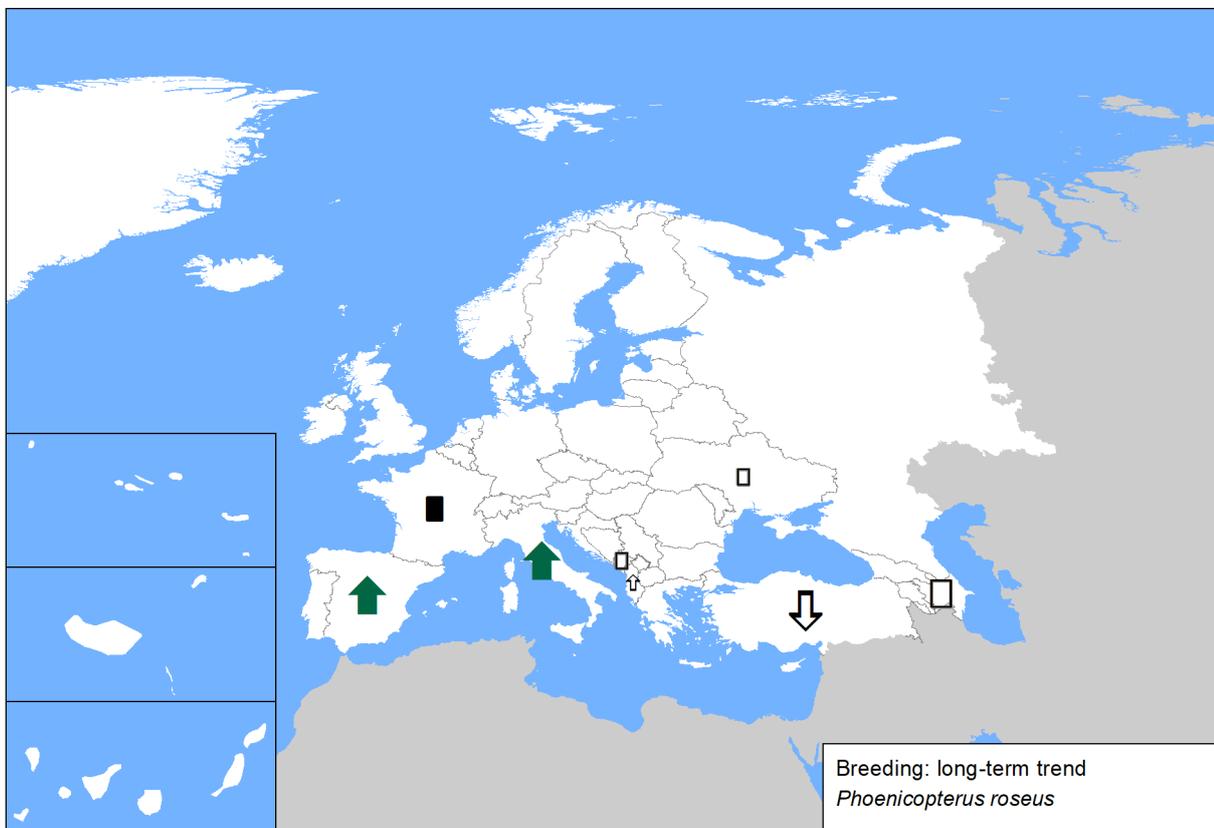


Figure 3. Reported wintering population sizes and short-term trends across Europe. Note that some countries within the species' wintering range did not report any data.

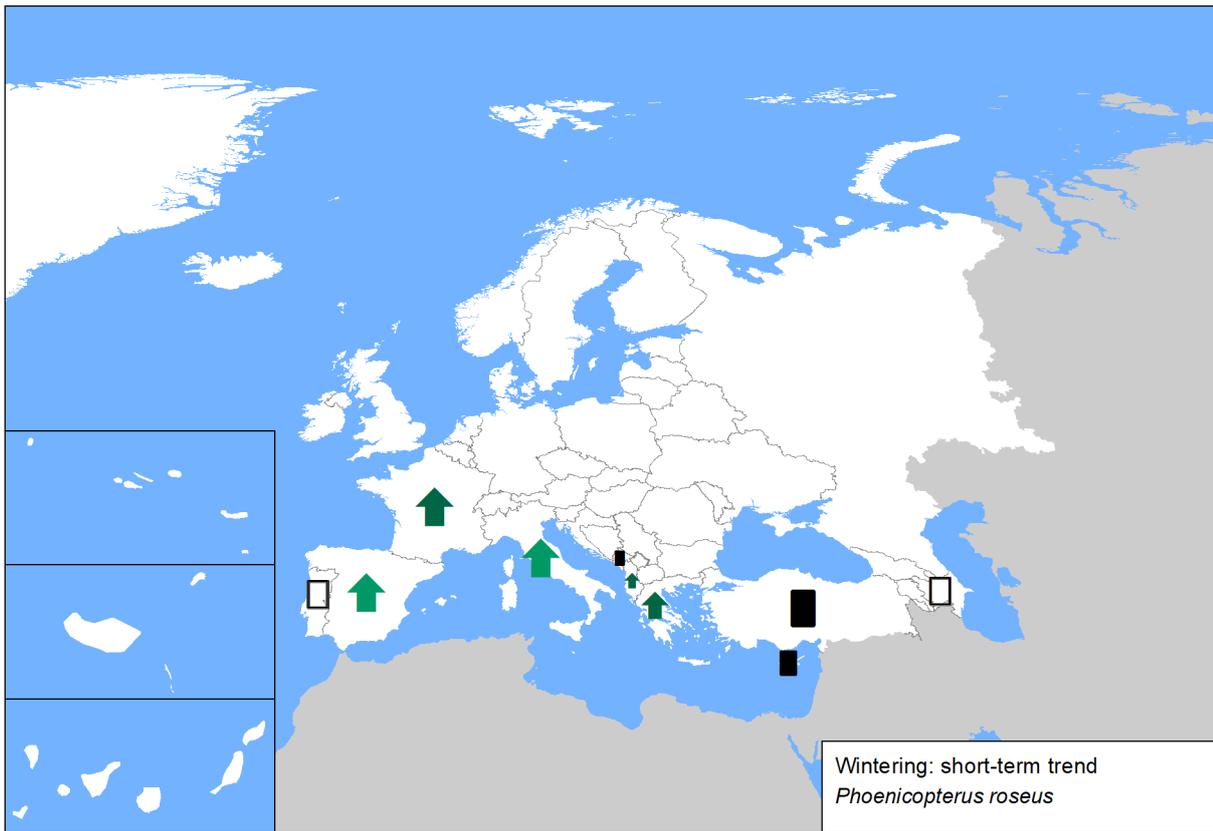
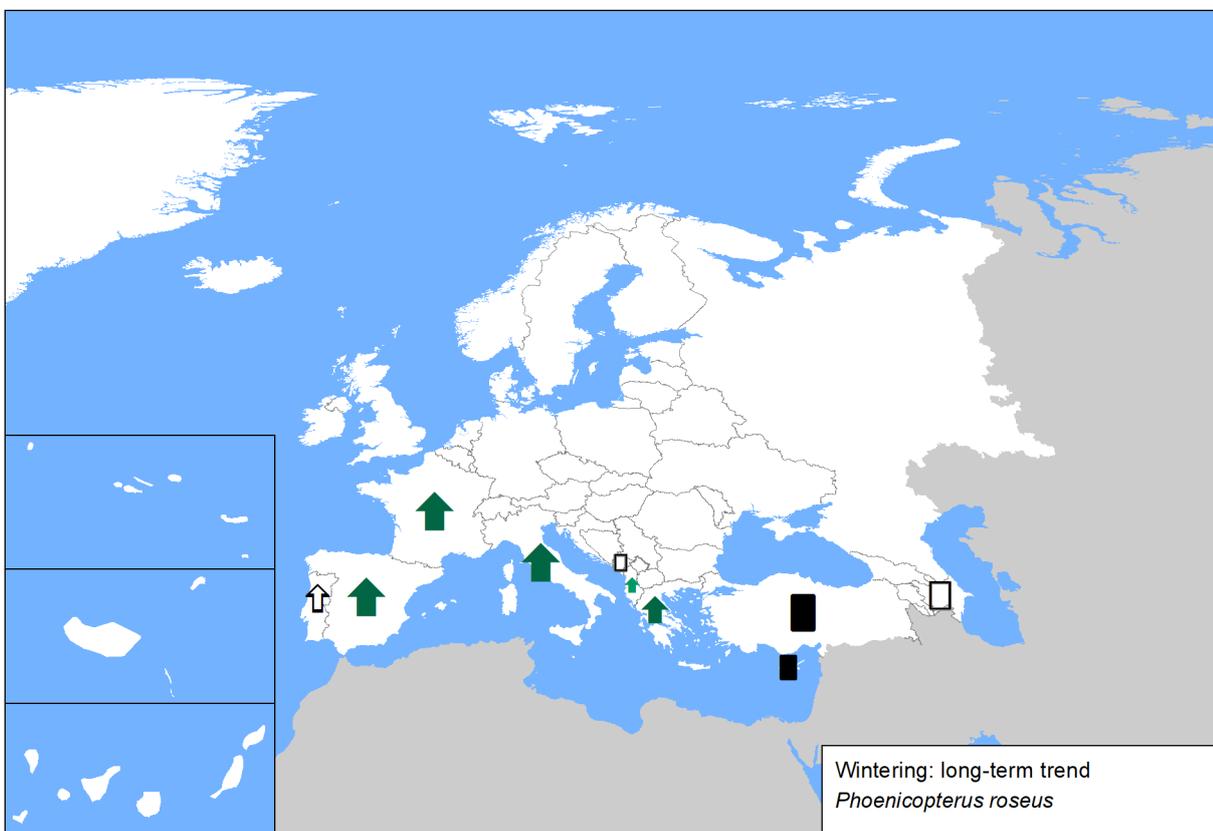


Figure 4. Reported wintering population sizes and long-term trends across Europe. Note that some countries within the species' wintering range did not report any data.



Phoenicopterus roseus (Greater Flamingo)

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

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

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 winter counts reported in the annual reports of the two Cyprus Ornithological Societies: COS 1957 and COS 1970.

France

Greece

Winter 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) Natura Viewer (http://natura2000.eea.europa.eu/#). 3) Δημαλέξης, Τ., Καστρίτης, Θ., Γρίβας, Κ., Μανωλόπουλος, Α., Καρδακάρη, Ν., Κακαλής, Λ., Ξηρουχάκης, Σ., Τσαϊτουρίδης, Χ., Παπαζογλου, 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. 4) 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. 5) Βλάχος Χ., Μπίρτσας Π., Θωμαΐδης Χ., Χατζηνίκος Ε., Μποντζώρλος Β., Μπραζιιώτης Σ., Κόντος Κ., Βλαχάκη Δ., Δεδουσοπούλου Ε., Κιούσης Δ., Ξένος Α., Στεφάνου Α.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.
Winter short-term trend: 1) BirdLife International (2004) Birds in Europe:Population estimates, trends and conservation status. Cambridge, UK: Birdlife International (Birdlife Conservation Series No. 12). 2) Natura Viewer (http://natura2000.eea.europa.eu/#). 3) Δημαλέξης, Τ., Καστρίτης, Θ., Γρίβας, Κ., Μανωλόπουλος, Α., Καρδακάρη, Ν., Κακαλής, Λ., Ξηρουχάκης, Σ., Τσαϊτουρίδης, Χ., Παπαζογλου, 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. 4) 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. 5) Βλάχος Χ., Μπίρτσας Π., Θωμαΐδης Χ., Χατζηνίκος Ε., Μποντζώρλος Β., Μπραζιιώτης Σ., Κόντος Κ., Βλαχάκη Δ., Δεδουσοπούλου Ε., Κιούσης Δ., Ξένος Α., Στεφάνου Α.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.
Winter long-term trend: 1) Handrinos,G., & Akriotis, T., (1997) The birds of Greece. C. Helm, A & C Black, London. 2) BirdLife International (2004) Birds in Europe:Population estimates, trends and conservation status. Cambridge, UK: Birdlife International (Birdlife Conservation Series No. 12). 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., Παπαζογλου, 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., Μπραζιιώτης Σ., Κόντος Κ., Βλαχάκη Δ., Δεδουσοπούλου Ε., Κιούσης Δ., Ξένος Α., Στεφάνου Α.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.

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

Phoenicopterus roseus (Greater Flamingo)

Italy

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.

Montenegro

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

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

Portugal

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

Spain

Breeding population size: Información procedente de las Comunidades Autónomas.

Breeding short-term trend: Database of the 'Atlas de las aves reproductoras de España'. Updated version 2011 with data from SEO/Birdlife's monitoring programmes. In: Inventario Español de Especies Terrestres, Inventario Español del Patrimonio Natural y de la Biodiversidad. Ministerio de Agricultura, Alimentación y Medio Ambiente (2013). (https://www.miteco.gob.es/fr/biodiversidad/temas/inventarios-nacionales/inventario-especies-terrestres/ieet_aves_sist_seg_tendencia_comunes_esp.aspx) Información procedente de las Comunidades Autónomas. Máñez, M. & Rendón-Martos, M. (Eds.). (2009). El morito, la espátula y el flamenco en España. Población en 2007 y método de censo. SEO/BirdLife. Madrid. 122pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/25_morito_espátula_y_flamenco_tcm30-208184.pdf)

Breeding long-term trend: De Juana, E. (2004). Cambios en el estado de conservación de las Aves en España, Años 1954 a 2004. Ardeola 51(1) 19-50. (<https://www.ardeola.org/uploads/articles/docs/553.pdf>) Información procedente de las Comunidades Autónomas. Máñez, M. & Rendón-Martos, M. (Eds.). (2009). El morito, la espátula y el flamenco en España. Población en 2007 y método de censo. SEO/BirdLife. Madrid. 122pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/25_morito_espátula_y_flamenco_tcm30-208184.pdf) Madroño, A., González, C. & Atienza, J.C. (Eds.). (2004). Libro Rojo de las Aves de España. Dirección General para la Biodiversidad-SEO/BirdLife, Madrid. 452 pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/lrcompletoparaweb_tcm30-207942.pdf) Martí, R. & del Moral, J.C. (Eds.) (2003). Atlas de las Aves Reproductoras de España. Dirección General de Conservación de la Naturaleza- Sociedad Española de Ornitología. Madrid, 733 pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/inventario-especies-terrestres/inventario-nacional-de-biodiversidad/ieet_aves_atlas.aspx) Purroy, F.J. (Coord.) (1997). Atlas de las aves de España (1975-1995). SEO/BidLife. Lynx Edicions. Barcelona. 583 pp.

Winter population size: Información procedente de las Comunidades Autónomas. SEO/BirdLife (2018). Censos de aves acuáticas. (<http://www.acuaticas.org/WebForms/ConsultaContenidos/Paginas/RealMapasDistAbunEspecie.aspx>)

Winter short-term trend: Database of the 'Atlas de las aves reproductoras de España'. Updated version 2011 with data from SEO/Birdlife's monitoring programmes. In: Inventario Español de Especies Terrestres, Inventario Español del Patrimonio Natural y de la Biodiversidad. Ministerio de Agricultura, Alimentación y Medio Ambiente (2013). (https://www.miteco.gob.es/fr/biodiversidad/temas/inventarios-nacionales/inventario-especies-terrestres/ieet_aves_sist_seg_tendencia_comunes_esp.aspx) Información procedente de las Comunidades Autónomas. Máñez, M. & Rendón-Martos, M. (Eds.). (2009). El morito, la espátula y el flamenco en España. Población en 2007 y método de censo. SEO/BirdLife. Madrid. 122pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/25_morito_espátula_y_flamenco_tcm30-208184.pdf) SEO/BirdLife (2012). Atlas de las aves en invierno en España 2007-2010. Ministerio de Agricultura, Alimentación y Medio Ambiente-SEO/ BirdLife. Madrid. 817 pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/atlas_aves_invierno_tcm30-198034.pdf) SEO/BirdLife (2018). Censos de aves acuáticas. (<http://www.acuaticas.org/WebForms/ConsultaContenidos/Paginas/RealMapasDistAbunEspecie.aspx>)

Winter long-term trend: Información procedente de las Comunidades Autónomas. Máñez, M. & Rendón-Martos, M. (Eds.). (2009). El morito, la espátula y el flamenco en España. Población en 2007 y método de censo. SEO/BirdLife. Madrid. 122pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventariosnacionales/25_morito_espátula_y_flamenco_tcm30-208184.pdf) SEO/BirdLife (2012). Atlas de las aves en invierno en España 2007-2010. Ministerio de Agricultura, Alimentación y Medio Ambiente-SEO/ BirdLife. Madrid. 817 pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/atlas_aves_invierno_tcm30-198034.pdf) SEO/BirdLife (2018). Censos de aves acuáticas. (<http://www.acuaticas.org/WebForms/ConsultaContenidos/Paginas/RealMapasDistAbunEspecie.aspx>)

Turkey

Breeding population size: Ömer Döndüren and Özge Balkız personal communication (2019), Balkız, O., Onmus, O., Siki M., Döndüren, Ö., Gül O., Arnaud, A., Germain, C., İsfendiyaroğlu, S., Ozbek, M., Caglayan, E., Ozesmi, U., Béchet, A. (in preparation). Turkey as a crossroad for Greater flamingos *Phoenicopterus roseus*: evidence from population trends, ring-resightings and genetic information,

Breeding short-term trend: WorldBird database and Turkey Breeding Atlas Research. Özge Balkız Pers. Comm.

Breeding long-term trend: WorldBird database and Turkey Breeding Atlas Research. Özge Balkız Pers. Comm.

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: 1. Петрович З.О., Настаченко О.С. (2017): Фламінго (*Phoenicopterus roseus*) – новий гніздовий вид фауни України. - Беркут. 26 (1): 5-7. 2. Попенко В.М., Андриющенко Ю.А. (2017): Гнездование розового фламинго (*Phoenicopterus roseus*) в Украине. - Бранта. 20: 220-223.

Breeding short-term trend: Петрович З.О., Настаченко О.С. (2017): Фламінго (*Phoenicopterus roseus*) – новий гніздовий вид фауни України. - Беркут. 26 (1): 5-7. Попенко В.М., Андриющенко Ю.А. (2017): Гнездование розового фламинго (*Phoenicopterus roseus*) в Украине. - Бранта. 20: 220-223.

Bibliography

- Amat, J. A.; Rendón, M. A.; Rendón-Martos, M.; Garrido, A.; Ramírez, J. M. 2005. Ranging behaviour of greater flamingos during the breeding and post-breeding periods: linking connectivity to biological processes. *Biological Conservation* 125: 183-192.
- Baker, N. E.; Baker, E. M.; Van den Bossche, W.; Biebach, H. 2006. Movements of three Greater Flamingos *Phoenicopterus ruber roseus* fitted with satellite transmitters in Tanzania. *Waterbirds around the world*. In: Boere, G. C.; Galbraith, C. A.; Stroud, D. A. (ed.), *Waterbirds around the world*, pp. 239-244. The Stationery Office, Edinburgh, UK.
- Balachandran, S. 2007. Current status of Greater Flamingo *Phoenicopterus roseus* at major coastal wetlands along the east coast of India with special emphasis on population decline. *Flamingo*.
- Balkiz, Ö. 2006. Dynamique de la metapopulation de flamants roses en Méditerranée: implications pour la conservation. *Sciences et techniques du Languedoc, Université Montpellier II*.
- 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.
- Brown, L.H., Urban, E.K. and Newman, K. 1982. *The Birds of Africa, Volume I*. Academic Press, London.
- Brown, L.H.; Root, A. 1971. The breeding behaviour of the Lesser Flamingo *Phoeniconaias minor*. *Ibis* 113: 147-172.
- Curcó, A., Vidal, F. and Piccardo, J. 2009. Conservation and management of the Greater Flamingo *Phoenicopterus roseus* at the Ebre delta. *Flamingo, Special Publ 1*: 37-43.
- Delany, S. and Scott, D. 2006. *Waterbird population estimates*. Wetlands International, Wageningen, The Netherlands.
- Delany, S. and Scott, D. 2006. *Waterbird population estimates*. Wetlands International, Wageningen, The Netherlands.
- Diawara, Y.; Arnaud, A.; Araujo, A.; Béchet, A. 2007. Nouvelles données sur la reproduction et l'hivernage des flamants roses *Phoenicopterus roseus* en Mauritanie et confirmation d'échanges avec les populations méditerranéennes. *Ostrich* 78: 469-474.
- Flint, V.E., Boehme, R.L., Kostin, Y.V. and Kuznetsov, A.A. 1984. *A field guide to birds of the USSR*. Princeton University Press, Princeton, New Jersey.
- Hockey, P. A. R., Dean, W. R. J. & Ryan, P. G. 2005. *Roberts Birds of Southern Africa*. Trustees of the John Voelcker Bird Book Fund, Cape Town, South Africa.
- Martos, M. R.; Johnson, A. R. 1996. Management of Nesting Sites for Greater Flamingos. *Colonial Waterbirds* 19: 167-183.
- Mateo, R., Belliure, J., Dolz, J.C., Aguilar-Serrano, J.M. and Guitart, R. 1998. High prevalences of lead poisoning in wintering waterfowl in Spain. *Archives of Environmental Contamination and Toxicology* 35: 342-347.
- McCulloch, G.; Aebischer, A.; Irvine, K. 2003. Satellite tracking of flamingos in southern Africa: the importance of small wetlands for management and conservation. *Oryx* 37: 480-483.
- McCulloch, G.; Irvine, K. 2004. Breeding of Greater and Lesser Flamingos at Sua Pan, Botswana, 1998-2001. *Ostrich* 75: 236-242.

- Miltiadou, M. 2005. Wintering populations, breeding attempts and lead poisoning of the Great Flamingo *Phoenicopterus roseus* on the salt lakes of Cyprus. *Flamingo* 13: 31-35.
- Nasirwa, O. 2000. Conservation status of flamingos in Kenya. *Waterbirds* 23: 47-51.
- Ogilvie, M.; Ogilvie, C. 1986. *Flamingos*. Alan Sutton, Gloucester.
- Snow, D.W. and Perrins, C.M. 1998. *The Birds of the Western Palearctic, Volume 1: Non-Passerines*. Oxford University Press, Oxford.
- Tucker, G.M. and Heath, M.F. 1994. *Birds in Europe: Their Conservation Status*. BirdLife International, Cambridge, U.K.
- Yosef, R. 2000. Individual distances among Greater Flamingos as indicators of tourism pressure. *Waterbirds* 23: 26-31.
- 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.
- van Heerden, J. 1974. Botulism in the Orange Free State goldfields. *Ostrich* 45(3): 182-184.