



THE IUCN RED LIST  
OF THREATENED SPECIES™



## ***Cygnus olor* (Mute Swan)**

### **European Red List of Birds**

#### **Supplementary Material**

The European Union (EU27) 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 2013-14. 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 (2015).

#### **Contents**

Reported national population sizes and trends	p. 2
Trend maps of reported national population data	p. 6
Sources of reported national population data	p. 9
Species factsheet bibliography	p. 16

#### **Recommended citation**

BirdLife International (2015) European Red List of Birds. Luxembourg: Office for Official Publications of the European Communities.

#### **Further information**

<http://www.birdlife.org/datazone/info/euroredlist>

<http://www.birdlife.org/europe-and-central-asia/european-red-list-birds-0>

<http://www.iucnredlist.org/initiatives/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](mailto:science@birdlife.org).

*Cygnus olor* (Mute Swan)

**Table 1.** Reported national breeding population size and trends in Europe<sup>1</sup>.

Country (or territory) <sup>2</sup>	Population estimate				Short-term population trend <sup>4</sup>				Long-term population trend <sup>4</sup>				Subspecific population (where relevant)
	Size (pairs) <sup>3</sup>	Europe (%)	Year(s)	Quality	Direction <sup>5</sup>	Magnitude (%) <sup>6</sup>	Year(s)	Quality	Direction <sup>5</sup>	Magnitude (%) <sup>6</sup>	Year(s)	Quality	
Albania	2-7	<1	2002-2012	medium	+	20-40	2002-2012	medium	+	20-40	1980-2012	poor	
Austria	350-500	<1	2001-2012	medium	0	0	2001-2012	medium	?				
Azerbaijan	2-5	<1	1996-2000	poor	?				?				
Belarus	750-900	1	2009-2012	good	0	10	2001-2012	medium	0	10	1980-2012	medium	
Belgium	440-580	1	2008-2012	medium	0	0	2000-2012	medium	+	159-241	1973-2012	medium	
Bosnia & HG	30-50	<1	2010-2014	poor	?				?				
Bulgaria	20-50	<1	2005-2012	good	+	2-20	2000-2012	medium	+	10-30	1980-2012	medium	
Croatia	800-1,500	1	2011	poor	+	1400-3000	2002-2011	medium	+	1500-3000	1980-2012	good	
Czech Rep.	854-970	1	2012	medium	+	61-191	2000-2012	good	+	83-221	1982-2012	good	
Denmark	3,600	4	2011	medium	-	20-33	1999-2011	good	0	0	1980-2011	good	
Estonia	3,500-4,000	4	2008-2012	medium	+	20-50	2001-2012	medium	+	50-70	1980-2012	medium	
Finland	11,200-16,900	14	2006-2012	good	0	0	2001-2012	good	+	136-252	1980-2012	good	
France	3,000-6,000	4	2012	medium	+	300-350	2000-2012	medium	+	500-1100	1980-2012	medium	
Germany	11,500-16,000	14	2005-2009	good	+	11-40	1998-2009	medium	+	31-400	1985-2009	medium	
Greece	20-30	<1	2011-2013	good	0	0	2001-2012	good	+	5-30	1980-2012	medium	
Hungary	300-450	<1	2008-2012	medium	+	10-30	2000-2012	medium	+	4500-6000	1990-2012	medium	
Rep. Ireland	3,560	4	2007-2011	poor	0	0	1999-2011	good	0	0	1987-2011	medium	
Italy	300-500	<1	2013	medium	+	200-210	2000-2011	poor	+	1150-1400	1980-2013	medium	
Latvia	500-600	1	2009	medium	0	0	2001-2012	medium	+	38	1980-2009	medium	
Liechtenstein	1-2	<1	2009-2014	good	0	0	2003-2014	good	F	0-3	1980-2014	good	
Lithuania	1,000-1,200	1	2008-2012	medium	-	0-20	2001-2012	medium	+	290-330	1980-2012	medium	
Luxembourg	40-50	<1	2008-2012	medium	0	0-10	2000-2012	medium	+	4000-6000	1980-2012	medium	
FYRO Macedonia	5-10	<1	2001-2012	medium	-	20-50	2000-2012	medium	F	0	1980-2012	medium	
Moldova	50-80	<1	2000-2010	medium	F	0	2000-2010	medium	+	5-10	1980-2010	medium	
Netherlands	6,146-8,345	7	2008-2011	medium	0	0	2002-2011	good	+	69-194	1984-2011	good	
Norway	480-725	1	2000-2013	good	0	0	2000-2013	good	?				
Poland	6,000-7,500	7	2010-2012	good	0	0	2001-2012	good	+	60-100	1980-2012	medium	
Romania	3,000-5,000	4	2000-2013	medium	+	0-19	2000-2013	medium	+	0-19	1980-2012	medium	
Russia	12,000-17,000	15	2005-2008	medium	F	0	2000-2012	medium	F	0	1980-2012	medium	
Serbia	200-245	<1	2008-2012	medium	+	30	2000-2012	medium	+		1980-2012	medium	
Slovakia	400-800	1	2012	medium	+	10-20	2000-2012	good	+	20-50	1980-2012	good	
Slovenia	80-100	<1	2001-2012	medium	+	10-30	2001-2012	medium	?				

*Cygnus olor* (Mute Swan)

**Table 1.** Reported national breeding population size and trends in Europe<sup>1</sup>.

Country (or territory) <sup>2</sup>	Population estimate				Short-term population trend <sup>4</sup>				Long-term population trend <sup>4</sup>				Subspecific population (where relevant)
	Size (pairs) <sup>3</sup>	Europe (%)	Year(s)	Quality	Direction <sup>5</sup>	Magnitude (%) <sup>6</sup>	Year(s)	Quality	Direction <sup>5</sup>	Magnitude (%) <sup>6</sup>	Year(s)	Quality	
Sweden	6,100-9,100	8	2008-2012	medium	0	0	2001-2012	good	+	10-50	1980-2012	good	
Switzerland	450-600	1	2008-2012	medium	?				?				
Turkey	10-20	<1	2013	good	F	0	2000-2012	good	-	30-49	1990-2013	good	
Ukraine	950-1,550	1	2000	medium	F	20-30	2001-2012	medium	F	25-50	1980-2012	medium	
United Kingdom	5,800-7,000	7	2009	good	+	6	1998-2010	good	+	172	1980-2010	good	
<b>EU27</b>	<b>67,700-92,800</b>	<b>81</b>			<b>Increasing</b>								
<b>Europe</b>	<b>83,400-116,000</b>	<b>100</b>			<b>Increasing</b>								

<sup>1</sup> 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>.

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> 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.

<sup>5</sup> Trend directions are reported as: increasing (+); decreasing (-); stable (0); fluctuating (F); or unknown (?).

<sup>6</sup> Trend magnitudes are rounded to the nearest integer.

*Cygnus olor* (Mute Swan)

**Table 2.** Reported national wintering population sizes and trends in Europe<sup>1</sup>. 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) <sup>2</sup>	Population estimate				Short-term population trend <sup>4</sup>				Long-term population trend <sup>4</sup>				Subspecific population (where relevant)
	Size (individuals) <sup>3</sup>	Europe (%)	Year(s)	Quality	Direction <sup>5</sup>	Magnitude (%) <sup>6</sup>	Year(s)	Quality	Direction <sup>5</sup>	Magnitude (%) <sup>6</sup>	Year(s)	Quality	
Albania	30-350	<1	2002-2012	good	0	0	2002-2012	good	0	0	1980-2012	poor	
Armenia	1-21	<1	2003-2013	medium	?				?				
Azerbaijan	500-2,500	<1	1996-2002	medium	?				?				
Belarus	750-2,000	<1	2009-2013	good	0	0	2000-2012	medium	F	33-50	1980-2012	medium	
Belgium	1,097-1,225	<1	2008-2012	good	?				+	3	1992-2012	good	
Bosnia & HG	150-500	<1	2008-2013	medium	+	10-20	2000-2013	medium	?				
Bulgaria	220-3,600	<1	2000-2012	good	F	10-60	2000-2012	good	F	10-70	1980-2012	good	
Croatia	3,000-50,000	5	2011	medium	+		2001-2012	medium	?				
Denmark	54,400	22	2008	good	0	0	2000-2011	good	0	0	1980-2011	good	
Estonia	5,000-15,000	4	2008-2012	medium	+	20-50	2001-2012	medium	+	50-70	1980-2012	medium	
France	17,630	7	2008-2012	good	+	115-140	2000-2012	good	+	2200-2230	1980-2012	good	
Georgia	240	<1	2002	good	?				?				
Germany	70,000	29	2000-2005	good	F	0	1997-2009	good	+	45-83	1984-2009	good	
Greece	646-4,376	1	2007-2013	good	+	37	2004-2013	good	+	307	1982-2013	good	
Rep. Ireland	7,120	3	2006-2011	medium	0	0	1999-2011	good	0	0	1987-2011	medium	
Kosovo	5-10	<1	2009-2014		?				?				
Latvia	100-7,600	<1	2001-2012	medium	0	0	2001-2012	medium	+	0-200	1984-2012	medium	
Liechtenstein	4-11	<1	2009-2014	good	F	0	2003-2014	good	F	0	1980-2014	good	
FYRO Macedonia	20-200	<1	2001-2012	medium	0	0	2002-2012	medium	-	90-94	1980-2012	medium	
Moldova	50-1,100	<1	2000-2010	good	+	10-50	2000-2010	good	F	10-40	1980-2010	good	
Montenegro	5-10	<1	2003-2012	medium	?				?				
Norway	4,000-6,000	2	1994-2003	medium	?				?				
Poland	10,000-20,000	6	2009-2012	medium	0	0	2000-2012	good	0	0	1985-2012	medium	
Romania	5,000-16,000	4	2008-2013	medium	0	0-5	2000-2013	medium	?				
Serbia	2,000-3,000	1	2008-2012	medium	+	10-20	2000-2012	medium	?				
Switzerland	4,309-5,401	2	2008-2012	good	+	8-14	2001-2012	good	+	29-31	1980-2012	good	
Turkey	10-2,485	<1	2002-2012	good	F	0	2002-2012	poor	?				
Ukraine	18,000-57,000	13	2010	good	-	10-40	2001-2012	medium	-	25-50	1980-2012	good	
<b>EU27</b>	<b>171,000-217,000</b>	<b>72</b>			<b>Increasing</b>								
<b>Europe</b>	<b>204,000-348,000</b>	<b>100</b>			<b>Stable</b>								

*Cygnus olor* (Mute Swan)

**Table 2.** Reported national wintering population sizes and trends in Europe<sup>1</sup>. 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) <sup>2</sup>	Population estimate				Short-term population trend <sup>4</sup>				Long-term population trend <sup>4</sup>				Subspecific population (where relevant)
	Size (individuals) <sup>3</sup>	Europe (%)	Year(s)	Quality	Direction <sup>5</sup>	Magnitude (%) <sup>6</sup>	Year(s)	Quality	Direction <sup>5</sup>	Magnitude (%) <sup>6</sup>	Year(s)	Quality	

<sup>1</sup> 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>.

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> 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.

<sup>5</sup> Trend directions are reported as: increasing (+); decreasing (-); stable (0); fluctuating (F); or unknown (?).

<sup>6</sup> Trend magnitudes are rounded to the nearest integer.

## Trend maps

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

### KEY

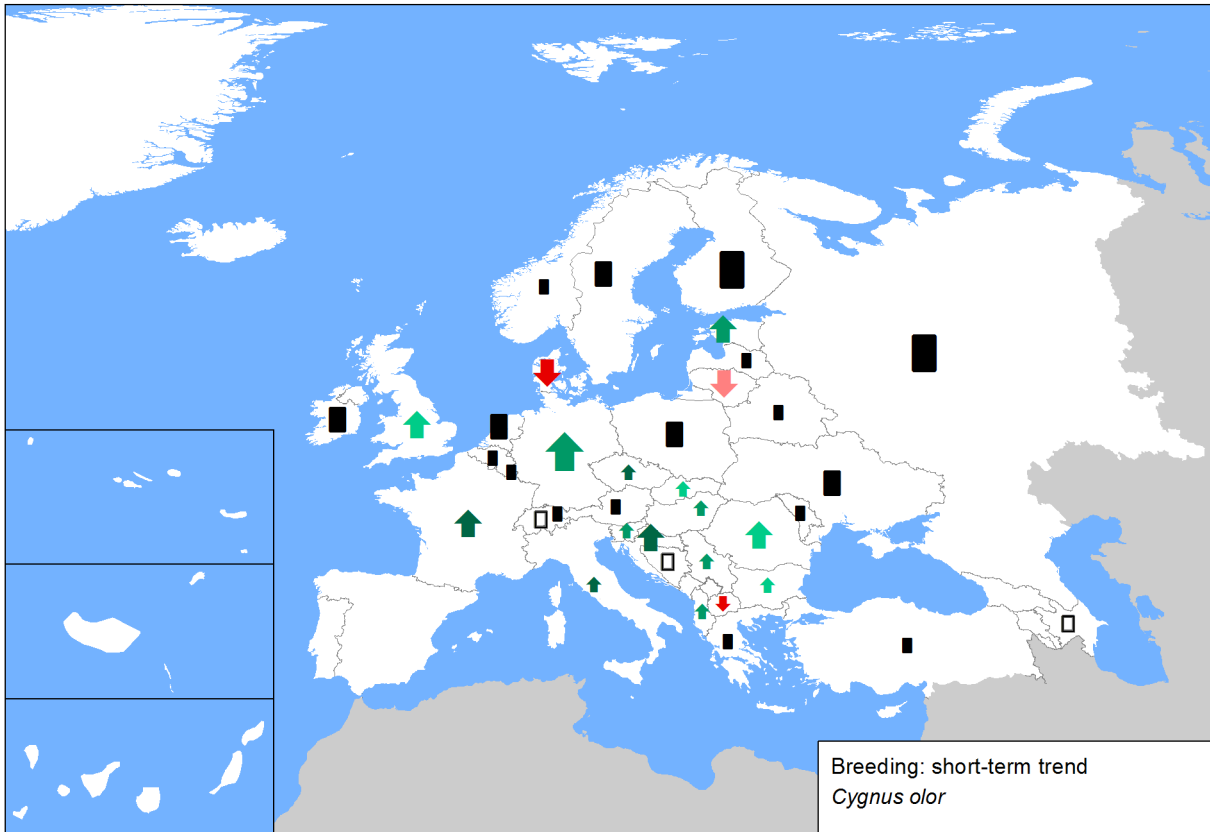
- |   |                                  |
|---|----------------------------------|
| ↑ Large increase ( $\geq 50\%$ )        | ↓ Large decrease ( $\geq 50\%$ ) |
| ↑ Moderate increase (20–49%)            | ↓ Moderate decrease (20–49%)     |
| ↑ Small increase ( $< 20\%$ )           | ↓ Small decrease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

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

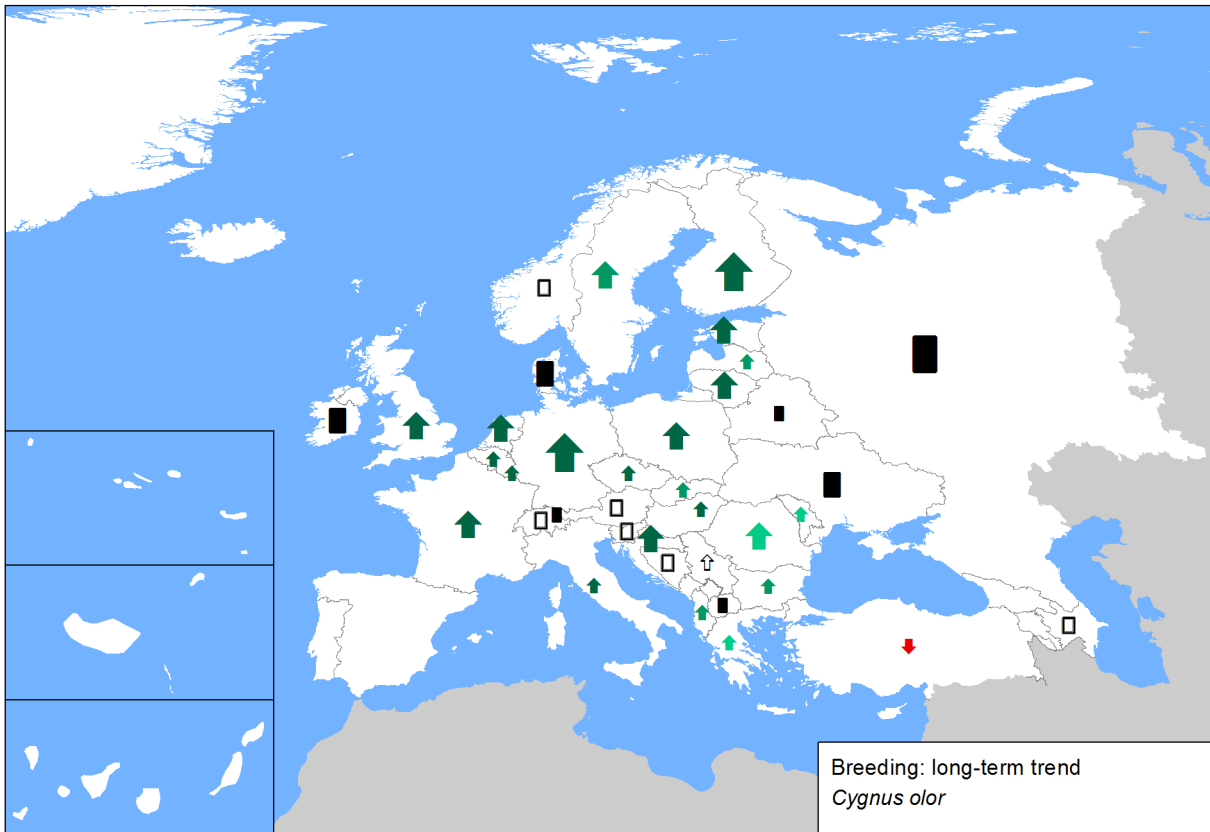
- ↑ Large:  $\geq 10\%$  of the European population
- ↑ Medium: 1–9% of the European population
- ↑ Small:  $< 1\%$  of the European population

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.







## *Cygnus olor* (Mute Swan)

### Sources

#### Albania

<b>Breeding population size:</b> Bino pers. obs.
<b>Breeding short-term trend:</b> Bino pers. obs.
<b>Breeding long-term trend:</b> Bino pers. obs.
<b>Winter population size:</b> Bino pers. obs.
<b>Winter short-term trend:</b> Bino pers. obs.
<b>Winter long-term trend:</b> Bino pers. obs.

#### Armenia

<b>Winter population size:</b> ASPB IWC counts
--

#### Austria

<b>Breeding population size:</b> BirdLife Austria, estimate on the basis of available unpublished and published population data
<b>Breeding short-term trend:</b> BirdLife Austria, estimate on the basis of available unpublished and published trend data

#### Azerbaijan

<b>Breeding population size:</b> BirdLife International 2004
<b>Winter population size:</b> BirdLife International 2004

#### Belarus

<b>Breeding population size:</b> Bogdanovich I.A. - personal communication
<b>Breeding short-term trend:</b> Bogdanovich I.A. - personal communication
<b>Breeding long-term trend:</b> Nikiforov M.E., Kozulin A.V., eds. Belarussian birds at the beginning of XXI century: status, numbers, distribution. - 1997. - Minsk. - 187 p.
<b>Winter population size:</b> Bogdanovich I.A. - personal communication
<b>Winter short-term trend:</b> Bogdanovich I.A. - personal communication
<b>Winter long-term trend:</b> Nikiforov M.E., Kozulin A.V., eds. Belarussian birds at the beginning of XXI century: status, numbers, distribution. - 1997. - Minsk. - 187 p.

#### Belgium

<b>Breeding population size:</b> Database Rare and less common Breeding Birds, INBO (coord. A.Anselin), selected data Waarnemingen.be, compilation of data and enquiries in ornithological community
<b>Breeding short-term trend:</b> Common bird monitoring schemes
<b>Breeding long-term trend:</b> Comparison between 2008-2012 estimate and Devillers, 1989 (Atlas of the Belgian Breeding Bird) population estimate
<b>Winter population size:</b> waterbird database INBO + Aves
<b>Winter short-term trend:</b> waterbird database INBO and Aves
<b>Winter long-term trend:</b> waterbird database INBO and Aves

#### Bosnia and Herzegovina

<b>Breeding population size:</b> unpublsh data
<b>Winter population size:</b> Kotrošan, D., Dervović, I., 2010: Rezultati zimskog brojanja ptica močvarica u Bosni i Hercegovini za period od 2008. do 2010. godine. Bilten Mreže posmatrača ptica u Bosni i Hercegovini, 6(6): 23-45., Dervović, I. & Kotrošan, D., 2011/2012: Rezultati zimskog brojana ptica močvarica u Bosni i Hercegovini u 2011. godini. Bilten Mreže posmatrača ptica u Bosni i Hercegovini, 7-8(7-8): 44-55., Topić, G. & Kotrošan, D., 2011/2012: Rezultati Međunarodnog cenzusa ptica vodenih staništa u Bosni i Hercegovini 2012. godine. Bilten Mreže posmatrača ptica u Bosni i Hercegovini, 7-8(7-8): 56-73., Topić, G., 2013: Rezultati Međunarodnog cenzusa ptica vodenih staništa u Bosni i Hercegovini 2013. godine. Bilten Mreže posmatrača ptica u Bosni i Hercegovini, 7-8(7-8): 14-40.
<b>Winter short-term trend:</b> Dervović, I. 2005: Rezultati januarskog brojanja vodenih ptica 1998-2005. Bilten Mreže posmatrača ptica u Bosni i Hercegovini, 1(1): 43-45. Dervović, I. 2006: Rezultati zimskog prebrojavanja ptica močvarica u Bosni i Hercegovini u 2006. godini. Bilten Mreže posmatrača ptica u Bosni i Hercegovini, 2(2): 20-22. Dervović, I. 2007: Izvještaj o januarskom prebrojavanju vodenih ptica u 2007. godini. Bilten Mreže posmatrača ptica u Bosni i Hercegovini, 3(3): 47. Kotrošan, D., Dervović, I., 2010: Rezultati zimskog brojanja ptica močvarica u Bosni i Hercegovini za period od 2008. do 2010. godine. Bilten Mreže posmatrača ptica u Bosni i Hercegovini, 6(6): 23-45., Dervović, I. & Kotrošan, D., 2011/2012: Rezultati zimskog brojana ptica močvarica u Bosni i Hercegovini u 2011. godini. Bilten Mreže posmatrača ptica u Bosni i Hercegovini, 7-8(7-8): 44-55., Topić, G. & Kotrošan, D., 2011/2012: Rezultati Međunarodnog cenzusa ptica vodenih staništa u Bosni i Hercegovini 2012. godine. Bilten Mreže posmatrača ptica u Bosni i Hercegovini, 7-8(7-8): 56-73., Topić, G., 2013: Rezultati Međunarodnog cenzusa ptica vodenih staništa u Bosni i Hercegovini 2013. godine. Bilten Mreže posmatrača ptica u Bosni i Hercegovini, 7-8(7-8): 14-40.

#### Bulgaria

<b>Breeding population size:</b> Iankov, P. (editor). 2007. Atlas of Breeding Birds in Bulgaria. BSPB Conservation Series Book 10. BSPB GIS related ornithological database
<b>Breeding short-term trend:</b> Iankov, P. (editor). 2007. Atlas of Breeding Birds in Bulgaria. BSPB Conservation Series Book 10. BSPB GIS related ornithological database
<b>Breeding long-term trend:</b> Iankov, P. (editor). 2007. Atlas of Breeding Birds in Bulgaria. BSPB Conservation Series Book 10. BSPB GIS ornithologica database expert opinion
<b>Winter population size:</b> BSPB GIS related ornithological database
<b>Winter short-term trend:</b> BSPB GIS related ornithological database
<b>Winter long-term trend:</b> IWC counts in Bulgaria BSPB GIS related ornithological database

## Cygnus olor (Mute Swan)

### Croatia

<b>Breeding population size:</b> Report on the implementation of AEWA for the period 2009-2011 - Croatia. <a href="http://www.unep-aewa.org/en/document/national-report-croatia-2">http://www.unep-aewa.org/en/document/national-report-croatia-2</a>
<b>Breeding short-term trend:</b> Report on the implementation of AEWA for the period 2009-2011 - Croatia. <a href="http://www.unep-aewa.org/en/document/national-report-croatia-2">http://www.unep-aewa.org/en/document/national-report-croatia-2</a>
<b>Breeding long-term trend:</b> BiE III Work group, Croatia
<b>Winter population size:</b> Report on the implementation of AEWA for the period 2009-2011 - Croatia. <a href="http://www.unep-aewa.org/en/document/national-report-croatia-2">http://www.unep-aewa.org/en/document/national-report-croatia-2</a>
<b>Winter short-term trend:</b> Report on the implementation of AEWA for the period 2009-2011 - Croatia. <a href="http://www.unep-aewa.org/en/document/national-report-croatia-2">http://www.unep-aewa.org/en/document/national-report-croatia-2</a>
<b>Winter long-term trend:</b> Report on the implementation of AEWA for the period 2009-2011 - Croatia. <a href="http://www.unep-aewa.org/en/document/national-report-croatia-2">http://www.unep-aewa.org/en/document/national-report-croatia-2</a>

### Czech Republic

<b>Breeding population size:</b> STASTNY K., BEJCEK V. & HUDEC K. 2006: Atlas hnízdního rozšíření ptaku v České republice. Aventinum Praha. JPSP: <a href="http://jpsp.birds.cz/vysledky.php?taxon=325">http://jpsp.birds.cz/vysledky.php?taxon=325</a>
<b>Breeding short-term trend:</b> JPSP: <a href="http://jpsp.birds.cz/vysledky.php?taxon=325">http://jpsp.birds.cz/vysledky.php?taxon=325</a>
<b>Breeding long-term trend:</b> JPSP: <a href="http://jpsp.birds.cz/vysledky.php?taxon=325">http://jpsp.birds.cz/vysledky.php?taxon=325</a>

### Denmark

<b>Breeding population size:</b> BIRDLIFE INTERNATIONAL (2004) Birds in Europe: population estimates, trends and conservation status. Wageningen, The Netherlands: BirdLife International. (BirdLife Conservation Series No. 12) Heldbjerg, H. & Lerche-Jørgensen, M. (2012): Overvågning af de danske almindelige fuglearter i Danmark 1975-2011. Årsrapport for Punktællingsprojektet. Dansk Ornitologisk Forening. (The Danish Point Count Census for breeding birds during the period 1999-2011)
<b>Breeding short-term trend:</b> Heldbjerg, H. & Lerche-Jørgensen, M. (2012): Overvågning af de danske almindelige fuglearter i Danmark 1975-2011. Årsrapport for Punktællingsprojektet. Dansk Ornitologisk Forening. (The Danish Point Count Census for breeding birds during the period 1999-2011)
<b>Breeding long-term trend:</b> Heldbjerg, H. & Lerche-Jørgensen, M. (2012): Overvågning af de danske almindelige fuglearter i Danmark 1975-2011. Årsrapport for Punktællingsprojektet. Dansk Ornitologisk Forening. (The Danish Point Count Census for breeding birds during the period 1980-2011)
<b>Winter population size:</b> Pihl, S., Clausen, P., Petersen, I.K., Nielsen, R.D., Laursen, K., Bregnballe, T., Holm, T.E. & Søgaard, B. (2013): Fugle 2004-2011. NOVANA. Aarhus Universitet, DCE - Nationalt Center for Miljø og Energi. - Videnskabelig rapport fra DCE nr. 49. 188 s.
<b>Winter short-term trend:</b> Pihl, S., Clausen, P., Petersen, I.K., Nielsen, R.D., Laursen, K., Bregnballe, T., Holm, T.E. & Søgaard, B. (2013): Fugle 2004-2011. NOVANA. Aarhus Universitet, DCE - Nationalt Center for Miljø og Energi. - Videnskabelig rapport fra DCE nr. 49. 188 s.
<b>Winter long-term trend:</b> Pihl, S., Clausen, P., Petersen, I.K., Nielsen, R.D., Laursen, K., Bregnballe, T., Holm, T.E. & Søgaard, B. (2013): Fugle 2004-2011. NOVANA. Aarhus Universitet, DCE - Nationalt Center for Miljø og Energi. - Videnskabelig rapport fra DCE nr. 49. 188 s.

### Estonia

<b>Breeding population size:</b> Elts, J., Leito, A., Leivits, A., Luigujõe, L., Mägi, E., Nellis, Rein, Nellis, Renno, Ots, M., Pehlak, H. 2013. Status and numbers of Estonian birds, 2008–2012. Hirundo 26(2): 80-112. URL: <a href="http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf">http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf</a>
<b>Breeding short-term trend:</b> Elts, J., Leito, A., Leivits, A., Luigujõe, L., Mägi, E., Nellis, Rein, Nellis, Renno, Ots, M., Pehlak, H. 2013. Status and numbers of Estonian birds, 2008–2012. Hirundo 26(2): 80-112. URL: <a href="http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf">http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf</a>
<b>Breeding long-term trend:</b> Elts, J., Leito, A., Leivits, A., Luigujõe, L., Mägi, E., Nellis, Rein, Nellis, Renno, Ots, M., Pehlak, H. 2013. Status and numbers of Estonian birds, 2008–2012. Hirundo 26(2): 80-112. URL: <a href="http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf">http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf</a>
<b>Winter population size:</b> Elts, J., Leito, A., Leivits, A., Luigujõe, L., Mägi, E., Nellis, Rein, Nellis, Renno, Ots, M., Pehlak, H. 2013. Status and numbers of Estonian birds, 2008–2012. Hirundo 26(2): 80-112. URL: <a href="http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf">http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf</a>
<b>Winter short-term trend:</b> Elts, J., Leito, A., Leivits, A., Luigujõe, L., Mägi, E., Nellis, Rein, Nellis, Renno, Ots, M., Pehlak, H. 2013. Status and numbers of Estonian birds, 2008–2012. Hirundo 26(2): 80-112. URL: <a href="http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf">http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf</a>
<b>Winter long-term trend:</b> Elts, J., Leito, A., Leivits, A., Luigujõe, L., Mägi, E., Nellis, Rein, Nellis, Renno, Ots, M., Pehlak, H. 2013. Status and numbers of Estonian birds, 2008–2012. Hirundo 26(2): 80-112. URL: <a href="http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf">http://www.eoy.ee/hirundo/file_download/149/Elts_et_al_2013_2.pdf</a>

### Finland

<b>Breeding population size:</b> Archipelago Bird Census data.
<b>Breeding short-term trend:</b> Archipelago Bird Census data.
<b>Breeding long-term trend:</b> Archipelago Bird Census data.

### France

<b>Breeding population size:</b> LPO 2013 Avis d'expert sur les effectifs et tendances du Cygne tuberculé
<b>Breeding short-term trend:</b> Dubois P.J., Le Maréchal P., Olioso G. & Yésou P. 2008 Nouvel Inventaire des Oiseaux de France, Paris, Delachaux & Niestlé, 559
<b>Breeding long-term trend:</b> Dubois P.J., Le Maréchal P., Olioso G. & Yésou P. 2008 Nouvel Inventaire des Oiseaux de France, Paris, Delachaux & Niestlé, 559
<b>Winter population size:</b> LPO - Wetlands International 2012 Base de données des dénombrements d'oiseaux d'eau « Wetlands International » 1980-2012 réalisés à la mi-janvier, LPO - BirdLife France, Rochefort
<b>Winter short-term trend:</b> LPO - Wetlands International 2012 Base de données des dénombrements d'oiseaux d'eau « Wetlands International » 1980-2012 réalisés à la mi-janvier, LPO - BirdLife France, Rochefort
<b>Winter long-term trend:</b> LPO - Wetlands International 2012 Base de données des dénombrements d'oiseaux d'eau « Wetlands International » 1980-2012 réalisés à la mi-janvier, LPO - BirdLife France, Rochefort

### Georgia

<b>Winter population size:</b> BirdLife International 2004
--

### Germany

<b>Breeding population size:</b> Gedeon, K., C. Grüneberg, A. Mitschke & C. Sudfeldt (in Vorb.): Atlas Deutscher Brutvogelarten. SVD & DDA, Münster.
--

## Cygnus olor (Mute Swan)

### Germany

<b>Breeding short-term trend:</b> Dachverband Deutscher Avifaunisten e.V.
<b>Breeding long-term trend:</b> Dachverband Deutscher Avifaunisten e.V.
<b>Winter population size:</b> Wahl, J., J. Bellebaum, J. Blew, S. Garthe, K. Günther & T. Heinicke (in Vorb.): Rastende Wasservögel in Deutschland 2000-2005: Bestandsschätzungen und Schwellenwerte für Rastgebiete nationaler Bedeutung. Vogelwelt.
<b>Winter short-term trend:</b> Monitoring rastender Wasservögel
<b>Winter long-term trend:</b> Monitoring rastender Wasservögel

### Greece

<b>Breeding population size:</b> Society for the Protection of Prespa database. Theodoros Naziridis pers.com. Toskos pers.comm.
<b>Breeding short-term trend:</b> Society for the Protection of Prespa database. Theodoros Naziridis pers.com. Toskos pers.comm.
<b>Breeding long-term trend:</b> Hellenic Ornithological Society database
<b>Winter population size:</b> Midwinter Counts Database, Hellenic Ornithological Society
<b>Winter short-term trend:</b> Midwinter Counts Database, Hellenic Ornithological Society
<b>Winter long-term trend:</b> Midwinter Counts Database, Hellenic Ornithological Society

### Hungary

<b>Breeding population size:</b> Albert, L., Hajtő, L. and Szinai, P. (2004): Status of the Mute Swan ( <i>Cygnus olor</i> ) in Hungary at the beginning of the 21st Century. <i>Aquila</i> 111: 19-41. MME Nomenclator Bizottság (2008): Magyarország madarainak névjegyzéke. Nomenclator avium Hungariae. Magyar Madártani és Természetvédelmi Egyesület, Budapest. P. 278.
<b>Breeding short-term trend:</b> MME Nomenclator Bizottság (2008): Magyarország madarainak névjegyzéke. Nomenclator avium Hungariae. Magyar Madártani és Természetvédelmi Egyesület, Budapest. P. 278. Albert, L., Hajtő, L. and Szinai, P. (2004): Status of the Mute Swan ( <i>Cygnus olor</i> ) in Hungary at the beginning of the 21st Century. <i>Aquila</i> 111: 19-41. Breeding bird (MME RTM) database.
<b>Breeding long-term trend:</b> Szinai, P. (1998): Status of the Mute Swan ( <i>Cygnus olor</i> ) in 1997 in Hungary. <i>Aquila</i> 103-104: 9-16. MME Nomenclator Bizottság (2008): Magyarország madarainak névjegyzéke. Nomenclator avium Hungariae. Magyar Madártani és Természetvédelmi Egyesület, Budapest. p. 278. Magyar, G., Hadarics, T., Waliczky, Z., Schmidt, A., Nagy, T. & Bankovics, A. (1998): Nomenclator avium Hungariae. Magyarország madarainak névjegyzéke. KTM Természetvédelmi Hivatal Madártani Intézete – Magyar Madártani és Természetvédelmi Egyesület – Winter Fair, Budapest – Szeged. p. 202. Breeding bird (MME RTM) database.

### Republic of Ireland

<b>Breeding population size:</b> Crowe, O. & Holt, C. (2013) Estimates of waterbird numbers wintering in Ireland, 2006/07 – 2010/11. <i>Irish Birds</i> (unpublished).
<b>Breeding short-term trend:</b> I-WeBS unpublished data 1999-2011 - O. Crowe, BirdWatch Ireland <a href="http://birdwatchireland.ie/">http://birdwatchireland.ie/</a> .
<b>Breeding long-term trend:</b> Ogilvie, M.A. (1972) Distribution, numbers and migration. Pp 29-55 in Scott, P. and the Wildfowl Trust. <i>The Swans</i> . London. Sheppard, R. (1993) Ireland's Wetland Wealth. Irish Wildbird Conservancy. Crowe, O. & Holt, C. (2013) Estimates of waterbird numbers wintering in Ireland, 2006/07 – 2010/11. <i>Irish Birds</i> (unpublished).
<b>Winter population size:</b> Crowe, O. & Holt, C. (2013) Estimates of waterbird numbers wintering in Ireland, 2006/07 – 2010/11. <i>Irish Birds</i> 9:4.
<b>Winter short-term trend:</b> Crowe, O. (2013) Calculations of short- and long-term trends of wintering waterbirds for Article 12 reporting. Unpublished note. Crowe, O. & Holt, C. (2013) Estimates of waterbird numbers wintering in Ireland, 2006/07 – 2010/11. <i>Irish Birds</i> 9:4.
<b>Winter long-term trend:</b> Crowe, O. (2013) Calculations of short- and long-term trends of wintering waterbirds for Article 12 reporting. Unpublished note. Crowe, O. & Holt, C. (2013) Estimates of waterbird numbers wintering in Ireland, 2006/07 – 2010/11. <i>Irish Birds</i> 9:4. Sheppard, R. (1993) Ireland's Wetland Wealth. Irish Wildbird Conservancy.

### Italy

<b>Breeding population size:</b> Bricchetti P & Fracasso G. 2013. <i>Ornitologia italiana</i> . Vol. 1/2: Anatidae. Oasi Alberto Perdisa, Bologna
<b>Breeding short-term trend:</b> Campedelli T, Buvoli L, Bonazzi P, Calabrese L, Calvi G, Celada C, Cutini S, De Carli E, Fornasari L, Fulco E, La Gioia G, Londi G, Rossi P, Silva L & Tellini Florenzano G. 2012. Andamenti di popolazione delle specie comuni in Italia: 2000-2011. <i>Avocetta</i> 36: 121-143
<b>Breeding long-term trend:</b> Bricchetti P & Fracasso G. 2013. <i>Ornitologia italiana</i> . Vol. 1/2: Anatidae. Oasi Alberto Perdisa, Bologna

### Kosovo

<b>Winter population size:</b> NGO "Finch" (2014)
---

### Latvia

<b>Breeding population size:</b> Ruslans Matrozis: <a href="mailto:matruslv@inbox.lv">matruslv@inbox.lv</a>
<b>Breeding short-term trend:</b> Viesturs Kerus: <a href="mailto:viesturs@lob.lv">viesturs@lob.lv</a>
<b>Breeding long-term trend:</b> Priednieks J., Strazds M., Strazds A., Petriņš A. 1989. <i>Latvian Breeding Bird Atlas 1980-1984</i> . Riga: Zinatne. Ruslans Matrozis: <a href="mailto:matruslv@inbox.lv">matruslv@inbox.lv</a>
<b>Winter population size:</b> WI IWC
<b>Winter short-term trend:</b> WI IWC
<b>Winter long-term trend:</b> WI IWC

### Liechtenstein

<b>Breeding population size:</b> Willi, G. (2014) Unpublished collection data
<b>Breeding short-term trend:</b> Willi, G. (2006) <i>Die Vögel des Fürstentums Liechtenstein</i> . Amtlicher Lehrmittelverlag, Vaduz (Naturkundliche Forschung im Fürstentum Liechtenstein, Bd. 22).

## Cygnus olor (Mute Swan)

### Liechtenstein

<b>Breeding long-term trend:</b> Willi, G. & M.F. Broggi (1983) Die Vogelwelt des Fürstentums Liechtenstein unter Berücksichtigung der benachbarten Gebiete; Teil I: Gaviiformes (Seetaucher) – Falconiformes (Greifvögel). Ber. Bot.-Zool. Ges. Liechtenstein-Sargans-Werdenberg, Band 12, S. 61-117.; Willi, G. (2006) Die Vögel des Fürstentums Liechtenstein. Amtlicher Lehrmittelverlag, Vaduz (Naturkundliche Forschung im Fürstentum Liechtenstein, Bd. 22.
<b>Winter population size:</b> Willi, G. (2013) Winterliche Wasservogelzählungen in Liechtenstein. Ber. Bot.-Zool. Ges. Liechtenstein-Sarganserland-Werdenberg, 37, S. 125-135, Schaan.; Willi, G. (2014) Unpublished water bird count data
<b>Winter short-term trend:</b> Willi, G. (2013) Winterliche Wasservogelzählungen in Liechtenstein. Ber. Bot.-Zool. Ges. Liechtenstein-Sarganserland-Werdenberg, 37, S. 125-135, Schaan.; Willi, G. (2014) Unpublished water bird count data
<b>Winter long-term trend:</b> Willi, G. (2013) Winterliche Wasservogelzählungen in Liechtenstein. Ber. Bot.-Zool. Ges. Liechtenstein-Sarganserland-Werdenberg, 37, S. 125-135, Schaan.

### Lithuania

<b>Breeding population size:</b> Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) Jusys, V., Karalius, S., Raudonikis, L. 2012. Lietuvos paukščių pažinimo vadovas. Kaunas: „Lututė“, 288 p.
<b>Breeding short-term trend:</b> Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) Jusys, V., Karalius, S., Raudonikis, L. 2012. Lietuvos paukščių pažinimo vadovas. Kaunas: „Lututė“, 288 p. Kurlavičius, P. (ed.) 2006. Lietuvos perinčių paukščių atlasas. Kaunas: „Lututė“, 256 p. Raudonikis L. 2004. Lithuania. In: Birds in Europe: population estimates, trends, and conservation status. BirdLife International, BirdLife Conservation Series No12, Cambridge, UK.
<b>Breeding long-term trend:</b> 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). Kurlavičius, P. (ed.) 2006. Lietuvos perinčių paukščių atlasas. Kaunas: „Lututė“, 256 p.

### Luxembourg

<b>Breeding population size:</b> LUXOR (2013): NATUR&EMWELT - BIRD-DATABASE, LUXEMBOURG Recorder (2013): database, Musée national d'histoire naturelle, Luxembourg Lorgé P. (2012): Der Höckerschwan in Luxemburg. Regulus, 6/2012: 18-19 Biver, G. (2013): Waterbird count - recensement hivernal des oiseaux d'eau 2009-2012. Regulus Wissenschaftliche Berichte, 28: 43-58. Konter A. (2010): Wasservogel an der Sauer im Raum Echternach: Bestand und Ausblick. Wissenschaftliche Berichte, 25: 41-55 ( <a href="http://www.luxnatur.lu/publi/wb25001144.pdf">http://www.luxnatur.lu/publi/wb25001144.pdf</a> )
<b>Breeding short-term trend:</b> LUXOR (2013): NATUR&EMWELT - BIRD-DATABASE, LUXEMBOURG Recorder (2013): database, Musée national d'histoire naturelle, Luxembourg Lorgé P. (2012): Der Höckerschwan in Luxemburg. Regulus, 6/2012: 18-19
<b>Breeding long-term trend:</b> LUXOR (2013): NATUR&EMWELT - BIRD-DATABASE, LUXEMBOURG Recorder (2013): database, Musée national d'histoire naturelle, Luxembourg Lorgé P. (2012): Der Höckerschwan in Luxemburg. Regulus, 6/2012: 18-19 Melchior E., E. Mentgen, R. Peltzer, R. Schmitt, J. Weiss (1987): Atlas der Brutvögel Luxemburgs. Lëtzebuurger Natur- a Vulleschutzliga. Kremer-Muller & Cie, Foetz, Luxembourg

### The Former Yugoslav Republic of Macedonia

<b>Breeding population size:</b> unpublished data Metodija Velevski
<b>Breeding short-term trend:</b> unpublished data Metodija Velevski
<b>Breeding long-term trend:</b> B. Micevski (2003). Avifauna of Ohrid Lake; M. Velevski unpublished data
<b>Winter population size:</b> Wetlands International database and unpublished data of the Macedonian Ecological Society
<b>Winter short-term trend:</b> Wetlands International database and unpublished data of the Macedonian Ecological Society
<b>Winter long-term trend:</b> Wetlands International database and unpublished data of the Macedonian Ecological Society

### Moldova

<b>Breeding population size:</b> The Atlas of the Breeding Birds of Republic of Moldova. 2010. 100p.
<b>Breeding short-term trend:</b> The Atlas of the Breeding Birds of Republic of Moldova. 2010. 100p.
<b>Breeding long-term trend:</b> The Atlas of the Breeding Birds of Republic of Moldova. 2010. 100p. Аверин Ю. В., Ганя И.М., Успенский Г. Птицы Молдавии, том 2, Кишинев, 1971, Burfield I., Bommel van F., Birds in Europe. Population estimates, trends and conservation status. BirdLife International. Oxford, 2004. 374p. Cojan C. Particularitățile biologice și etologice ale avifaunei acvatice și semiacvatice din bazinul inferior al Prutului. Teza de doctorat. 2010. 142p.
<b>Winter population size:</b> Winter assessment of water birds in Moldova
<b>Winter short-term trend:</b> Winter assessment of water birds in Moldova
<b>Winter long-term trend:</b> Winter assessment of water birds in Moldova

### Montenegro

<b>Winter population size:</b> IWC reports (2003-2012): Dubak, Vešović, N., Jovičević, M., Vizi O., Vizi, A.
--

### Netherlands

<b>Breeding population size:</b> NEM, Sovon en CBS, SOVON (2002)
<b>Breeding short-term trend:</b> NEM, Sovon en CBS, Boele et al. (2013)
<b>Breeding long-term trend:</b> NEM, Sovon en CBS

### Norway

<b>Breeding population size:</b> Shimmings P. & Øien, I.J. 2015. Bestandsestimater og trender for norske hekkfugler. NOF-rapport 2015-2.
<b>Breeding short-term trend:</b> Shimmings P. & Øien, I.J. 2015. Bestandsestimater og trender for norske hekkfugler. NOF-rapport 2015-2.
<b>Winter population size:</b> 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.

## Cygnus olor (Mute Swan)

### Poland

<b>Breeding population size:</b> Chodkiewicz T., Kuczyński L., Sikora A., Ławicki Ł., Chylarecki P., Neubauer G., Meissner W., Rohde Z. 2013. Opracowanie raportu dla Komisji Europejskiej z wdrażania Dyrektywy Ptasiej w Polsce w zakresie Monitoringu Ptaków Polski w Państwowym Monitoringu Środowiska. Sprawozdanie dla Głównego Inspektoratu Ochrony Środowiska. OTOP, Marki.
<b>Breeding short-term trend:</b> MFGP: Sikora A., Chodkiewicz T., Rohde Z. 2012. Monitoring Flagowych Gatunków Ptaków. In: Podsumowanie sezonu lęgowego Monitoringu Ptaków Polski w 2012 r. OTOP, Miłz, KOO, SOS: 47-61 (source: <a href="http://monitoringptakow.gios.gov.pl/raporty?file=files/pliki/raporty_faza4/RaportMPP4_etap1_zad2%264_wiosna2012.pdf">http://monitoringptakow.gios.gov.pl/raporty?file=files/pliki/raporty_faza4/RaportMPP4_etap1_zad2%264_wiosna2012.pdf</a> )
<b>Breeding long-term trend:</b> Wieloch M., Buczek A. 2007. Łabędź niemy Cygnus olor. In: Sikora A., Rohde Z., Gromadzki M., Neubauer G. & Chylarecki P. (eds.) 2007. Atlas rozmieszczenia ptaków lęgowych Polski 1985-2004. Bogucki Wyd. Nauk.: 50-51
<b>Winter population size:</b> MZPW: Meissner W., Chodkiewicz T., Bzoma Sz., Brewka B., Woźniak B. 2012. Monitoring ptaków zimujących. Sprawozdanie dla GIOŚ. OTOP (source: <a href="http://monitoringptakow.gios.gov.pl/raporty?file=files/pliki/raporty_faza3/RaportMPP3_etap8_zad2%264_zima2012.pdf">http://monitoringptakow.gios.gov.pl/raporty?file=files/pliki/raporty_faza3/RaportMPP3_etap8_zad2%264_zima2012.pdf</a> ); Meissner W., Rydzkowski P. 2010. Liczebność ptaków wodnych na Zatoce Gdańskiej w okresie wrzesień 2008–kwiecień 2009. Ornis Pol. 51: 63–76
<b>Winter short-term trend:</b> Wieloch M. 2002. Zimowanie łabędzi Cygnus spp. w Polsce – wyniki liczeń w styczniu 1995 i 2000. Biuletyn Polskiej Grupy Badania Łabędzi 4–5: 55–59.
<b>Winter long-term trend:</b> Zyska P., Dombrowski A., Kot H., Rzepała M. 1990. Akcja zimowego liczenia ptaków wodnych 1985-1987. Not. Orn. 31: 113-131; Dombrowski A., Kot H., Zyska P. 1993. Liczebność ptaków wodnych zimujących w Polsce w latach 1988-1990. Not. Orn. 34: 5-21.

### Romania

<b>Breeding population size:</b> SOR Database
<b>Breeding short-term trend:</b> SOR database
<b>Breeding long-term trend:</b> SOR database
<b>Winter population size:</b> International Waterbird Census, Romania SOR Database Milvus Database
<b>Winter short-term trend:</b> International Waterbird Census, Romania SOR Database Milvus Database
<b>Winter long-term trend:</b> International Waterbird Census, Romania SOR Database Milvus Database

### Russia

<b>Breeding population size:</b> Rusanov G.M. 2001. Waterfowl numbers in the Volga river delta with unstable water regime (1968-1999). - Casarca. Bulletin of the Goose, Swan and Duck Study Group of North Eurasia, 7: 365-383 (in Russian). Belik V.P. 2005. Cadastre of breeding avifauna of South Russia. - Strepet 3, no. 1-2: 5-37 (in Russian). Sarychev V.S. (ed.) 2009. Vertebrates of Lipetsk Region. Voronezh: 494 p. (in Russian). Klimov S.M., Sarychev V.S., Melnikov M.V., Zemlyanukhin A.I. 2004. Fauna of the Upper Don Basin. Nonpasserines. Lipetsk, LGPU: 224 p. (in Russian). Borodin O.V., Smirnova S.L., unpublished. spinus73@mail.ru
<b>Breeding short-term trend:</b> Belik V.P., unpublished. vpbelik@mail.ru
<b>Breeding long-term trend:</b> Kuznetsov E.A., Anzigitova N.V. 2002. Nesting numbers and summer distribution of the Mute Swan in the former USSR: a review. - Casarca. Bulletin of the Goose, Swan and Duck Study Group of North Eurasia, 8: 199-232. Rusanov G.M. 2001. Waterfowl numbers in the Volga river delta with unstable water regime (1968-1999). - Casarca. Bulletin of the Goose, Swan and Duck Study Group of North Eurasia, 7: 365-383 (in Russian). Belik V.P. et al. 2003. Recent population trends of breeding birds in the Southern Russia. - Strepet 1: 10-30 (in Russian).

### Serbia

<b>Breeding population size:</b> BPSSS (2014) Unpublished data
<b>Breeding short-term trend:</b> BPSSS (2014) Unpublished data
<b>Breeding long-term trend:</b> BPSSS (2014) Unpublished data
<b>Winter population size:</b> Šćiban M, Đapčić D, Sekereš O, Đorđević I, Ružić M, Stanković D, Radišić D, Gergelj J, Janković M, Radaković M, Rudić B, Agošton A, Dajović M. & Simić D. (2011): Rezultati Međunarodnog cenzusa ptica vodenih staništa u Srbiji 2012. godine. Ciconia 20: 120–1
<b>Winter short-term trend:</b> Šćiban M, Đapčić D, Sekereš O, Đorđević I, Ružić M, Stanković D, Radišić D, Gergelj J, Janković M, Radaković M, Rudić B, Agošton A, Dajović M. & Simić D. (2011): Rezultati Međunarodnog cenzusa ptica vodenih staništa u Srbiji 2012. godine. Ciconia 20: 120–1
<b>Winter long-term trend:</b> BPSSS (2014) Unpublished data

### Slovakia

<b>Breeding population size:</b> Ridzoň, J.
<b>Breeding short-term trend:</b> Danko Štefan, Darolová Alžbeta, Krištin Anton: Rozšírenie vtákov na Slovensku. VEDA, vyd. SAV Bratislava, 2002.
<b>Breeding long-term trend:</b> Danko Štefan, Darolová Alžbeta, Krištin Anton: Rozšírenie vtákov na Slovensku. VEDA, vyd. SAV Bratislava, 2002.

### Slovenia

<b>Breeding population size:</b> Mihelič, T. (2013): Novi ornitološki atlas gnezdičk Slovenije 2002-2010. Internetna baza podatkov. Spletna stran: <a href="http://www.ptice.si/atlas">http://www.ptice.si/atlas</a> . Društvo za opazovanje in proučevanje ptic Slovenije, DOPPS - BirdLife Slovenija. Ljubljana.
<b>Breeding short-term trend:</b> BirdLife International (2004): Birds in Europe: population estimates, trends and conservation status DOPPS, unpublished data <a href="http://www.ptice.si/atlas">www.ptice.si/atlas</a>
<b>Breeding long-term trend:</b> Mihelič, T. (2013): Novi ornitološki atlas gnezdičk Slovenije 2002-2010. Internetna baza podatkov. Spletna stran: <a href="http://www.ptice.si/atlas">http://www.ptice.si/atlas</a> . Društvo za opazovanje in proučevanje ptic Slovenije, DOPPS - BirdLife Slovenija. Ljubljana.

### Sweden

<b>Breeding population size:</b> Ottosson, U., Ötqvist, 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. Sveriges Ornitologiska Förening, Halmstad.
<b>Breeding short-term trend:</b> Swedish Bird Survey (Svensk Fågeltaxering), Lund University.
<b>Breeding long-term trend:</b> Swedish Bird Survey (Svensk Fågeltaxering), Lund University.

## Cygnus olor (Mute Swan)

### Switzerland

<b>Breeding population size:</b> Schmid, H., R. Luder, B. Naef-Daenzer, R. Graf & N. Zbinden (1998): Schweizer Brutvogelatlas. Verbreitung der Brutvögel in der Schweiz und im Fürstentum Liechtenstein 1993-1996/Atlas des oiseaux nicheurs de Suisse. Distribution des oiseaux nicheurs en Suisse et au Liechtenstein en 1993-1996. Schweizerische Vogelwarte/Station ornithologique suisse, Sempach.
<b>Winter population size:</b> Swiss Ornithological Institute. Winter waterbird census (January). <a href="http://www.vogelwarte.ch/monitoring-wintering-waterbirds.html">http://www.vogelwarte.ch/monitoring-wintering-waterbirds.html</a> Min Max of total count
<b>Winter short-term trend:</b> Swiss Ornithological Institute. Winter waterbird census (January). <a href="http://www.vogelwarte.ch/monitoring-wintering-waterbirds.html">http://www.vogelwarte.ch/monitoring-wintering-waterbirds.html</a> Min Max refer to 95% Confidence interval.
<b>Winter long-term trend:</b> Swiss Ornithological Institute. Winter waterbird census (January). <a href="http://www.vogelwarte.ch/monitoring-wintering-waterbirds.html">http://www.vogelwarte.ch/monitoring-wintering-waterbirds.html</a> Min Max refer to 95% Confidence interval.

### Turkey

<b>Breeding population size:</b> Cemil Gezgin, Ömer Döndüren, Arzu Gürsoy personal communication, <a href="http://www.kusbank.org">www.kusbank.org</a>
<b>Breeding short-term trend:</b> Doğa Derneği, Eken G., Bozdoğan M., İsfendiyaroğlu S., Kılıç D.T., Lise Y. (2006) Key Biodiversity Areas of Turkey (Türkiye'nin Önemli Doğa Alanları) Doğa Derneği, Ankara, KILIÇ, T., EKEN, G. 2004, Türkiye'nin Önemli Kuş Alanları Güncellemesi, Doğa Derneği. Ankara.
<b>Breeding long-term trend:</b> Birdlife International (2004) Birds in Europe: population estimates, trends and conservation status, Cambridge UK: Birdlife International (Birdlife Conservation series no: 12)
<b>Winter population size:</b> Kurt, B., Ozbağdatlı, N., Bozkurt, A.K., Arslangundoğdu, Z. ve Gürsoy, A. 2002. Türkiye Sulakalanları Kış Ortası Sukuşu Sayımı, Doğal Hayatı Koruma Derneği, İstanbul, Türkiye. Çağlayan, E., Kılıç, D.T., Per, E. ve Gem, E. 2005. Türkiye Kış Ortası Sukuşu Sayımları 2005. Doğa Derneği, Ankara, Turkey Suseven, B., Onmus, O. ve İsfendiyaroğlu, S. 2006. Kış Ortası Sukuşu Sayımı (KOSK) Raporu, Doğa Derneği, Ankara Onmus, O. 2007. Türkiye Kış Ortası Sukuşu Sayımları 2007, Doğa Derneği, Ankara Akarsu, F. ve Balkız, Ö. 2010. Türkiye Kış Ortası Sukuşu Sayımları 2008-2009-2010, Doğa Derneği, Ankara Erciyas Yavuz, K., Kartal E.2011. Türkiye Kış Ortası Sukuşu Sayımları, 2011, Ornitoloji Araştırma Merkezi, Samsun Erciyas Yavuz, K., İsfendiyaroğlu S. 2013. 2012 Türkiye Kış Ortası Sukuşu Sayımları, Doğa Derneği, Ankara Birdlife International (2004) Birds in Europe: population estimates, trends and conservation status, Cambridge UK: Birdlife International (Birdlife Conservation series no: 12) <a href="http://www.kusbank.org">www.kusbank.org</a>
<b>Winter short-term trend:</b> Doğa Derneği

### Ukraine

<b>Breeding population size:</b> 1. Tucker G.M., Heath M.F. Birds in Europe: their conservation status. - Cambridge. U.K. Bird Life Conservation Series № 3. 1994. 600 p. 2. Hagemajjer W.J.M., Blair M.J. The EBCC Atlas of European Breeding Birds: Their Distribution and Abundance. Poyser. - London. 1997. 903 p. 3. Heath M.F., Evans M.I. Important birds areas in Europe. Priority sites for conservation. // Southern Europe. BirdLife International. - Cambridge. Vol.2., 2000. P. 691-724. 4. European birds populations; Estimates and trends Compiled by M. Heath, C. Borggreve, N. Peet, W. Hagemajjer/ BirdLife International/EBCC. 2000. Cambridge, UK: BirdLife Conservation Series N10, 160 p. 5. Численность и размещение гнездящихся околоводных птиц в водно-болотных угодьях Азово-Черноморского побережья Украины. Под ред. В.Д. Сиохин / Wetland International Киев. 2000. 476 с. 6. Горбань І. Оцінка чисельності гніздових птахів України. Вісник Львівського університету. Серія біологічна. Випуск 34. 2003. с. 147 – 158.
<b>Breeding short-term trend:</b> 1. Directory of Azov – Black Sea Coastal Wetlands / Ed. By G. Marushevsky – Kyiv, 2003, Wetland International, 235 p. 2. Directory of Ukraine's Wetlands / Ed. By G. Marushevsky & I. Zaruk. – Kyiv, 2006, Wetland International Black Sea Programme. - 312 c.
<b>Breeding long-term trend:</b> 1. Горбань І.М. Гнездование лебедя-шипуна на западе Украины // Экология и охрана лебедей в СССР. Мелитополь, 1991. С.38-40. 2. Горбань І.М. Гнездование лебедя-шипуна в Тернопольской области // Орнитология. Вып. 25. 1991. С. 153. 3. Tucker G.M., Heath M.F. Birds in Europe: their conservation status. - Cambridge. U.K. Bird Life Conservation Series № 3. 1994. 600 p. 4. Hagemajjer W.J.M., Blair M.J. The EBCC Atlas of European Breeding Birds: Their Distribution and Abundance. Poyser. - London. 1997. 903 p. 5. Heath M.F., Evans M.I. Important birds areas in Europe. Priority sites for conservation. // Southern Europe. BirdLife International. - Cambridge. Vol.2., 2000. P. 691-724. 6. European birds populations; Estimates and trends Compiled by M. Heath, C. Borggreve, N. Peet, W. Hagemajjer/ BirdLife International/EBCC. 2000. Cambridge, UK: BirdLife Conservation Series N10, 160 p. 7. Численность и размещение гнездящихся околоводных птиц в водно-болотных угодьях Азово-Черноморского побережья Украины. Под ред. В.Д. Сиохин / Wetland International Киев. 2000. 476 с. 8. Горбань І. Оцінка чисельності гніздових птахів України. Вісник Львівського університету. Серія біологічна. Випуск 34. 2003. с. 147 – 158. 9. Directory of Azov – Black Sea Coastal Wetlands / Ed. By G. Marushevsky – Kyiv, 2003, Wetland International, 235 p. 10. Birds in Europe: Population Estimates, Trends and Conservation Status. BirdLife Conservation Series 12; 2004. 374 p. 11. Directory of Ukraine's Wetlands / Ed. By G. Marushevsky & I. Zaruk. – Kyiv, 2006, Wetland International Black Sea Programme. - 312 p.
<b>Winter population size:</b> 1. Русев И.Т., Гержик И.П., Васильков И.А., Павлов А.В., Потапов О.В., Корзюков А.И. Результаты учетов зимующих птиц в Северо-Западном Причерноморье (11-26 января 1995 года) // Казарка. – Бюллетень рабочей группы по гусям Восточной Европы и Северной Азии. – Москва. – 1996. - С. 285 – 291. 2. Scott, D. A. & Rose, P.M. (1996). Atlas of Anatidae Populations in Africa and Western Eurasia / Wetland International Publ. No41, Wetland International, Wageningen, The Netherlands, 336 p. 3. Андрущенко Ю.А., Горлов П.И., Кинда В.В., Касьянов В.И. Результаты учетов зимующих птиц Северо-Западного Приазовья в январе 1997 года // Экосистемы дикой природы: охрана, природопользование, мониторинг.- Фонд "Природное наследие": Одесса, 1997.- С.1-3. 4. Русев И.Т., Жмуд М.Е., Корзюков А.И., Гержик И.П., Сацык С.Ф., Потапов О.В. Результаты рождественского учета зимующих птиц в Северо-Западном Причерноморье в 1997 г. // Сб. "Экосистемы дикой природы", 1997, - вып.6, - С.19-50. 5. Русев И.Т., Корзюков А.И., Сацык С.Ф. Мониторинг зимующих птиц в Северо-Западном Причерноморье в 1999 г. Сб.Зимние учеты птиц на Азово-Черноморском побережье Украины, Алушта-Киев, 1999, выпуск 2, С.46-60. 6. Heath M.F., Evans M.I. Important birds areas in Europe. Priority sites for conservation. // Southern Europe. BirdLife International. - Cambridge. Vol.2., 2000. P. 691-724. European birds populations; Estimates and trends Compiled by M. Heath, C. Borggreve, N. Peet, W. Hagemajjer/ BirdLife International/EBCC. 2000. Cambridge, UK: BirdLife Conservation Series N10, 160 p. 8. Directory of Azov – Black Sea Coastal Wetlands / Ed. By G. Marushevsky – Kyiv, 2003, Wetland International, 235 p. 9. Birds in Europe: Population Estimates, Trends and Conservation Status. BirdLife Conservation Series 12; 2004. 374 p. 10. Горбань І. Розміри популяції зимуючих птахів України. Вісник Львівського університету. Серія біологічна. Вип. 35. 2004. С.23-39. 11. Бескаравайный М.М. Птицы морских берегов Южного Крыма. Симферополь. «Н.Орианда», 2008. 160 с. 12. Expert evaluationL Gorban I., Rusev I., Petrovich Z.

## Cygnus olor (Mute Swan)

### Ukraine

**Winter short-term trend:** 1. Dombrowski A., Piotrowska M., Gorban I., Nikiforov M. Status and threats to avifauna. (Eds. Dombrowski A., & Z. Glowacki, та інші). Bug river valleys the ecological corridor: state-threats-protection. IUCN European Programme. Warsaw. 2002. S. 87-102. 2. Русев И.Т., Корзюков А.И., Форманюк О.А., Панченко П.С. Зимовки водоплавающих и водно-болотных птиц в Северо-Западном Причерноморье в 2000-2001 гг. // Мониторинг зимующих птиц в Азово-Черноморском регионе Украины. – Одесса-Киев. – 2002. – С.54-74 3. Directory of Azov – Black Sea Coastal Wetlands / Ed. By G. Marushevsky – Kyiv, 2003, Wetland International, 235 p. 4. Birds in Europe: Population Estimates, Trends and Conservation Status. BirdLife Conservation Series 12; 2004. 374 p. 5. Горбань І. Розміри популяцій зимуючих птахів України. Вісник Львівського університету. Серія біологічна. Вип. 35. 2004. С.23-39. 6. Birds in Europe: Population Estimates, Trends and Conservation Status. BirdLife Conservation Series 12; 2004. 374 p. 7. Бескаравайный М.М. Птицы морских берегов Южного Крыма. Симферополь. «Н.Орианда», 2008. 160 с. 8. Гаврилюк М. Н., Домашевский С. В., Илюха А. В., Борисенко Н. Н., Грищенко В. Н., Яблоновская-Грищенко Е. Д. О зимовке водоплавающих и околоводных птиц в 2007–2008 гг. в районе Кременчугского водохранилища // Сохранение разнообразия животных и охотничье хозяйство России [Матер. 3-й Междунар. науч.-практич. конф.]. – М., 2009. – С. 572–576. 9. Гаврилюк М. Н., Ілюха О. В., Борисенко М. М., Грищенко В. М., Яблоновська-Грищенко Є. Д. Зимівля водоплавних та навколводних птахів у 2009–2010 рр. у районі Кременчуцького водосховища // Природничий альманах. Серія: Біологічні науки. – Херсон, 2011. – Вип. 15. – С. 26–32. 10. Expert evaluation: Gorban I.

**Winter long-term trend:** 1. Гладунко И.И., Горбань И.М., Пограничный В.О., Шкаран В.О. Зимовки лебедя-шипунa в западных регионах Украинской ССР // Экология и охрана лебедей в СССР. Мелитополь, 1991. С. 37-38. 2. Русев И.Т., Гержик И.П., Васильков И.А., Павлов А.В., Потапов О.В., Корзюков А.И. Результаты учетов зимующих птиц в Северо-Западном Причерноморье (11-26 января 1995 года) // Казарка. – Бюллетень рабочей группы по гусям Восточной Европы и Северной Азии. – Москва. – 1996. – С.285 – 291. 3. Scott, D. A. & Rose, P.M. (1996). Atlas of Anatidae Populations in Africa and Western Eurasia / Wetland International Publ. No41, Wetland International, Wageningen, The Netherlands, 336 p. 4. Андрющенко Ю.А., Горлов П.И., Кинда В.В., Касьянов В.И. Результаты учетов зимующих птиц Северо-Западного Приазовья в январе 1997 года // Экосистемы дикой природы: охрана, природопользование, мониторинг. – Фонд “Природное наследие”: Одесса, 1997. – С. 1-3. 5. Русев И.Т., Жмуд М.Е., Корзюков А.И., Гержик И.П., Сацык С.Ф., Потапов О.В. Результаты рождественского учета зимующих птиц в Северо-Западном Причерноморье в 1997 г. // Сб. “Экосистемы дикой природы”, 1997, - вып.6, - С.19-50. 6. Русев И.Т., Корзюков А.И., Сацык С.Ф. Мониторинг зимующих птиц в Северо-Западном Причерноморье в 1999 г. Сб.Зимние учеты птиц на Азово-Черноморском побережье Украины, Алушта-Киев, 1999, выпуск 2, С.46-60. 7. IBA території України: території, важливі для збереження видового різноманіття та кількісного багатства птахів. /Редактор О. Микитюк/Київ. СофтАРТ., 1999. 324 с. 8. Heath M.F., Evans M.I. Important birds areas in Europe. Priority sites for conservation. // Southern Europe. BirdLife International. - Cambridge. Vol.2., 2000. P. 691-724. European birds populations; Estimates and trends Compiled by M. Heath, C. Borggreve, N. 9. Peet, W. Hagemeyer/ BirdLife International/EBCC. 2000. Cambridge, UK: BirdLife Conservation Series N10, 160 p. 10. Directory of Azov – Black Sea Coastal Wetlands / Ed. By G. Marushevsky – Kyiv, 2003, Wetland International, 235 p. 11. Birds in Europe: Population Estimates, Trends and Conservation Status. BirdLife Conservation Series 12; 2004. 374 p. 12. Горбань І. Розміри популяцій зимуючих птахів України. Вісник Львівського університету. Серія біологічна. Вип. 35. 2004. С.23-39. 13. Бескаравайный М.М. Птицы морских берегов Южного Крыма. Симферополь. «Н.Орианда», 2008. 160 с. 14. Гаврилюк М. Н., Домашевский С. В., Илюха А. В., Борисенко Н. Н., Грищенко В. Н., Яблоновская-Грищенко Е. Д. О зимовке водоплавающих и околоводных птиц в 2007–2008 гг. в районе Кременчугского водохранилища // Сохранение разнообразия животных и охотничье хозяйство России [Матер. 3-й Междунар. науч.-практич. конф.]. – М., 2009. – С. 572–576. 15. Гаврилюк М. Н., Ілюха О. В., Борисенко М. М., Грищенко В. М., Яблоновська-Грищенко Є. Д. Зимівля водоплавних та навколводних птахів у 2009–2010 рр. у районі Кременчуцького водосховища // Природничий альманах. Серія: Біологічні науки. – Херсон, 2011. – Вип. 15. – С. 26–32. 16. Expert evaluation: Gorban I., Rusev I., Petrovich Z.

### United Kingdom

**Breeding population size:** Ward, R.M., Cranswick, P.A., Kershaw, M., Austin, G.E., Brown, A.W., Brown, L.M., Coleman, J.T., Chisholm, H. & Spray, C. 2007. National Mute Swan Census 2002. WWF, Slimbridge. Musgrove, A.J., Aebischer, N.J., Eaton, M.A., Hearn, R.D., Newson, S.E., Noble, D.G., Parsons, M., Risely, K. & Stroud, D.A. 2013. Population estimates of birds in Great Britain and the United Kingdom. British Birds 106: 64-100.

**Breeding short-term trend:** BTO/JNCC/RSPB Breeding Bird Survey data: Risely, K., Massimino, D., Johnston, A., Newson, S.E., Eaton, M.A., Musgrove, A.J., Noble, D.G., Procter, D. & Baillie, S.R. 2012. The Breeding Bird Survey 2011. BTO Research Report 624. British Trust for Ornithology, Thetford. <http://www.bto.org/sites/default/files/u16/downloads/reports/bbsreport11.pdf>

**Breeding long-term trend:** Baillie, S.R., Marchant, J.H., Leech, D.I., Massimino, D., Eglington, S.M., Johnston, A., Noble, D.G., Barimore, C., Kew, A.J., Downie, I.S., Risely, K. & Robinson, R.A. (2013). BirdTrends 2012: trends in numbers, breeding success and survival for UK breeding birds. Research Report 644. BTO, Thetford. <http://www.bto.org/birdtrends>

## Bibliography

- Berglund, B.E. Curry-Lindahl, K., Luther, H., Olsson, V., Rodke, W., Sellerberg, G. 1963. Ecological studies on the Mute Swan (*Cygnus olor*) in southeastern Sweden. *Acta Vertebratica* 2(2): 1-120.
- Carboneras, C. and Kirwan, G.M. 2013. Mute Swan (*Cygnus olor*). In: del Hoyo, J., Elliott, A., Sargatal, J., Christie, D.A. and de Juana, E. (eds.) (2013). Handbook of the Birds of the World Alive. Lynx Edicions, Barcelona. (retrieved from <http://www.hbw.com/node/52803> on 26 February 2015).
- Day, D.D., Beyer, W.N., Hoffman, D.J., Morton, A., Sileo, L., Audet, D.J., Ottinger, M. A. 2003. Toxicity of lead-contaminated sediment to Mute Swans. *Archives of Environmental Contamination and Toxicology* 44: 510-522.
- Giles, N. 1994. Tufted Duck (*Aythya fuligula*) habitat use and brood survival increases after fish removal from gravel pit lakes. *Hydrobiologia* 279/280: 387-392.
- Johnsgard, P.A. 1978. *Ducks, geese and swans of the World*. University of Nebraska Press, Lincoln and London.
- Kear, J. 2005. *Ducks, geese and swans volume 1: general chapters; species accounts (Anhima to Salvadorina)*. Oxford University Press, Oxford, U.K.
- Kelly, A. and Kelly, S. 2004. Fishing tackle injury and blood lead levels in Mute Swans. *Waterbirds* 27(1): 60-68.
- Kobayashi, Y., Shimada, A., Umemura, T., Nagai, T. 1992. An outbreak of copper poisoning in mute swans (*Cygnus olor*). *Journal of Veterinary Medical Science* 54(2): 229-233.
- Madge, S. and Burn, H. 1988. *Wildfowl*. Christopher Helm, London.
- 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: Boere, G., Galbraith, C. and Stroud, D. (ed.) *Waterbirds around the world*, pp. 432-438. The Stationary Office, Edinburgh, UK.
- Nagy, A., Machova, J., Hornickova, J., Tomci, M., Nagl, I., Horyna, B. and Holko, I. 2007. Highly pathogenic avian influenza virus subtype H5N1 in Mute swans in the Czech Republic. *Veterinary Microbiology* 120: 9-16.
- Scott, D.A. and Rose, P.M. 1996. *Atlas of Anatidae populations in Africa and western Eurasia*. Wetlands International, Wageningen, Netherlands.
- Snow, D.W. and Perrins, C.M. 1998. *The Birds of the Western Palearctic vol. 1: Non-Passerines*. Oxford University Press, Oxford.
- Spray, C. J. and Milne, H. 1988. The incidence of lead poisoning among whooper and mute swans *Cygnus cygnus* and *C. olor* in Scotland. *Biological Conservation* 44: 265-281.