Conservation status of the Golden Plover (*Pluvialis apricaria altifrons*) and Song Thrush (*Turdus philomelos*)

2020 update

Wild Birds Regulation Unit

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Contents

Key to conservation status codes

Category	European species of global conservation concern	Conservation status in Europe	Global population or range concentrated in Europe
SPEC 1	Yes	–	–
SPEC 2	No	Unfavourable	Yes
SPEC 3	No	Unfavourable	No
Non-SPEC[E]	No	Favourable	Yes
Non-SPEC	No	Favourable	No

Source: BirdLife International (2004: xiii)

Categories of Species of European Conservation Concern (SPECs) and Non-SPECs

Each species is initially assessed against the IUCN Red List Criteria (IUCN 2001) at a European level, and then against the additional criteria derived mainly from Birds in Europe I (Tucker and Heath 1994). All population size thresholds refer to minimum population estimates. In descending order of threat, a species is evaluated as:	
Critically Endangered (CR)	if its European population meets any of the IUCN Red List Criteria (A to E) for Critically Endangered. Such species have an Unfavourable conservation status in Europe because they are considered to be facing an extremely high risk of extinction in the wild (IUCN 2001).
Endangered (EN)	if its European population meets any of the IUCN Red List Criteria (A to E) for Endangered. Such species have an Unfavourable conservation status in Europe because they are considered to be facing a very high risk of extinction in the wild (IUCN 2001).
Vulnerable (V)	if its European population meets any of the IUCN Red List Criteria (A to E) for Vulnerable. Such species have an unfavourable conservation status in Europe because they are considered to be facing a high risk of extinction in the wild (IUCN 2001).
Declining (D)	if its European population does not meet any IUCN Red List Criteria, but declined by more than 10% over 10 years (i.e. 1990–2000) or three generations, whichever is longer. Such species have an Unfavourable conservation status in Europe because they are unable to maintain their populations and/or natural ranges in the long-term. [Birds in Europe I classified species as SPECs if the size of their population or range declined between 1970–1990 by **20%** or more in 33–65% of the population (or by 50% or more in 12–24% of the population). Given the shorter time period covered by Birds in Europe II, an overall decline exceeding **10%** is comparable with this approach.]
Rare (R)	if its European population does not meet any IUCN Red List Criteria and is not Declining, but numbers fewer than 10,000 breeding pairs (*or* 20,000 breeding individuals *or* 40,000 wintering individuals), and is not marginal to a larger non-European population. Such species have an Unfavourable conservation status in Europe because the small size of their population renders them more susceptible to accelerated declines as a result of: • break-up of social structure; • loss of genetic diversity; • large-scale population fluctuations and catastrophic chance events; • existing or potential exploitation, persecution or disturbance by humans.
Depleted (H)	if its European population does not meet any IUCN Red List Criteria and is not Rare or Declining, but has not yet recovered from a moderate or large decline suffered during

	1970–1990, which led to its classification as Endangered, Vulnerable or Declining in Birds in Europe I. Such species have an Unfavourable conservation status in Europe because they have already undergone a population decline of the type that various directives, conventions and agreements intend to prevent, and have not yet recovered.
Localised (L)	if its European population does not meet any IUCN Red List Criteria and is not Declining, Rare or Depleted, but is heavily concentrated, with more that 90% of the European population occurring at 10 or fewer sites (as listed in Heath and Evans 2000). Such species have an Unfavourable conservation status in Europe because their dependence on a small number of sites renders them more susceptible to accelerated declines as a result of: • large-scale population fluctuations and catastrophic chance events; • existing or potential exploitation, persecution and disturbance by humans.
Secure (S)	if its European population does not meet any of the criteria listed above. Such species have a Favourable conservation status in Europe.
In addition, a species is considered to be:	
Data Deficient (DD)	if there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A species in this category may be well studied, and its biology well known, but appropriate data on its abundance and/or distribution in Europe are lacking. Data Deficient is therefore not a category of threat (IUCN 2001).
Not evaluated (NE)	if its European population has not yet been evaluated against the criteria.
Source: BirdLife International (2004: 8)	

Species trends in Birds in Europe (2004)

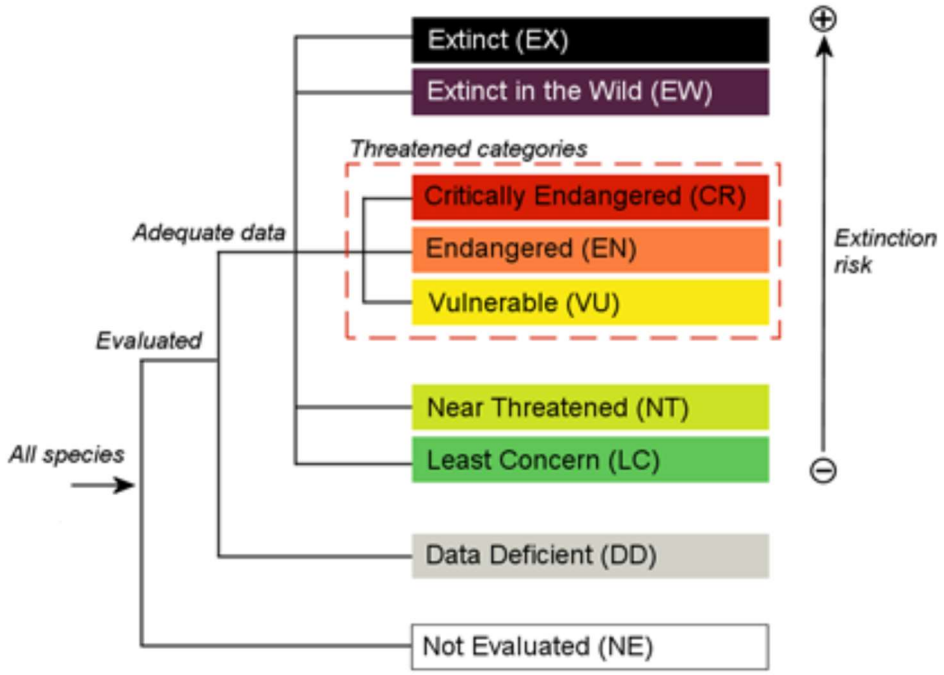
'Worst case' trend scenario 1990–2000	1990–2000 trend category	Criteria met
>30% decline	Large decline	IUCN Red List Criteria
10–29% decline	Moderate decline	Declining
<10% decline and <10% increase	Stable	-
10–29% increase	Moderate increase	-
>30% increase	Large increase	-
Unknown (insufficient data)	Unknown	-

Source: BirdLife International (2004)

IUCN Categories

EXTINCT (EX)	A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.
EXTINCT IN THE WILD (EW)	A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range. A taxon is presumed Extinct in the Wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.
CRITICALLY ENDANGERED (CR)	A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (see Section V), and it is therefore considered to be facing an extremely high risk of extinction in the wild.
ENDANGERED (EN)	A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered (see Section V), and it is therefore considered to be facing a very high risk of extinction in the wild.
VULNERABLE (VU)	A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable (see Section V), and it is therefore considered to be facing a high risk of extinction in the wild.
NEAR THREATENED (NT)	A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.
LEAST CONCERN (LC)	A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.
DATA DEFICIENT (DD)	A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data are available. In many cases great care should be exercised in choosing between DD and a threatened status. If the range of a taxon is suspected to be relatively circumscribed, and a considerable period of time has elapsed since the last record of the taxon, threatened status may well be justified.
NOT EVALUATED (NE)	A taxon is Not Evaluated when it has not yet been evaluated against the criteria.

Structure of IUCN categories



Source: IUCN Red List Categories and Criteria Ver. 3.1 2nd edition. Available at: https://portals.iucn.org/library/efiles/documents/RL-2001-001-2nd.pdf

IUCN CRITERIA FOR CRITICALLY ENDANGERED, ENDANGERED AND VULNERABLE TAXA

CRITICALLY ENDANGERED (CR)	A taxon is Critically Endangered when the best available evidence indicates that it meets any of the following criteria (A to E), and it is therefore considered to be facing an extremely high risk of extinction in the wild: A. Reduction in population size based on any of the following: 1. An observed, estimated, inferred or suspected population size reduction of ≥90% over the last 10 years or three generations, whichever is the longer, where the causes of the reduction are clearly reversible AND understood AND ceased, based on (and specifying) any of the following: (a) direct observation (b) an index of abundance appropriate to the taxon (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat (d) actual or potential levels of exploitation (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites. 2. An observed, estimated, inferred or suspected population size reduction of ≥80% over the last 10 years or three generations, whichever is the longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1. 3. A population size reduction of ≥80%, projected or suspected to be met within the next 10 years or three generations, whichever is the longer (up to a maximum of 100 years), based on (and specifying) any of (b) to (e) under A1. 4. An observed, estimated, inferred, projected or suspected population size reduction of ≥80% over any 10 year or three generation period, whichever is longer (up to a maximum of 100

	years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1. B. Geographic range in the form of either B1 (extent of occurrence) OR B2 (area of occupancy) OR both: 1. Extent of occurrence estimated to be less than 100 km^2, and estimates indicating at least two of a-c: a. Severely fragmented or known to exist at only a single location. b. Continuing decline, observed, inferred or projected, in any of the following: (i) extent of occurrence (ii) area of occupancy (iii) area, extent and/or quality of habitat (iv) number of locations or subpopulations (v) number of mature individuals. c. Extreme fluctuations in any of the following: (i) extent of occurrence (ii) area of occupancy (iii) number of locations or subpopulations (iv) number of mature individuals. 2. Area of occupancy estimated to be less than 10 km^2, and estimate indicating at least two of a-c: a. Severely fragmented or known to exist at only a single location. b. Continuing decline, observed, inferred or projected, in any of the following: (i) extent of occurrence (ii) area of occupancy (iii) area, extent and/or quality of habitat (iv) number of locations or subpopulations (v) number of mature individuals. c. Extreme fluctuations in any of the following: (i) extent of occurrence (ii) area of occupancy (iii) number of locations or subpopulations (iv) number of mature individuals. C. Population size estimated to number fewer than 250 mature individuals and either: 1. An estimated continuing decline of at least 25% within three years or one generation, whichever is longer, (up to a maximum of 100 years in the future) OR 2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a-b): a. Population structure in the form of one of the following: (i) no subpopulation estimated to contain more than 50 mature individuals, OR (ii) at least 90% of mature individuals in one subpopulation. b. Extreme fluctuations in number of mature individuals. D. Population size estimated to number fewer than 50 mature individuals. E. Quantitative analysis showing the probability of extinction in the wild is at least 50% within 10 years or three generations, whichever is the longer (up to a maximum of 100 years).

ENDANGERED (EN)	A taxon is Endangered when the best available evidence indicates that it meets any of the following criteria (A to E), and it is therefore considered to be facing a very high risk of extinction in the wild: A. Reduction in population size based on any of the following: 1. An observed, estimated, inferred or suspected population size reduction of ≥70% over the last 10 years or three generations, whichever is the longer, where the causes of the reduction are clearly reversible AND understood AND ceased, based on (and specifying) any of the following: (a) direct observation (b) an index of abundance appropriate to the taxon (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat (d) actual or potential levels of exploitation (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites. 2. An observed, estimated, inferred or suspected population size reduction of ≥50% over the last 10 years or three generations, whichever is the longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1. 3. A population size reduction of ≥50%, projected or suspected to be met within the next 10 years or three generations, whichever is the longer (up to a maximum of 100 years), based on (and specifying) any of (b) to (e) under A1. 4. An observed, estimated, inferred, projected or suspected population size reduction of ≥50% over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, AND where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1. B. Geographic range in the form of either B1 (extent of occurrence) OR B2 (area of occupancy) OR both: 1. Extent of occurrence estimated to be less than 5,000 km^2, and estimates indicating at least two of a-c: a. Severely fragmented or known to exist at no more than five locations. b. Continuing decline, observed, inferred or projected, in any of the following: (i) extent of occurrence (ii) area of occupancy (iii) area, extent and/or quality of habitat (iv) number of locations or subpopulations (v) number of mature individuals. c. Extreme fluctuations in any of the following: (i) extent of occurrence (ii) area of occupancy (iii) number of locations or subpopulations (iv) number of mature individuals. 2. Area of occupancy estimated to be less than 500 km^2, and estimates indicating at least two of a-c: a. Severely fragmented or known to exist at no more than five locations. b. Continuing decline, observed, inferred or projected, in any of the following: (i) extent of occurrence (ii) area of occupancy (iii) area, extent and/or quality of habitat (iv) number of locations or subpopulations

	(v) number of mature individuals. c. Extreme fluctuations in any of the following: (i) extent of occurrence (ii) area of occupancy (iii) number of locations or subpopulations (iv) number of mature individuals. C. Population size estimated to number fewer than 2,500 mature individuals and either: 1. An estimated continuing decline of at least 20% within five years or two generations, whichever is longer, (up to a maximum of 100 years in the future) OR 2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a-b): a. Population structure in the form of one of the following: (i) no subpopulation estimated to contain more than 250 mature individuals, OR (ii) at least 95% of mature individuals in one subpopulation. b. Extreme fluctuations in number of mature individuals. D. Population size estimated to number fewer than 250 mature individuals. E. Quantitative analysis showing the probability of extinction in the wild is at least 20% within 20 years or five generations, whichever is the longer (up to a maximum of 100 years).
VULNERABLE (VU)	A taxon is Vulnerable when the best available evidence indicates that it meets any of the following criteria (A to E), and it is therefore considered to be facing a high risk of extinction in the wild: A. Reduction in population size based on any of the following: 1. An observed, estimated, inferred or suspected population size reduction of ≥50% over the last 10 years or three generations, whichever is the longer, where the causes of the reduction are clearly reversible AND understood AND ceased, based on (and specifying) any of the following: (a) direct observation (b) an index of abundance appropriate to the taxon (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat (d) actual or potential levels of exploitation (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites. 2. An observed, estimated, inferred or suspected population size reduction of ≥30% over the last 10 years or three generations, whichever is the longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1. 3. A population size reduction of ≥30% projected or suspected to be met within the next 10 years or three generations, whichever is the longer (up to a maximum of 100 years), based on (and specifying) any of (b) to (e) under A1. 4. An observed, estimated, inferred, projected or suspected population size reduction of ≥30% over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, AND where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1. B. Geographic range in the form of either B1 (extent of occurrence) OR B2 (area of occupancy) OR both:

	1. Extent of occurrence estimated to be less than 20,000 km^2, and estimates indicating at least two of a-c: a. Severely fragmented or known to exist at no more than 10 locations. b. Continuing decline, observed, inferred or projected, in any of the following: (i) extent of occurrence (ii) area of occupancy (iii) area, extent and/or quality of habitat (iv) number of locations or subpopulations (v) number of mature individuals. c. Extreme fluctuations in any of the following: (i) extent of occurrence (ii) area of occupancy (iii) number of locations or subpopulations (iv) number of mature individuals. 2. Area of occupancy estimated to be less than 2,000 km^2, and estimates indicating at least two of a-c: a. Severely fragmented or known to exist at no more than 10 locations. b. Continuing decline, observed, inferred or projected, in any of the following: (i) extent of occurrence (ii) area of occupancy (iii) area, extent and/or quality of habitat (iv) number of locations or subpopulations (v) number of mature individuals. c. Extreme fluctuations in any of the following: (i) extent of occurrence (ii) area of occupancy (iii) number of locations or subpopulations (iv) number of mature individuals. C. Population size estimated to number fewer than 10,000 mature individuals and either: 1. An estimated continuing decline of at least 10% within 10 years or three generations, whichever is longer, (up to a maximum of 100 years in the future) OR 2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a-b): a. Population structure in the form of one of the following: (i) no subpopulation estimated to contain more than 1,000 mature individuals, OR (ii) all mature individuals in one subpopulation. b. Extreme fluctuations in number of mature individuals. D. Population very small or restricted in the form of either of the following: 1. Population size estimated to number fewer than 1,000 mature individuals. 2. Population with a very restricted area of occupancy (typically less than 20 km^2) or number of locations (typically five or fewer) such that it is prone to the effects of human activities or stochastic events within a very short time period in an uncertain future, and is thus capable of becoming Critically Endangered or even Extinct in a very short time period. E. Quantitative analysis showing the probability of extinction in the wild is at least 10% within 100 years.

Executive Summary

This report provides an update on the conservation status of the Golden Plover (*Pluvialis apricaria altifrons*) and Song Thrush (*Turdus philomelos*) for review and consideration by the Malta Ornis Committee.

The conservation status of the two species is reviewed on the basis of current scientific literature, which also provides details of population size, mortality rates and migratory routes. An assessment of the Golden Plover at sub-specific level is also provided. It is shown that Golden Plovers migrating over the Maltese Islands are the sub-species *Pluvialis apricaria altifrons* from the Northeast European (West Continental) population and that the moderate historical decline refers to the nominate *P. apricaria apricaria*, which has a more restricted range and does not pass through Malta (Scott, 2002; Wetlands International, 2009). The current update, based on the most recently available scientific literature, shows that both *Pluvialis apricaria altifrons* and *Turdus philomelos* continue to have a **Favourable Conservation Status at the European, the EU27 and the reference population levels**.

The assessment furthermore contains a review of the latest available population estimates of the species concerned, as well as determination of applicable annual mortality rates in accordance with the principles established in the European Commission's Guide to Sustainable Hunting under the Birds Directive[1].

[1] http://ec.europa.eu/environment/nature/conservation/wildbirds/hunting/docs/hunting_guide_en.pdf

(1) Conservation status of Golden Plover (*Pluvialis apricaria s.l.*)

The Golden Plover (*Pluvialis apricaria s.l.*) is a medium-sized Palearctic wader which breeds in continental arctic, arctic alpine and boreal tundra, but secondarily on temperate oceanic unenclosed upland moors and peat-land. In winter, the Golden Plover occupies harvest fields, stubbles, close grazed pastures, fallows and other farmland of open character including flood-lands. Its breeding range extends from Iceland to Russia and its wintering quarters stretch from Morocco to Asia Minor including South Europe (Geroudet 1983; Cramp & Simmons 1983).

European population

The European population is estimated at 1,300,000–1,750,000 mature individuals (BirdLife International, 2020[2]), which equates to 650,000–875,000 pairs. The population in the EU27 is estimated at 245,000–354,000 pairs, which equates to 490,000–708,000 mature individuals. The population trend is **increasing** (BirdLife International, 2020).

The Golden Plover (*Pluvialis apricaria s.l.*) is a huntable species listed under Annex II/B of the Birds Directive. According to the EU Management Plan for the Golden Plover, this species is hunted in at least four EU member states, including Portugal, Ireland, France and Malta. According to the Management Plan, over 62,000 Golden Plovers were known to have been bagged annually in France and over 32,000 in Portugal[3].

This species has an extremely large range, with an estimated global extent of occurrence of 1,000,000–10,000,000 km^2 (Wetlands International 2006[4]). BirdLife International (2020) notes that on the basis of such large range (11,100,000 km²), this species does not approach the thresholds for Vulnerable under the range size criterion (Extent of Occurrence <20,000 km^2 combined with a declining or fluctuating range size, habitat extent/quality, or population size and a small number of locations or severe fragmentation). Despite the fact that the population trend appears to be decreasing (BirdLife International, 2020), the decline is not believed to be sufficiently rapid to approach the thresholds for Vulnerable under the population trend criterion (>30% decline over ten years or three generations). The population size is very large, and hence does not approach the thresholds for Vulnerable under the population size criterion (<10,000 mature individuals with a continuing decline estimated to be >10% in ten years or three generations, or with a specified population structure). For these reasons the species is evaluated by BirdLife International (2020) and IUCN[5] as **Least Concern**.

Sub-specific assessment – a historical review of trends and geographical populations

Cramp and Simmons (1983)[6] maintain that the Golden Plover includes two sub-species ***Pluvialis apricaria apricaria*** (nominate) breeding from Ireland and Britain to the Baltic States and ***Pluvialis apricaria altifrons*** breeding at higher altitudes from Iceland to north-central Siberia. Delany *et. al*. (2007)[7] indicate that the *altifrons* population is divided into three sub-populations, of which the Northeast European (West Continental) is the one that

[2] BirdLife International (2020) Species factsheet: *Pluvialis apricaria*. Downloaded from http://www.birdlife.org on 17/07/2020.

[3] EC 2009: *European Union Management Plan for Golden Plover 2009–2011*, Table 4, page 17.

[4] Wetlands International (2006). - Waterbird Population Estimates – Fourth Edition. Wetlands International, Wageningen, the Netherlands.

[5] http://www.iucnredlist.org/details/22693727/0

[6] Cramp, S., cf. ed. 1983. The Birds of the Western Palearctic. Vol. III 'Waders to Gulls. (Pluvialis apricaria Golden Plover pp 201-216). Oxford University Press.

[7] Delany, S, Scott, D, Dodman T, and Stroud, D (eds) (2009) *2009 Atlas of Wader Populations in Africa and Western Eurasia.* Wetlands International, Wageningen, The Netherlands.

migrates to Malta (breeds in North Norway and Russia-east 70 degrees) and winters in west and south continental Europe, east Britain and north-west Africa (Morocco to Tunisia).

The Agreement on the Conservation of African–Eurasian Migratory Waterbirds (AEWA) Status Report indicates that the *Pluvialis apricaria altifrons* breeds widely at high altitudes in Western Eurasia from Iceland east to 100 degrees east in Western Siberia, and winters south to North Africa (occasionally to Senegal) and the South Caspian. *Pluvialis apricaria apricaria* breeds at more westerly latitudes in Britain, Ireland, Denmark and Germany, and is only a short-distance migrant, most birds wintering fairly close to their breeding areas (Scott, 2002).

Considerable variation exists in most populations, and many authors consider the species to be monotypic. Four main breeding populations can be identified: (1) Icelandic and Faeroese breeders (*altifrons*), wintering mainly in Ireland, with smaller numbers in western Britain, France and Iberia, and a few to Northwest Africa; (2) a population of *altifrons* breeding from Northern Norway east to about 70 degrees east and wintering mainly in western and southern continental Europe and Northwest Africa (Morocco and Tunisia) [Malta's reference population]; (3) population of *altifrons* breeding in Western Siberia east to 100 degrees east and wintering in the Caspian region band possibly Asia Minor and Eastern Mediterranean; and (4) southern breeders (*apricaria*) breeding in Britain, Ireland, Denmark and Germany, and wintering in Northwest Europe (Table 1).

Table 1 Countries of origin of *Pluvialis apricaria altifrons* and *Pluvialis apricaria apricaria*

Population	***altifrons* (Iceland & Faeroes)**	***altifrons* (NW Europe)**	***altifrons* (N–C Siberia)**	***apricaria* (UK/IR/DK/D)**
Population size	☺	☺	☹☹	☹
Breeding location	☺☺	☺☺	😐	☺☺

Source: Adapted from Gillings, S (2005) Table 1: An assessment of the level of knowledge for developing a flyway conservation strategy for each breeding population of Eurasian Golden Plover (after Davidson *et al*. 1998). ☺☺ = very good; ☺ = good; = 😐 adequate; ☹ = poor, ☹☹ = very poor. International workshop on passage and wintering Eurasian Golden Plovers (p. 6).

AEWA and its Resolution 4.11 (see http://tinyuri.com/aewares411) also provides the distribution for *Pluvialis apricaria apricaria* as "*Britain, Ireland, Denmark, Germany and the Baltic*", thereby excluding in a definitive way the Central Mediterranean region. The same applies for the 'European Management Plan for the Golden Plover, 2009–2011' (see http://tinyuri.com/gp-eump) which indicates that "*The nominate southern subspecies Pluvialis apricaria apricaria nests in Ireland, Great Britain, Denmark, Germany, Latvia, Lithuania and Estonia. This subspecies winters in North-West, from Ireland to South Britain, France and Iberia*".

In this context, it should be noted that the sub-species that migrates over Malta in autumn is *Pluvialis apricaria altifrons* as can also be attested by Delany *et. al*. (2007). The authors maintain that "there is growing evidence that numbers of *altifrons* wintering in Europe are increasing" (Delany et. al., 2007: 183). The publication also indicates that the nominate *Pluvialis apricaria apricaria* has a more restricted migratory distribution that excludes the Maltese Islands and nearby central regions in the Mediterranean. The European Union Management Plan (EC 2009) specifies that:

> "*The Northern P. a. altifrons subspecies is generally split into three populations based on their different flyways that overlap in winter. They are defined as:*

— *Icelandic (or East Atlantic): breeds in Iceland, the Faeroe Islands and Greenland and winters in Ireland, West Britain, France, West Iberia and North-West Africa.*

— *Northeast European (or West Continental): breeds in North Norway and Russia (east to 70 degrees east) and winters in West and south continental Europe, East Britain and North-West Africa (Morocco and Tunisia).*

— *North Central Siberia population, breeds in North Central Siberia (east to 100 degrees east) and winters in the Caspian Region, Asia Minor and the Eastern Mediterranean."*

According to Delany *et al*. (2007) *Pluvialis apricaria apricaria* is declining whereas the *Pluvialis apricaria altifrons* is more or less stable (see also page 7, second paragraph, of *The European Union Management Plan 2009-2011 for Golden Plover*). On the basis of current literature, therefore, the population of the sub-species with a historical decline is the *P. a. apricaria*, whereas the other populations / groups (*P. apricaria altifrons*) found in Europe are stable or increasing.

According to the EU Management Plan for the Golden Plover, approximately 50% of Golden Plover (*P. apricaria altifrons*) European population breeds in Iceland with a total of >300,000 breeding pairs (Thorup 2006, 930,000 individuals, Wetlands International 2006). Trends in this population are not well known, whereas the relatively small Faeroese population is declining. Approximately half of this population is found in Norway, 22% in Finland, 17% in Sweden and 9% in Russia with a total ranging from **217,000** to 362,000 breeding pairs. This population is considered stable (Wetlands International 2006). According to AEWA, while the *P. apricaria apricaria* is declining, *P. apricaria altifrons* is considered as stable and possibly increasing.

It should also be noted that this moderate decline is related to the nominate *Pluvialis apricaria apricaria* population which does not pass through Malta (Figures 1 and 2). Golden Plovers that migrate over the Maltese Islands form part of the Northeast European (or West Continental) population (*P. apricaria altifrons*) which has a **minimum population of 203,000 breeding pairs at EU27 level** (Finland and Sweden only).

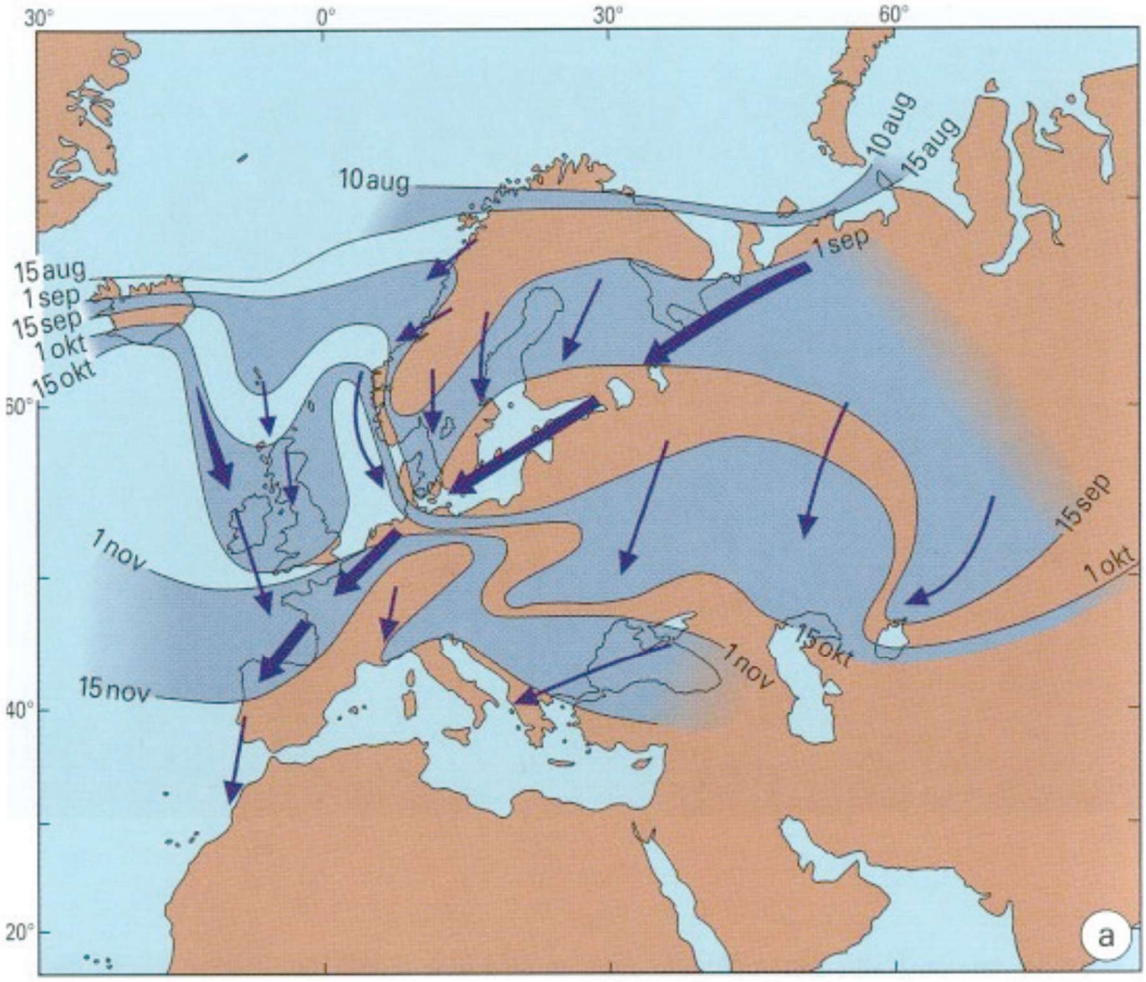


Figure 1: Outline of the timing and geography of the southward migration of Golden Plovers. Arrows indicate the most important migration routes, and size of arrow is an indication of migration intensity. Source: Jukema *et al.* 2001. In: Gillings, S (2005) International workshop on passage and wintering Eurasian Golden Plovers (p. 5).

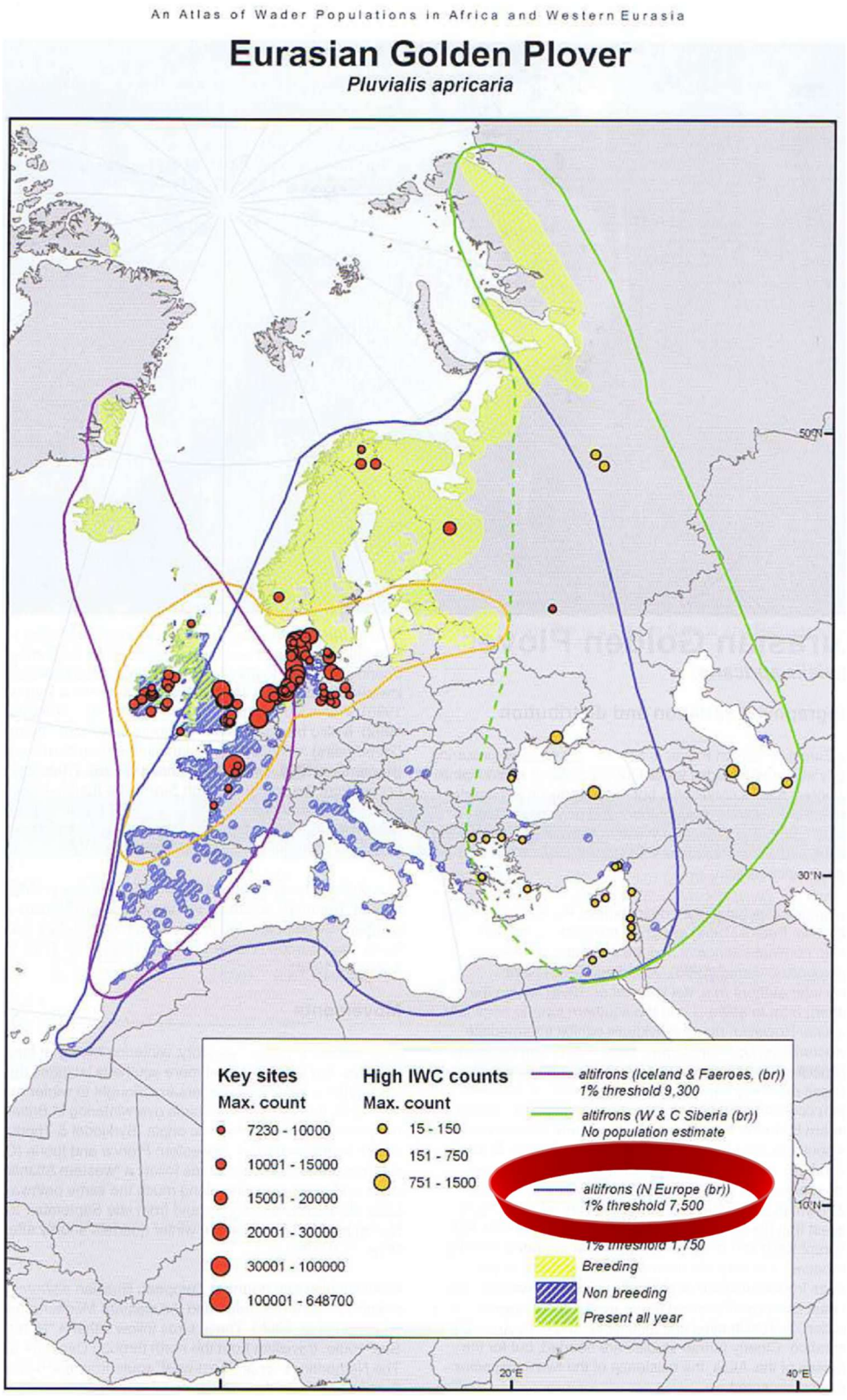


Figure 2: Migratory flyways of *Pluvialis apricaria altifrons*. Source: Wetlands International (2009) *An Atlas of Wader Populations in Africa and Western Eurasia* (p. 180). **Note orange boundary delineating the migration pattern of nominate *Pluvialis apricaria apricaria*.**

Article 12 reports (2008–2012)

It should be noted that at the time this report was prepared (July 2020), the population status and trends at EU27 level for reporting period 2013–2018 was not yet available[8]. According to the best available data, the European Golden Plover has a breeding population size of 244,000–355,000 pairs and a breeding range size of 661,000 km² within the territory of the European Union. The breeding population trend in the EU27 is **Increasing in the short term** and **Increasing in the long term** (EEA, 2014)[9]. The species has a winter population size of 1,350,000–2,430,000 individuals in the EU27. The wintering population trends at EU level are unknown. The EU population status of *Pluvialis apricaria* was assessed as Secure, because the species does not meet any of the IUCN Red List criteria for threatened or Near Threatened, or the criteria for Depleted or Declining (the EU27 population or range has not declined by 20% or more since 1980).

European Bird Census Council (2019 update)

According to the latest dataset available from the European Bird Census Council[10] (EBCC, 2019) at the time the conservation status of the Golden Plover (*Pluvialis apricaria*) was updated (July 2020), **there was an <u>increase</u> in the Northeast European (West Continental) population** (Norway, Sweden and Finland) both in the short-term and long-term trends, when compared with the previous (2018) EBCC update.

In the short-term trend (2008–2017) the increase was from -18% to 0% (**18% increase**) and from -16% to -13% **(3% increase**) in the long-term trend (1980–2017). The current EBCC assessment considers *Pluvialis apricaria* as Stable (1980–2017). Figure 3 is an extract from the EBCC 2019 update, which confirms that the population trend category for *Pluvialis apricaria* remained **Stable** with "no significant increase or decline, and most probable trends are less than 5% per year". It should be noted that the "List of Countries" contributing to this update are Norway, **Sweden** and **Finland**, which collectively represent the Northeast European population of *Pluvialis apricaria altifrons* (Malta's reference population).

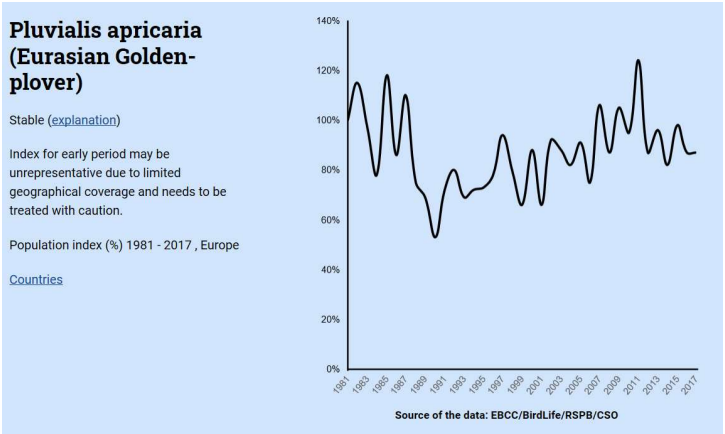


Figure 3: Long-term trend classification for *Pluvialis apricaria*. Source: EBCC (2019 update). Available at: https://pecbms.info/trends-and-indicators/species-trends/species/pluvialis-apricaria/.

List of Countries:

Finland	1981 - 2017
Norway	2006 - 2017
Sweden	1998 - 2017

[8] https://nature-art12.eionet.europa.eu/article12/summary

[9] European Environment Agency (2014) Article 12 reports for the 2008-2012 reporting period (EU27) Available at: http://bd.eionet.europa.eu/article12/summary?period=1&subject=A140

[10] *Trends of common birds in Europe, 2019 update*. Available at: https://pecbms.info/what-is-new-in-2019-data-update/

The Golden Plover does not breed in Malta. Table 2 lists the live-capturing data for Golden Plover in Malta and Gozo from 2006 to 2019.

Table 2 Live-capturing data for Golden Plover (2006–2020)

Species	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	Average
Golden Plover	319	44	503[1]	414	1,769	52	25[2]	158[3]	476[4]	321[5]	297[5]	167[5]	233[5]	588[5]	112[6]	5,478	365

Data sources: 2006–2012: *Carnet de Chasse* data, Environment Protection Directorate (Environment and Resources Authority).
2013–2020: Wild Birds Regulation Unit.

[1] Jan 2008 (n=16) + Oct–Dec 2008 (n=487)
[2] The 2012 figure represents the SMS data for the period 20th October to 31st December 2012 (i.e. excluding the period 1st January to 10th January 2013, n=8).
[3] The 2013 figure represents the SMS data for the period 20th October to 31st December 2013 (i.e. excluding the period 1st January to 10th January 2014, n=58).
[4] The 2014 figure represents the SMS data for the period 1st January to 10th January 2014 (n=58) and the game reporting data for the period 20th October to 31st December 2014 (n=418).
[5] Game reporting data for the period 20th October to 31st December of the corresponding year.
[6] Game reporting data for the period 1st January to 10th January of the corresponding year.

(i) Reference population

The "small numbers" requirement, within the meaning of Article 9(1)(c) of the Birds Directive should be understood as "any sample of less than 1% of the total annual mortality of the population in question (average value) for those species which are not to be hunted and **a sample in the order of 1% for those species which may be hunted**. 'Population in question' is to be understood, with regard to migratory species, as the population of those regions from which come the main contingents passing through the region to which the derogation applies during its period of application". Given that the Golden Plover qualifies as a huntable species under the Birds Directive (MT: Annex IIB), the "*small numbers*" requirement is understood as "*a sample in the order of 1% of the total annual mortality of the population in question*".

As explained in the previous sections of this report, the reference population of the Golden Plover for Malta is the West Continental (Northeast European) population (*P. apricaria altifrons*). According to the EU Management Plan (2009–2011) for this species, this population is distributed as follows:

- Norway (c. 50%)
- Finland (22%)
- Sweden (17%)
- Russia (9%)

Article 12 reports for the 2008–2012 reporting period specifies that the Northeast European breeding population of the Golden Plover (*P. a. altifrons*) within the EU territory (Finland and Sweden) ranges between 203,000–290,000 breeding pairs. Finland constitutes 43.8% whereas Sweden constitutes 24.1% of the EU27 population respectively. The breeding population of Finland and Sweden is distributed as follows:

- Finland (120,000–150,000 pairs)
- Sweden (83,000–140,000 pairs)

This results in a reference population of **203,000 minimum breeding pairs**, based on the current estimates as specified in Article 12 reports for the 2008–2012 reporting period. Table 3 provides a direct comparison between the breeding population estimates of the reference population (Finland and Sweden) and other breeding populations at EU27 level.

Table 3 Golden Plover EU27 Breeding Population (orange shading represents the West Continental component population of *Pluvialis apricaria altifrons*)

Member State	% in EU27	Breeding Pairs (Min - Max)		Breeding Population Trend		Short-term % change (Max - Min)		Long-term % change (Max - Min)	
				Short term	Long term				
Denmark	0.2	8	8	Decreasing	Decreasing	-42	-78	-18	-60
Germany	0.1	3	3	Stable	Decreasing	0	0	-50	-100
Estonia	4.0	3,000	4,000	Stable	Increasing	0	0	+20	+50
Finland	**43.8**	**120,000**	**150,000**	**Increasing**	**Stable**	**+6**	**+98**	**0**	**0**
Ireland	1.0	134	156	Decreasing	Decreasing	-22	-33	-70	-75
Lithuania	0.6	35	45	Decreasing	Decreasing	-10	-30	-10	-30
Latvia	2.4	259	467	Unknown	Stable	?	?	0	0
Sweden	**24.1**	**83,000**	**140,000**	**Stable**	**Increasing**	**0**	**0**	**+10**	**+40**
UK	23.9	38,400	59,400	Decreasing	Increasing	-5.7	-5.7	+64	+64
Total		244,839	354,079	Increasing	Increasing				
					Trend (EU27 Population)			**Secure**	

Source: European Environment Agency (2014): Article 12 reports for the 2008–2012 reporting period.

For the purpose of calculating the "small numbers" criterion in relation to the relevant "population concerned" (the reference population), Table 4 below shows the minimum number of breeding pairs of *Pluvialis apricaria altifrons*, together with other relevant information required for calculating the 1% mortality threshold. According to the British Trust for Ornithology (BTO)[11], the typical lifespan of Golden Plover is four years and the annual mortality rate of adults is 27%, "based on a 50-year study in The Netherlands using colour-mark sightings" (Sandercock, 2003).

[11] Golden Plover *Pluvialis apricaria* Key Facts. British Trust for Ornithology. Available at: https://app.bto.org/birdfacts/results/bob4850.htm.

Table 4 Minimum breeding population and mortality rate

	Golden Plover (*Pluvialis apricaria altifrons*)	Source
Minimum breeding population – pairs (Finland and Sweden only)	203,000	Article 12 reports for the 2008–2012 reporting period (EEA, 2014)
Mortality rate – juveniles	53.33%	Das Kompendium der Vögel Mitteleuropas (KVM) / Birds of the Western Palearctic (BWP)
Mortality rate – adults	27%	BTO
Breeding rate (young per pair)	3.64	Golden Plover: European Management Plan-2009–2011, Technical Report-2009-034, Golden Plover.

(ii) Calculation of 1% mortality rate and "small numbers"

Golden Plover (*P. apricaria altifrons*)
Minimum breeding success 3.64 birds per pair (203,000 x 3.64) = 738,920
Mortality rate of 1st year birds (738,920 x 53.33%) = 394,066
Mortality rate of adults (406,000 x 27%) = 109,620
Total annual mortality (394,066 + 109,620) = 503,686
1% of total annual mortality (503,686 x 1%) = 5,036

Total potential Golden Plover harvest figure is: 5,036 ÷ 3 = 1,678 (figure divided by three to take into account the three principal flyways and the fact that *Pluvialis apricaria altifrons* is a broad-front migrant [Wetlands International, 2009]).

(iii) Autumn seasonal bag limit in relation to "small numbers"

Based on the 1% mortality rate, the "small numbers" calculation with respect to the national bag limit would amount to 1,678 Golden Plovers. However, it should be noted that the average number of Golden Plovers captured with clap-nets over a thirteen-year period (2006–2020) is 365 (Table 2). Thus, the previous season's bag limit of 700 Golden Plovers should be retained if a derogation to open an autumn live-capturing season for this species is applied in 2020. This equates to less than 0.14% of the total annual mortality of the reference population (n=503,686) and less than 0.42% of the partitioned 1% of the total annual mortality (n=1,678), both significantly less than the 1% threshold.

- **Golden Plover** – maximum national bag limit of **700** birds.

(2) Conservation status of Song Thrush (*Turdus philomelos*)

The Song Thrush (*Turdus philomelos*) is a passerine species in the thrush family found in woodland and forest ecosystems. It is a huntable species, listed under Annex II/B of the Birds Directive. The Song Thrush has an extremely large distribution range (23,300,000 km²) and is present throughout Europe and the northern part of Asia eastwards of Lake Baikal. The northern populations are migratory and winter in western and southern Europe. The European population is estimated at 20–36 million breeding pairs. Europe forms 50-74% of the global range. According to BirdLife International (2020)[12], the global population size is estimated at 75,000,000–120,000,000 individuals.

Global and European distribution

It has been documented that most Song Thrushes from the northern and eastern parts of the European range migrate via three or four main routes in a south westerly direction (Ashmole M.J., 1962; Busse P & Maksalon L, 1986). With reference to the central Mediterranean region, the Italian publication *Atlante della Migrazione degli Uccelli in Italia*[13] states that "the Song Thrush is a regular breeder in Italy and a common passage migrant with the first thrushes occurring from late August, but high frequencies reached from late September, with the largest influxes in October with a maximum reached in the last decade of the month and good numbers till early November". With reference to the migratory pattern of this species, the authors note that:

"Autumn recoveries mainly involve northern and central Italy, where most records are on the western side. Much less data from lower latitudes, while on islands most observations are from southern Sardinia. The good sample of direct autumn recoveries indicates NE–SW movements, primarily from the Balkans[14]. This main direction is similar to what [is] reported from more northern countries, like the UK, Norway, The Netherlands and Denmark. In our case Italy gets influxes from more eastern areas, with many birds entering through Friuli. Parallel routes towards our country are confirmed by the southernmost recoveries along the peninsula being referred to birds ringed in more eastern longitudes within the general ringing area. The national sample of first-capture data indicates a progressive decline in average wing length during the autumn, suggesting an earlier passage of more northern populations...The importance of the Mediterranean as a wintering area for the species is confirmed by the many recoveries, mainly concentrated south of the Apennines and with a concentration of data in Sardinia, although this island might be also affected by earliest return movements...Average size of birds ringed in Italy during the winter months show a further seasonal decline in size till the central decade of December, followed by a new increase with the first decade of January, again suggesting early movements of birds of northern and eastern origin...Within a general framework of NE–SW Song Thrush movements across Europe, birds ringed in Italy move towards the coast of France, before reaching Mediterranean Iberia and North Africa, mainly in Algeria, later moving eastwards through Tunisia and flying back north via Sardinia and Corsica." Spina & Volponi (2008: 235)

Cramp *et al* (1988)[15] note that the Song Thrush is mostly resident but northern populations are partially or entirely migratory and that in contrast to other species such as Redwing

[12] BirdLife International (2020) Species factsheet: *Turdus philomelos*. Downloaded from http://www.birdlife.org on 17/07/2020.

[13] Spina F. and Volponi S. (2008) *Atlante della Migrazione degli Uccelli in Italia*. Vol 2. Passeriformi (*Turdus philomelos*: pp.228–235).

[14] For the purpose of this conservation status report, the Balkans are limited to EU Member States: Bulgaria, Croatia, Greece, Romania and Slovenia.

[15] Cramp S. *et al* (1988) Handbook of the Birds of Europe, the Middle East and North Africa: The Birds of the Western Palearctic. Vol V: Tyrant Flycatchers to Thrushes. The Royal Society for the Protection of Birds.

(*Turdus iliacus*) and Fieldfare (*Turdus pilaris*), populations show strong affinity to regular wintering areas. The authors further note that:

"Most nominate *philomelos* from Fenno-Scandia, Germany, Switzerland, Poland, and [former] USSR are migratory, moving south-west or south-east through Europe to winter in southern England, France (mainly towards south-west), Spain and Portugal. Those from further north, especially first-year birds, winter furthest south to Canary Islands, Morocco, Algeria, Tunisia, Libya and Cyprus. Birds from Denmark, Netherlands, Belgium, and north-east France are partially resident with most others moving only short distances south or south-west, though considerable numbers from Netherlands winter in Britain and Ireland. Birds from Switzerland move south, with recoveries in southern France along Mediterranean coast into northern Italy, and in Corsica and Libya. Birds from east-central Europe winter correspondingly east of birds from Fenno-Scandia and western Europe: mainly in Italy, Yugoslavia, Greece, Balkans and Cyprus; also a very few recoveries in Balearics, Spain and Portugal. Populations from further east presumably winter largely from eastern Mediterranean to Iran...In early part of winter, migrant populations from Britain, Belgium, Netherlands and Denmark are chiefly in north-west France, north of Scandinavian birds (in southern Spain and Portugal), but by January birds from Low Countries have also moved south-west into Iberia. Southward departures in autumn begin in August but main passage September to early November. Birds from Fenno-Scandia move south-west on broad front, fringe of movement (or birds drifted west) passing through eastern Britain. Siberian birds depart mid-September while populations further south remain until November, in southern central Asia, Kazakhstan, and Turkmenistan; rarely recorded on passage outside breeding range. Birds wintering around Mediterranean arrive mid-October with frequent influxes until mid-April. During severe weather over Europe, large-scale mid-winter arrivals occur regularly in North Africa." Cramp *et al* (1988: 990-992).

According to BirdLife International (2020) this species does not approach the thresholds for Vulnerable neither under the range size criterion, under the population trend criterion, nor under the population size criterion. For these reasons BirdLife International evaluates this species as Least Concern within both Europe and the EU27[16] with an increasing population trend. IUCN[17] also classifies this species as Least Concern.

Article 12 reports (2008–2012)

It should be noted that at the time this report was prepared (July 2020), the population status and trends at EU27 level for reporting period 2013–2018 was not yet available[18]. According to the best available data, the Song Thrush has a breeding population size of 12,700,000–21,900,000 pairs and a breeding range size of 3,520,000 km² in the EU27. The breeding population trend in the EU27 is **Increasing in the short term** and **Increasing in the long term** (EEA, 2014[19]). The EU population status of the Song Thrush was assessed as Secure, because the species does not meet any of the IUCN Red List criteria for threatened or Near Threatened, or the criteria for Depleted or Declining (the EU27 population or range has not declined by 20% or more since 1980).

European Bird Census Council (2019 update)

The latest dataset available from the European Bird Census Council (EBCC, 2019)[20] at the time the conservation status of the Song Thrush (*Turdus philomelos*) was updated (July

[16] http://www.birdlife.org/datazone/userfiles/file/Species/erlob/summarypdfs/22708822_turdus_philomelos.pdf

[17] http://www.iucnredlist.org/details/22708822/0

[18] https://nature-art12.eionet.europa.eu/article12/summary

[19] European Environment Agency (2014) Article 12 reports for the 2008-2012 reporting period (EU27) Available at: http://bd.eionet.europa.eu/article12/summary?period=1&subject=A285

[20] *Trends of common birds in Europe, 2019 update*. Available at: http://www.ebcc.info/index.php?ID=631

2020), lists this species trend classification as **Moderate Increase,** defined as a "significant increase, but not significantly more than 5% per year" (Figure 4). The short-term trend (2008–2017) remained the same as reported during the previous EBCC (2018) update [n=**+20%**], whereas in the long-term trend (1980–2017) the population increased from 2% to 15% (**13% increase**).

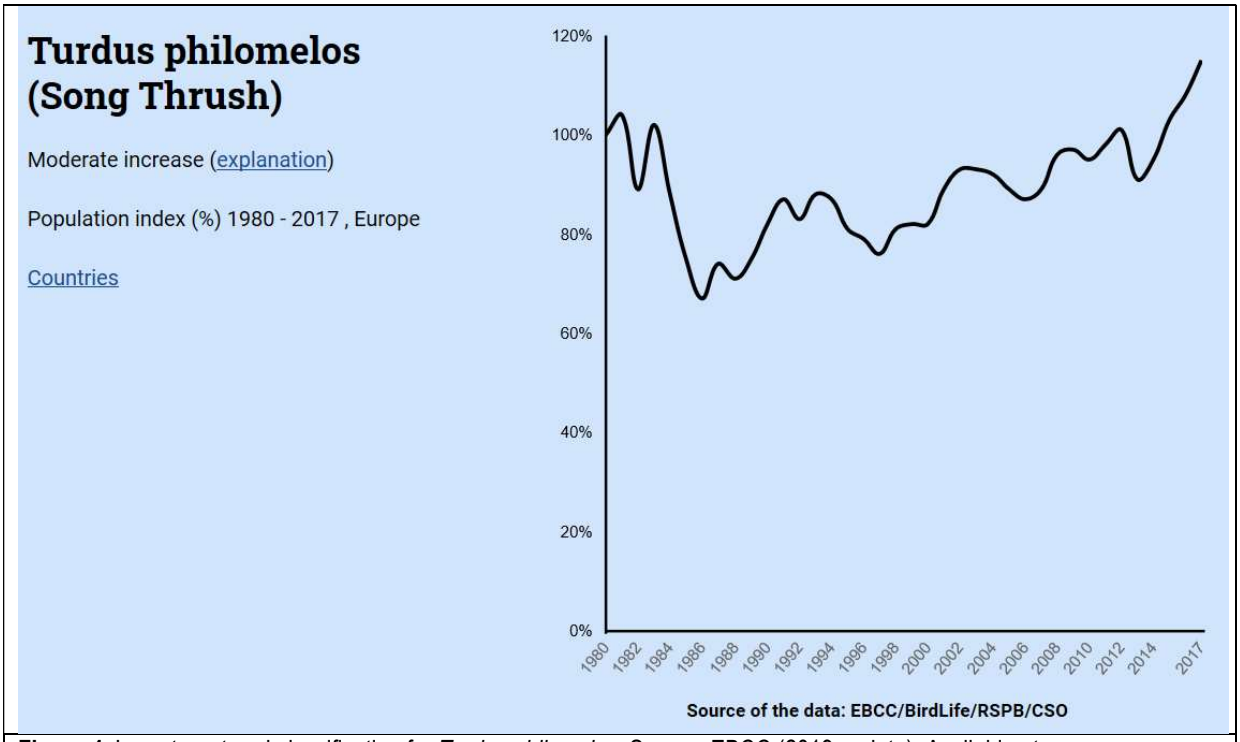


Figure 4: Long-term trend classification for *Turdus philomelos*. Source: EBCC (2019 update). Available at: https://pecbms.info/trends-and-indicators/species-trends/species/turdus-philomelos/.

List of Countries:

Austria	1998 - 2017
Belgium-Brussels	1992 - 2017
Belgium-Wallonia	1990 - 2017
Bulgaria	2005 - 2017
Czech Republic	1982 - 2017
Denmark	1976 - 2017
Estonia	1984 - 2017
Finland	1975 - 2017
France	1989 - 2017
Germany East	1991 - 2017
Germany West	1989 - 2017
Hungary	1999 - 2017
Italy	2000 - 2017
Latvia	2005 - 2017
Lithuania	1994 - 2017
Luxembourg	2009 - 2016
Netherlands	1984 - 2017
Norway	1996 - 2017
Poland	2000 - 2017
Republic of Ireland	1998 - 2016
Romania	2007 - 2016
Slovakia	2005 - 2017
Slovenia	2008 - 2017
Spain	1998 - 2017
Sweden	1975 - 2017
Switzerland	1999 - 2017
United Kingdom	1966 - 2017

Song Thrush distribution within the territory of the European Union (EU27)

It has been documented that most of the Song Thrush populations from the northern and eastern parts of the European range migrate via three or four main routes in a south westerly direction (Ashmole M.J., 1962, Busse P & Maksalon L., 1986). The Song Thrush does not breed in Malta. Table 5 provides an estimate of the breeding population of the Song Thrush within the EU27 (Article 12 reports for the 2008–2012 reporting period).

Table 5 Song Thrush EU27 Breeding Population

Member State	% in EU27	Breeding Pairs (Min - Max)		Breeding Population Trend		Short-term % change (Max - Min)		Long-term % change (Max - Min)	
				Short term	Long term				
Austria	3.0	350,000	550,000	Stable	Unknown	0	0	Unknown	Unknown
Belgium	1.0	120,000	190,000	Increasing	Decreasing	+2	+11	-5	-40
Bulgaria	2.0	150,000	500,000	Increasing	Stable	+	+45	0	0
Germany	11.0	1,400,000	1,950,000	Stable	Stable	0	0	0	0
Denmark	1.5	220,000	220,000	Stable	Stable	0	0	0	0
Estonia	2.8	350,000	500,000	Decreasing	Decreasing	-20	-50	-20	-50
Spain	3.1	338,000	635,000	Increasing	Increasing	+51.61	+51.61	+	+
Finland	7.1	880,000	1,300,000	Increasing	Increasing	+31	+61	+13	+34
France	12.8	1,500,000	2,500,000	Stable	Increasing	0	0	+15	+130
Hungary	2.8	365,000	468,000	Increasing	Unknown	+103	+103	Unknown	Unknown
Ireland	2.8	352,355	526,675	Decreasing	Unknown	-1.70	-16.60	Unknown	Unknown
Italy	1.2	100,000	300,000	Increasing	Increasing	+60	+70	+65	+95
Lithuania	1.9	200,000	400,000	Stable	Stable	0	0	0	0
Luxembourg		5,000	8,000	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Latvia	6.0	636,767	1,241,450	Increasing	Increasing	+5	+180	+15	+117
Netherlands	1.2	151,904	202,538	Stable	Increasing	0	0	+107	+187
Poland	8.0	1,100,000	1,300,000	Increasing	Unknown	+70	+90	Unknown	Unknown
Portugal		5,000	10,000	Increasing	Increasing	+	+	+	+
Romania	8.0	850,000	1,700,000	Fluctuating	Unknown	F	F	Unknown	Unknown
Sweden	12.0	1,157,000	2,703,000	Increasing	Stable	+13	+26	0	0
Slovenia	0.8	100,000	160,000	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Slovakia	2.8	300,000	600,000	Stable	Stable	0	0	0	0
UK	8.2	1,200,000	1,200,000	Increasing	Decreasing	+8.20	+8.20	-23.75	-23.75
Total		11,831,026	19,164,663	Increasing	Increasing				
					Trend (EU27 Population)			**Secure**	

Data source: European Environment Agency (2014): Article 12 reports for the 2008–2012 reporting period.

Table 6 lists the live-capturing data for Song Thrush in Malta and Gozo from 2006 to 2019.

Table 6 Live-capturing data for Song Thrush (2006–2019)

Species	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total	Average
Song Thrush	420	10	552	1,199	5,027	2,069	44	135	292	248	230	183	511	722	11,642	832

Data sources:
2006–2012: *Carnet de Chasse* data, Environment Protection Directorate (Environment and Resources Authority).
2013–2019: Wild Birds Regulation Unit.

(i) Reference Population

The "small numbers" requirement, within the meaning of Article 9(1)(c) of the Birds Directive should be understood as "any sample of less than 1% of the total annual mortality of the population in question (average value) for those species which are not to be hunted and **a sample in the order of 1% for those species which may be hunted.** 'Population in question' is to be understood, with regard to migratory species, as the population of those regions from which come the main contingents passing through the region to which the derogation applies during its period of application". Given that the Song Thrush qualifies as a huntable species under the Birds Directive (MT: Annex IIB), the "*small numbers*" requirement is understood as "*a sample in the order of 1% of the total annual mortality of the population in question*".

The Song Thrush shows a strong affinity to regular wintering areas (Cramp et al, 1988) and has a general framework of NE-NW movements across Europe (Spina & Volponi, 2008). Although there are no ring recoveries of this species in Malta, on the basis of this literature review, there is sufficient robust scientific data to ascertain that EU populations of Song Thrush migrating over Malta (NE-NW movements) come from the easternmost parts of the territory of the European Union, namely Romania, Bulgaria and Hungary (Table 7).

Table 7 Song Thrush Reference Population (EU territory only)

Member State	% in EU27	Breeding Pairs (Min - Max)		Breeding Population Trend		Short-term % change (Max - Min)		Long-term % change (Max - Min)	
				Short term	Long term				
Bulgaria	2.0	150,000	500,000	Increasing	Stable	+	+45	0	0
Hungary	2.8	365,000	468,000	Increasing	Unknown	+103	+103	Unknown	Unknown
Romania	8.0	850,000	1,700,000	Fluctuating	Unknown	F	F	Unknown	Unknown
Total		**1,365,000**	2,668,000						
					Trend (EU27 Population)			**Secure**	

Data source: European Environment Agency (2014): Article 12 reports for the 2008–2012 reporting period.

Table 8 below shows the **minimum** number of Song Thrush breeding pairs, together with other relevant information required for the calculation of "small numbers". According to the British Trust for Ornithology (BTO)[21], the typical lifespan of Song Thrush is three years and the annual mortality rate of adults is 43.7% ± 0.7%, which tallies with that specified by the *Birds of the Western Palaearctic (BWP)*.

Table 8 Minimum breeding population and mortality rate

	Song Thrush (*Turdus philomelos*)	Source
Minimum breeding population – pairs	1,365,000	Article 12 reports for the 2008–2012 reporting period (EEA, 2014)
Mortality rate – juveniles	56%	Das Kompendium der Vögel Mitteleuropas (KVM) / Birds of the Western Palearctic (BWP)
Mortality rate - Adults	43.3%	BWP / British Trust for Ornithology (BTO)
Breeding rate (young per pair)	4	KVM / BWP / BTO

(ii) Calculation of 1% mortality rate and "small numbers"

Song Thrush (*Turdus philomelos*)
Minimum breeding success 4 birds per pair (1,365,000 x 4) = 5,460,000
Mortality rate of 1st year birds (5,460,000 x 56%) = 3,057,600
Mortality rate of adults (2,730,000 x 43.3%) = 1,182,090
Total annual mortality (3,057,600 + 1,182,090) = 4,239,690
1% of total annual mortality (4,239,690 x 1%) = 42,396

Total potential Song Thrush harvest figure (1% of total annual mortality) is 42,396.

(iii) Autumn seasonal bag limit in relation to "small numbers"

Based on the 1% mortality rate, the "small numbers" calculation with respect to the national bag limit would amount to 42,396 Song Thrushes. However, it should be noted that the average number of Song Thrushes captured with clap-nets over a thirteen-year period (2006–2019) is 832 (Table 6). Thus, the previous season's national bag limit of 5,000 Song Thrushes should be retained if a derogation to open an autumn live-capturing season for this species is applied in 2020. This equates to less than 0.12% of the total annual mortality of the reference population (n=42,396), which is significantly less than the 1% threshold.

- **Song Thrush** – recommended maximum national bag limit of **5,000** birds.

[21] Song Thrush *Turdus philomelos* Key Facts. British Trust for Ornithology. Available at: https://app.bto.org/birdfacts/results/bob12000.htm.