



THE IUCN RED LIST  
OF THREATENED SPECIES™



## ***Gavia stellata* (Red-throated Loon)**

### **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](mailto:science@birdlife.org).

*Gavia stellata* (Red-throated Loon)

**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>5</sup>				Long-term population trend <sup>5</sup>				Subspecific population (where relevant)
	Size (pairs) <sup>3</sup>	Europe (%)	Year(s)	Method <sup>4</sup>	Direction <sup>6</sup>	Magnitude (%) <sup>7</sup>	Year(s)	Method <sup>4</sup>	Direction <sup>6</sup>	Magnitude (%) <sup>7</sup>	Year(s)	Method <sup>4</sup>	
DK: Faroe Is	25	<1	2014	expert	?				?				
DK: Greenland	20000–30000	43	2018	expert	?		2007-2018	deficient	0		1989-2018	partial	
Finland	750–1200	2	2013-2018	partial	0	-19 to 69	2007-2018	partial	+		1984-2018	partial	
Iceland	1500–2000	3	2018	partial	+		2007-2018	partial	?		1980-2018	deficient	
Rep. Ireland	3–6	<1	2017-2018	partial	0		2012-2018	partial	0		1980-2018	partial	
Norway	2500–5000	6	2013-2018	partial	?		2013-2018	deficient	?		1980-2018	partial	
NO: Svalbard	500–1000	1	2015-2018	partial	?		2013-2018	expert	?		1980-2018		
Russia	18000–30000	40	2008-2018	partial	?		2010-2018	deficient	?		1980-2018	deficient	
Sweden	1300–1900	3	2013-2018	partial	0	-12 to 39	2007-2018	partial	+	10 to 50	1980-2018	partial	
United Kingdom	1000–1600	2	2006	complete	-		1990-2006	partial	0		1983-2006	partial	
EU28	3000–4800	7											
<b>Europe</b>	<b>45500–72800</b>	<b>100</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 '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.

<sup>5</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>6</sup> Trend directions are reported as: increasing (+); decreasing (-); stable (0); fluctuating (F); or unknown (?).

<sup>7</sup> Trend magnitudes are rounded to the nearest integer.

*Gavia stellata* (Red-throated Loon)

**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>5</sup>				Long-term population trend <sup>5</sup>				Subspecific population (where relevant)
	Size (individuals) <sup>3</sup>	Europe (%)	Year(s)	Method <sup>4</sup>	Direction <sup>6</sup>	Magnitude (%) <sup>7</sup>	Year(s)	Method <sup>4</sup>	Direction <sup>6</sup>	Magnitude (%) <sup>7</sup>	Year(s)	Method <sup>4</sup>	
Albania	1–10	<1	2007-2018	complete	-	-37 to 0	2007-2018	complete	-	-37 to 0	1980-2018	complete	
Armenia	1–3	<1	2013-2018	partial	?		2007-2018	deficient	?		2003-2018	deficient	
Austria	0–12	<1	2013-2018	complete	-		2007-2018	complete	+		1981-2018	complete	
Azerbaijan	0	<1	1996-2019	expert	0		2010-2019	expert	?		1980-2019	expert	
Belgium	33–650	<1	2013-2018	partial	-		2007-2018	partial	-		2001-2018	partial	
Bosnia & HG	5	<1	2015-2018	complete	?		2007-2018	complete	?		1980-2018	deficient	
Bulgaria	5–15	<1	2013-2018	partial	F		2000-2018	partial	F		1980-2018	partial	
Croatia	6–13	<1	2013-2018	expert	?		2007-2018	deficient	?		1980-2018	deficient	
Czechia	1–3	<1	2015-2019	complete	?		2008-2019	complete	?		1980-2019	complete	
Denmark	11500–12200	19	2016-2016	complete	0		2008-2016	complete	?		1984-2017	complete	
DK: Faroe Is	0–5	<1	1992		?				?				
France	4000–8000	9	2013-2018	expert	F		2007-2018	expert	?		1980-2018	expert	
Georgia		<1	2012	deficient	?				?		2002-2018		
Germany	11500	18	2011-2016	complete	+	40 to 100	2003-2016	complete	?		1980-2016	deficient	
Greece	1–7	<1	2013-2018	complete	?		2007-2018	deficient	?		1980-2018	deficient	
Iceland	3500–5000	7	2018	partial	0		2002-2014	partial	+		1980-2014	partial	
Rep. Ireland	650–660	1	2011-2016	partial	?		2004-2016	deficient	?		1987-2016	deficient	
Italy	16–80	<1	2013-2015	partial	+	20 to 85	2009-2015	partial	?		1991-2015	deficient	
Latvia	47–60	<1	2013-2018	expert	?		2007-2018	deficient	?		1980-2018	deficient	
Lithuania	700–1000	1	2013-2018	partial	0		2013-2018	partial	?		1980-2018	deficient	
North Macedonia	1–5	<1	2013-2018	complete	0		2010-2019	complete	0		1988-2018	complete	
Moldova	26–60	<1	2018-2019	partial	F		2007-2018	partial	0		1990-2018	expert	
Montenegro	100–110	<1	2013-2018	expert	+		2007-2018	expert	?				
Netherlands	2000–10000	9	2013-2015	partial	-	-29 to -16	2006-2017	complete	+	332 to 382	1981-2017	complete	
Poland	160–590	<1	2013-2018	complete	F		2011-2018	complete	?		1980-2018	deficient	
Romania	1–29	<1	2013-2018	partial	?	-15 to 2	2013-2018	partial	?	-13 to 1	2000-2018	partial	
Serbia	20–60	<1	2013-2018	complete	F		2013-2018	complete	?		1980-2018	deficient	
Slovenia	0–15	<1	2013-2018	complete	?		2007-2018	complete	-	-25 to 0	1980-2018	expert	
Spain	9–19	<1	2013-2018	complete	?		2007-2018	deficient	?		1980-2018	deficient	
Sweden	210–330	<1	2013-2018	complete	?	-10 to 276	2007-2018	complete	+	-11 to 65246	1980-2018	complete	
Switzerland	1–12	<1	2015-2019	complete	-	-74 to -28	2008-2019	complete	+	29 to 142	1980-2019	complete	

*Gavia stellata* (Red-throated Loon)

**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>5</sup>				Long-term population trend <sup>5</sup>				Subspecific population (where relevant)
	Size (individuals) <sup>3</sup>	Europe (%)	Year(s)	Method <sup>4</sup>	Direction <sup>6</sup>	Magnitude (%) <sup>7</sup>	Year(s)	Method <sup>4</sup>	Direction <sup>6</sup>	Magnitude (%) <sup>7</sup>	Year(s)	Method <sup>4</sup>	
Turkey	40–80	<1	2013-2019	complete	?		2008-2019	deficient	?		1980-2019	deficient	
Ukraine	10–20	<1	2014-2017	partial	?		2007-2018	deficient	?		1980-2018	expert	
United Kingdom	21500–21600	34	2012-2016	complete	-		2005-2016	complete	0		1993-2016	complete	
EU28	52400–66800	93											
<b>Europe</b>	<b>56100–72200</b>	<b>100</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 '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.

<sup>5</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>6</sup> Trend directions are reported as: increasing (+); decreasing (-); stable (0); fluctuating (F); or unknown (?).

<sup>7</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

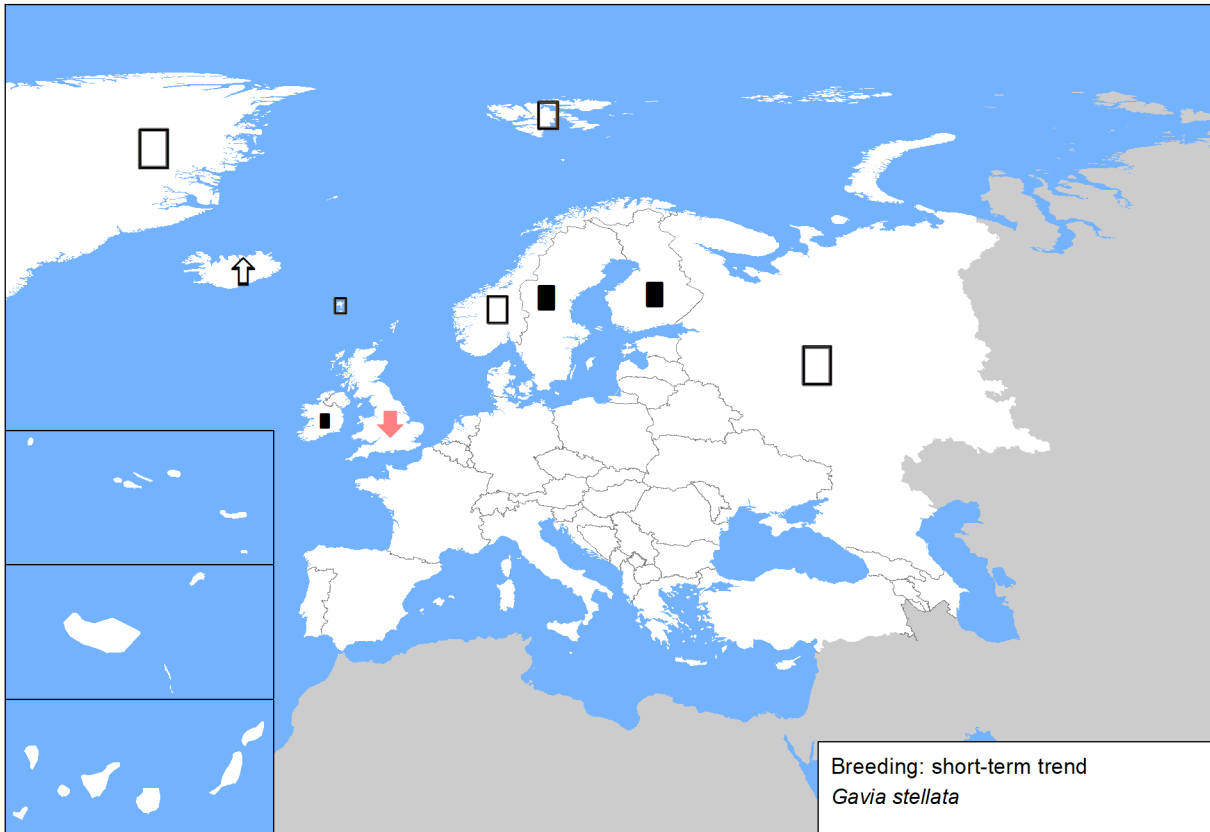
- |   |                                  |
|---|----------------------------------|
| ↑ Large increase ( $\geq 50\%$ )        | ↓ Large decrease ( $\geq 50\%$ ) |
| ↑ Moderate increase (20–49%)            | ↓ Moderate decrease (20–49%)     |
| ↑ Small increase ( $< 20\%$ )           | ↓ Small decrease ( $< 20\%$ )    |
| ↑ 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.

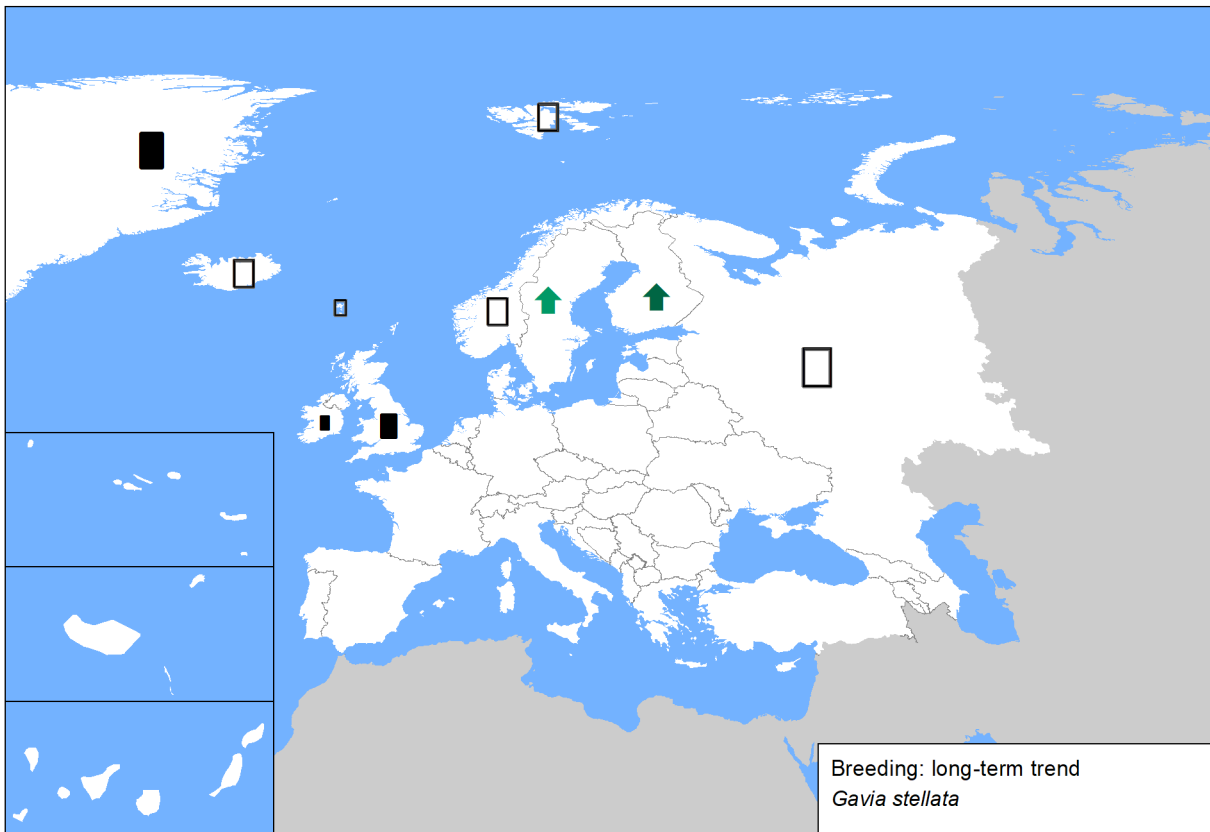
- ↑ Large:  $\geq 10\%$  of the European population
- ↑ Medium: 1–9% of the European population
- ↑ Small:  $< 1\%$  of the European population

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.

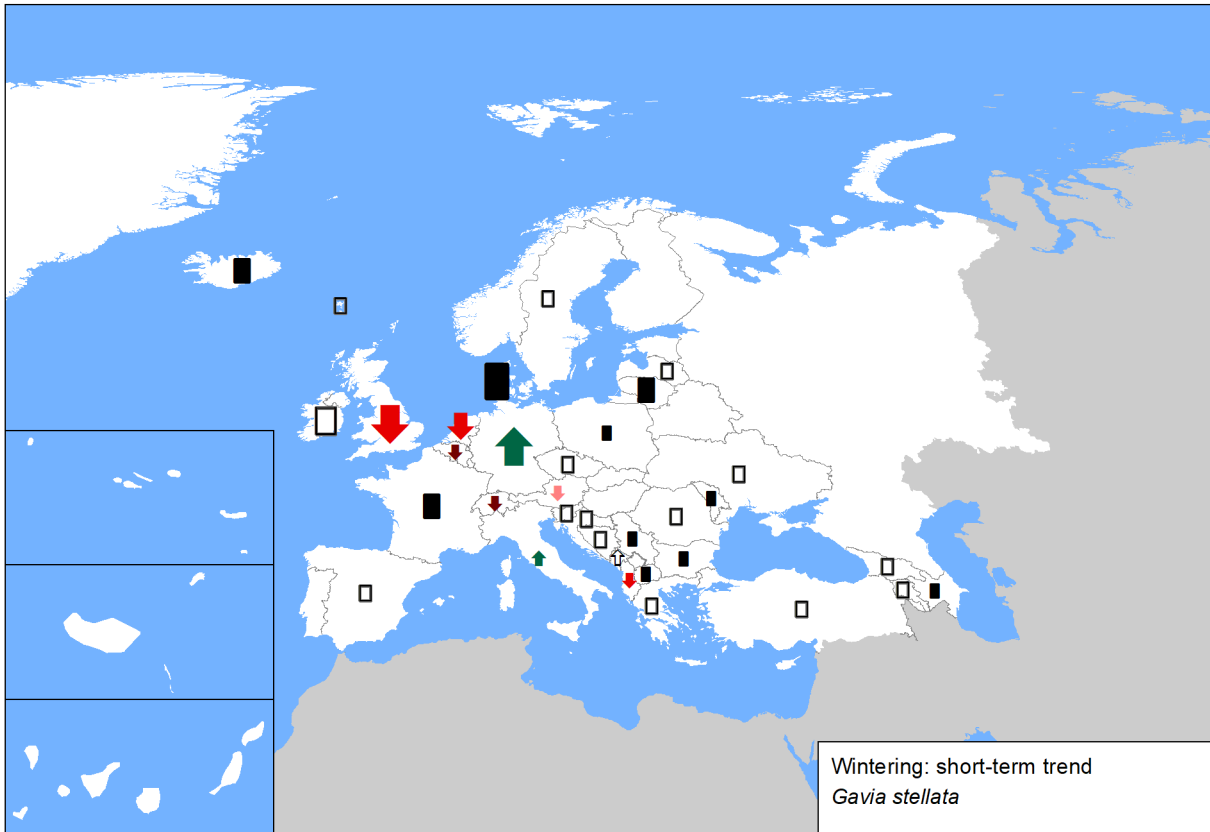
**Figure 1.** Breeding population sizes and short-term trends across Europe.



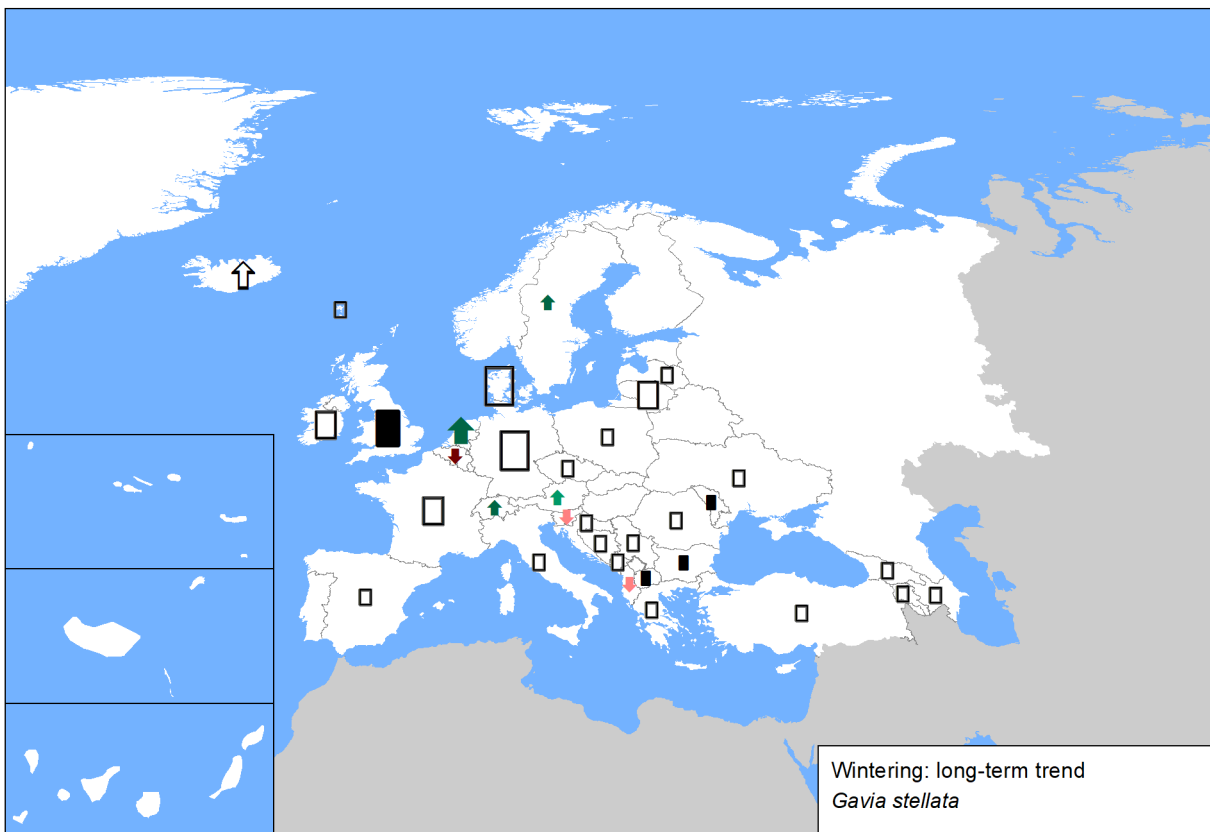
**Figure 2.** Breeding population sizes and long-term trends across Europe.



**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.



## *Gavia stellata* (Red-throated Loon)

### Sources

#### Albania

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

#### Armenia

<b>Winter population size:</b> TSE NGO, National Bird Monitoring
<b>Winter short-term trend:</b> TSE calculations using TRIM
<b>Winter long-term trend:</b> TSE calculations using TRIM

#### Austria

<b>Winter population size:</b> BirdLife Austria, data of the International Waterfowl Counts (January count)
<b>Winter short-term trend:</b> BirdLife Austria, data of the International Waterfowl Counts (January count)
<b>Winter long-term trend:</b> BirdLife Austria, data of the International Waterfowl Counts (January count)

#### Azerbaijan

<b>Winter population size:</b> AOS data base
<b>Winter short-term trend:</b> AOS Data Base
<b>Winter long-term trend:</b> AOS Data Base

#### Belgium

<b>Winter population size:</b> Waterbird database INBO
<b>Winter short-term trend:</b> INBO database
<b>Winter long-term trend:</b> INBO database

#### Bosnia and Herzegovina

<b>Winter population size:</b> based on IWC reports-all reports published in magazine Bilten mreže posmatrača ptica ( <a href="http://www.ptice.ba">www.ptice.ba</a> )
<b>Winter short-term trend:</b> based on IWC reports-all reports published in magazine Bilten mreže posmatrača ptica ( <a href="http://www.ptice.ba">www.ptice.ba</a> )
<b>Winter long-term trend:</b> There are no qualitative data before 2005 to make estimates.

#### Bulgaria

<b>Winter population size:</b> Wetlands International (2019): Submitted IWC data for Bulgaria for period 2013-2018.; National Art. 12 reporting database 2013-2018; National workshop of experts, Sofia 27-29.8.2019
<b>Winter short-term trend:</b> Mid-winter count of waterfowl; 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.
<b>Winter long-term trend:</b> Michev T., Profirov L. 2003. Mid-Winter Numbers of Waterbirds in Bulgaria (1977-2001). Pensoft, Sofia, 160 pp.

#### Croatia

<b>Winter population size:</b> Dumbović Mazal V., Pintar V., Zdravec M. (2019): Prvo izvješće o brojnosti i rasprostranjenosti ptica u Hrvatskoj sukladno odredbama Direktive o pticama.
<b>Winter short-term trend:</b> Dumbović Mazal V., Pintar V., Zdravec M. (2019): Prvo izvješće o brojnosti i rasprostranjenosti ptica u Hrvatskoj sukladno odredbama Direktive o pticama.
<b>Winter long-term trend:</b> Dumbović Mazal V., Pintar V., Zdravec M. (2019): Prvo izvješće o brojnosti i rasprostranjenosti ptica u Hrvatskoj sukladno odredbama Direktive o pticama.

#### Czechia

<b>Winter population size:</b> 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.
---

## *Gavia stellata* (Red-throated Loon)

### 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](http://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](http://wpe.wetlands.org) (accessed 10 March 2019).

### Denmark

**Winter population size:** Nielsen, R.D., Holm, T.E., Clausen, P., Bregnballe, T., Clausen, K.K., Petersen, I.K., Sterup, J., Balsby, T.J.S., Pedersen, C.L., Mikkelsen, P. & Bladt, J. (2019). *Fugle 2012-2017*. NOVANA. Aarhus Universitet, DCE – Nationalt Center for Miljø og Energi. - Videnskabelig rapport nr. 314. <http://dce2.au.dk/pub/SR314.pdf> and <http://novana.au.dk/fugle/>

**Winter short-term trend:** Nielsen, R.D., Holm, T.E., Clausen, P., Bregnballe, T., Clausen, K.K., Petersen, I.K., Sterup, J., Balsby, T.J.S., Pedersen, C.L., Mikkelsen, P. & Bladt, J. (2019). *Fugle 2012-2017*. NOVANA. Aarhus Universitet, DCE – Nationalt Center for Miljø og Energi. - Videnskabelig rapport nr. 314. <http://dce2.au.dk/pub/SR314.pdf> and <http://novana.au.dk/fugle/>

**Winter long-term trend:** Nielsen, R.D., Holm, T.E., Clausen, P., Bregnballe, T., Clausen, K.K., Petersen, I.K., Sterup, J., Balsby, T.J.S., Pedersen, C.L., Mikkelsen, P. & Bladt, J. (2019). *Fugle 2012-2017*. NOVANA. Aarhus Universitet, DCE – Nationalt Center for Miljø og Energi. - Videnskabelig rapport nr. 314. <http://dce2.au.dk/pub/SR314.pdf> and <http://novana.au.dk/fugle/>

### DK: Faroe Is

**Breeding population size:** Hammer et al. (2014) *Færøsk trækfugleatlas* [Faroeese bird migration atlas]. Fróðskapur / Faroe University Press, Tórshavn.

**Winter population size:** BirdLife International 2004

### DK: Greenland

**Breeding population size:** <http://www.natur.gl/roedliste/>

**Breeding long-term trend:** Meltofte, H. 2006. Populations and breeding performance of divers, geese and ducks at Zackenberg, northeast Greenland, 1995-2005. – *Wildfowl* 56: 129-151.

### Finland

**Breeding population size:** Expert working group. Eklöf, K., Kosonen, L. & Virta, P. 2011: Vuoden 2010 laji – kaakkuri. – The yearbook of the Linnut magazine 2010: 36–39. (in Finnish with English summary) Lehtinen, A., Below, A., Jukarainen, A., Laaksonen, T., Lehtiniemi, T., Mikkola-Roos, M., Pessa, J., Rajasärkkä, A., Rusanen, P., Sirkiä, P., Tiainen, J. & Valkama, J. 2019: Suomen lintujen pesimäkantojen koot. – *Linnut-vuosikirja* 2018: 38-45.

**Breeding short-term trend:** BirdLife Finland 2019: Regional observation summary database of Finnish Birdwatching societies on scarce bird species. Bird monitoring schemes of the Finnish Museum of Natural History, University of Helsinki.

**Breeding long-term trend:** BirdLife Finland 2019: Regional observation summary database of Finnish Birdwatching societies on scarce bird species.

### France

**Winter population size:** Issa & Muller coord. 2015. *Atlas des oiseaux de France métropolitaine*. Vol. 1 : des Anatidés aux Alcédés, 1ère éd. 688 p 978-2-603-01878-1; Pettex E., Lambert C., Laran S., Ricart A., Virgili A., Falchetto H., Authier M., Monestiez P., Van Canneyt O., Dorémus G., Blanck A., Toison V. & Ridoux V. 2014. *Suivi Aérien de la Mégafaune Marine en France métropolitaine*. UMS 3462 PELAGIS, UMR 7273 CEBC & Agence des Aires Marines Protégées, La Rochelle 169 p. <http://www.aires-marines.fr/Documentation/Rapport-final-Suivi-Aerien-de-la-Megafaune-Marine-en-France-metropolitaine/Rapport-final-Suivi-Aerien-de-la-Megafaune-Marine-en-France-metropolitaine-11-2014>

## *Gavia stellata* (Red-throated Loon)

### 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 ; . 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.. ,

**Winter long-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 ; . Gaudard C., Quintenne G. & Dupuy J. (2019) Comptage des Oiseaux d'eau à la mi-janvier en France. Résultats 2018 du comptage Wetlands International. pp. 24 (& Annexes pp. 104). LPO BirdLife France - Service Connaissance, Wetlands International, Ministère de la Transition écologique et solidaire, Rochefort, France. .

### Georgia

**Winter population size:** BirdLife International 2004

### Germany

**Winter population size:** Forschungs- und Technologiezentrum Westküste, Universität Kiel

**Winter short-term trend:** Forschungs- und Technologiezentrum Westküste, Universität Kiel

**Winter long-term trend:** keine Angabe

### Greece

**Winter population size:** Midwinter Waterfowl Counts (MWC) unpublished data 2007-2016

**Winter short-term trend:** No data available

**Winter long-term trend:** No data available

### Iceland

**Breeding population size:** Ævar Petersen, unpubl. data.

**Breeding short-term trend:** Ævar Petersen, unpubl. data , (breeding numbers).

**Breeding long-term trend:** Ævar Petersen, unpubl. data , (breeding numbers); Icelandic Institute of Natural History 2018. Red list of Icelandic Birds. Red-throated Diver. <https://www.ni.is/node/27140> (wintering numbers).

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

**Winter short-term trend:** Icelandic Institute of Natural History 2018. Red list of Icelandic Birds. Red-throated Diver. <https://www.ni.is/node/27140> (mid-winter indices).

**Winter long-term trend:** Icelandic Institute of Natural History 2018. Red list of Icelandic Birds. Red-throated Diver. <https://www.ni.is/node/27140> (mid-winter indices).

### Republic of Ireland

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

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

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

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

**Winter short-term trend:** This species is poorly monitored through core I-WeBS count methodology and so it will not be possible to calculate a meaningful short-term trend for this species.

**Winter long-term trend:** No long term trend can be calculated

### Italy

**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.

### Latvia

**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:** 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 long-term trend:** 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

### Lithuania

**Winter population size:** Castren K. 2014. Birds of the Curonian Spit. Vilnius: Petro Ofsetas. 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.

## *Gavia stellata* (Red-throated Loon)

### Lithuania

**Winter short-term trend:** Castren K. 2014. Birds of the Curonian Spit. Vilnius: Petro Ofsetas. 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.

**Winter long-term trend:** Logminas, V. (ed.). 1991. Lietuvos fauna: paukščiai. Vilnius: „Mokslas“. Švažas S., Meissner W., Serebryakov V., Kozulin A., Grishanov G. 2001. Changes of wintering sites of waterfowl in Central and Eastern Europe. Vilnius: OMPO Special Publication. OMPO Vilnius. 2002. Migratory Birds of the Western Palearctic. Vilnius: MOS. Švažas S., Vilksne J., Kuresoo A., Kozulin A. 2003. The Garganey and Shoveler in the Baltic States and Belarus. Vilnius: OMPO Special Publications. Raudonikis L. 2004. Important Bird Areas of the European Union Importance in Lithuania. Lithuanian Ornithological Society & Institute of Ecology of Vilnius University. Lutute, Vilnius. Vilksne J., Švažas S., Czajkowski A., Janaus M., Mischenko A., Kozulin A., Kuresoo A., Serebryakov V. 2010. Atlas of Duck Populations in Eastern Europe. Vilnius: „Aktis“. Nordic Council of Ministers. 2011. Waterbird Populations and Pressures in the Baltic Sea. Copenhagen: Rosendahls Bogtrykkeri AS. 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. Castren K. 2014. Birds of the Curonian Spit. Vilnius: Petro Ofsetas.

### North Macedonia

**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., Aleksi, P., Avramoski, O., Bino, T., Bojadzi, A., Brajanoski, Z., Fremuth, W., Kazoglou, Y., Koutseri, I., Logotheti, A., Malakou, M., Nikolaou, H., Nikolaou, L., Putilin, K., Shumka, S., Uzunova, D., 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

**Winter population size:** International Waterbird Census

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

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

### Montenegro

**Winter population size:** 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.

### Netherlands

**Winter population size:** Sovon Bird atlas (Sovon 2018)

**Winter short-term trend:** migration counts (trektellen.nl)

**Winter long-term trend:** migration counts (trektellen.nl)

### Norway

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

**Breeding short-term trend:** Smålom *Gavia stellata*, unpublished factsheet BirdLife Norway

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

### NO: Svalbard

**Breeding population size:** (a) Shimmings P. & Øien, I.J. 2015. Bestandsestimater og trender for norske hekkefugler. NOF-rapport 2015-2. (b) Norwegian Polar Institute pers. comm.

**Breeding short-term trend:** Shimmings P. & Øien, I.J. 2015. Bestandsestimater og trender for norske hekkefugler. NOF-rapport 2015-2.

**Breeding long-term trend:** (a) Shimmings P. & Øien, I.J. 2015. Bestandsestimater og trender for norske hekkefugler. NOF-rapport 2015-2. (b) Norwegian Polar Institutt pers. comm.

### 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

### Romania

**Winter population size:** International Waterbird Census, Romania, Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database

**Winter short-term trend:** International Waterbird Census, Romania, Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database

**Winter long-term trend:** International Waterbird Census, Romania, Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database

### Russia

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

## *Gavia stellata* (Red-throated Loon)

### Serbia

<b>Winter population size:</b> IWC database
<b>Winter short-term trend:</b> IWC database
<b>Winter long-term trend:</b> IWC database; Bioras database <a href="http://www.bioras.petnica.rs/home.php">http://www.bioras.petnica.rs/home.php</a>

### Slovenia

<b>Winter population size:</b> Božič L. (2013): Rezultati januarskega štetja vodnih ptic leta 2013 v Sloveniji. – <i>Acrocephalus</i> 34 (156/157): 93–103. Božič L. (2014): Rezultati januarskega štetja vodnih ptic leta 2014 v Sloveniji. – <i>Acrocephalus</i> 35 (160/161): 73–83. Božič L. (2015): Rezultati januarskega štetja vodnih ptic leta 2015 v Sloveniji. – <i>Acrocephalus</i> 36 (164/165): 57–67. Božič L. (2016): Rezultati januarskega štetja vodnih ptic leta 2016 v Sloveniji. – <i>Acrocephalus</i> 37 (170/171): 209–219. Božič L. (2017): Rezultati januarskega štetja vodnih ptic leta 2017 v Sloveniji. – <i>Acrocephalus</i> 38 (174/175): 203–215. Božič L. (2018): Rezultati januarskega štetja vodnih ptic leta 2018 v Sloveniji. – <i>Acrocephalus</i> 39 (178/179): xx–xx.
<b>Winter short-term trend:</b> Božič L. (2007): Rezultati januarskega štetja vodnih ptic leta 2007 v Sloveniji. – <i>Acrocephalus</i> 28 (132): 23–31. Božič L. (2008a): Rezultati januarskega štetja vodnih ptic leta 2008 v Sloveniji. – <i>Acrocephalus</i> 29 (136): 39–49. Božič L. (2008b): Rezultati januarskega štetja vodnih ptic leta 2009 v Sloveniji. – <i>Acrocephalus</i> 29 (138/139): 169–179. Božič L. (2010): Rezultati januarskega štetja vodnih ptic leta 2010 v Sloveniji. – <i>Acrocephalus</i> 31 (145/146): 131–141. Božič L. (2011): Rezultati januarskega štetja vodnih ptic leta 2011 v Sloveniji. – <i>Acrocephalus</i> 32 (148/149): 67–77. Božič L. (2012): Rezultati januarskega štetja vodnih ptic leta 2012 v Sloveniji. – <i>Acrocephalus</i> 33 (152/153): 109–119. Božič, L. (2008): Monitoring populacij izbranih vrst ptic – Zimsko štetje vodnih ptic 2002–2008. Končno poročilo. – DOPPS, Maribor. Rubinič, B. & Božič, L. (2009): Monitoring populacij izbranih vrst ptic. Rezultati zimskega štetja vodnih ptic 2009, rezultati popisov preleta ujed v jesenski sezoni 2008. 2. vmesno poročilo. – DOPPS, Ljubljana. Božič, L. (2010): Monitoring populacij izbranih ciljnih vrst ptic – Zimsko štetje vodnih ptic. Poročilo. – DOPPS, Ljubljana. Božič, L. (2011): Monitoring populacij izbranih ciljnih vrst ptic – Zimsko štetje vodnih ptic. Poročilo. – DOPPS, Ljubljana.
<b>Winter long-term trend:</b> Birdlife International (2004): Birds in Europe: population estimates, trends and conservation status. BirdLife Conservation Series No. 12. – Birdlife International, Cambridge. Sovinc, A. (1994): Zimski ornitološki atlas Slovenije. – Tehniška založba Slovenije, Ljubljana.

### Spain

<b>Winter population size:</b> Anuario ornitologico de Cantabria ( <a href="http://aves.eldelweb.com/Cantabria/noticias">http://aves.eldelweb.com/Cantabria/noticias</a> ) ( <a href="https://birdingalbufera.es/es/">https://birdingalbufera.es/es/</a> ) Reservoir Birds ( <a href="https://www.reservoirbirds.com/">https://www.reservoirbirds.com/</a> ) Información proporcionada por las Comunidades Autónomas. Xunta de Galicia, Generalitat de Catalunya, Comunitat Valenciana y Principado de Asturias.
<b>Winter short-term trend:</b> Anuario ornitologico de Cantabria ( <a href="http://aves.eldelweb.com/Cantabria/noticias">http://aves.eldelweb.com/Cantabria/noticias</a> ) Reservoir Birds ( <a href="https://www.reservoirbirds.com/">https://www.reservoirbirds.com/</a> ) ( <a href="https://birdingalbufera.es/es/">https://birdingalbufera.es/es/</a> ) Información proporcionada por las Comunidades Autónomas. Xunta de Galicia, Generalitat de Catalunya, Comunitat Valenciana y Principado de Asturias.
<b>Winter long-term trend:</b> Anuario ornitologico de Cantabria ( <a href="http://aves.eldelweb.com/Cantabria/noticias">http://aves.eldelweb.com/Cantabria/noticias</a> ) Reservoir Birds ( <a href="https://www.reservoirbirds.com/">https://www.reservoirbirds.com/</a> ) ( <a href="https://birdingalbufera.es/es/">https://birdingalbufera.es/es/</a> ) Información proporcionada por las Comunidades Autónomas. Xunta de Galicia, Generalitat de Catalunya, Comunitat Valenciana y Principado de Asturias.

### Sweden

<b>Breeding population size:</b> 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. Fågelåret, BirdLife Sverige, Annual Bird reports.
<b>Breeding short-term trend:</b> Svensk fågeltaxering - Swedish Bird Survey
<b>Breeding long-term trend:</b> Svensk fågeltaxering - Swedish Bird Survey
<b>Winter population size:</b> Nilsson, L. & Haas, F. 2016. Distribution and numbers of wintering waterbirds in Sweden in 2015 and changes during the last fifty years. <i>Ornis Svecica</i> 26: 3-60. Haas, F. & Nilsson, L. 2018. International counts of staging and wintering waterbirds and geese in Sweden. Annual report for 2017/2018. Lund University.
<b>Winter short-term trend:</b> Nilsson, L. & Haas, F. 2016. Distribution and numbers of wintering waterbirds in Sweden in 2015 and changes during the last fifty years. <i>Ornis Svecica</i> 26: 3-60.
<b>Winter long-term trend:</b> Nilsson, L. & Haas, F. 2016. Distribution and numbers of wintering waterbirds in Sweden in 2015 and changes during the last fifty years. <i>Ornis Svecica</i> 26: 3-60. Haas, F. & Nilsson, L. 2018. International counts of staging and wintering waterbirds and geese in Sweden. Annual report for 2017/2018. Lund University.

### Switzerland

<b>Winter population size:</b> 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.
<b>Winter short-term trend:</b> 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.
<b>Winter long-term trend:</b> 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

<b>Winter population size:</b> Ebird Database and Midwinter Fowl Counts (2013-2018), Birdlife Estimate
<b>Winter short-term trend:</b> Midwinter bird counts 2012-2019
<b>Winter long-term trend:</b> Midwinter bird counts 1980-2019 and Historical Records come from OSME and other midwinter counts

### Ukraine

### United Kingdom

<b>Breeding population size:</b> Dillon, I.A., Smith, T.D., Williams, S.J., Haysom, S., & Eaton, M.A. 2009. Status of Red-throated Divers in Britain in 2006. <i>Bird Study</i> 56: 147-157.
<b>Breeding short-term trend:</b> Gibbons, D.W. Bainbridge, I.P., Mudge, G.P., Tharme, A.P. & Ellis, P.M. 1997. The status and distribution of the Red-throated Diver <i>Gavia stellata</i> in Britain in 1997. <i>Bird Study</i> 44: 194-205. Dillon, I.A., Smith, T.D., Williams, S.J., Haysom, S., & Eaton, M.A. 2009. Status of Red-throated Divers in Britain in 2006. <i>Bird Study</i> 56: 147-157.

*Gavia stellata* (Red-throated Loon)

**United Kingdom**

<b>Breeding long-term trend:</b> Sharrock, J.T.R. 1976. The Atlas of Breeding Birds in Britain and Ireland. Poyser, London. Dillon, I.A., Smith, T.D., Williams, S.J., Haysom, S., & Eaton, M.A. 2009. Status of Red-throated Divers in Britain in 2006. <i>Bird Study</i> 56: 147-157.
<b>Winter population size:</b> 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. <i>British Birds</i> 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. <i>Irish Birds</i> in press.
<b>Winter short-term trend:</b> 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.
<b>Winter long-term trend:</b> 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

- 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.
- Campbell, L. 1987. Loon conservation in the British Isles. In: Strong, P. I. V. (ed.), Papers from the 1987 conference on loon research and management, pp. 78-35. North American Loon Fund.
- Delany, S. and Scott, D. 2006. Waterbird population estimates. Wetlands International, Wageningen, The Netherlands.
- 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.
- Ganter, B., Gaston, A.J. 2013. Birds (Chapter 4). In: Hans Meltofte (ed.), Arctic Biodiversity Assessment Status and Trends in Arctic Biodiversity, CAFF, Akureyri.
- Garthe, S. and Hüppop, O. 2004. Scaling possible adverse effects of marine wind farms on seabirds: developing and applying a vulnerability index. *Journal of Applied Ecology* 41(4): 724-734.
- Meek, E. R. 1993. The effects of aero-generators on moorland bird populations in the Orkney Islands, Scotland. *Bird Study* 40(2): 140-143.
- 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.
- Schwemmer, P., Mendel, B., Sonntag, N., Dierschke, V. and Garthe, S. 2011. Effects of ship traffic on seabirds in offshore waters: implications for marine conservation and spatial planning. *Ecological Applications* 21: 1851-1860.
- Skov, H., Heinänen, S., Žydelis, R., Bellebaum, J., Bzoma, S., Dagys, M., Durinck, J., Garthe, S., Grishanov, G.; Hario, M., Kieckbusch, J. J., Kube, J., Kuresoo, A., Larsson, K., Luigujoe, L., Meissner, W., Nehls, H.W., Nilsson, L., Petersen, I. K., Roos, M. M., Pihl, S., Sonntag, N., Stock, A., Stipnice, A. & Wahl, J. 2011. Waterbird Populations and Pressures in the Baltic Sea. Nordic Council of Ministers, Copenhagen.
- Snow, D.W. and Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.
- Zydelis, R., Small, C. and French, G. 2013. The incidental catch of seabirds in gillnet fisheries: A global review. *Biological Conservation* 162: 76-88.
- 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.