Report on the Conservation Status of the European Turtle-dove (*Streptopelia turtur*) and Common Quail (*Coturnix coturnix*)

February 2025 update

Section 1 of this report was presented to the Malta Ornis Committee on 21 March 2025

Section 2 of this report was presented to the Malta Ornis Committee on 02 April 2025

Wild Birds Regulation Unit

Contents

Page No.

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)	

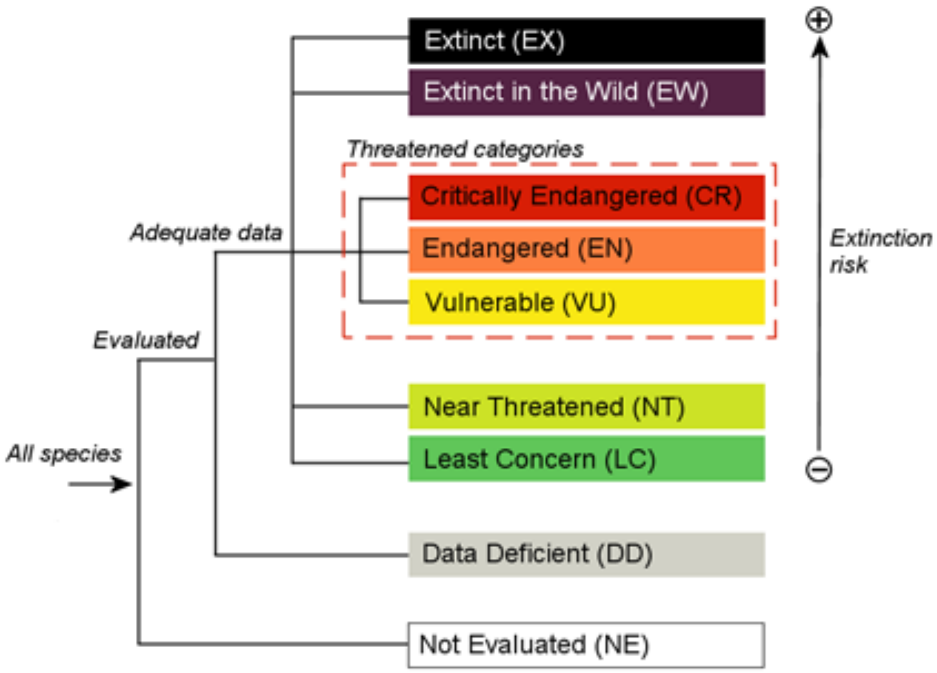
Species trends in Birds in Europe (2004)

'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.

1. Conservation Status of the Common Quail (*Coturnix coturnix*)

1.1 The Common Quail (*Coturnix coturnix*) is a species of gamebird found in cropland and grassland ecosystems. BirdLife International (2025a) notes that **this species has an extremely large range, and hence 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). Although the population trend appears to be decreasing, 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 extremely 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 as **Least Concern**[1] (BirdLife International, 2025a).

1.2 New evidence has shown that *coturnix* populations are not homogenous, having two different morphotypes at least in the Iberian Peninsula: one belonging to the Atlantic region and another to the Mediterranean (Jiménez-Blasco *et al*. 2019). This migratory species is also nomadic, with latitudinal movements from N Africa to Europe and altitudinal movements within Europe; both movements could be induced by meteorological and agronomic factors, in search of suitable but ephemeral habitats (mainly winter cereals) due to mowing (Rodríguez-Teijeiro *et al*. 2009). The breeding area shows a wide distribution of the species across Europe (Figure 1); in general, it is absent only in areas where habitat is unsuitable for the species. The bulk of the breeding population occurs in the S part of the continent, which is probably linked to the species' preference for warm climates. In fact, the European Breeding Bird Atlas (EBBA) 2 model shows that mean temperature during the breeding season is one of the main predictors of its spatial pattern (Keller *et al*. 2020).

1.3 Although the distribution of the species has remained constant between 1997 and 2020 in many areas (Figure 2), there is a remarkable exception: it has expanded mainly in N Europe. This could be due to climate change, and so an increase of temperature in N Europe may further favour the species' expansion. On the other hand, the few areas where losses have been recorded are mainly distributed in S Europe, which might suggest that climate change could negatively affect the species in dry and warm regions (Keller *et al*. 2020).

[1] But vide section on the *European Red List of Birds* in this report (p. 20)

Figure 1. Breeding map of Common Quail (probability of occurrence). Source: Keller *et al.* 2020: 71

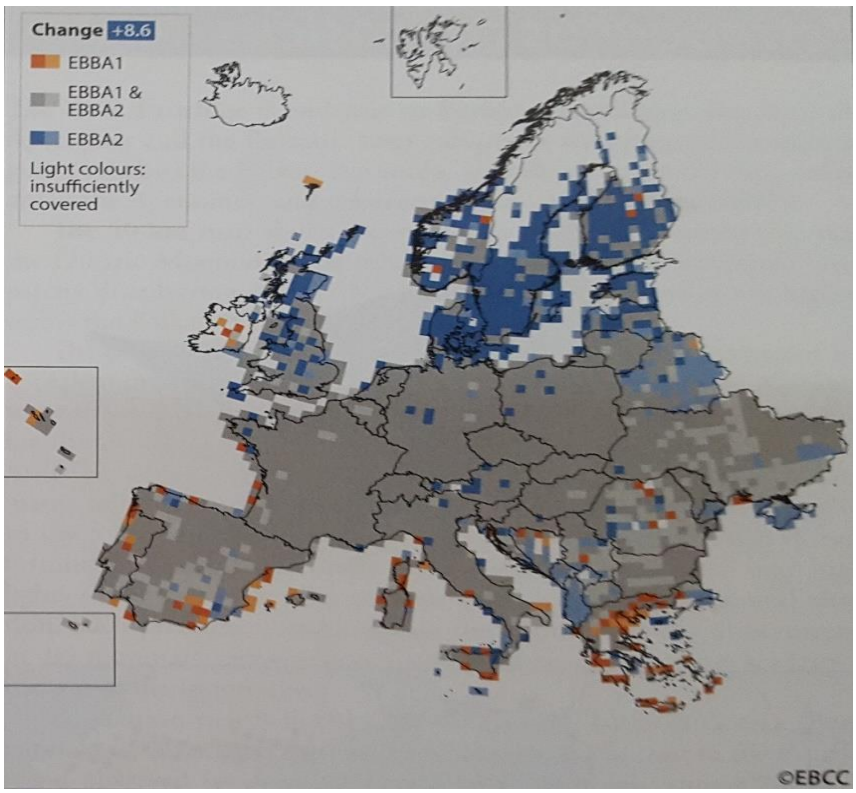


Figure 2. Change index of Common Quail (1997–2020). Source: Keller *et al.* 2020: 71

1.4 At the end of the 20th century, the species was considered to be decreasing in many countries of central and N Europe, but at the beginning of the 21st century, populations seemed to stabilise (BirdLife International, 2004). Currently, the trend appears to be negative, but it is difficult to confirm as the species is very difficult to survey. Thus, no population trends for the Common Quail in Europe are available. Keller *et al*. (2020) point out that, due to its use as a game bird, an exhaustive knowledge of its ecology is needed to carry out appropriate hunting management and conservation. The Common Quail breeds in open areas covered by vegetation, such as winter cereals, alfalfa, vetches or grasslands. The EBBA 2 model shows that rainfed cropland is also a very relevant explanatory factor, so a potential loss of area of cereal crops may reduce its distribution. Interestingly, at least in some circumstances, farmland intensification may not reduce its occurrence, but rather favour it (Kosicki *et al*. 2014).

Threats

1.5 BirdLife International (2025a) maintains that this species is declining owing to netting of migrating birds[2] and that local declines may be caused by changing agricultural practices, especially increased use of pesticides. In Europe agricultural intensification has led to the loss of rough grass and uncultivated land and an increase in the use of herbicides and insecticides which have led to a reduction on the availability of weeds, seeds and insects (Tucker and Heath 1994). Hybridization with Japanese Quail (*Coturnix japonica*) is a serious danger in southern Europe (Tucker and Heath 1994, Chazara *et al*. 2010). Other potential threats driving declines in Europe are hunting, long-term climactic fluctuations and drought in the sub-Saharan wintering grounds (Tucker and Heath 1994).

Breeding Population in Europe

In Europe, the breeding population is estimated to number 3,320,000–6,720,000 calling males, equating to 6,630,000–13,400,000 mature individuals. Europe forms approximately 40% of the global range, so a very preliminary estimate of the global population size is 16,575,000–33,500,000 mature individuals, although further validation of this estimate is needed. The population is therefore placed in the band 15,000,000–35,000,000 mature individuals (BirdLife International, 2025a). Article 12 reports for the reporting period 2013–2018[3] provide the latest information on the short-term and long-term trends of bird species at the EU28 level. According to the latest update, the number of calling males within the European Union (EU28) ranges between 1,130,000 and 2,490,000 calling males with a breeding range size of 1,690,000 km^2 (EEA, 2020).

1.6 The EU Management plan for Common Quail 2009–2011 (Perennou 2009) aims *inter alia* to "**restore the species to a favourable conservation status through reversing the declines in SE Europe and maintaining its natural genetic diversity**". The Management Plan notes that the conservation status of Common Quail within the EU Territory is favourable (Perennou 2009:10), with the EU Common Quail population numbering some 884,000–1,912,000 calling males. Perennou (2009) also notes that the analysis of the population estimates and trends for Common Quail is imprecise, resulting in large differences between minimum and maximum numbers which are due to a combination of reasons, including:

- methodological difficulties, which stem from the fact that breeding females are very difficult to detect and because, once paired, the males stop crowing. This often leads to broad ranges for national estimates, most of which do not actually rely on any field census at all.

[2] It should be noted that large scale practice of trammel netting in Egypt accounts for several million quails trapped each year during migration. See materials presented during CMS Convention Mediterranean Task Force on the Illegal Killing of Birds meeting in Cairo in July 2016: http://www.cms.int/sites/default/files/document/unep_cms_mikt1_doc-12b_Legal_Review.pdf and http://www.cms.int/sites/default/files/document/Reducing%20Illegal%20Trapping%20of%20Migrating%20Birds%20in%20Northern%20Egypt%20-%20Mr.%20Waheel%20Salama%20Hamied%20.pdf

[3] https://nature-art12.eionet.europa.eu/article12/summary?period=3&subject=Coturnix+coturnix&reported_name=

Therefore, national population estimates cannot be reliably summed up at the European level.

- inadequacy of large-scale compilations, due to the fact that the breeding pair in this species is an ephemeral phenomenon and consequently the number of singing males is widely considered by specialists to be a much more practical index of population abundance than the number of breeding pairs. Broad-scale compilations (e.g. Birdlife International 2004, Tucker & Heath 1994) often use the latter index, and also combine data relating to pairs (though inaccessible in practice, with rare exceptions) with data on calling birds (by nature unpaired).

1.7 There are also high inter-annual fluctuations in breeding numbers for any given country, which do not necessarily reflect the actual variability in the total population size for Common Quail, but rather a variability in the amplitude of the pre-breeding migration northwards. Perennou (2009) further states that Common Quail numbers seem to be growing strongly in Arabia and Morocco and probably in all the Maghreb countries. These birds do not constitute separate populations, but are part of the population that breeds in Europe in variable proportions from one year to the next. According to Perennou (2009), an overall analysis of Common Quail population trends in fact indicates that, following a decline in the 1970s (the precise quantitative amplitude of which is unknown because of the lack of earlier, reliable pan-European estimates or indexes), the overall population trend of sedentary and short migrants seems to be increasing over that of the long migrants in the Palearctic region, leading to an overall population trend which is now "likely increasing in the EU" with the exception of south-eastern Europe.

1.8 Similarly, Guyomarc'h (2003) states that figures for breeding pairs in different countries are considered inaccurate because these estimates are replicated from year to year without revision. They ignore variables such as: exchanges between the Maghreb and Europe; high mobility; possible multiple-breeding attempts; and successive pairs. Thirdly, counts of couples or pairs (a very ephemeral phenomenon in this species) are mixed with data from counts of singing males (by nature "unmated" single males). The author also states that there was a decrease in the Common Quail population in the 1970s north of ca. 45º, but that in the 1990s an overall population increase seems to have taken place.

1.9 Guyomarc'h (2003) calculated a population range of 697,000 to 2,298,710 breeding pairs, based on information obtained from 26 countries (including Russia and Turkey, but excluding Former Yugoslavia) and between 3,749,000 and 7,725,000 calling males, based on data obtained from 19 countries. Perennou (2009) gives an estimate of approximately 2.7–4.6 million breeding pairs across a total of 30 countries, including Russia (European part), Turkey (estimate for Turkey being 300–800 thousand pairs) and Ukraine. He also gives an estimate of 2.8–5.3 million calling males, based on data from just 17 countries.

1.10 The European Commission's Sustainable Hunting Guide (EC 2008) lists the Common Quail as a huntable species with an unfavourable conservation status (SPEC 3: Vulnerable, Large Decline) (EC, 2008: 90). The most recent European Bird Census Council (EBCC) report presents updated population trends and indices of 170 species for the time period 1980–2019, published by the Pan-European Common Bird Monitoring Scheme (PECBMS)[4]. However, **EBCC does not include the Common Quail in its pan-European index**. Hence, no evaluation of the population trends for this species could be obtained through the Pan-European Common Bird Monitoring Scheme.

1.11 Birds in Europe II (BirdLife International, 2004) had shown that the Common Quail population within the current territory of the European Union (EU 28, including Croatia) is Stable, with a change in the minimum number of pairs of -1.81% and a change in the maximum number of

[4] https://pecbms.info/trends-and-indicators/species-trends/

pairs of -0.56% (Table 1). According to the Member States' Article 12 report for period 2008–2012, the breeding population trend in the EU27 was **Decreasing** in the short-term and **Unknown** in the long-term, with an **Unknown** EU population status as the data reported were not sufficient to assess the population status of the species.

1.12 The previous updates on the conservation status of Common Quail had shown that, on the basis of the 2008–2013 Article 12 reports (EEA, 2014) (Table 2), the Common Quail was **Increasing** in the long-term trend (Min. Pairs: +23.49%; Max. Pairs: +27.40%), based on data pertaining to 69% of Common Quail population within EU28—the remaining 31% had an **Unknown** long-term trend. As shown in Table 2, the short-term trend for Common Quail within the EU28 territory during the 2008–2012 Article 12 reporting period had a **Stable maximum number of calling males** (-9.23%) and a **Decreasing minimum number of calling males** (-13.65%). The short-term trend classifications for the minimum and maximum number of calling males were based on 98% of the EU28 population since two Member States reported an Unknown short-term trend, namely Belgium and Greece (the latter surrogate data was provided by the Hellenic Ornithological Society, as specified by EEA, 2014)[5].

1.13 The latest Article 12 update (2013–2018) shows that the population status of Common Quail is **Unknown** in both the short-term and long-term trends[6] (Table 3).

[5] It should be noted that removal of the Croatian (2004) data returns the same trend classifications at both the short-term and long-term.

[6] The data sheet info for *Coturnix coturnix* was unavailable at the time this report was drafted: https://nature-art12.eionet.europa.eu/article12/summary/datasheet/?period=3&subject=Coturnix+coturnix [Accessed on 16/02/2024].

Table 1 **Common Quail EU Breeding Population (pairs) in 2004** (Bold = Ring Recoveries)

Country	EU Ring Recoveries in Malta (n=19) ∫	Breeding Pairs (Min - Max)		Trend	Mag. % (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
Austria		5,000	15,000	Increase	20	29	1450	4350	2900
Belgium		2,400	5,700	Stable	0	19	-	-	-
Bulgaria		8,000	15,000	Decline	0	19	-1520	-2850	-2185
Croatia		10,000	15,000	Increase	50	79	7900	11850	9875
Cyprus		1,000	4,000	Stable	0	9	-	-	-
Czech Rep.		5,000	10,000	Increase	50	79	3950	7900	5925
Denmark		200	600	Increase	80	80	160	480	320
Estonia		10	50	Stable	0	19	-	-	-
Finland		10	100	Increase	500	500	50	500	275
France		100,000	500,000	Fluctuating	20	29	-	-	-
Germany		12,000	32,000	Increase	0	19	2280	6080	4180
Greece		2,000	5,000	Decline	0	19	-380	-950	-665
Hungary	**8%**	**70,000**	**94,000**	**Stable**	**0**	**19**	**-**	**-**	**-**
Rep. Ireland		0	20	Fluctuating	20	29	-	-	-
Italy	**92%**	**5,000**	**20,000**	**?**	**-**	**-**	**-**	**-**	**-**
Latvia		20	500	Increase	80	80	16	400	208
Lithuania		1,000	2,000	Increase	30	49	490	980	735
Luxembourg		10	25	Stable	0	19	-	-	-
Malta		1	3	Decline	30	49	0	-1	-1
Netherlands		2,000	6,500	Increase	64	64	1,280	4,160	2,720
Poland		100,000	150,000	Increase	?	?	-	-	-
Portugal		5,000	50,000	Stable	0	19	-	-	-
Romania		160,000	220,000	Decline	0	19	-30,400	-41,800	-36,100
Slovakia		2,000	6,000	Stable	0	19	-	-	-
Slovenia		1,000	2,000	Stable	0	19	-	-	-
Spain		320,000	435,000	?	-	-	-	-	-
Sweden		10	40	Fluctuating	20	29	-	-	-
UK		5	450	Stable	0	1	-	-	-
Totals	**100%**	**811,666**	**1,588,988**				**-14,724**	**-8,897**	**-11,811**
				Percentage change			**-1.81%**	**-0.56%**	**-0.98%**
				Trend (EU Population)			**Stable**	**Stable**	**Stable**

Data sources: BirdLife International (2004); ∫ Raine (2007).

Table 2 **Common Quail EU28 Breeding Population (calling males) in 2014** (Bold = Ring Recoveries)

Country	EU Ring Recoveries in Malta (n=20)∫	Calling Males (Min - Max)		Short-term Trend	Mag. % (Min - Max)		Long-term Trend	Mag. % (Min - Max)		Short-term Max % Change (Min)	Short-term Max % Change (Max)	Long-term Max % Change (Min)	Long-term Max % Change (Max)
Austria		5,000	10,000	Fluctuating	-	-	Unknown	-	-	-	-	-	-
Belgium		2,700	3,400	Unknown	-	-	Unknown	-	-	-	-	-	-
Bulgaria		15,000	35,000	Decline	40	60	Decline	20	40	-6,000	-21,000	-3,000	-14,000
Croatia*		10,000	15,000	Increase	50	79				5,000	11,850	-	-
Cyprus		2,000	5,000	Stable	0	9	Increase	10	30	-	-	200	1,500
Czech Rep.[1]		4,000	8,000	Fluctuating			Increase	6863	6863	-	-	274,520	549,040
Denmark		1,830	1,830	Increase	100	1000	Increase	1000	10000	1,830	18,300	18,300	183,000
Estonia		100	3,000	Fluctuating			Fluctuating			-	-	-	-
Finland		150	500	Stable	-	-	Increase	1635	4082	-	-	2,453	20,410
France		100,000	300,000	Increase	6.1	33.9	Decline	21.38	36.08	6,100	101,700	-21,380	-108,240
Germany		26,000	49,000	Fluctuating	-	-	Increase	96	190	-	-	24,960	93,100
Greece[2]		2,000	5,000	Unknown	-	-	Unknown	-	-	-	-	-	-
Hungary	**5%**	**29,000**	**37,000**	**Decline**	**54**	**54**	**Unknown**			**-15,660**	**-19,980**	**-**	**-**
Rep. Ireland		1	20	Stable	-	-	Stable	-	-	-	-	-	-
Italy	**95%**	**15,000**	**30,000**	**Increase**	**70**	**80**	**Unknown**	**-**	**-**	**10,500**	**24,000**	**-**	**-**
Latvia		589	956	Fluctuating	-	-	Increase	489	4680	-	-	2,880	44,741
Lithuania		2,000	5,000	Increase	20	50	Increase		50	400	2,500	0	2,500
Luxembourg		50	100	Fluctuating	-	-	Decline	20	50	-	-	-10	-50
Netherlands		1,284	15,467	Increase	47	104	Increase	62	284	603	16,086	796	43,926
Poland		85,000	135,000	Decline	30	50	Unknown	-	-	-25,500	-67,500	-	-
Portugal		100,000	500,000	Stable	-	-	Unknown	-	-	-	-	-	-
Portugal (Azores)		11,000	21,000	Stable	-	-	Unknown	-	-	-	-	-	-
Portugal (Madeira)		500	1,000	Stable	-	-	Stable	-	-	-	-	-	-
Romania		575,000	1,150,000	Fluctuating	-	-	Unknown	-	-	-	-	-	-
Slovakia		2,000	6,000	Decline		20	Decline		20	0	-1,200	0	-1,200

Slovenia		1,000	2,000	Decline	10	30	Decline	20	40	-100	-600	-200	-800
Spain		285,000	640,000	Decline	53.32	53.32	Decline			-151,962	-341,248	0	0
Spain (Canary Is.)		2,500	10,000	Decline			Decline			0	0	0	0
Sweden		600	1,400	Increase	25	75	Increase	200	400	150	1,050	1,200	5,600
UK		540	540	Decline	6	6	Decline	10	10	-32	-32	-54	-54
Total	100%	**1,279,844**	**2,991,213**							**-174,671**	**-276,075**	**300,665**	**819,473**
				Percentage change						**-13.65%**	**-9.23%**	**23.49%**	**27.40%**
				Trend (EU Population)						**Decline** (>10% change in 10 years)	**Stable** (<10% change in 10 years)	**Increase** (>20% change since 1980)	**Increase** (>20% change since 1980)

Data Sources: European Environment Agency (2014); *BirdLife International (2004); ∫ Raine (2007) and BirdLife Malta (ringing data, 2015; 2020).

[1] In the absence of a report from the Czech Republic for this taxon, surrogate data were provided by ČSO / BirdLife indicating a breeding population of 4000–8000 calling males, with a fluctuating trend during 2000–2012 and an increasing trend (6863%) during 1982–2012.Source: EEA (2014) Audit Trail, available at: http://bd.eionet.europa.eu/article12/summary/audittrail/?period=1&subject=A113 [Accessed 23/01/2024].

[2] In the absence of a report from Greece for this taxon, surrogate data were provided by the Hellenic Ornithological Society (HOS), the BirdLife Partner in Greece, indicating a breeding population of 2000–5000 calling males, with an unknown trend during 2001–2012 and an unknown trend during 1980–2012. Source: EEA (2014) Audit Trail, available at: http://bd.eionet.europa.eu/article12/summary/audittrail/?period=1&subject=A113 [Accessed 23/01/2024].

Table 3	Quail EU28 Breeding Population 2013–2018 (Bold = Ring Recoveries)													
Member State	Breeding population													
	Population size							Population trend						
	Min	Max	Best value	Unit	Type est.	Change	% MS	ST period	ST direction	ST magnitude	LT period	LT direction	LT magnitude
Austria	2,500	5,000	N/A	cmales	estimate	genuine	0.4	2007-2018	-	N/A | N/A | (-50)	1981-2018	x	N/A
Belgium	1,100	3,700	2,400	cmales	estimate	method	0.3	2008-2018	F	-64 | 21 | (N/A)	1973-2018	+	57 | 429 | (243)
Bulgaria	15,000	35,000	N/A	cmales	estimate	noChange	2.7	2000-2018	-	-60 | -40 | (N/A)	1980-2018	-	-40 | -20 | (N/A)
Cyprus	1,200	4,700	N/A	cmales	estimate	genuine	0.3	2007-2018	-	-40 | -6 | (N/A)	1980-2018	+	10 | 30 | (N/A)
Czechia	5,000	10,000	N/A	cmales	estimate	noChange	0.8	2007-2018	-	N/A | N/A | (-13)	1982-2018	+	N/A | N/A | (9)
Germany	16,000	30,000	N/A	cmales	estimate	genuine	2.5	2004-2016	-	N/A | N/A | (-38)	1980-2016	=	-30 | 40 | (N/A)
Denmark	N/A	N/A	552	cmales	estimate	genuine		2011-2017	=	-99.94 | 745.76 | (-67.22)	1980-2017	+	844.16 | 33181.7 | (5744.53)
Estonia	200	1,000	N/A	cmales	estimate	knowledge		2006-2017	F	N/A	1980-2017	F	N/A
Spain	285,000	640,000	N/A	cmales	interval	noChange	50.4	2007-2018	-	N/A | N/A | (-53.32)	1980-2018	-	N/A
ESIC (Canary Islands)	N/A	N/A	295	cmales	minimum	genuine		2007-2018	u	N/A	1980-2018	u	N/A
Finland	150	500	330	cmales	estimate	noChange		2007-2018	=	N/A	N/A	x	N/A
France	50,000	300,000	N/A	cmales	estimate	method	19.1	2007-2017	-	-73 | -1.5 | (-49)	1996-2017	-	-83 | -31 | (-66)
Greece	4,000	10,000	N/A	cmales	estimate	knowledge	0.8	2007-2018	+	N/A | N/A | (50)	1980-2018	x	N/A
Croatia	N/A	N/A	52,800	i	mean	N/A	N/A	2007-2018	x	N/A	1980-2018	x	N/A
Hungary	**24,000**	**27,000**	**N/A**	**cmales**	**estimate**	**genuine**	**2.8**	**2007-2018**	**-**	**-61 | -27 | (N/A)**	**1980-2018**	**x**	**N/A**
Ireland	1	20	N/A	cmales	estimate	noChange		2011-2018	u	N/A	1980-2018	u	N/A
Italy	**15,000**	**30,000**	**N/A**	**cmales**	**estimate**	**noChange**	**2.5**	**2000-2014**	**+**	**5 | 15 | (N/A)**	**1993-2018**	**+**	**N/A | N/A | (200)**
Lithuania	2,000	5,000	N/A	cmales	estimate	noChange	0.4	2013-2018	=	N/A	1980-2018	+	0 | 50 | (N/A)
Luxembourg	40	80	N/A	cmales	estimate	genuine		2007-2018	-	-20 | -10 | (N/A)	1980-2018	-	-50 | -20 | (N/A)
Latvia	540	1,000	N/A	cmales	estimate	method		2006-2018	-	-71.4 | -17.2 | (-50.8)	1995-2018	F	-86.04000 | 11084.94 | (N/A)
Netherlands	2,000	4,000	N/A	cmales	estimate	genuine	0.3	2006-2017	-	-37 | -16 | (-28)	1984-2017	+	17 | 133 | (66)
Poland	38,000	65,000	N/A	cmales	interval	genuine	5.6	2007-2018	-	-75 | -65 | (-70)	1980-2018	x	N/A
Portugal	50,000	100,000	N/A	cmales	estimate	method	8.2	2004-2018	=	N/A	1980-2018	=	N/A
PTAC (Azores)	15,404	22,829	18,459	cmales	mean	noChange	2	2007-2017	-	0.1 | 50 | (N/A)	1980-2018	x	N/A
PTMA (Madeira)	250	500	1	cmales	estimate	noChange		2008-2018	=	N/A	1980-2018	=	N/A
Sweden	600	1,400	1,000	cmales	estimate	noChange	0.1	2007-2018	u	-71 | 63 | (N/A)	1980-2018	+	200 | 400 | (300)
Slovenia	700	1,400	N/A	cmales	estimate	genuine	0.1	2008-2018	-	N/A | N/A | (-47.8)	1980-2018	x	N/A
Slovakia	2,000	5,000	N/A	cmales	estimate	genuine	0.4	2007-2018	-	-40 | -20 | (N/A)	1980-2018	-	-50 | -30 | (N/A)
UK	N/A	N/A	374	cmales	mean	genuine		2001-2016	-	N/A | N/A | (-10)	1978-2016	-	N/A | N/A | (-37)

EU Breeding Population Size							
	Min	**Max**	**Unit**	**Short-term trend**	**Long-term trend**	**EU breeding population status**	**Previous status**
EU28	1,130,000	2,490,000	cmales	Unknown	Unknown	Unknown	Unknown

Source: EEA (2020).

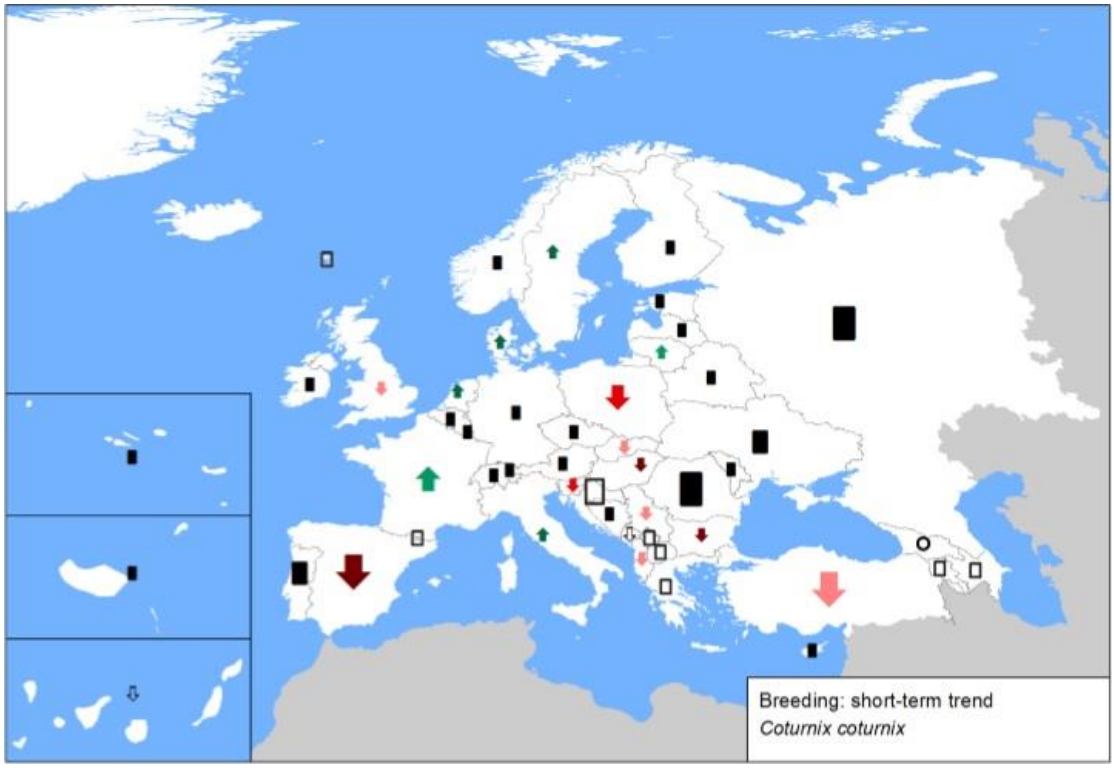


Figure 3. Breeding population sizes and short-term trends of Common Quail across Europe. Source: BirdLife International (2015b)

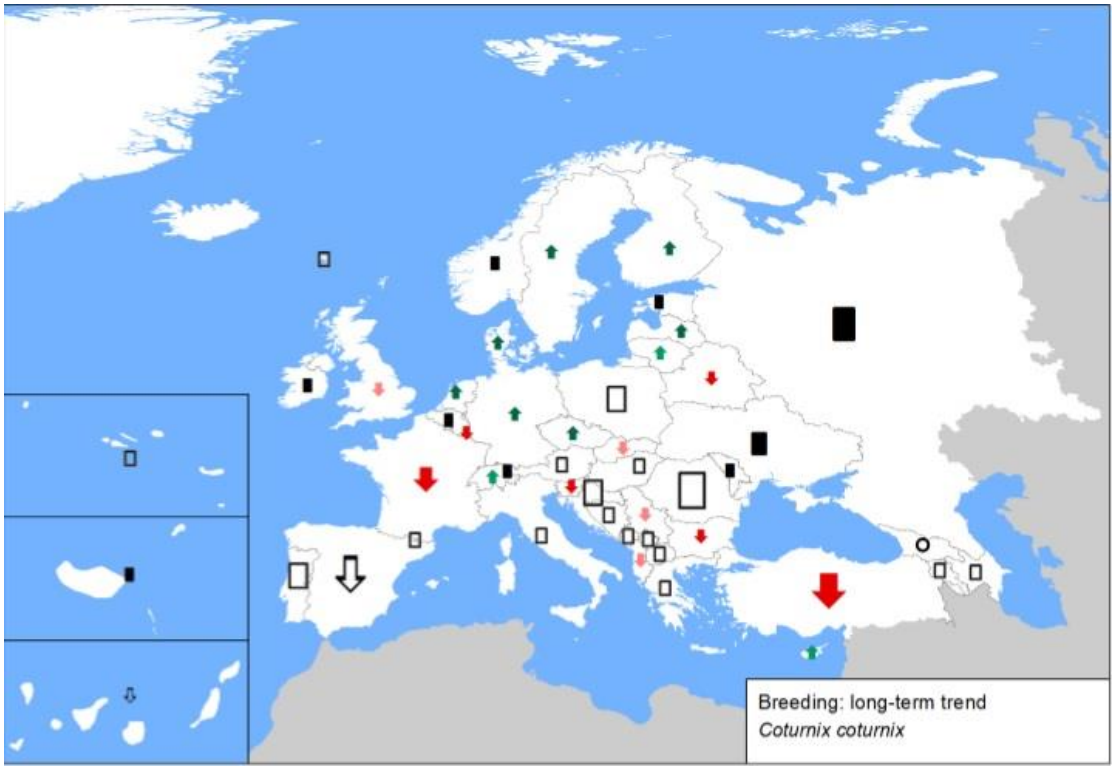


Figure 4. Breeding population sizes and long-term trends of Common Quail across Europe. Source: BirdLife International (2015b)

KEY

Large increase (≥50%)	Large decrease (≥50%)
Moderate increase (20–49%)	Moderate decrease (20–49%)
Small increase (<20%)	Small decrease (<20%)
Increase of unknown magnitude	Decrease of unknown magnitude

- Stable or fluctuating
- Unknown
- Present (no population or trend data)
- Extinct since 1980

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

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

Source: BirdLife International (2015b).

European Red List of Birds

1.14 At global level, Common Quail has most recently been assessed for *The IUCN Red List of Threatened Species*[7] in 2018 and listed as Least Concern.

1.15 In 2021, the Common Quail, together with 36 other species, was placed in a higher risk Red List category (European level), from Least Concern (2015) to **Near Threatened** (2021) (BirdLife International, 2021: 19). *The species population in Europe is decreasing by at least 25%, with genuine declines reported by two key range countries – Russia and Spain. The main reasons for decline are considered to be the loss of rough grassland and uncultivated land due to agricultural intensification, which has diminished food availability such as wild plants, seeds and insects; with hunting also playing a significant role*[8].

Source: BirdLife International (2021: 23).

1.16 Appendix 1 of the *European Red List of Birds* specifies a population size of 5,000,000–9,030,000 mature individuals, with a best estimate of 6,560,000. BirdLife International (2015b) notes that the Common Quail population within the territory of the European Union (EU28) constitutes 40% of the total European population (see also Figures 3 and 4 above).

[7] https://www.iucnredlist.org/species/22678944/131904485#assessment-information

[8] Pressures and threats data reported as part of the EU Birds Directive Article 12 reporting exercise 2013-2018 https://cdr.eionet.europa.eu/

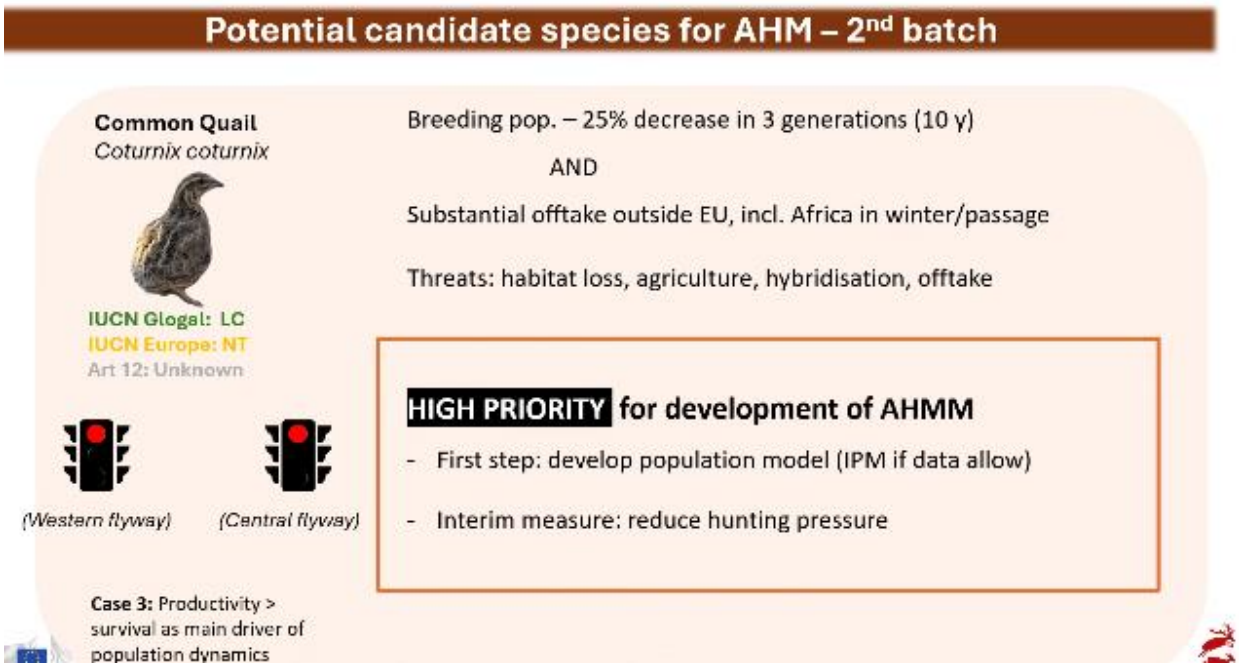
NADEG Task Force on the Recovery of Species

2.1 The Task Force for the recovery of bird species is set up as an ad hoc task force of the Nature Directives Expert Group (NADEG). It aims at supporting the development of the necessary measures needed for the recovery of species that have been assessed, in the latest assessment under Article 12 of the Birds Directive, as having a non-secure status, also having regard to the objectives of the EU Biodiversity Strategy for 2030.

2.2 With regards to the Common Quail and other Annex II bird species that are not in a secure status, the mission of the Task Force is as follows (refer to Section 2 of this report in relation to Turtle-dove):

a. to promote and oversee the development of robust Adaptive Harvest Management Mechanisms for species listed in Annex II of the Birds Directive and, once this is developed, to make recommendations to NADEG accordingly;
b. to identify research and monitoring needs;
c. to work and advise NADEG on non-hunting related conservation measures.

2.3 During the 8th meeting of the Task Force on the Recovery of Birds held on 8 November 2024, the Common Quail was proposed by the consortium as potential candidate species [high priority] for Adaptive Harvest Management (together with Common Teal *Anas crecca* [Medium Priority], Herring Gull *Larus argentatus* [Medium-High Priority] and Redwing *Turdus iliacus* [Medium-High Priority]).



2.4 Following the 8th meeting of the Task Force, Malta submitted the following feedback on Common Quail to European Commission's DG Environment (DG-Envi).

> The conclusion of the consortium's assessment is that the Quail is potentially overharvested. However, the Quail is categorized by experts as an extreme r-strategist, which means it is highly prolific with very high natural mortality. This is the reason why it was classified in "Case 3 - Survival is not a critical/important factor for the population dynamics", as productivity, which is not influenced by hunting, is the most important factor. Being such a prolific species, the impact of hunting in the present assessment might be overestimated.

As the Quail has irregular biology and migration patterns, extra care is needed when conducting rapid assessments of sustainability with a single methodology.

It should also be highlighted that the Quail is a very difficult species to monitor, and both population size estimates and trends are very difficult to accurately determine. That is why the EU trend is unknown (Art.12). However, studies indicate that the Atlantic Common Quail populations have remained stable in the last decades (Puigcerver et al., 2013, Rodriguez-Teijeiro et al., 2010).

Caution is therefore needed when discussing the Quail's population trends and hunting sustainability. To this effect, Malta notes the call to "reconsider current management practices" and it is of the opinion that the current situation does not warrant a total moratorium.

Finally, Malta would like to reiterate the fact that its unique situation and local conditions are very different from those of other Member States. The average hunting bag over the past years shows that Malta's hunting bag levels for each huntable species in both 15-species batches that have been assessed, including that of the Quail which is Malta's most important game bird after the Turtle Dove, are minimal and potentially insignificant.

2.5 On 29 January 2025, the following reply was submitted by the consortium through DG-Envi.

Malta argues that quail is an extreme case of r-selected species and that current monitoring methods are not fit to deliver reliable estimates of total population size or of its variation over time in the form of population trends.

The scientific consortium agrees that Common Quail is an r-selected species although maybe not so much that it is an extreme case – that should be better applied to invertebrates and other low-level organisms in which all individuals die at the end of the season and the population only continues at the egg or larval stage, from which new individuals will emerge the next season. The biological strategy of quail is indeed based on high productivity of young every year, but this does not mean that overharvesting may not occur. As with all vertebrates, a certain percentage of the population must survive to start the cycle again, so not all is based on productivity. Additionally, the species strategy is also based on a nomadic approach that implies that birds may breed in different geographical locations (even in different countries) during the course of a season. Therefore, it makes no sense to talk of populations at national scale and it is preferable to treat them all as a single, spatially dynamic population at the flyway scale.

Malta further sustains that the quail population trend is mostly stable, following some previous declines at the end of the 20th century. The argument of a stable population trend is used to justify the continuation of hunting with no new restrictions ('business as usual'). However, like all species with non-favourable conservation status, stable trends are not good enough because the objective is to achieve population recovery.

As regards the Commission's decision to propose a temporary moratorium before an AHMM is in place, this derives directly from the stepwise approach developed by NADEG[9]; for case 3 species, the proposed short-term response is that limited and controlled hunting may take place based on an assessment of hunting and other key actions identified (e.g. prepare a habitat management plan). However, given that the preliminary assessment has revealed a high probability of hunting being unsustainable in the western and central flyways, it makes sense for the Commission to apply the precautionary principle and to stop hunting while the AHMM is being developed.

[9] Doc Nadeg 21-12-03 '*Bird species listed in Annex II that are not in a secure status: update on a proposed approach*'

Ring recoveries in Malta

1.17 Ring recoveries of Common Quail in Malta are provided by Raine (2007), dating from the 1920s up until the end of 2006 (Figure 5). Following Raine's publication, the only additional ring recovery for this species was recorded by BirdLife Malta in September 2014 (Italy). On average, up to four Quails are fitted with a scientific ring in Malta every year. However, none have so far been recovered abroad (BirdLife Malta, pers. comm., 2015; 2020).

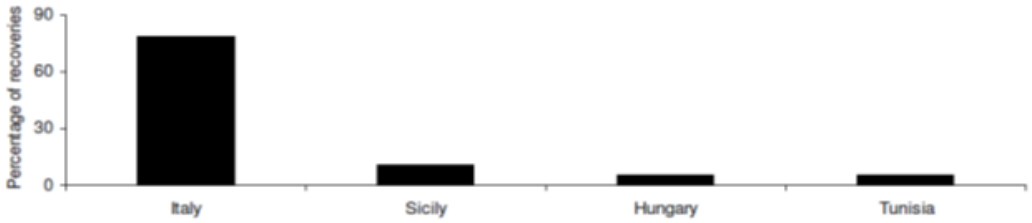


Figure 5. Percentage of ring recoveries for Common Quail (*Coturnix coturnix*), ringed overseas and recovered in Malta, by country (n=19). Source: Raine (2007: 16)

Electronic tracking

1.18 To date, no tracking studies using methods such as radio tracking, satellite tracking or geolocators have been carried out on this species in Malta. The only known tracking project at EU level was carried out during 1993–95 in the province of Tarragona (Catalonia, Spain) where 31 breeding females were electronically tagged and monitored throughout their breeding cycle (Perennou 2009).

Common Quail Reference Population (Ring Recoveries)

1.19 Tables 4 and 5 provide a comparison between former (2008–2012) and current (2013–2018) data on Common Quail ring recoveries in Malta (the reference population), the respective number of breeding pairs pertaining to the reference population, together with the overall direction of the population trend. Figures 6 and 7 illustrate the EU28 population trend categories of this species per Member State during the previous Article 12 (2008–2012) reporting cycle, and should be compared with Figures 10 and 11, which illustrate the EU28 population trends for the current (2013–2018) reporting cycle. The respective EU reference population trend categories, on the basis of ring recoveries in Malta, are shown in Figures 8 and 9 (2008–2012) and Figures 12 and 13 (2013–2018) respectively.

1.20 During the previous (2008–2012) Article 12 reporting period, the reference population had a **Stable maximum number of calling males** (+6%) but a **Decreasing minimum number of calling males** (-11.73%). **The long-term trend classification of the reference population was Unknown**. A summary of the former population trends at reference population level is provided in Table 4.

1.21 During the current (2013–2018) Article 12 reporting period, the Italian population (95% of Malta's reference population) has seen an increase in the long-term trend from the previous (2008–2012) status of unknown. However, the Hungarian population now stands at 5,000–10,000 *less* calling males than previously reported. **Malta's reference population retained a stable short-term trend status in the maximum number of calling males and improved the short-term trend status in the minimum number of calling males, from declining to stable** (Table 5)**. The long-term trend of the reference population remains unknown.** Table 6 provides a comparison between the previous and current population trends at EU and reference population levels. Table 7 provides data on fecundity and mortality rates.

Table 4 **Common Quail ring recoveries (reference population) from other EU Member States and corresponding population trend: 2008–2012 Article 12 reports**

Member State	EU Ring Recoveries in Malta (n=20) ∫	Calling Males (Min - Max)		Short-term Trend	Mag. % (Min - Max)		Long-term Trend	Mag. % (Min - Max)		Short-term Max % Change (Min)	Short-term Max % Change (Max)	Long-term Max % Change (Min)	Long-term Max % Change (Max)
Italy	95%	15,000	30,000	Increasing	70	80	Unknown	-	-	10,500	24,000	-	-
Hungary	5%	29,000	37,000	Declining	-54	-54	Unknown	-	-	-15,660	-19,980	-	-
Total	100%	**44,000**	**67,000**							**-5,160**	**4,020**	-	-
				Percentage change						**-11.73%**	**6.00%**	-	-
				Trend (Ring Recoveries)						**Decreasing** (>10% change in 10 years)	**Stable** (<10% change in 10 years)	**Unknown**	**Unknown**

Data Sources: European Environment Agency (2014); *BirdLife International (2004); ∫ Raine (2007) and BirdLife Malta (ringing data, 2015; 2020)

Table 5 **Common Quail ring recoveries (reference population) from other EU Member States and corresponding population trend: 2013–2018 Article 12 reports**

Member State	EU Ring Recoveries in Malta (n=20) ∫	Calling Males (MS Population) (Min - Max)		Calling Males (% of reference population) (Min - Max)		Short-term Trend	Mag. % (Max - Min)		Long-term Trend	Mag. % (Max - Min)		Short-term Max % Change (Min)	Short-term Max % Change (Max)	Long-term Max % Change (Min)	Long-term Max % Change (Max)
Italy	95%	15,000	30,000	14,250	28,500	Increasing	5	15	Increasing	N/A	N/A	713	4,275	-	-
Hungary	5%	24,000	27,000	1,200	1,350	Declining	-27	-61	Unknown	N/A	N/A	-324	-824	-	-
Total	100%	39,000	57,000	**15,450**	**29,850**							**389**	**3,452**	-	-
						Percentage change						**1.00%**	**6.06%**	-	-
						Trend (Ring Recoveries)						**Stable** (<10% change in 10 years)	**Stable** (<10% change in 10 years)	**Unknown**	**Unknown**

Data Sources: European Environment Agency (2020); ∫ Raine (2007) and BirdLife Malta (ringing data, 2015; 2020)

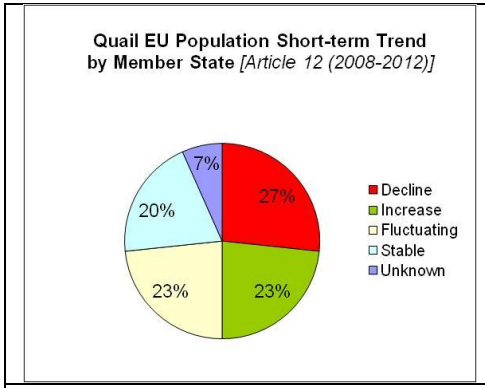


Figure 6. Common Quail EU28 population short-term trend by Member State (2008–2012)

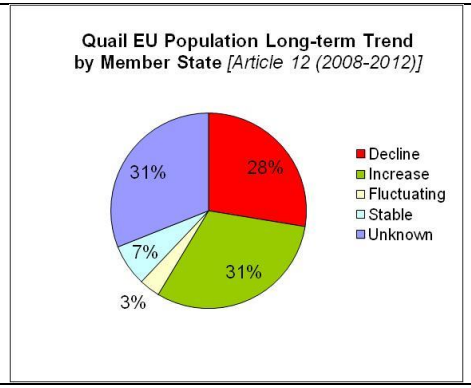


Figure 7. Common Quail EU28 population long-term trend by Member State (2008–2012)

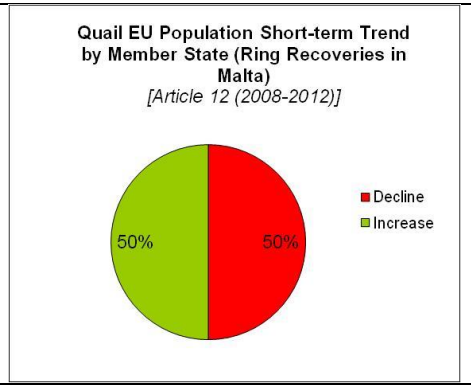


Figure 8. Common Quail EU population short-term trend (ring recoveries) (2008–2012)

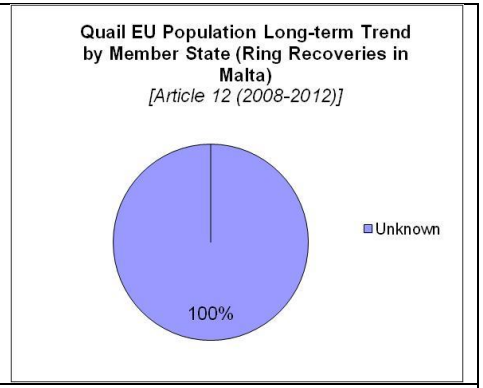


Figure 9. Common Quail EU population long-term trend (ring recoveries) (2008–2012)

Data sources: European Environment Agency (2014); BirdLife International (2004); Raine (2007); BirdLife Malta (pers. comm. 2015; 2020)

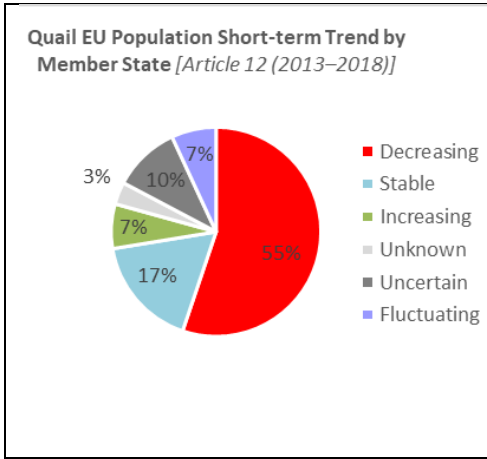


Figure 10. Common Quail EU28 population short-term trend by Member State (2013–2018)

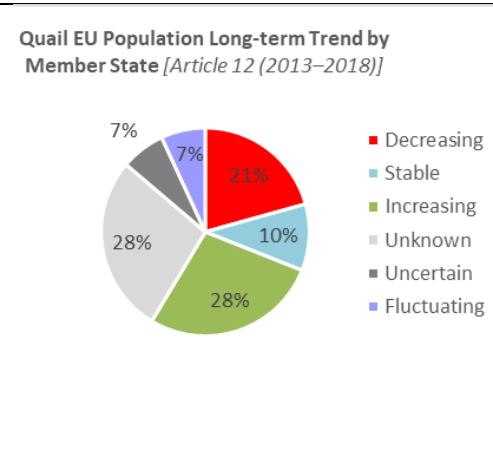


Figure 11. Common Quail EU28 population long-term trend by Member State (2013–2018)

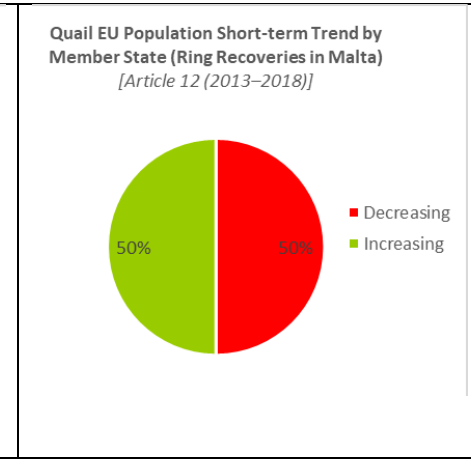


Figure 12. Common Quail EU population short-term trend (ring recoveries) (2013–2018)

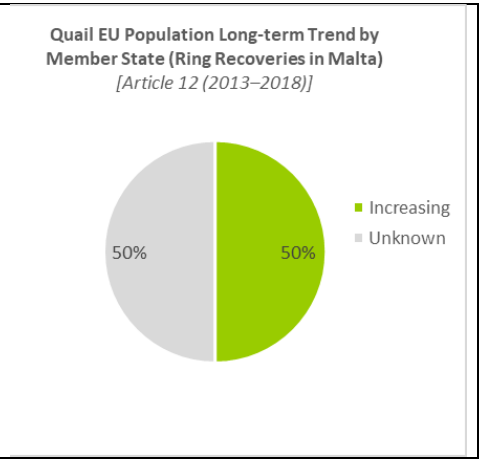


Figure 13. Common Quail EU population long-term trend (ring recoveries) (2013–2018)

Data sources: European Environment Agency (2020); Raine (2007); BirdLife Malta (pers. comm. 2015; 2020)

Table 6	Short-term and long-term trends at EU and reference population levels						
Coturnix coturnix	**EBCC**	**EU27 (Article 12)** ‡		**EU28 (Article 12)** ‡		**Reference Population***	
2004†	N/A	N/A		**Stable** (Min: +1.81%, Max: -0.56%, Geomean: -0.98%)		**Stable** (Min/Max: 0%)	
Population (EU28): 811,666–1,588,988 pairs							
Article 12 (2008–2012)	N/A	**Short-term** (2004) **Decreasing**	**Long-term** (1980) Unknown	**Short-term** (2004) Min. calling males: **Decreasing** (-13.65%) Max. calling males: **Stable** (-9.23%)	**Long-term** (1980) **Increasing** (Min: +23.49% / Max: +27.40%) *BUT* data based on 74% of EU population.	**Short-term** (2004) Min. calling males: **Decreasing** (-11.73%) Max. calling males: **Stable** (+6%)	**Long-term** (1980) Unknown
Population (EU27): 1,260,000 – 2,980,000 calling males Population (EU28): 1,279,844 – 2,991,213 calling males							
Article 12 (2013–2018)	N/A			**Short-term** (2007-2018) Unknown	**Long-term** (1980) Unknown	**Short-term** (2007-2018) Min. calling males: **Stable** (1%) Max. calling males: **Stable** (6.06%)	**Long-term** (1980) Unknown
Population (EU28): 1,130,000 – 2,490,000 calling males							
Data sources: †BirdLife International (2004); ‡European Environment Agency (2014; 2020); *Raine (2007) & BirdLife Malta (ringing data, 2015; 2020).							

Table 7 **Minimum breeding population and mortality rate**

	Common Quail (*Coturnix coturnix*)	Source
Minimum breeding population – pairs	30,900	Article 12 reports for the 2013–2018 reporting period (EEA, 2020)
Mortality rate – 1st year	80%	European Union Management Plan 2009–2011: Technical Report 2009 – 032, Common Quail *Coturnix coturnix*, p.14
Mortality rate – adults	71%	British Trust for Ornithology (https://app.bto.org/birdfacts/results/bob3700.htm)
Breeding rate (young per pair)	4–5	European Union Management Plan 2009–2011: Technical Report 2009 – 032, Common Quail *Coturnix coturnix*, p.14
Number of clutches	2 to 3 (max. 6) / year	European Union Management Plan 2009–2011: Technical Report 2009 – 032, Common Quail *Coturnix coturnix*, p.14

Calculation of 1% mortality rate and "small numbers"

Common Quail (*Coturnix coturnix*)
Minimum breeding success: 4 chicks per pair (30,900 x 4) = 123,600
Minimum clutches/year: 2
Mortality rate of 1st year birds (247,200 x 80%) = 197,760
Mortality rate of adults (61,800 x 71%) = 43,878
Total annual mortality (197,760 + 43,878) = 241,638
1% of total annual mortality (241,638 x 1%) = **2,416**

Based on the 1% mortality rate, the "small numbers" calculation amounts to 2,416 Quails.

2. Conservation Status of the European Turtle-dove (*Streptopelia turtur*)

2.6 The European Turtle-dove (*Streptopelia turtur*) is the smallest representative of the dove family in Europe, found in cropland, woodland and forest ecosystems. In the EU, the Turtle-dove is currently found in all Member States (including all Mediterranean islands) with the exception of Ireland and Sweden, and is absent from the Alpine Arc (Parslow 1967, Sharrock 1976, Snow and Perrins 1998, BirdLife International 2025b). The species has a global population size of 19,300,000–71,400,000 individuals and a breeding range size of 35,700,000 km² (BirdLife International, 2025b). Major breeding populations in Europe are found in the Mediterranean countries, and the European population is entirely migratory, wintering in Sahelian Africa from Senegal to Eritrea (Bauer *et al*. 2012).

2.7 The breeding area of the European Turtle-dove stretches from Portugal to Russia and China, and from 35°N to 65°N (Figure 14). Major breeding populations are found across the Mediterranean region and in central Europe. The species winters in Africa, in a narrow belt between 10°N and 20°N in the Sahel–Sudan zone. Migration is along two to three major flyways: the W flyway over the Iberian Peninsula and NW Africa and a wider central-E flyway over Italy, SE Europe and W Asia (Fisher *et al*. 2018). Turtle-doves occur unevenly across Europe; modelled probability of occurrence is highest in seven countries south of 50°N (Italy, Spain, France, Hungary, Romania, Moldova, Portugal), where independent data also show large breeding populations (Keller *et al*. 2020). Mean annual temperature is a strong predictor of Turtle-dove occurrence, linked to the species' preference for warmer climate zones. Turtle-doves favour a wide range of habitats where trees, food (seeds) and at least some water are present. They tend to avoid built-up areas (Keller *et al*. 2020).

2.8 Although the European population is still large, there is evidence that populations in most countries have been declining since the 1970s (BirdLife International 2004) whereas its European breeding range (Figure 15) has suffered a slight contraction between 1997 and 2020 (Keller *et al*. 2020). The biggest changes have occurred at the N edge of the range, notably in the British Isles (where the species has been lost from Ireland, Scotland and Wales) and in Fennoscandia. It seems to be holding ground in most other regions, despite the widespread reduction in population size (>30% since 2000) (Keller *et al*. 2020). **The breeding population trend in the EU28 is Decreasing in both the short-term and long-term** (European Environment Agency, 2020). During part of the 19th and 20th centuries, the Turtle-dove expanded its range towards the N and W, possibly following the opening up of forests to make way for new crops (Parslow, 1973). However, since the 1980s, a combination of agricultural intensification and unsustainable hunting has caused a widespread decline in population numbers across the range (Fisher *et al*. 2018). Monitoring data show a moderate decline in European populations in the period 1989–2016, following a steep decline previously. While the negative trend is more acute in the W flyway, it is nonetheless general and continued (Keller *et al*. 2020).

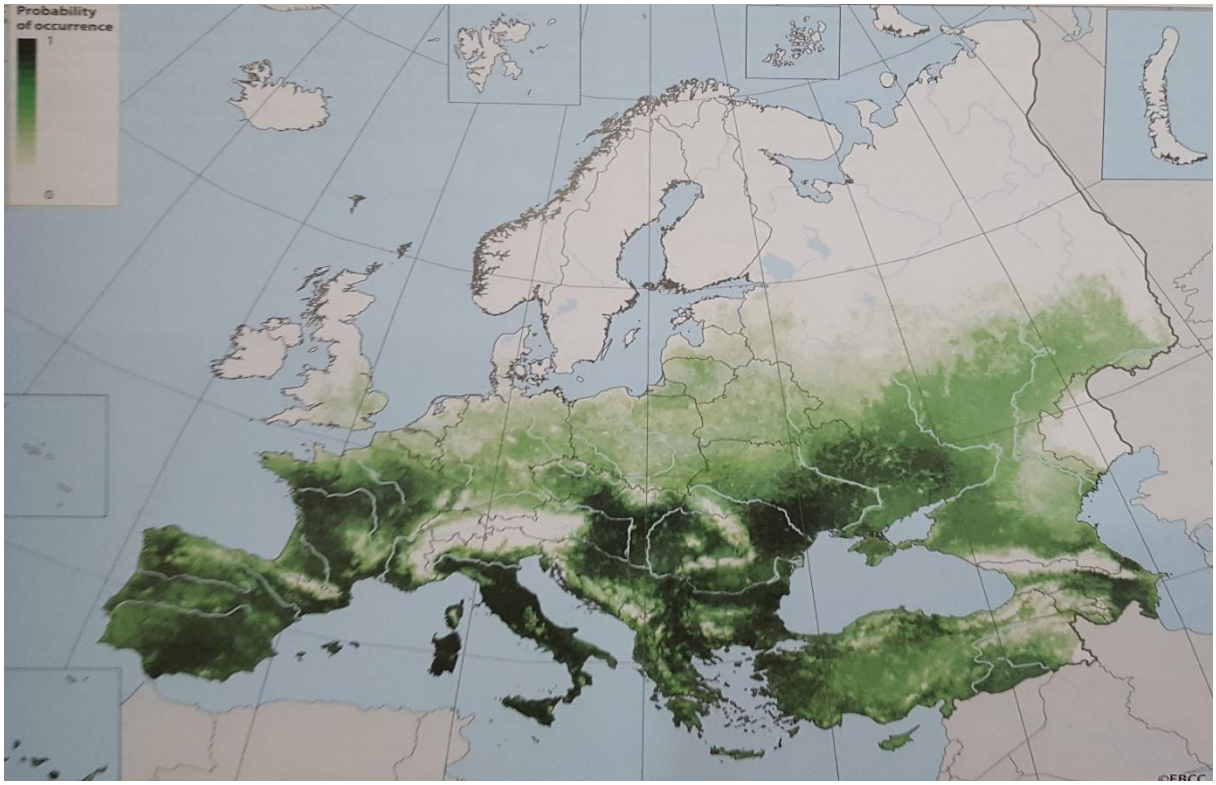


Figure 14. Breeding map of European Turtle-dove (probability of occurrence). Source: Keller *et al.* 2020: 187

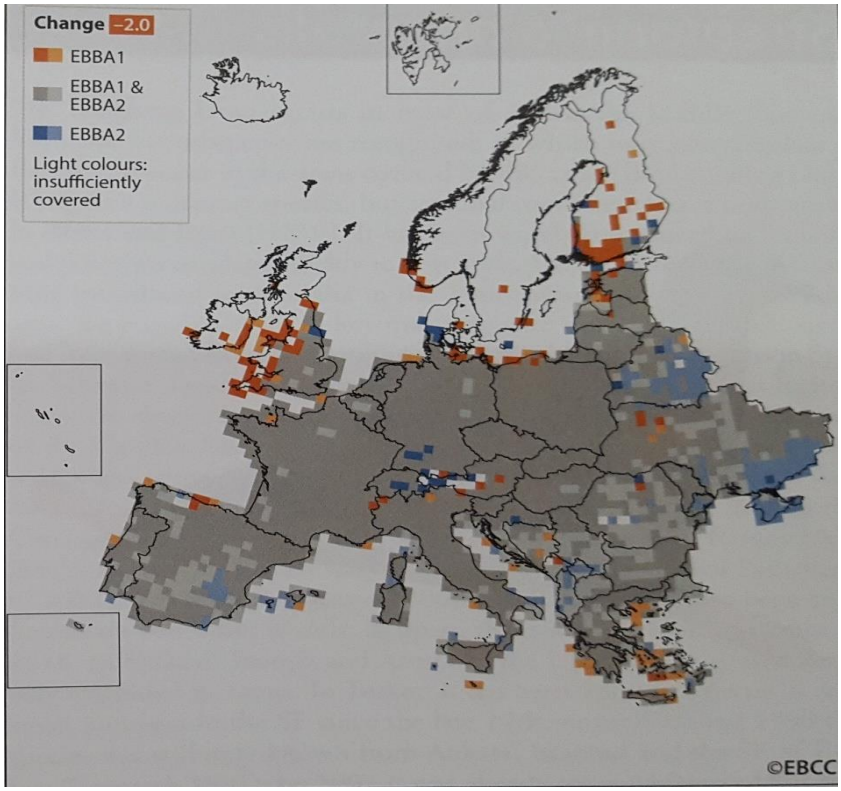


Figure 15. Change index of European Turtle-dove (1997–2020). Source: Keller *et al.* 2020: 187

2.9 In 2015, the European Commission published the European Red List of Birds, compiled by BirdLife International. The **EU population status** of *Streptopelia turtur* was assessed as **Near Threatened**, because the species comes close to meeting the IUCN Red List criteria at the EU27 scale (EEA, 2020; BirdLife International, 2015a: 41). At **European level** the Turtle-dove has been uplisted to **Vulnerable**. The European population is estimated at 3,150,000–5,940,000 pairs, which equates to 6,310,000–11,900,000 mature individuals. Europe forms

25-49% of the global range, so a very preliminary estimate of the global population size is 19,300,000–71,400,000 individuals, although further validation is required for this estimate (BirdLife International, 2025b).

Fisher *et al.* (2018) estimated the breeding population at 2.4–4.2 million birds within the EU, around 75% of the 2.9 to 5.6 million pairs in Europe, with a global population estimated at 13 to 48 million pairs. However, according to the latest Article 12 report for period 2013–2018, **the EU population stands at 1.98–3.44 million pairs** (EEA, 2020).

In the Mediterranean region, the Turtle-dove associates with open agroforestry areas and, whilst farmland abandonment seems to negatively affect it (Herrando *et al*. 2014), abundance increases after the clearing of forest undergrowth and tree thinning (Camprodon & Brotons, 2006). Demographic studies have shown that the population decline is more probably driven by a reduction in breeding productivity, due to habitat deterioration, than by variation in overwinter survival (Eraud *et al*. 2009). Several initiatives are underway to improve habitat management (e.g. “Operation Turtle Dove”) and to address unsustainable hunting, in order to help the species maintain its breeding range (Keller *et al*. 2020).

International Single Species Action Plan

2.10 At the **global level**, the European Turtle-dove was uplisted in 2015 from Least Concern to **Vulnerable.** Subsequently, an International Single Species Action Plan for the Conservation of the European Turtle-dove (Fisher *et al.* 2018) was prepared through EuroSAP, a LIFE preparatory project, co-financed by the European Commission Directorate General for the Environment, the African-Eurasian Migratory Waterbird Agreement (AEWA), and by each of the project partners. The **goal** of the ten-year Action Plan (2018–2028), which is coordinated by BirdLife International, is **to restore the European Turtle-dove to a favourable population status so that it can be safely removed from the Globally Threatened categories of the IUCN Red List**.

2.11 The **high level objective** of the Action Plan is *to halt the population decline of the European Turtle-dove throughout most of its range, preparing the way for an increase in population sizes within each flyway during the period of the next version of the Action Plan (2028-2038)*.

2.12 Seven **conservation objectives** are detailed in the Plan’s Framework for Action, as follows (most critical first):

1. *good quality habitats, with available and accessible water and food, are maintained and increased on the breeding grounds;*
2. *illegal killing in the European Union is eradicated and reduced elsewhere;*
3. *hunting across the range of the European Turtle-dove is carried out at locally and internationally sustainable levels;*
4. *good quality habitats, with available and accessible water and food, are maintained and increased at key sites for stop-over and overwintering;*
5. *international co-operation is enhanced, through enabling sharing of information and expertise;*
6. *stakeholder awareness is raised;*
7. *knowledge gaps are filled.*

Threats

2.13 Following two action planning workshops and wide consultation, the European Turtle-dove Action Plan (Fisher *et al.,* 2018) identified the following three main threats to the species:

- habitat loss in both its breeding and wintering areas, linked to land use and land cover changes;
- illegal killing and trapping, particularly during spring migration and in the breeding season;
- unsustainable hunting levels.

2.14 The following threats were also identified by the Action Plan:

- disease (e.g. *Trichomonas gallinae*);
- competition with Collared Dove (*Streptopelia decaocto*);
- accidental and deliberate poisoning;
- weather events and climate change.

2.15 Fisher *et al.* (2018) maintain that increased use of pesticides and herbicides has the potential to threaten the species both directly and indirectly. Although the authors specify that there is no direct evidence to suggest that pesticides have been responsible for declines in Turtle-dove, other avian species are known to be negatively affected, with effects ranging from reduced reproductive success and immune response to mortality (Mineau and Palmer, 2013).

2.16 BirdLife International (2025b) lists a number of threats that contribute to the decline of Turtle-doves. Transformation of agricultural land, including destruction of hedges, is thought to be an important factor in the decline of this species as well as the loss of semi-natural habitats. Changes in agricultural practices have several impacts on the species, as they can both reduce food supply and nesting habitat availability and it is likely that the decline in food is the main limiting factor rather than decline in nest site availability (Lutz 2006).

2.17 Widespread use of chemical herbicides appears to also be a very serious factor, with a consequent decline or elimination of many food plants. Hunting is also significant during migration and in its wintering range; with an annual toll in France computed at c. 40,000 birds (Baptista *et al*. 2015). The species is also vulnerable to infection by the protozoan parasite *Trichomonas gallinae*, which causes mortality (Stockdale *et al*. 2014). Severe drought in the Sahel zone is thought to be a possible factor in the decline as well as competition with Eurasian Collared-dove *Streptopelia decaocto* (Lutz 2006). A loss of suitable autumn stopping sites (field crops and trees around oases) may also have contributed to its decline as well as a change in tree composition, increased disturbance and an increase in the number of Common Myna (*Acridotheres tristis*) in cities where European Turtle-dove nested in Central Asia (R. Kashkarov *in litt.* 2015) (BirdLife International, 2017, 2025b).

Proposed Conservation Action (IUCN)

2.18 The following conservation and research actions for the European Turtle-dove are proposed by IUCN (BirdLife International, 2025b) at European and Global level. These actions now form part of the International Single Species Action Plan for the conservation of the European Turtle-dove (Fisher *et al*. 2018).

- Breeding and staging habitats should be managed to ensure favourable conditions for the species (Lutz, 2006), including:
    - the conservation and re-creation of hedges with Hawthorn (*Crataegus spp.*), which is a favoured tree for breeding, and
    - reduction in agricultural herbicides (Tucker and Heath, 1994).

- Arable land under agri-environment measures can be managed to provide seed-rich foraging habitat (Dunn *et al.* 2015), which can be beneficial for post-fledging survival when located near suitable nesting habitat (Dunn *et al.* 2016).

- Introduction and enforcement of restrictions on hunting to avoid affecting late breeding birds and birds during spring migration.

- Annual national bag statistics where hunting takes place must be collected in order to develop a level of hunting which is sustainable.

- Research and population monitoring should be continued (Lutz 2006), and extended into its non-European and eastern European range where little information is currently available (J. Dunn *in litt.* 2016).

- Workshops to plan coordinated conservation and research across flyways.

2.19 The species has undergone rapid declines in much of its European range whilst in Russia and Central Asia it is thought to have experienced more severe declines. Declines are thought to be driven by a number of factors including loss of foraging and nesting sites as well as disease and hunting (BirdLife International, 2025b). The population is suspected to be in decline due to ongoing habitat destruction and unsustainable levels of exploitation. In Europe, the population size is estimated to be decreasing by 30-49% in 15.9 years (three generations). Trends since 1980 show that populations have undergone a moderate decline ($p<0.01$), based on data from the Pan-European Common Bird Monitoring Scheme (EBCC/RSPB/BirdLife/Statistics Netherlands, P. Vorisek *in litt*. 2008).

2.20 In Central Asia (Afghanistan, Kazakhstan, Kyrgystan, Tajikistan, Turkmenistan and Uzbekistan) an analysis of observations of the species suggests that it has experienced a moderate or possibly strong decline over the past two to four decades (R. Ayé *in litt*. 2015). In Uzbekistan the species has declined severely over the past thirty years (R. Kashkarov *in litt*. 2015). The formerly large population in European Russia has crashed by >80% since 2000 and by >90% since 1980 (BirdLife International 2025b). Declines have also been reported from parts of east and south-east Kazakhstan, for example the species is now rare, or even absent in the Manrak Mountains, where it was once common (Wassink and Oreel 2008) (BirdLife International, 2025b).

2.21 Voříšek & Škorpilová (2010) maintain that the population index of Turtle-dove within the territory of the European Union (EU 27) has fallen "from 100% in 1980 to 31% (32% smoothed index) in 2008". The authors also point out that "the smoothed index shows rapid decline of the breeding population in 1980s and less steep decline since early 1990s", concluding that "the breeding population of Turtle-dove in the EU has significantly declined to the level of almost one third of its numbers in 1980", and that "the population appears to be depleted with no signs of recovery" and that the "data from recent years suggest further decline of the population" (Voříšek & Škorpilová, 2010).

Pan-European Common Birds Monitoring Scheme (EBCC/PECBMS)

2.22 According to the European Bird Census Council (EBCC, 2024)[10], the Pan-European population of the Turtle-dove is classified as **Moderate Decline**, defined as "significant decline, but not significantly more than 5% per year". The species **declined by 83% since 1980** (long-term trend: 1980–2023) (Figure 16) **and declined by 16% during the current (2014–2023) 10-year trend**. When compared with the previous EBCC update (i.e., base year 2023 compared with base year 2022), no change was reported in the long-term trend (-83% decline during

[10] https://pecbms.info/trends-and-indicators/species-trends/species/streptopelia-turtur/ (base year 2023)

base years 2022 and 2023), but the species **decreased by 11% in the short-term (10-year) trend** [from -5% to -16%] (Table 8)[11].

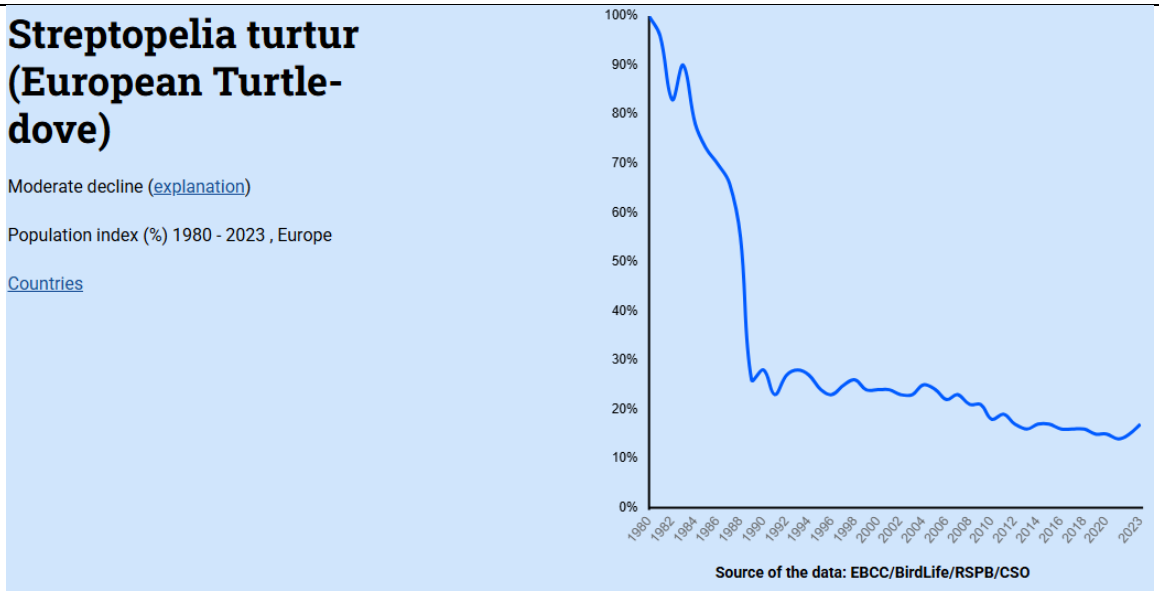


Figure 16. European Turtle-dove long-term trend (1980–2023)
Source: EBCC (2024)

Table 8 European Turtle-dove long-term and short-term percentage trends [10]

Year (EBCC update)	Species	Long-term Trend 1980 (%)	Long-term Slope	% Annual change*	10-year Trend (%)	10-year Slope	% Annual change*	Habitat
2012	*Streptopelia turtur*	-73	0.9611	-3.89%	-29	0.9884	-1.16%	farm
2013	*Streptopelia turtur*	-74	0.961	-3.9%	-30	0.9879	-1.21%	farm
2014	*Streptopelia turtur*	-77	0.9607	-3.93%	-21	0.9712	-2.88%	farm
2015	*Streptopelia turtur*	-78	0.96	-4.00%	-29	0.9629	-3.71%	farm
2016	*Streptopelia turtur*	-79	0.9597	-4.03%	-28	0.9632	-3.68%	farm
2017	*Streptopelia turtur*	-78	0.9597	-4.03%	-15	0.9686	-3.14%	farm
2018	*Streptopelia turtur*	-80	0.9609	-3.91%	-29	0.9676	-3.24%	farm
2019	*Streptopelia turtur*	-80	0.9611	-3.89%	-17	0.9781	-2.19%	farm
2020	*Streptopelia turtur*	N/A	N/A	N/A	N/A	N/A	N/A	farm
2021	*Streptopelia turtur*	-82	0.9616	-3.84%	-12	0.988	-1.2%	farm
2022	*Streptopelia turtur*	-85	0.9616	-3.84%	-17	0.9834	-1.66%	farm
2023	***Streptopelia turtur***	**-83**	**0.962**	**-3.80%**	**-5**	**0.9867**	**-1.33%**	**farm**
2024 (base year 2023)	***Streptopelia turtur***	**-83**	**0.9615**	**-3.85%**	**-16**	**0.9913**	**-0.87%**	**farm**
Change from previous update (base years 2022–2023)		**0%**			**-11%**			

[11] Comparison between the previous and current EBCC updates is for information purposes only. The EBCC updates provide composite data (combined data of all contributing countries) on the latest population trends at pan-European level, not at EU level—it includes data pertaining to countries that are not part of Malta's EU reference population. Moreover, since the EBCC updates do not provide segregated data on population levels and trends for each contributing country, it is not possible to use EBCC's composite data, even if combined at EU level only, to update the assessment of the species at Malta's EU reference population level. The latest available data at EU level that is segregated by country, and hence available to the Maltese authorities to carry out an assessment of the status of the species at reference population level, is the one published by the European Environment Agency as part of the Birds Directive Article 12 reporting obligations for period 2013–2018.

Data sources: EBCC updates (2012–2024)

List of Countries: Austria | Belgium-Wallonia | Bulgaria | Croatia | Cyprus | Czechia | Estonia | France | Germany | Greece | Hungary | Italy | Lithuania | Netherlands | Poland | Portugal | Romania | Slovakia | Slovenia | Spain | United Kingdom.

** Multiplicative trend over a time period considered, reflects average percentage change per year. If the slope value is 1, there is no trend. If > 1, there is a positive trend, if < 1, trend is negative. For instance, 1.08 means 8% increase per year, 0.93 means 7% decline per year* (EBCC).

NADEG Task Force on the Recovery of Species

2.23 The Task Force for the recovery of bird species is set up as an ad hoc task force of the Nature Directives Expert Group (NADEG). It aims at supporting the development of the necessary measures needed for the recovery of species that have been assessed, in the latest assessment under Article 12 of the Birds Directive, as having a non-secure status, also having regard to the objectives of the EU Biodiversity Strategy for 2030.

2.24 The mission of the Task Force on the recovery of bird species is as follows:

1. Concerning the European Turtle-dove:

a. to make recommendations to NADEG, particularly on harvest and habitat management, in the framework of an Adaptive Harvest Management Mechanism (AHMM) for the European Turtle-dove.
b. to promote and oversee the implementation of a robust AHMM for the European Turtle-dove and the implementation of yearly planning and national/local hunting quotas and seasons;
c. to hear regular updates from the Scientific Advisory Group on the results of the monitoring data and advances on the subsequent analyses and modelling;
d. to assess the evidence and analyses provided by the Scientific Advisory Group that justify any changes to the current technical recommendations on harvest;
e. to advise on a management option based on the tested scenarios, including, if relevant, the total hunting quotas at flyway scale and break-up of such global quotas into national quotas and on possible conditions for hunting;
f. to identify research and monitoring needs;
g. to propose post-2028 conservation objectives at flyway scale, such as a recovery target for the population and timeframe to reach such a goal.

2. Concerning other Annex II bird species that are not in a secure status:

d. to promote and oversee the development of robust AHMMs for species listed in Annex II of the Birds Directive and, once this is developed, to make recommendations to NADEG accordingly;
e. to identify research and monitoring needs;
f. to work and advise NADEG on non-hunting related conservation measures.

3. Concerning non-Annex II bird species that are not in secure status:

a. to identify research and monitoring needs;
b. to work and advise NADEG on non-hunting related conservation measures.

2.25 The following table lists the main outcomes of the meetings of the Task Force to date.

Table 9 Summary of the main outcome of the Task Force meetings in relation to Turtle-dove (central-eastern flyway)

Date of meeting	Outcome
March 2022	The Commission recommended a temporary zero take approach for the Turtle-dove in 2022 and informed that Member States shall focus on acquiring information on demographic parameters and developing systems to quantify the uncertainty in real-time information on hunting bags. The Commission established a set of conditions to resume hunting, mainly: i. a population increase of at least two years measured with the PECBMS index (confidence interval with a lower limit > 0.95 and upper limit < 1.05). ii. obtaining flyway-specific survival data, allowing to develop a bespoke population model, indicating a growth rate (λ) that is reliably equal to or above 1 (the reliability of stability or future population growth should be calculated by the assessment that the risk of decline is lower than 15%). iii. the existence of credible regulatory and control/enforcement systems in place at the time when hunting is reopened.
November 2022	The Commission informed that the recommended zero take approach set out in March 2022 was not supported by five Member States at the NADEG meeting of March 2022 and has only been followed by Romania and some Italian regions. The Commission acknowledged that Member States have taken measures to reduce the harvest by 50% compared to the 2013–2018 period (as recommended for 2021) and/or have taken measures regarding the hunting period and the hunting quota amongst others. The chair noted that it is very worrying that Malta re-opened a spring hunting season.
March 2023	The technical report published by the Institute for Game and Wildlife Research (IREC) in 2023 showed a continuous decline to the Turtle-dove population in the Central-Eastern flyway. The Commission informed that to stop and reverse the decline, Member States need to act on different pillars – specifically habitat management, research and monitoring, illegal killing and hunting. A scenario of 50% reduction of hunting levels as compared to the harvest rate for the 2013–2018 period (which was the recommendation for 2021) still resulted in population declines. The Commission again recommended the temporary suspension of hunting of Turtle-dove in 2023 pending more robust data and because the conditions for allowing hunting set out in 2022 have not been met.
December 2023	The Commission informed that the moratorium for the hunting of the Turtle-dove should have been implemented in 2022 and 2023 but there are still various Member States hunting the Turtle-dove. Until the technical studies show a positive population stabilization and increase, the recommendation of zero take will stand.
April 2024	The technical updates presented by IREC showed that the situation in the central-eastern flyway had deteriorated, unlike the western flyway. The PECBMS estimates indicated that the population size in 2023 reached the lowest level of the entire time series. The PECBMS 10-year population trend had worsened from 'stable' to 'moderate decline' and, even though the decline was not as steep as seen historically in the western flyway, it was continuing and showing no signs of recovery. The assessment of the responses from the Member States to the questionnaire on hunting, habitat management measures and research on Turtle-dove concluded that the species was hunted in all countries except for three regions of Italy, and the harvest reported was similar to 2022. Most habitat management actions implemented by relevant Member States are not specific for Turtle-dove, and robust monitoring mechanisms are lacking. There was a lack of reporting, monitoring methods, national surveys or censuses, monitoring of

	productivity as well as Capture-Mark-Recapture (CMR) programs to estimate survival. The poor demographic data for this flyway did not allow developing population models as done with the western flyway. Therefore, the technical recommendation for the central-eastern flyway was to **fully implement a temporary hunting ban in 2024**. On management, the recommendation was to implement measures that are specifically targeted to Turtle-dove and implement monitoring mechanisms for the effectiveness of measures. On research, the recommendation was to increase efforts for developing flyway-specific population model (initiate CMR programs for survival data), to collect data on productivity and to implement national surveys/censuses. The Commission pointed out that: • The situation was dramatically different from what had been previously shown for the western flyway—there was much less knowledge of what was happening in this flyway (in terms of productivity, survival, bag data, enforcement) but the continued population decline was very clear. • The decisions by MS to keep authorising hunting in such circumstances do not comply with the Birds Directive. • There is a need to seriously engage in this process and implement the temporary hunting ban. The Commission concluded that the technical recommendation was very clear: in a situation of continued population decline, **the precautionary principle read together with Article 7 of the Birds Directive pointed to the need to temporarily suspend hunting**.
November 2024	IREC presented the analysis of the proposed regulatory systems that should be in place as one of the conditions to resume hunting of European Turtle-Dove in the Western Flyway. However, technical recommendations for the Central-eastern flyway remain the same as previously communicated in April 2024. T**he precautionary principle read together with Article 7 of the Birds Directive pointed to the need to temporarily suspend hunting** thus, until Member States within the Central-eastern flyway implement the required recommendation and the Turtle-Dove population stops declining, no hunting should take place.

2.26 The contract led by the IREC is part of the consortium which includes the Office Français de la Biodiversité (FR), Czech University of Life Science (CZ), University College Dublin (IE) and the Royal Society for the Protection of Birds (UK). As subcontractors to this contract, there are also the Aarhus University (DK), CSO-PECMBS (CZ), David Stroud (UK), Fernando Spina (IT) and ATECMA (ES). The tasks of the contract and expected involvement of the members of the Task Force are:

1. Revision of the classification of species for follow-up actions according to categories mentioned in the NADEG documents which were presented in the Ad Hoc Task Force working group in May 2022.

2. Addressing habitat-related threats and needs – Member States will be required to report on five key actions on habitats.

3. Addressing non-hunting and non-habitat related threats – Member States will be asked to report yearly on five key actions. Through this task, consultation of co-ordination mechanism under AEWA will also be undertaken.

4. Development and implementation of adaptive harvest management mechanisms.

5. Assessment of sustainable hunting levels for cases 2, 3, 4 or 5 of the Approach.

6. Monitoring and research for species with insufficient knowledge.

7. Providing an overview of action taken on fully resident species.

Scientific Advisory Group – Technical updates on Turtle-dove population data and trends

3rd meeting TFRB, 21–22 March 2023
March 2023 Technical update: Turtle Dove population data and trends, abundance estimates and management scenarios (central-eastern flyway)[12]

2.27 During the March 2023 Task Force meeting, a technical update on the Turtle-dove population data and trends, abundance estimates and management scenarios for the Central-Eastern Flyway was presented (Carboneras *et al*., 2023).

Population trends

2.28 The technical report notes that:

> *…the population trend for the central-eastern flyway reflects an overall decline for the entire 21-year period 2000-2021 (Fig. 1)* [Fig. 17 below]. *The graph shows a continued moderate decline for the entire period. The overall loss in population size is 33% since 2000, at an annual average rate of -1.4%.* ***However, we must emphasise that PECBMS estimates carry a significant amount of uncertainty when they refer to the three most recent years [2019–2021]. This is due to the fact that only part of the data were available to produce these estimates, as explained in Annex 1. Consequently, these results must be taken as provisional and to be confirmed in future iterations of this exercise*** (Carboneras *et al*. 2023).

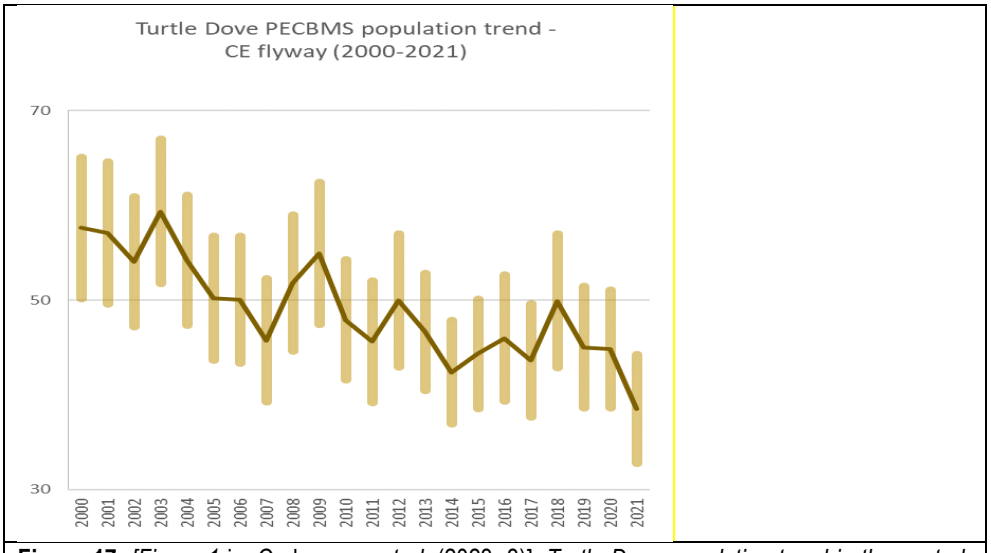


Figure 17. *[Figure 1* in: Carboneras *et al*. (2023: 3)]. *Turtle Dove population trend in the central-eastern flyway. Numbers represent proportional values in relation to a reference value, set at 100 in 1980. However, the dataset is representative of the flyway only after 2000, when available data covered >50% of the population. Bars indicate standard error. Data: PECBMS (February 2023).*

[12] *Carles Carboneras (1), Beatriz Arroyo (1), Eva Šilarová (2) and Jana Škorpilová (2)*
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(2) Czech Society for Ornithology, Pan-European Common Bird Monitoring Scheme (CSO, CZ)

2.29 The technical report also notes that *the PECBMS multiplicative slope corresponding to three different periods, 2000-2021 (21 years), 2012-2021 (10 years) and 2017-2021 (5 years) and the standard error for all three periods are entirely below 1, indicating a continuously negative growth rate (corresponding to a decline) in all three periods. PECBMS classifies the trend as moderate decline (<5%) for the period 2000-2021, stable for the period 2012-2021 (not significantly different from 0) and uncertain for the period 2017-2021, due to its large confidence interval.* ***What is said previously about the associated large uncertainty also applies here*** (Carboneras *et al*. 2023).

2.30 Carboneras *et al*. (2023) conclude that *the population trend indicators estimated by PECBMS show that the turtle dove population in the central-eastern flyway has undergone a sustained decline that continued into 2021, the last year for which data are available. At flyway level, the decline extends for the entire period. As mentioned, any changes in the trend that could be a direct consequence of the hunting restrictions implemented in 2021 cannot be reflected in the current dataset and may only be recognisable in the future*.

Estimates of Population Size

2.31 Carboneras *et al*. (2023) note that the PECBMS project has also updated its population size estimates inferred from the national data on size totals (from Article 12 reports) and variations in abundance. The methodology is described in detail in Annex 1 of the technical report (Carboneras *et al*. 2023).

2.32 The authors point out that *during a brief period of apparent stability in the early years since 2000, the population reached its highest level in 2003 at 1,011 ±63 thousand breeding pairs (bp). In 2021, the total population was estimated at 656 ±50 thousand bp, so the overall loss was around 355 thousand bp over a period of 18 years (2003-2021), at an average of almost -20,000 bp every year*. ***As it was the case for the trend estimates on which these calculations are based, we must emphasise that PECBMS estimates are based on limited data, and therefore are associated with higher uncertainty, when they refer to the three most recent years*** [2019–2021] (Carboneras *et al*. 2023).

5th meeting TFRB, 19 April 2024
Turtle Dove Adaptive Harvest Management mechanism – March 2024 Technical update (central-eastern flyway)[13]

2.33 The latest Technical update (March 2024) is reproduced in full below.

1. WHAT IS NEW IN THE 2024 UPDATE

The spring 2024 technical update on the Turtle Dove AHM mechanism provides new population data from the Pan-European Common Bird Monitoring Scheme (PECBMS), this time covering up to the breeding seasons of 2022 and 2023. Thus, we present quantitative information on the population estimates corresponding to the first two breeding seasons since the TFRB recommended significant reductions in hunting (50% of the 2013-2018 baseline in 2021 and zero take in 2022); in the same period, there was a complete hunting ban in place in the western flyway.

Unfortunately, there are still no data on turtle dove demographic parameters coming from studies carried out in countries that form part of the central-eastern flyway, despite the

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repeated recommendations of the Task Force on this issue. This continues to hamper the possibility of using population modelling tools based on parameters that are specific to this flyway, which in turn creates high uncertainties on the impact of hunting on this flyway.

2. MAIN RESULTS AND CONCLUSIONS

The updated PECBMS data 2000-2023 show that the turtle dove breeding population size in the central-eastern flyway declined continuously between 2003 and 2023. ***In the spring of 2023, the population size reached its lowest level of the entire time series, at 0.56 million breeding pairs (560,000 bp). The total loss is of 0.48 mbp, or 46% of the previous population, over a period of 21 years****.*

In line with the continued decline, the 10-year trend, measured by the PECBMS multiplicative slope, worsened from "stable" to "moderate decline". This is the opposite situation to the western flyway, where the 10-year slope has improved from "moderate decline" to "stable".

3. FLYWAY-SCALE POPULATION DATA (PECBMS)

The PECBMS turtle dove dataset, updated in 2024, refers to the breeding seasons of 2000 to 2023. The results show that the population in the central-eastern flyway continues to decline progressively, with no sign of potential recovery, particularly in recent years. Turtle dove numbers in this flyway fell from a maximum 1.04 mbp in 2003 to 0.56 in 2023, the lowest estimate of the time series; this represents a total loss of 0.48 mbp, or 46% of the 2003 figure, over this 21-year period. This situation contrasts with that observed in the western flyway (see Figure 1), where the population has increased following the implementation of a temporary hunting moratorium since 2021.

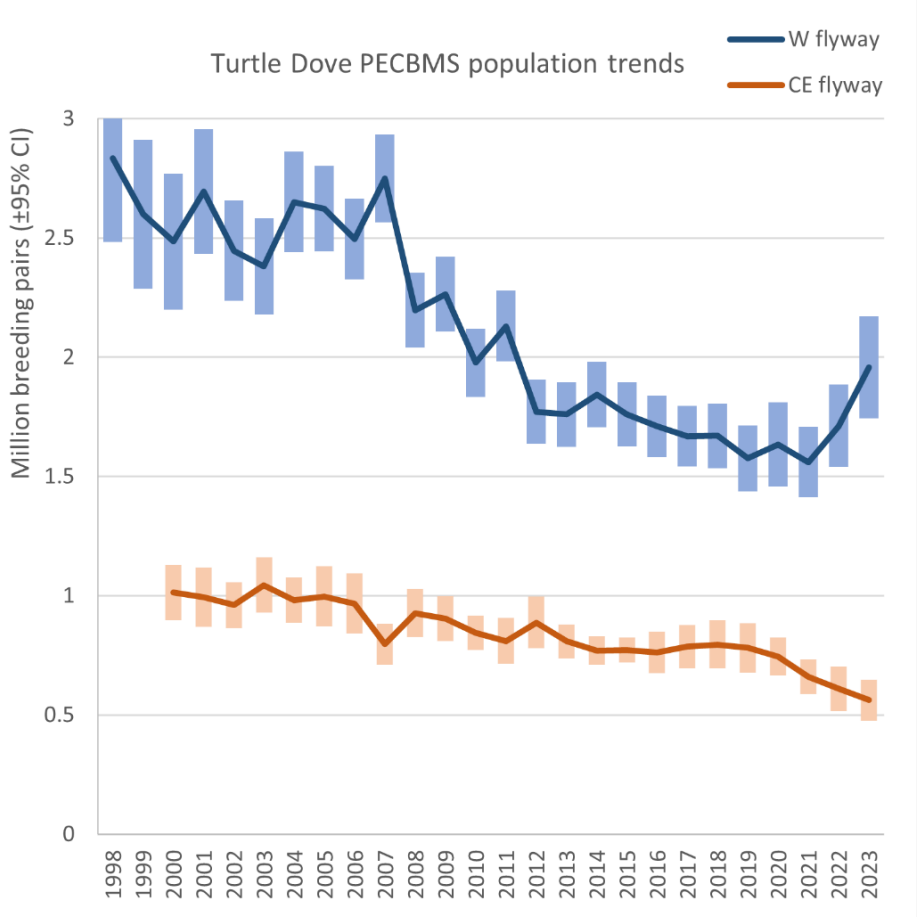

Figure 1. *Estimates of turtle dove breeding population size along the European part of the western flyway 1998-2023 and central-eastern flyway 2000-2023. Estimates of numbers of breeding pairs in each flyway were calculated by combining*

information on annual variations in national bird count data during surveys and information on population sizes reported by national authorities in the latest Art. 12 process. Error bars indicate 95% confidence intervals. Data: PECBMS (February 2024).

Correspondingly, the 10-year multiplicative slope for the central-eastern flyway decreased in 2014-2023 (0.968 ±0.014 95%CI) with respect to 2012-2021 (0.988 ±0.013 95%CI), with the trend worsening from stable to moderate decline (p<0.01) (Fig. 2). In the western flyway, by contrast, the 10-year slope increased after two years of moratorium to 0.999 ±0.011 95%CI (2014-2023) from a pre-ban estimate of 0.983 ±0.010 95%CI (2012-2021). This meant that the western flyway 10-year trend improved from moderate decline to stable.

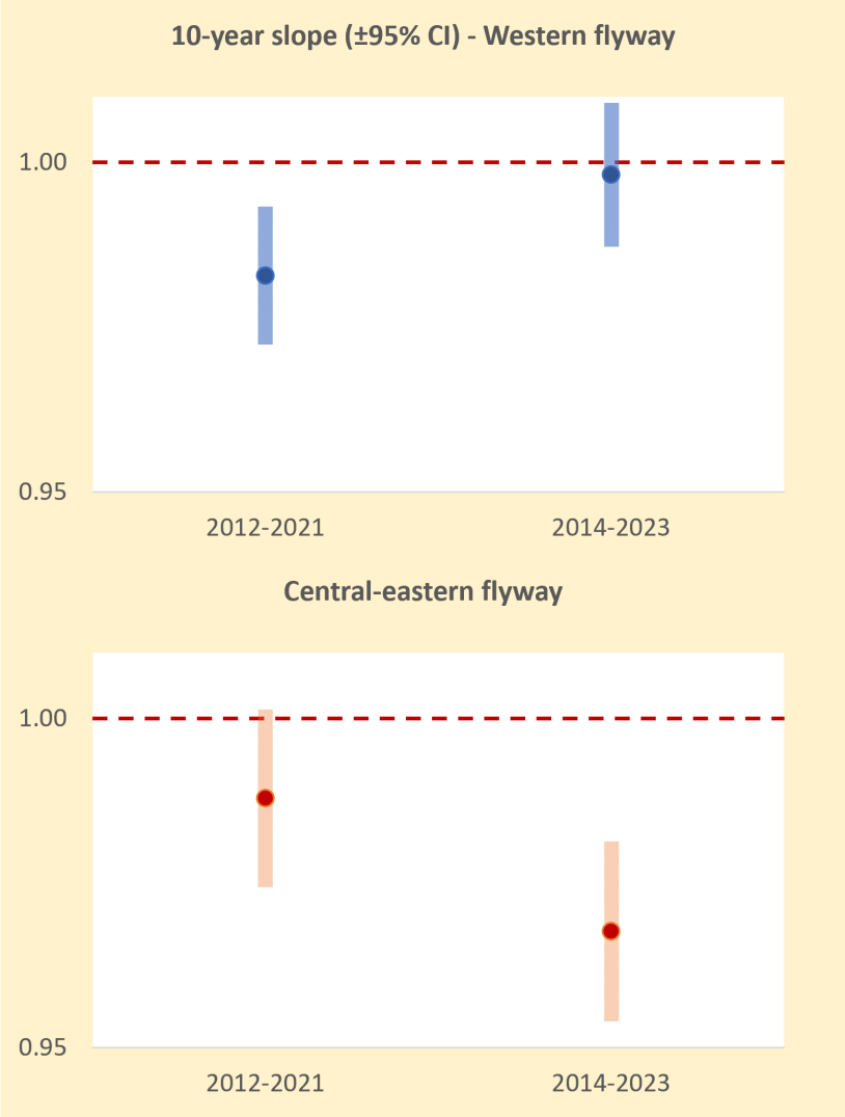

***Figure 2**. 10-year multiplicative slopes for both flyways corresponding to the periods 2012-2021 and 2014-2023 with their 95% confidence intervals. The red dotted line marks population stability (λ= 1). As explained in the text, in the western flyway, the 10-year slope has improved from moderate decline (confidence interval lower than 1 but higher than 0.95) to stable (confidence interval crosses 1). In the central-eastern flyway, the opposite situation occurs, with the 10-year slope worsened from stable to moderate decline. Data: PECBMS (February 2024).*

The quick population response to the hunting ban observed in the western flyway is in line with the predictions of the population models of Bacon et al. (2023)[14] and de Vries et al. (2022)[15] that improving the survival of adults and juveniles, the vital rates to which population growth is most sensitive, would bring immediate effects at population level. There, the population has shown capacity to recover almost immediately and, even if this process may at some point be slowed down by density-dependence, it demonstrates that by prioritizing action to address unsustainable hunting it is possible to buy time to undertake more lasting interventions on habitat.

The measures taken so far to reduce hunting pressure have not been as drastic in the central-eastern flyway as in the western flyway, and this is the most likely reason behind the observed difference in population trends. Both populations are known to overlap in Africa during the wintering season[16] and are, therefore, probably subject to similar conditions outside of the breeding grounds.

2.34 The latest technical update notes that the Turtle-dove population in the central-eastern flyway **continues to decline progressively with no sign of potential recovery, particularly in recent years**. The total loss between 2003 and 2023 has been reported at 480,000 breeding pairs (46% decline). The population has been reported at its lowest during the 2003–2023 time series.

2.35 As was the case in this update, subsequent updates to this report will include any additional or revised data on the Turtle-dove's population trends and estimates of population size that the Scientific Advisory Group will present to NADEG's Task Force. Science-driven policy can only attain the intended objectives when unequivocal data is available in its entirety. It should be noted that the population trend at the flyway level and that at EU reference population level may not necessarily be the same.

2.36 A species may have a favourable population status at the flyway level but an unfavourable one at reference population level, and vice versa. For this reason, Malta requested the Scientific Advisory Group to present, in the current (March 2024) technical update and subsequent updates, the data not only at the flyway level but also at the level of each country to ensure that the assessment at Malta's EU reference population level takes into full account the latest available estimates on population size and trends (refer to Table 15). To date, this information has not been provided.

2.37 Once the latest scientific data on the population levels (number of breeding pairs) and trends (short-term and long-term) pertaining to each country as opposed to the entire flyway level is available, the Maltese authorities will be in a position to update the conservation status of the European Turtle-dove at reference population level (in particular, but not limited to, Table 15, Figures 29 and 30 on Malta's EU reference population).

2.38 Notwithstanding the European Commission's Guidance Document on Hunting under the Birds Directive[17], which *inter alia* specifies that in the case of migratory species, Article 9 derogations from the general prohibitions of the Birds Directive must establish and be

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[14] *Bacon, L., Guillemain, M., Arroyo, B. et al. Predominant role of survival on the population dynamics of a threatened species: evidence from prospective analyses and implication for hunting regulation. J Ornithol **164**, 275–285 (2023). https://doi.org/10.1007/s10336-022-02038-4*

[15] *de Vries, E.H.J., Foppen, R.P.B., van der Jeugd, H. and Jongejans, E. (2022), Searching for the causes of decline in the Dutch population of European Turtle Doves (Streptopelia turtur). Ibis, 164: 552-573. https://doi.org/10.1111/ibi.13031*

[16] *Schumm, Y.R., Metzger, B., Neuling, E. et al. Year-round spatial distribution and migration phenology of a rapidly declining trans-Saharan migrant—evidence of winter movements and breeding site fidelity in European turtle doves. Behav Ecol Sociobiol 75, 152 (2021). https://doi.org/10.1007/s00265-021-03082-5*

[17] https://environment.ec.europa.eu/topics/nature-and-biodiversity/birds-directive/sustainable-hunting-under-birds-directive_en

limited to the main contingents (the EU reference population) passing through that Member State during the period that the derogation is applied, the European Commission informed the Maltese authorities that decisions related to Turtle-dove must be carried out at the flyway level and not at the reference population level and that **the precautionary principle must be adopted**.

Article 12 Reports

2.39 Article 12 reports for the reporting period 2013–2018 provide the **latest available information** on the short-term and long-term trends of bird species **for each country within the territory of the European Union** (EU28). The EU breeding population trend of the European Turtle-dove continues to **Decrease** in both the short-term and in the long-term (Table 12; see also Figures 18 and 19, and Figures 25 and 26).

2.40 The previous datasets, provided by Birds in Europe II [BirdLife International (2004)] had shown that the Turtle-dove populations within the territory of the European Union decreased by 25.08% (minimum pairs) and by 17.82% (maximum pairs) with a change in the geomean population of -20.50% (Table 10). According to BirdLife International (2004), this equated to a Moderate Decline for the minimum, maximum and geomean number of breeding pairs (a change not more than 10% in 10 years is considered to be Stable).

2.41 The short-term trend reported during the previous Article 12 (2008–2012) reporting cycle had shown a decline of -23.13% and -22.12% in the minimum and maximum number of pairs respectively (Table 11). The current Article 12 data for period 2013–2018 are shown in Table 12.

Table 10 European Turtle-dove EU28 Breeding Population in 2004 (Bold = Ring Recoveries)

Country	EU Ring Recoveries in Malta (n=35) ∫	Breeding Pairs (Min - Max)		Trend	Mag. % (Max - Min)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
Austria	**2.9%**	**8,000**	**15,000**	**Stable**	**0**	**19**	**-**	**-**	**-**
Belgium		5,800	9,600	Decline	50	79	-4,582	-7,584	-6,083
Bulgaria		20,000	100,000	Stable	0	19	-	-	-
Croatia	**2.9%**	**50,000**	**100,000**	**Increase**	**0**	**19**	**9,500**	**19,000**	**14,250**
Cyprus		5,000	15,000	Decline	0	19	-950	-2,850	-1,900
Czech Rep.	**25.7%**	**60,000**	**120,000**	**Stable**	**0**	**19**	**-**	**-**	**-**
Denmark		25	75	Decline	50	50	-13	-38	-25
Estonia		4,000	8,000	Decline	20	29	-1,160	-2,320	-1,740
Finland		5	30	Decline	80	80	-4	-24	-14
France	**2.9%**	**150,000**	**450,000**	**Increase**	**10**	**10**	**15,000**	**45,000**	**30,000**
Germany	**5.7%**	**55,000**	**81,000**	**Decline**	**20**	**29**	**-15,950**	**-23,490**	**-19,720**
Greece		10,000	30,000	Decline	0	19	-1,900	-5,700	-3,800
Hungary	**5.7%**	**165,000**	**215,000**	**Stable**	**0**	**19**	**-**	**-**	**-**
Italy	**51.4%**	**200,000**	**400,000**	**Stable**	**0**	**19**	**-**	**-**	**-**
Latvia		500	2,000	Decline	50	79	-395	-1,580	-988
Lithuania		2,000	5,000	Decline	30	49	-980	-2,450	-1,715
Luxembourg		1,800	2,000	Stable	0	19	-	-	-
Malta		2	5	Decline	0	19	0	-1	-1
Netherlands		10,000	12,000	Decline	53	53	-5,300	-6,360	-5,830
Poland	**2.9%**	**40,000**	**70,000**	**Decline**	**0**	**19**	**-7,600**	**-13,300**	**-10,450**

Portugal		10,000	100,000	?	-	-	-	-	-
Romania		15,000	25,000	Increase	0	19	2,850	4,750	3,800
Slovakia		15,000	30,000	Stable	0	19	-	-	-
Slovenia		2,000	3,000	Stable	0	19	-	-	-
Spain		790,000	1,000,000	Decline	30	49	-387,100	-490,000	-438,550
Sweden		0	1	?	-	-	-	-	-
UK		44,000	44,000	Decline	42	42	-18,480	-18,480	-18,480
Total	100%	**1,663,132**	**2,836,711**				-417,064	-505,426	-461,245
				Percentage change			**-25.08%**	**-17.82%**	**-20.50%**
				Trend (EU Population)			**Moderate Decline**	**Moderate Decline**	**Moderate Decline**

Source: Birds in Europe II (BirdLife International, 2004); ∫ Raine (2007) [excluding Tunisia (n=2). See para. 2.32 on ring recoveries].

Table 11 **European Turtle-dove EU28 Breeding Population during the previous Article 12 reporting period (2008–2012)** (Bold = Ring Recoveries until April 2015)

Country	EU Ring Recoveries in Malta (n=37) ∫	Breeding Pairs (Min - Max)		Short-term Trend	Mag. % (Max - Min)		Long-term Trend	Mag. % (Max - Min)		Breeding Pairs (2004) (Min - Max)		Short-term		Long-term	
												Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Min Pairs)	Max % Change (Max Pairs)
Austria	**2.7%**	**12,000**	**18,000**	**Decline**	**30**	**50**	**Unknown**	**?**	**?**	**18,000**	**27,000**	**-6,000**	**-9,000**	**-**	**-**
Belgium		3,000	4,500	Decline	38	58	Decline	84	90	4,740	7,110	-1,740	-2,610	-2,520	-4,050
Bulgaria		35,000	100,000	Decline	27	27	Unknown	?	?	44,450	127,000	-9,450	-27,000	-	-
Croatia	**2.7%**	**50,000**	**100,000**	**Increase**	**0**	**19**				**40,500**	**81,000**	**9,500**	**19,000**	**-**	**-**
Cyprus		3,000	10,000	Stable	0	0	Decline	10	30	3,300	13,000	-	-	-300	-3,000
Czech Rep[1]	**24.3%**	**38,000**	**76,000**	**Decline**	**3**	**33**	**Decline**	**62**	**94**	**50,540**	**101,080**	**-12,540**	**-25,080**	**-23,560**	**-71,440**
Denmark		100	100	Increase	50	50	Stable	0	0	50	50	50	50	-	-
Estonia		1,000	3,000	Decline	20	50	Decline	50	70	1,500	4,500	-500	-1,500	-500	-2,100
Finland		5	10	Decline	27	61	Decline	82	90	8	16	-3	-6	-4	-9
France	**2.7%**	**397,000**	**481,000**	**Decline**	**11**	**20**	**Decline**	**20**	**30**	**476,400**	**577,200**	**-79,400**	**-96,200**	**-79,400**	**-144,300**
Germany	**5.4%**	**25,000**	**45,000**	**Decline**	**38**	**58**	**Decline**	**20**	**60**	**39,500**	**71,100**	**-14,500**	**-26,100**	**-5,000**	**-27,000**
Greece[2]		30,000	80,000	Decline	5	15	Decline	10	20	34,500	92,000	-4,500	-12,000	-3,000	-16,000
Hungary	**8.1%**	**64,000**	**150,000**	**Stable**	**0**	**0**	**Unknown**	**?**	**?**	**165,000**	**215,000**	**-**	**-**	**-**	**-**
Italy	**51.4%**	**150,000**	**300,000**	**Unknown**	**?**	**?**	**Unknown**	**?**	**?**	**200,000**	**400,000**	**-**	**-**	**-**	**-**
Latvia		10,341	30,431	Stable	0	0	Stable	0	0	10,341	30,431	-	-	-	-
Lithuania		4,000	7,000	Decline	5	10	Decline	60	80	4,400	7,700	-400	-700	-2,400	-5,600
Luxembourg		150	200	Decline	20	20	Decline	30	50	180	240	-30	-40	-45	-100
Netherlands		4,763	5,715	Decline	27	55	Decline	82	90	7,383	8,858	-2,620	-3,143	-3,906	-5,144
Poland	**2.7%**	**25,000**	**49,000**	**Decline**	**25**	**55**	**Unknown**	**?**	**?**	**38,750**	**75,950**	**-13,750**	**-26,950**	**-**	**-**
Portugal		10,000	50,000	Decline	39	59	Decline	20	40	15,900	79,500	-5,900	-29,500	-2,000	-20,000
Romania		120,000	300,000	Fluctuating	-	-	Unknown	-	-	120,000	300,000	-	-	-	-
Slovakia		15,000	30,000	Stable	0	0	Stable	0	0	15,000	30,000	-	-	-	-
Slovenia		3,500	5,000	Decline	30	50	Decline	30	50	5,250	7,500	-1,750	-2,500	-1,050	-2,500
Spain		1,370,000	2,285,000	Decline	29	29	Decline	0.80	2.50	1,767,300	2,947,650	-397,300	-662,650	-10,960	-57,125
UK		14,000	14,000	Decline	76.70	76.70	Decline	91.73	91.73	24,738	24,738	-10,738	-10,738	-12,842	-12,842

Total	100%	**2,384,859**	**4,143,956**							**3,087,730**	**5,228,623**	**-551,571**	**-916,667**	**-147,487**	**-371,210**
											Percentage change	-23.13%	-22.12%	-6.18%	-8.96%
											Trend (EU Population)	**Decline** (> 10% change in 10 years)	**Decline** (>10% change in 10 years)	**Stable** (<20% change since 1980)	**Stable** (< 20% change since 1980)

Data Sources: European Environment Agency (2014); *BirdLife International (2004); ∫ Raine (2007) and BirdLife Malta ringing data (n=2: May 2013 [IT] & April 2015 [HU]).

[1] In the absence of a report from the Czech Republic for this taxon, surrogate data were provided by ČSO / BirdLife indicating a breeding population of 38000–76000 pairs, with a decreasing trend (3–33%) during 2000–2012 and a decreasing trend (62–94%) during 1982–2012.Source: EEA (2014) Audit Trail, available at: http://bd.eionet.europa.eu/article12/summary/audittrail/?period=1&subject=A210 [Accessed 23/01/2024].

[2] In the absence of a report from Greece for this taxon, surrogate data were provided by the Hellenic Ornithological Society (HOS), the BirdLife Partner in Greece, indicating a breeding population of 30000–80000 pairs, with a decreasing trend (5–15%) during 2007–2013 and a decreasing trend (10–20%) during 1980–2012. Source: EEA (2014) Audit Trail, available at: http://bd.eionet.europa.eu/article12/summary/audittrail/?period=1&subject=A210 [Accessed 23/01/2024].

Table 12	European Turtle-dove EU28 Breeding Population during the current Article 12 reporting period (2013–2018) (Bold = Ring Recoveries / Tracking Data)													
Member State	Breeding population													
	Population size							Population trend						
	Min	Max	Best value	Unit	Type est.	Change	% MS	ST period	ST direction	ST magnitude	LT period	LT direction	LT magnitude
Austria	**8,000**	**12,000**	**N/A**	**p**	**estimate**	**genuine**	**0.4**	**2007-2018**	**-**	**N/A | N/A | (-18)**	**1981-2018**	**x**	**N/A**
Belgium	2,200	3,500	2,800	p	estimate	genuine	0.1	2008-2018	-	-41 | -7 | (-25)	1973-2018	-	-92 | -88 | (-90)
Bulgaria	**50,000**	**100,000**	**N/A**	**p**	**estimate**	**knowledge**	**3**	**2001-2018**	**=**	**0 | 0 | (N/A)**	**1980-2018**	**x**	**N/A**
Cyprus	2,300	8,500	N/A	p	estimate	genuine	0.2	2007-2018	-	-24 | -15 | (N/A)	1980-2018	-	-30 | -10 | (N/A)
Czechia	**40,000**	**80,000**	**N/A**	**p**	**estimate**	**noChange**	**2.4**	**2007-2018**	**-**	**N/A | N/A | (-4)**	**1982-2018**	**-**	**N/A | N/A | (-3)**
Germany	**12,500**	**22,000**	**N/A**	**p**	**estimate**	**genuine**	**0.7**	**2004-2016**	**-**	**-70 | -51 | (-61)**	**1980-2016**	**-**	**N/A | N/A | (-89)**
Denmark	N/A	N/A	50	p	estimate	noChange		2006-2017	-	N/A	1980-2017	+	1718.73 | 18984.9 | (5899.61)
Estonia	350	700	N/A	p	estimate	genuine		2007-2018	-	-92 | -70 | (N/A)	1983-2018	-	-93 | -85 | (N/A)
Spain	1,006,540	1,678,790	1,342,665	p	interval	genuine	53.8	2007-2018	-	-40 | -23 | (-25)	1980-2018	-	N/A | N/A | (-29)
ESIC (Canary Islands)	2,500	10,000	N/A	p	minimum	noInfo	0.2	2013-2018	u	N/A	1980-2018	u	N/A
Finland	0	5	1	p	estimate	genuine		2006-2018	-	N/A | N/A | (50)	N/A	-	N/A | N/A | (80)
France	**397,000**	**481,000**	**436,900**	**p**	**interval**	**noChange**	**17.5**	**2007-2017**	**-**	**-46 | -25 | (-37)**	**1996-2017**	**-**	**-47 | -21 | (-37)**
Greece	30,000	80,000	N/A	p	estimate	knowledge	2.2	2007-2018	-	-15 | -5 | (N/A)	1980-2018	x	N/A
Croatia	**27,000**	**135,000**	**N/A**	**p**	**estimate**	**N/A**	**3.2**	**2007-2018**	**x**	**N/A**	**1980-2018**	**x**	**N/A**
Hungary	**80,000**	**120,000**	**N/A**	**p**	**estimate**	**knowledge**	**4**	**2007-2018**	**=**	**N/A**	**1980-2018**	**=**	**N/A**
Italy	**150,000**	**300,000**	**N/A**	**p**	**estimate**	**noChange**	**9**	**2012-2017**	**=**	**N/A**	**1993-2018**	**+**	**N/A | N/A | (200)**
Lithuania	2,700	4,000	N/A	p	estimate	genuine	0.1	2013-2018	-	-40 | -30 | (N/A)	1980-2018	-	-80 | -60 | (N/A)
Luxembourg	100	150	N/A	p	estimate	genuine		2007-2018	-	-30 | -10 | (N/A)	1980-2018	-	-50 | -30 | (N/A)
Latvia	3,579	12,361	6,651	p	interval	method	0.3	2005-2018	-	-71.3 | -20.1 | (-51.7)	1995-2018	u	-77.94 | 38.95 | (N/A)
Netherlands	1,200	1,400	N/A	p	estimate	genuine		2006-2017	-	-85 | -56 | (-74)	1984-2017	-	-95 | -88 | (-93)
Poland	**22,000**	**37,000**	**N/A**	**p**	**interval**	**genuine**	**1.2**	**2007-2018**	**-**	**-48 | -16 | (-34)**	**1980-2018**	**x**	**N/A**
Portugal	10,000	25,000	N/A	p	estimate	genuine	0.7	2004-2018	-	N/A	1980-2018	-	N/A
Romania	**120,000**	**300,000**	**N/A**	**p**	**estimate**	**noChange**	**7.8**	**2008-2018**	**u**	**-1 | 8 | (N/A)**	**1980-2018**	**x**	**N/A**
Slovenia	1,800	2,600	N/A	p	estimate	genuine		2008-2018	-	N/A | N/A | (-66.7)	1980-2018	x	N/A
Slovakia	**10,000**	**20,000**	**N/A**	**p**	**estimate**	**genuine**	**0.6**	**2007-2018**	**-**	**-30 | -20 | (N/A)**	**1980-2018**	**-**	**-30 | -20 | (N/A)**
UK	N/A	N/A	3,588	p	estimate	genuine	0.1	2004-2016	-	N/A | N/A | (-87.78)	1980-2016	-	N/A | N/A | (-97.35)

EU Breeding Population Size							
	Min	**Max**	**Unit**	**Short-term trend**	**Long-term trend**	**EU breeding population status**	**Previous status**
EU28	1,980,000	3,440,000	Pairs	Decreasing	Decreasing	Near Threatened	Near Threatened

Source: EEA (2020).

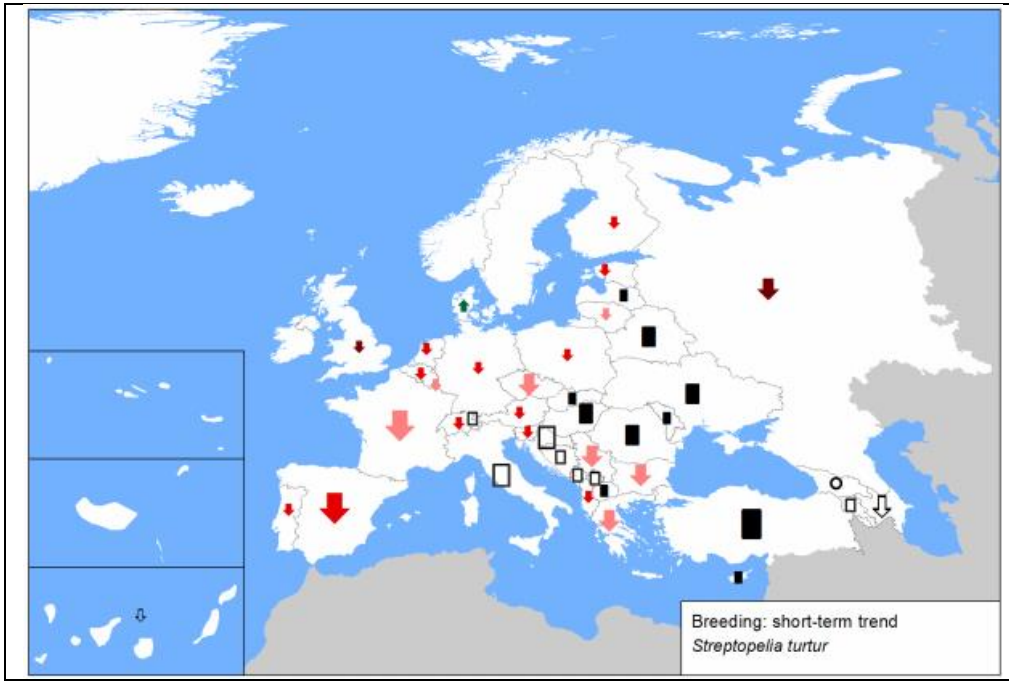

Figure 18. European Turtle-dove breeding population sizes and short-term trends across Europe.
Source: BirdLife International (2015c)

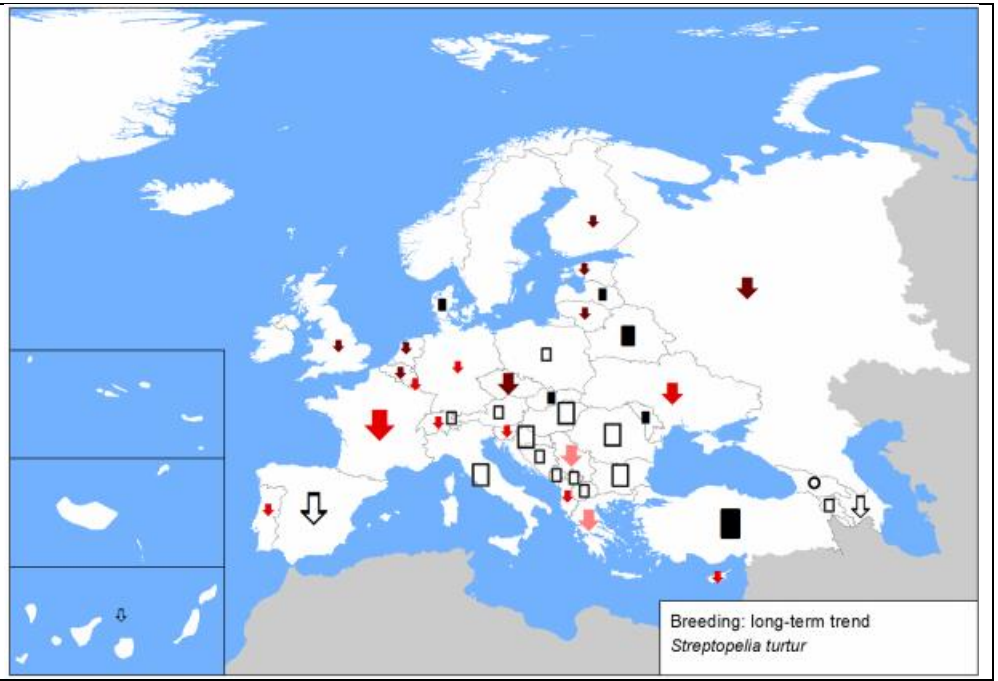

Figure 19. European Turtle-dove breeding population sizes and long-term trends across Europe.
Source: BirdLife International (2015c)

KEY

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

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

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

Source: BirdLife International (2015c).

Ring recoveries in Malta

2.42 Raine (2007) collated data pertaining to 37 ring recoveries of Turtle-dove in Malta, dating from 1933 to 2006 (Figure 20 and Appendix A), as follows: Italy (18), Czechia (9), Tunisia (2), Hungary (2), Germany (2), Poland (1), France (1), Croatia (1), and Austria (1). Following Raine's publication, an additional three ring recoveries for this species were recorded by BirdLife Malta in May 2013 (Italy), April 2015 (Hungary) and September 2020 (Italy). On average, 5–10 Turtle-doves are fitted with a scientific ring in Malta every year (BirdLife Malta, pers. comm., 2015; 2020). A Turtle-dove fitted with an Italian ring H210586[18] was recovered in Luqa, Malta on 18 April 2024. As at April 2024, a total of 41 Turtle-dove ring recoveries were recorded in Malta, 39 of which originated from the territory of the European Union.

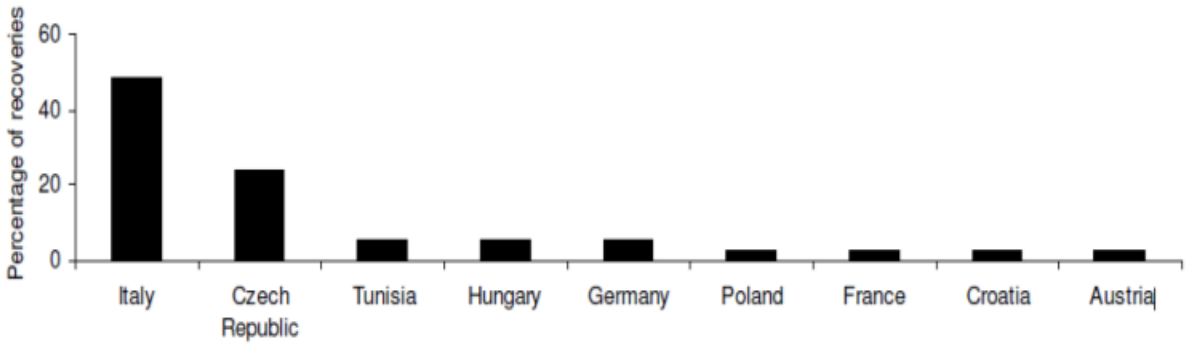

Figure 20. Percentage of ring recoveries for European Turtle-dove (*Streptopelia turtur*), ringed overseas and recovered in Malta, by country (n=37). Source: Raine (2007: 16). See also Appendix A.

2.43 Appendix A annexed to this report lists the details of 33 ring recoveries[19], including ringing country and ringing age. The data includes a Turtle-dove that was ringed in Malta as an adult (EURING age code 5: hatched during previous calendar year) in May 2014 and recovered in Italy in September 2020. This recovery was not previously available to the Maltese Authorities and hence not included in the previous publications of this report. The majority of Turtle-doves recovered in Malta with a foreign ring were ringed as adults (23 specimens | 72%), eight Turtle-doves (25%) were ringed in the nest (pulli), and one was ringed as a first-year (3%) in Hungary on 16 August 2012, during the trailing end of the breeding season[20]. The eight pulli were ringed in Czechia (n=5), Germany (n=2) and Poland (n=1) respectively. Based on this historical ringing data, it appears that a small component of Malta's reference population pertains to the western flyway. However, recent electronic tracking (2016 to date) has so far revealed that all geotagged specimens spent the breeding season in countries located within the central–eastern flyway (see next section and Table 13).

Electronic tracking (geotagging)

2.44 Geo-tagging projects aimed at tracking the movement of Turtle-doves migrating over Malta were initiated in 2016. Fisher *et al.* (2018) notes that according to preliminary data from Turtle-doves

[18] The specimen was ringed as an adult in Ventotene Island, Province of Latina (IT) on 8 May 2019 as part of the 'Piccole Isole' project (BirdLife Malta, pers. comm., 27 May 2024).

[19] The ringing data was requested by the Wild Birds Regulation Unit (WBRU) on 15 May 2024. It includes 33 controls (including the one ringed in Malta and recovered in Italy in 2020, as explained in para. 2.33 of this report) out of the 37 foreign ring recoveries reported by Raine (2007) since the national ringing scheme was, at the time of the request, in the process of digitizing all old records (BirdLife Malta, *pers. comm*. 20 May 2024). This section of the report will be updated once the additional five controls are digitized and forwarded to the WBRU.

[20] According to the Hungarian Natural History Museum, the Turtle-dove's nesting period in Hungary spans from mid-May to August: "*The nesting period is rather long and fills the time-period they spent in Hungary very well. The first nest with two eggs, that I found, was 15th of May, and the latest nest with two downy young I found early in August*". Bankovics, A. (2001: 67). Status of wild pigeons and doves in Hungary. *Naturzale*. 16, 2011. pp.61–70. Available at: https://www.eusko-ikaskuntza.eus/PDFAnlt/naturzale/16/16061070.pdf

fitted with tracking devices in Malta, in 2016 one bird spent the breeding season in Italy and wintered in Nigeria, before returning to Italy for the following breeding season. Moreover, three of four Turtle-doves tagged in Malta in April 2017 spent the breeding season in Italy, Slovakia and around the border of Bulgaria/Romania/Serbia respectively. Contact was lost with the fourth bird over Gozo (Fisher *et al*. 2018). In 2020, BirdLife Malta (BLM) satellite-tagged another three Turtle-doves (two females and a male), two of which spent the breeding season in Italy (Eastern Sicily and Tuscany respectively). Contact was lost with the third specimen over Gozo[21].

2.45 In 2021, the Federation for Hunting and Conservation - Malta (FKNK) released ten juvenile captive-bred Turtle-doves fitted with GPS transmitters. Eight specimens were released in May (four males and four females) and two in July (male and female). Based on preliminary tracking data compiled on 31 August 2021 and published by FKNK on 9 November 2021, five specimens (two males and three females) migrated to Italy whilst another female migrated further north to Bulgaria. One of the females released in July migrated to Sicily and was last tracked in Tunisia on 28 August. In 2022, FKNK released six captive-bred Turtle-doves fitted with a satellite-tag, three of which spent the breeding season in Italy (Sicily), Bulgaria and Kosovo respectively. The other three tags did not send any location fixes and thus no location was recorded following release.

2.46 On 21 May 2021, Kaċċaturi San Ubertu (KSU) were issued with a licence to capture up to twenty Turtle-doves to be fitted with satellite-tags[22], co-financed by the Conservation of Wild Birds Fund (Regulation 31 of S.L.549.42). During the 11-day validity period of the licence, a Turtle-dove was fitted with a satellite-tag (on 28 May at 06:32hrs). The last transmission was received a few hours following release (at 09:57), approximately 500 metres SE from the release site.

2.47 During the April–May 2022 study period, a total of 12 Turtle-doves were captured, tagged and released by KSU. From this total, one of the tags did not yield data, one of the specimens was harvested during the hunting period (the tag was returned), another specimen remained in Malta, whilst the remaining nine Turtle-doves migrated further north and spent the breeding season in the following countries: 1 in Sicily (Camporeale), 5 in Italy (2 in Pescara, 1 in Foggia, 1 in Bari and 1 in Taranto), 1 in Albania (Vlore), 1 in Kosovo (Prizren) and 1 in Turkey (Kozakli). The Turtle-dove that bred in Sicily wintered in Tunisia, the one that bred in Bari (Italy) wintered in West Africa (Niger), whilst the one that bred in Turkey was recorded in Greece on 24 October 2022.

2.48 KSU were issued with a renewal licence to resume the satellite-tagging project during period April–May 2023. During this period, eight Turtle-doves were tagged but one of the tags failed to transmit data. The other seven tagged specimens spent the breeding season in the following countries: 3 in Italy (Sicily, Lazio and Salerno), 1 in Malta, 1 in Hungary, 1 in Tunisia, and 1 in Romania. KSU's proposal to renew their Turtle-dove geotagging licence for spring 2024 was not discussed by the Ornis Committee. Consequently, no geotagging was carried out by KSU during spring 2024.

2.49 In 2024, FKNK geotagged six captive-bred Turtle-doves. Three of the tagged Turtle-doves spent the breeding season in Tunisia, and two in Bosnia and Herzegovina. Unfortunately, the other three tags have not recorded GPS data. While this release yielded only three clear signals, the data collected continues to validate findings from previous years, particularly the consistent migratory patterns of European Turtle Doves to the Balkan region.

2.50 During spring 2024, "*BirdLife Malta Ringing Scheme fitted a number of Turtle-doves with GPS trackers as part of the HABITRACK (Habitat tracking for the conservation of huntable bird species) project, funded by the European Union. This project, led by the National Museum of Natural History in Paris, France, in collaboration with several partners across Europe, seeks to learn more about 14 species with conservation status concerns, including the Turtle-dove, to determine better their habitat needs and the threats they face during breeding, migration and stopover. A number of*

[21] BirdLife Malta online (undated). *Satellite tracking of migratory Turtle-doves*. Available at: https://birdlifemalta.org/conservation/current-projects/satellite-tracking-of-migratory-turtle-doves/#:~:text=The%20Turtle%2Ddove%2C%20known%20locally,various%20literature%20over%20the%20years.

[22] Government Notice 697/2021, dated 21 May 2021.

Turtle-doves were tagged during spring 2024 across the Mediterranean" [23]. No information on the migratory routes and location of these geotagged specimens was available at the time this report was drafted.

2.51 The following table lists the location of all satellite-tagged specimens during the breeding season.

Table 13 Location of satellite-tagged Turtle-doves during the breeding season (May–August) *

* GPS fixes during period from nest building to fledging of chicks per clutch

Specimen	Year tagged	Project Coordinators	Location during breeding season
1	2016	BLM/NABU	Italy
2	2017		Italy
3	2017		Slovakia
4	2017		Bulgaria–Romania
5	2020		Italy
6	2020		Italy
7	2021	FKNK	Italy
8	2021		Italy
9	2021		Italy
10	2021		Italy
11	2021		Italy
12	2021		Bulgaria
13	2021		Italy
14	2022		Italy
15	2022		Bulgaria
16	2022		Kosovo
17	2022	KSU	Italy
18	2022		Italy
19	2022		Italy
20	2022		Italy
21	2022		Italy
22	2022		Italy
23	2022		Albania
24	2022		Kosovo
25	2022		Turkey
26	2023		Malta (breeding not confirmed)
27	2023		Italy
28	2023		Italy
29	2023		Italy
30	2023		Hungary
31	2023		Tunisia
32	2023		Romania
33	2024	FKNK	Tunisia
34	2024		Bosnia and Herzegovina
35	2024		Bosnia and Herzegovina
?	2024	BLM (HABITRACK)	No information on the migratory routes and location of these geotagged specimens.

Source: BirdLife Malta tracking project (2016–2017, 2020); Fisher *et al.* (2018); FKNK tracking project (2021–2022, 2024); KSU tracking project (2022–2023).

2.52 The satellite-tracking data (2016–2024) has shown that the majority of Turtle-doves that migrate over Malta during pre-nuptial migration breed in Italy. Bulgaria, Hungary, Romania and Slovakia also form part of Malta's Turtle-dove EU reference population.

[23] https://x.com/BirdLife_Malta/status/1790382381209161864?mx=2

2.53 As was the case in the previous conservation status report (February 2024), no additions to Malta's EU reference population were made in this update since the countries in which the satellite-tagged specimens spent the 2024 breeding season are not part of the territory of the European Union. The only change that has been carried out is in the associated percentages assigned to each country of origin, based on latest satellite tracking data (Table 13 above) and the additional ring recovery (recovered in April 2024).

2.54 In the previous three updates of this report (2022–2024), Italy constituted 46.5%, 53.1% and 61.9% of Malta's reference population respectively. Based on the latest satellite-tracking data (2023), this update shows that Italy now constitutes 63.1% of Malta's reference population (ring recoveries and geotagging data). This percentage change (i.e., percentage reallocation per Member State based on latest ring recovery and tracking data) results in an overall increase in the minimum number of breeding pairs (as a percentage of the main contingents of Malta's EU reference population) from 115,698 pairs, as reported in the previous update, to 116,754 pairs (refer to Table 15).

Malta's Turtle-dove EU Reference Population

2.55 Tables 14 and 15 provide a comparison between former (2004/2008–2012) and current (2013–2018) Article 12 data on Malta's EU reference population, the respective number of breeding pairs, together with the overall direction of the population trend. Article 12 data for reporting period 2013–2018 is the only current available data that is available at Member State level from which the status of Malta's reference population can be assessed. The next EU Member States Article 12 report for period 2019–2024 is expected to be published in mid-2026.

2.56 Figures 21 and 22 illustrate the EU28 population trend categories of this species per Member State during the previous Article 12 (2008–2012) reporting cycle, and should be compared with Figures 25 and 26, which illustrate the EU28 population trends for the current (2013–2018) reporting cycle. The respective Malta's EU reference population trend categories, based on ring recoveries and tracking data, are shown in Figures 23 and 24 (2008–2012) and Figures 27 and 28 (2013–2018) respectively. Comparison should be made between figure 27 (trends count per category) and figure 29 (percentage trends per category) for the short-term trend and figure 28 (trends count per category) and figure 30 (percentage trends per category) for the long-term trend respectively.

Table 14 Malta's European Turtle-dove EU reference population and former population trend (2004 / 2008–2012)

Country	EU Ring Recoveries in Malta (n=35) ∫	Breeding Pairs (Min - Max)		Short-term Trend	Mag. % (Max - Min)		Long-term Trend	Mag. % (Max - Min)		Breeding Pairs (2004) (Min - Max)		Short-term		Long-term	
												Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Min Pairs)	Max % Change (Max Pairs)
Italy	51.4%	150,000	300,000	Unknown	?	?	Unknown	?	?	200,000	400,000	-	-	-	-
Czech Rep	25.7%	38,000	76,000	Decline	3	33	Decline	62	94	50,540	101,080	-12,540	-25,080	-23,560	-71,440
Hungary	5.7%	64,000	150,000	Stable	0	0	Unknown	?	?	165,000	215,000	-	-	-	-
Germany	5.7%	25,000	45,000	Decline	38	58	Decline	20	60	39,500	71,100	-14,500	-26,100	-5,000	-27,000
Austria	2.9%	12,000	18,000	Decline	30	50	Unknown	?	?	18,000	27,000	-6,000	-9,000	-	-
Croatia*	2.9%	50,000	100,000	Increase	0	19				40,500	81,000	9,500	19,000	-	-
France	2.9%	397,000	481,000	Decline	11	20	Decline	20	30	476,400	577,200	-79,400	-96,200	-79,400	-144,300
Poland	2.9%	25,000	49,000	Decline	25	55	Unknown	?	?	38,750	75,950	-13,750	-26,950	-	-
Total	100%	**761,000**	**1,219,000**							**1,028,690**	**1,548,330**	-116,690	-164,330	-107,960	-242,740
				Percentage change								-15.33%	-13.48%	-14.19%	-19.91%
				Trend (Reference Population)								**Decreasing** (> 10% change in 10 years)	**Decreasing** (>10% change in 10 years)	**Stable** (<20% change since 1980)	**Stable** *(borderline **Decreasing**)* (< 20% change since 1980)

Data Sources: European Environment Agency (2014); *BirdLife International (2004); ∫ Raine (2007) [n=35, excluding Tunisia].

Note: This table provides a historical snapshot of Malta's EU reference population of the Turtle-dove up until the Article 12 data for reporting period 2008–2012 and corresponding ring recovery data available up until that reporting period. This explains why the total number of EU ring recoveries is 35, not 37 (i.e., 37 as reported by Raine (2007), less the two Turtle-doves ringed in Tunisia).

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Table 15 **Malta's European Turtle-dove EU reference population and <u>current</u> population trend (2013–2018)**

Country	EU Ring Recoveries in Malta (n=39) ∫ and Tracking Data (n=26) † ‡ ↕	Breeding Pairs (Min - Max)		Breeding Pairs (% of EU reference population) (Min - Max)		Short-term Trend	Mag. % (Min - Max)		Long-term Trend	Mag. % (Min - Max)		Short-term Min Change (Min. Pop.)	Short-term Max Change (Min. Pop.)	Long-term Min Change (Min. Pop.)	Long-term Max Change (Min. Pop.)
Italy (n=41) ∫ † ‡ ↕	63.1%	150,000	300,000	94,615	189,231	Stable	N/A	N/A	Increasing	200	200	N/A	N/A	189,231	189,231
Czechia (n=9) ∫	13.8%	40,000	80,000	5,538	11,077	Decreasing	-4	-4	Decreasing	-3	-3	-222	-222	-166	-166
Hungary (n=4) ∫ ↕	6.2%	80,000	120,000	4,923	7,385	Stable	N/A	N/A	Stable	N/A	N/A	N/A	N/A	N/A	N/A
Bulgaria (n=3) † ‡	4.6%	50,000	100,000	2,308	4,615	Stable	0	0	Unknown	N/A	N/A	0	0	N/A	N/A
Germany (n=2) ∫	3.1%	12,500	22,000	385	677	Decreasing	-51	-70	Decreasing	-89	-89	-196	-269	-342	-342
Austria (n=1) ∫	1.5%	8,000	12,000	123	185	Decreasing	-18	-18	Unknown	N/A	N/A	-22	-22	N/A	N/A
Croatia (n=1) ∫	1.5%	27,000	135,000	415	2,077	Unknown	N/A	N/A	Unknown	N/A	N/A	N/A	N/A	N/A	N/A
France (n=1) ∫	1.5%	397,000	481,000	6,108	7,400	Decreasing	-25	-46	Decreasing	-21	-47	-1,527	-2,810	-1,283	-2,871
Poland (n=1) ∫	1.5%	22,000	37,000	338	569	Decreasing	-16	-48	Unknown	N/A	N/A	-54	-162	N/A	N/A
Romania[24] (n=1) †↕	1.5%	120,000	300,000	1,846	4,615	Uncertain	-1	8	Unknown	N/A	N/A	-18	148	N/A	N/A
Slovakia (n=1) †	1.5%	10,000	20,000	154	308	Decreasing	-20	-30	Decreasing	-20	-30	-31	-46	-31	-46
Total (n=65)	100%	916,500	1,607,000	**116,754**	228,138							**-2,070**	**-3,383**	**187,409**	**185,806**
						Percentage change (Minimum Population)						**-1.77%**	**-2.90%**	**160.52%**	**159.14%**
						Trend (Reference Population)						**Stable** (<10% change in 10 years)	**Stable** (<10% change in 10 years)	**Increasing** (>20% change since 1980)	**Increasing** (>20% change since 1980)

Data Sources: European Environment Agency (2020); ∫ Raine (2007) [n=35, excluding Tunisia] and post-2007 ring recovery data (n=4: May 2013 [IT], April 2015 [HU], September 2020 [IT] & April 2024 [IT]); † Fisher *et al.* (2018) [BirdLife Malta tracking project (2016–2017, 2020)]; ‡ FKNK tracking project (2021–2022); ↕ KSU tracking project (2022–2023).

[24] EEA (2020) notes that data from delayed delivery by Romania of the 2013–2018 Article 12 report are not shown in the Member States reports table and were not used for the EU population status assessment.

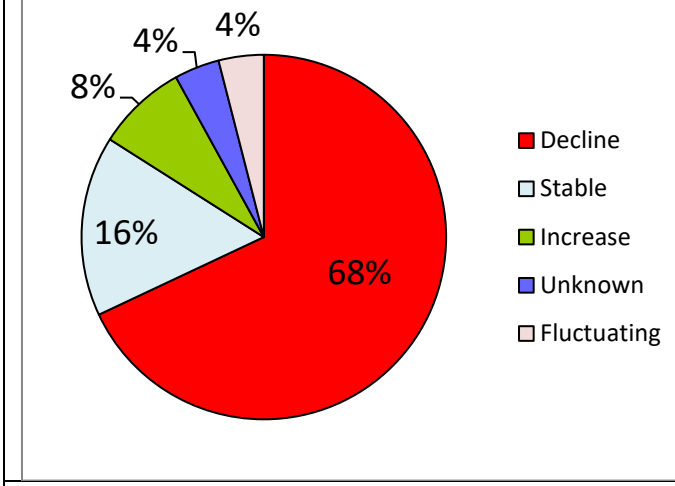

Figure 21. Former European Turtle-dove EU28 population short-term trend by Member State [Article 12: 2008–2012]. See Table 11.

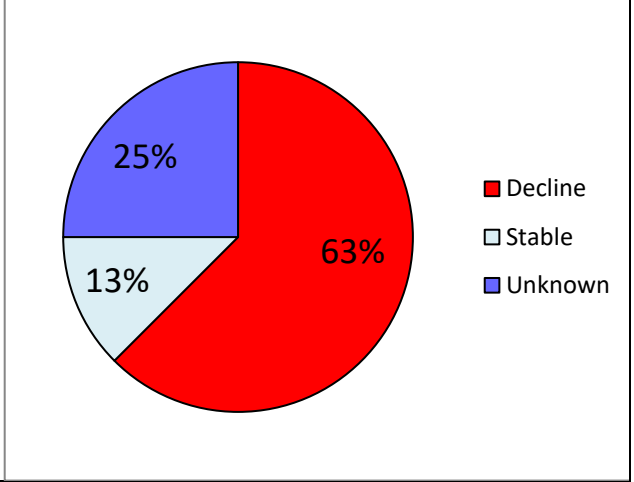

Figure 22. Former European Turtle-dove EU28 population long-term trend by Member State [Article 12: 2008–2012]. See Table 11.

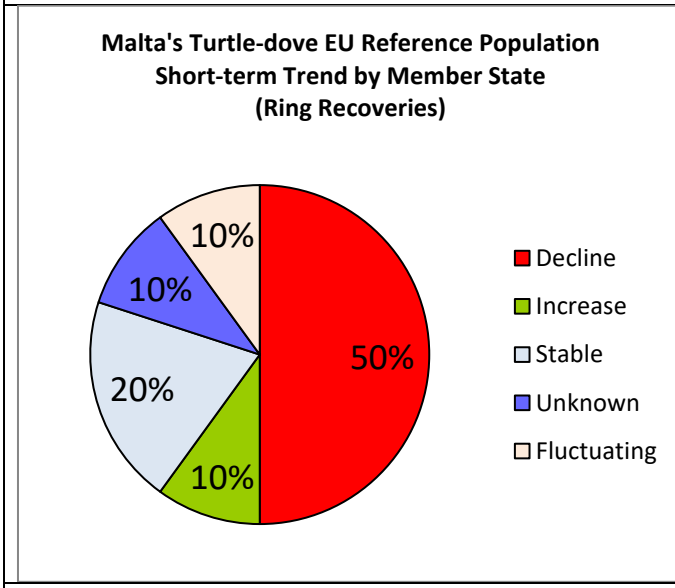

Figure 23. Former Malta's Turtle-dove EU reference population short-term trend by Member State (ring recoveries) [Article 12: 2008–2012]. See Table 14.

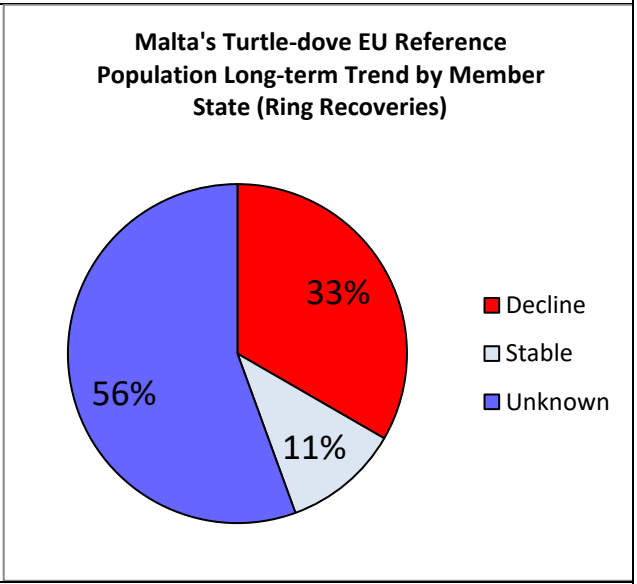

Figure 24. Former Malta's Turtle-dove EU reference population long-term trend by Member State (ring recoveries) [Article 12: 2008–2012]. See Table 14.

Data Sources: European Environment Agency (2014); Raine (2007).

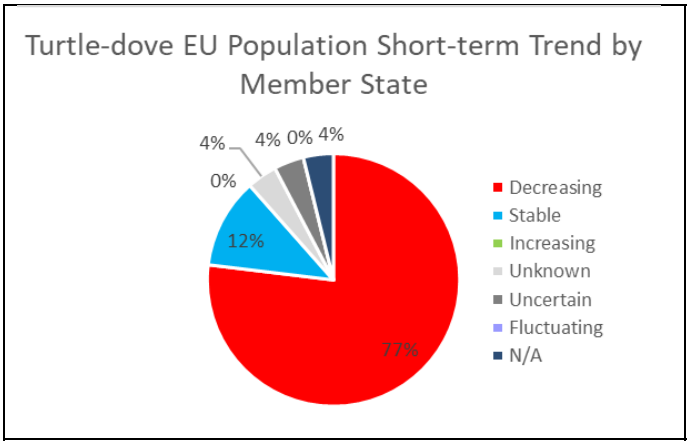

Figure 25. Current European Turtle-dove EU28 population short-term trend by Member State [Article 12: 2013–2018] (counts per category). See Table 12.

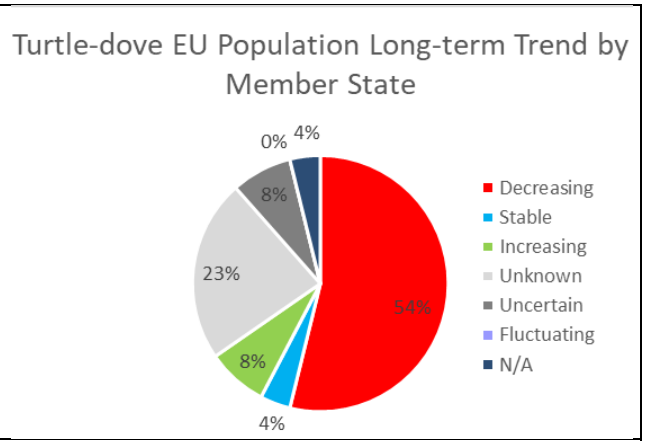

Figure 26. Current European Turtle-dove EU28 population long-term trend by Member State [Article 12: 2013–2018] (counts per category). See Table 12.

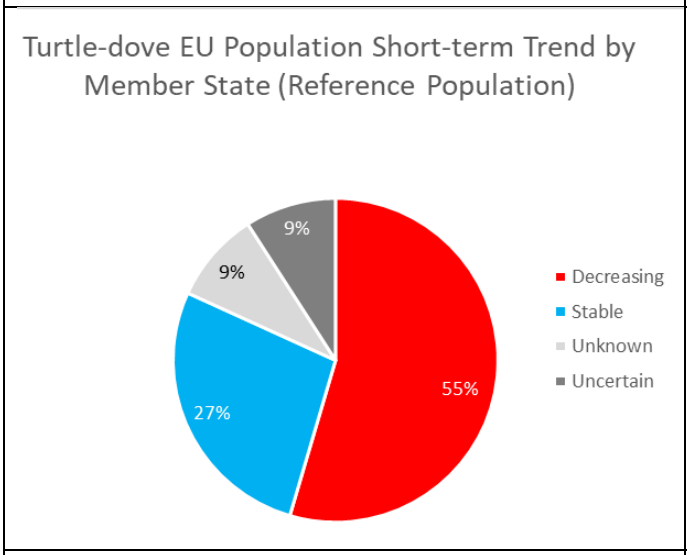

Figure 27. Current Malta's Turtle-dove EU reference population short-term trend by Member State (ring recoveries/tracking data) [Article 12: 2013–2018] (counts per category). See Table 15.

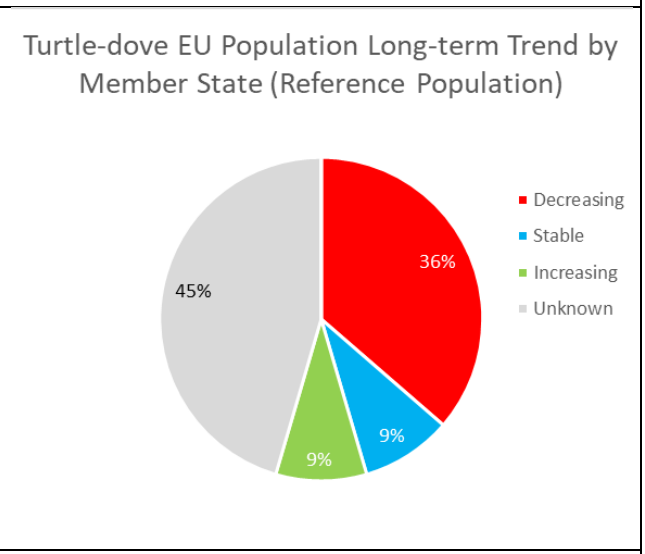

Figure 28. Current Malta's Turtle-dove EU reference population long-term trend by Member State (ring recoveries/tracking data) [Article 12: 2013–2018] (counts per category). See Table 15.

Data Sources: European Environment Agency (2020); ∫ Raine (2007) [n=35, excluding Tunisia] and post-2007 ring recovery data (n=4: May 2013 [IT], April 2015 [HU], September 2020 [IT] & April 2024 [IT]); † Fisher *et al.* (2018) [BirdLife Malta tracking project (2016–2017, 2020)]; ‡ FKNK tracking project (2021–2022); ↕ KSU tracking project (2022–2023).

2.57 The previous two figures (figures 27 and 28) illustrate the ***distribution*** of each population trend of Malta's EU reference population by Member State (counts per category), whereas Table 16 and figures 29 and 30 below illustrate the ***total percentage per population trend category***.

Table 16 Malta's EU Reference population: percentage trend category per Member State

Short-term trend							Total (%)
Decreasing	Czechia 13.8%	Germany 3.1%	Austria 1.5%	France 1.5%	Poland 1.5%	Slovakia 1.5%	23.1
Stable	Italy 63.1%	Hungary 6.2%	Bulgaria 4.6%				73.8
Unknown	Croatia 1.5%						1.5
Uncertain	Romania 1.5%						1.5
							100

Long-term trend							Total (%)
Decreasing	Czechia 13.8%	Germany 3.1%	France 1.5%	Slovakia 1.5%			20.0
Stable	Hungary 6.2%						6.2
Increasing	Italy 63.1%						63.1
Unknown	Bulgaria 4.6%	Austria 1.5%	Croatia 1.5%	Poland 1.5%	Romania 1.5%		10.8
							100

Data Sources: European Environment Agency (2020); Raine (2007); BirdLife Malta (ringing data, 2015; 2020); BirdLife Malta tracking project (2016–2017, 2020); Fisher *et al.* (2018); FKNK tracking project (2021-2022); KSU tracking project (2022–2023).

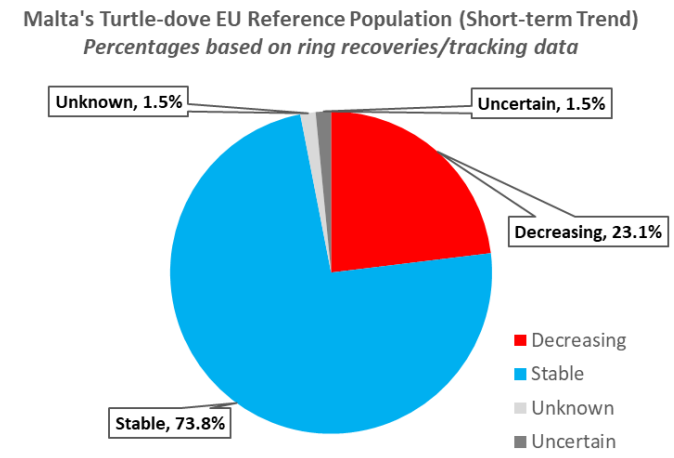

Figure 29. Current Malta's Turtle-dove EU reference population short-term trend by Member State (ring recoveries/tracking data) [Article 12: 2013–2018] (total percentage per population trend category).

Data Sources: Refer to Tables 15 and 16.

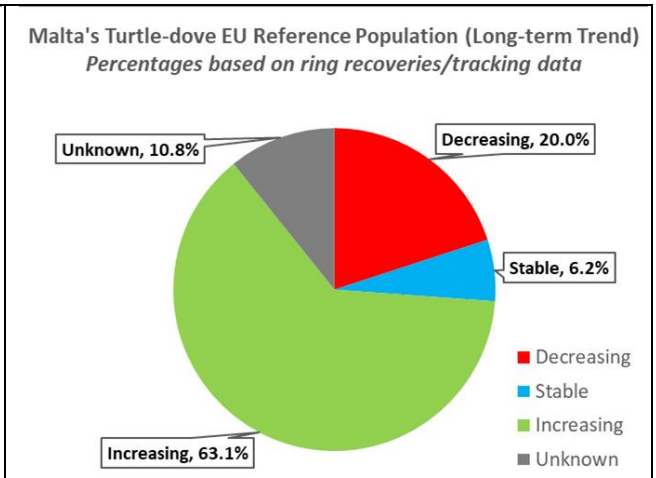

Figure 30. Current Malta's Turtle-dove EU reference population long-term trend by Member State (ring recoveries/tracking data) [Article 12: 2013–2018] (total percentage per population trend category).

Data Sources: Refer to Tables 15 and 16.

Italy's Breeding Population

2.58 Most Turtle-doves that migrate over Malta breed in Italy (63.1% | n=65) based on ring recoveries and satellite-tracking data – see Table 15. According to the latest Article 12 report for reporting cycle (2013–2018), Malta's Turtle-dove EU reference population is **Stable** in the short-term (ten-year) trend and **Increasing** in the long-term trend (Table 15).

2.59 The tracking data for period 2016–2023 [BirdLife Malta (2016–2017, 2020); FKNK (2021-2022); KSU (2022–2023)] (Table 13) has shown that the majority of Turtle-doves geotagged in Malta spent the breeding season in Italy (76.9% | n=20), followed by Bulgaria (11.5% | n=3), Hungary (3.8% | n=1), Romania (3.8% | n=1) and Slovakia (3.8% | n=1). Refer to Table 17 below, which shows that on the basis of the current Article 12 report for period 2013–2018, the geotagging data (i.e. the data without ring recoveries), Malta's EU reference population is also stable in the short-term trend and increasing in the long-term trend. **However, the population trend differs when Italy's latest (2024) Farmland Bird Index replaces the Article 12 (2013–2018) dataset** (see next sub-section on Farmland Bird Indices).

Table 17 **Malta's European Turtle-dove EU reference population and <u>current</u> population trend (2013–2018) based on geotagging data for period 2016–2023 (excluding ring recoveries)** – *this table is included for information purposes only to be compared with Table 15. It is not used for the purpose of calculating the 1% mortality rate, <u>unless Ornis Committee recommends otherwise</u>. Data in Table 18 on minimum number of breeding pairs is taken from Table 15 (ring recovery data + tracking data).*

Country	EU Tracking Data (n=26) † ‡ ↕	Breeding Pairs (Min - Max)		Breeding Pairs (% of EU reference population) (Min - Max)		Short-term Trend	Mag. % (Min - Max)		Long-term Trend	Mag. % (Min - Max)		Short-term: Min Change (Min. Pop.)	Short-term: Max Change (Min. Pop.)	Long-term: Min Change (Min. Pop.)	Long-term: Max Change (Min. Pop.)
Italy (n=20) † ‡ ↕	76.9%	150,000	300,000	115,385	230,769	Stable	N/A	N/A	Increasing	200	200	N/A	N/A	230,769	230,769
Hungary (n=1) ↕	3.8%	80,000	120,000	3,077	4,615	Stable	N/A	N/A	Stable	N/A	N/A	N/A	N/A	N/A	N/A
Bulgaria (n=3) † ‡	11.5%	50,000	100,000	5,769	11,538	Stable	0	0	Unknown	N/A	N/A	N/A	N/A	N/A	N/A
Romania[25] (n=1) ↕	3.8%	120,000	300,000	4,615	11,538	Uncertain	-1	8	Unknown	N/A	N/A	-46	342	N/A	N/A
Slovakia (n=1) †	3.8%	10,000	20,000	385	769	Decreasing	-20	-30	Decreasing	-20	-30	-77	-115	-77	-115
Total (n=26)	100%	410,000	840,000	**129,231**	259,231							-123	226	230,692	230,654
						Percentage change (Minimum Population)						**-0.10%**	**0.18%**	**178.51%**	**178.48%**
						Trend (Reference Population)						**Stable** (<10% change in 10 years)	**Stable** (<10% change in 10 years)	**Increasing** (>20% change since 1980)	**Increasing** (>20% change since 1980)

Data Sources: European Environment Agency (2020); † Fisher *et al.* (2018) [BirdLife Malta tracking project (2016–2017, 2020)]; ‡ FKNK tracking project (2021–2022); ↕ KSU tracking project (2022–2023).

[25] EEA (2020) notes that data from delayed delivery by Romania of the 2013–2018 Article 12 report are not shown in the Member States reports table and were not used for the EU population status assessment.

Farmland Bird Indices

2.60 As explained in the previous section, considering that the majority of Turtle-doves that migrate over Malta breed in Italy (percentage occurrence ranges from 63.1% [ring recoveries and geotagging data] to 76.9% [geotagging data only]). This section provides an assessment of Italy's breeding population based on the data published in the Farmland Bird Index (FBI).

Long-term trend analysis

2.61 Italy's latest FBI provides a dataset for period 2000–2024 (25 years), with the year 2000 as base-year. Conversely, Italy's Article 12 report for reporting period 2013–2018 provides a dataset for the long-term trend with 1993 as base-year. Thus, Italy's long-trend reported in the current Article 12 report covers period 1993–2018 (26 years), with a best single value of +200% increase[26]. Data for year 2019 is missing from both datasets.

2.62 On 7 February 2025, the Head of the Wild Birds Regulation Unit sent the following correspondence to the publishers of Italy's Farmland Bird Index (Redazione Rete Rurale), who in turn replied that the request for information will be forwarded to Lega Italiana Protezione Uccelli (LIPU):

English version.
Reference is made to Italy's Farmland Bird Index for period 2000-2024, available at: https://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/26413.

The index for European Turtle-dove for period 2000-2024 is reported at -21.9%. Given that the long-term trend for period 1993-2018 was reported by Italy in its Article 12 report of the Birds Directive (for reporting period 2013-2018) at +200% (best single value), is it correct to note that the overall decline for this species in the long-term trend (1993-2024) is in the region of -221.9% (calculated as follows: [-21.9%] – [200%] = -221.9%)?

If this calculation (-221.9%) is not correct, may I kindly ask for the long-term trend of this species for period 1993-2024, please?

Italian version.
Si fa riferimento all'Farmland Bird Index per il periodo 2000-2024, disponibile all'indirizzo: https://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/26413.

L'indice della Tortora selvatica per il periodo 2000-2024 è riportato al -21,9%. Dato che la differenza indice per il periodo 1993-2018 è stata segnalata dall'Italia nella sua relazione ai sensi dell'Articolo 12 della Direttiva Uccelli (per il periodo di riferimento 2013-2018) a +200% (miglior valore singolo), è corretto notare che il declino complessivo per questa specie per il periodo 1993-2024 è nell'ordine del -221,9% (calcolato come segue: [-21,9%] – [200%] = -221,9%)?

Nel caso in cui questo calcolo (-221,9%) non fosse corretto, posso gentilmente chiedervi la differenza indice di questa specie per il periodo 1993-2024, per favore?

2.63 On 19 February 2025, the following reply was submitted by Italy's Ministry for Agriculture, Food Sovereignty and Forestry (MASAF):

Italian version (reply).
Come correttamente riportato dal Dr. Lia, l'indice della Tortora selvatica per il periodo 2000-2024 è riportato al -21,9% (Farmland Bird Index, declino annuo -1,66).

Tale dato non può essere sommato sic et simpliciter al dato del +200% riportato per il periodo 1993-2018 nella relazione ai sensi dell'Articolo 12 della Direttiva Uccelli, per definire il calo della specie in Italia. In effetti, quest'ultima percentuale è frutto di una diversa trattazione statistica, sulla

[26] https://nature-art12.eionet.europa.eu/article12/report?period=3&country=IT

quale Ispra potrà essere più precisa. Si anticipa però che il dato dell'aumento del 200% è frutto di una stima di partenza (1993) approssimativa, non essendo all'epoca operativo il monitoraggio a scala nazionale finalizzato ad ottenere il Farmland Bird Index. Tale problema verrà risolto nel prossimo Reporting dell'articolo 12 della Direttiva Uccelli di ormai imminente elaborazione, per il quale sarà finalmente disponibile un trend basato sul programma di monitoraggio FBI.

Secondo tale programma, la specie è statisticamente e significativamente in declino moderato dal 2018 e si ritiene che il trend per il periodo 2000-2024 rimarrà in declino moderato.

Translated version.
As correctly reported by Mr. Lia, the Turtle-dove index for the period 2000-2024 is reported at -21.9% (Farmland Bird Index, annual decline -1.66).

This data cannot merely be added to the +200% data reported for the period 1993-2018 in the report pursuant to Article 12 of the Birds Directive, to define the decline of the species in Italy. In fact, this last percentage is the result of a different statistical treatment, on which ISPRA can be more precise. However, it should be noted that the 200% increase figure is the result of an approximate starting estimate (1993), as monitoring on a national scale aimed at obtaining the Farmland Bird Index was not operational at the time. This problem will be resolved in the next Reporting of Article 12 of the Birds Directive which is now imminent, for which a trend based on the FBI monitoring program will finally be available.

According to this program, the species has been statistically and significantly in moderate decline since 2018 and the trend for the period 2000-2024 is expected to remain in moderate decline.

2.64 It follows, according to the above reply, that the long-term (1993–2024) trend of Italy's breeding population of Turtle-dove is not yet known as it cannot be computed from two different datasets (Article 12 2013-2018 and FBI 2024). The following table is included in this report for information purposes only and must therefore not be used for any data analysis purposes.

Italy's Turtle-dove Population Long-term Trend (1993–2024) when calculated as the difference between Italy's Article 12 report (2013–2018) and the 2024 Farmland Bird Index (*not to be used for any data analysis purposes – included in this report for information purposes only*)

Review period	Magnitude change	Notes
1993–2018	+200%	Article 12 report (2013–2018)
2000–2024	-21.9%	Farmland Bird Index (2024)
1993–2024	**-221.9%**	Calculated as follows: -21.9% - (200%).

Data sources:
Italy's Article 12 report (2013–2018): https://nature-art12.eionet.europa.eu/article12/report?period=3&country=IT
Italy's Farmland Bird Index (2000–2024): https://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/26413

NB: *"This data [-21.9%] cannot merely be added to the +200% data reported for the period 1993-2018 in the report pursuant to Article 12 of the Birds Directive, to define the decline of the species in Italy. In fact, this last percentage is the result of a different statistical treatment...it should be noted that the 200% increase figure is the result of an approximate starting estimate (1993), as monitoring on a national scale aimed at obtaining the [Italian] Farmland Bird Index was not operational at the time. This problem will be resolved in the next Reporting of Article 12 of the Birds Directive which is now imminent, for which a trend based on the FBI monitoring program will finally be available."* MASAF (pers. comm.) 19 February 2025.

Short-term trend analysis

2.65 The latest FBI for period 2000–2024[27] (25 years) shows that Italy's Turtle-dove breeding population experienced a moderate decline, with a -21.9% reduction since 2000 (FBI base-year) and an annual mean variation of -1.66%. In 2015, Italy's FBI listed the Turtle-dove as stable, with a -13.6% reduction (2000–2015)[28] and an annual mean variation of -0.28%. The short-term (ten-year) trend for period 2015–2024 can thus be calculated from these two FBI datasets, as follows:

Italy's Turtle-dove Population Short-term Trend (2015–2024) as calculated from Italy's Farmland Bird Index

Review period	Magnitude change	Notes
2000–2015	-13.6%	Farmland Bird Index (2015)
2000–2024	-21.9%	Farmland Bird Index (2024)
2015–2024	**-8.3%***	Calculated as follows: -21.9% - (-13.6%) = -8.3%* * In its request for prohibitory injunction dated 18 March 2025 (*Mandat Numru 464/2025 ISB*), BirdLife Malta requested the Law Courts of Malta to prohibit the Malta Ornis Committee from discussing any matter related to spring hunting of Turtle Dove. Since the update on the conservation status of a species that may be subject to an Article 9(1)(c) derogation is presented before any discussion on the derogation and since in its request for prohibitory injunction, BirdLife Malta had *inter alia* disagreed with the above method from which the -8.3% was derived, and had also postulated that Member States reporting "N/A" in the short-term and/or long-term magnitude change should be omitted from the overall percentage change, Ornis Committee agreed to postpone these discussions until the judgment in relation to *Mandat Numru 464/2025 ISB* is issued. The request for prohibitory injunction was refused by the Law Courts of Malta on 02 April 2025. In its request for prohibitory injunction, BirdLife Malta maintained that the correct short-term trend (2015–2024) of Italy's breeding population is -9.6%, not -8.3% and that, coupled with the removal of Member States reporting "N/A", Malta's reference population would register a declining rather than a stable trend. During the Ornis Committee meeting held on 02 April 2025, BirdLife Malta reiterated its position. During the Ornis Committee meeting held on 02 April 2025, the Wild Birds Regulation Unit explained that Member States reporting "N/A" were retained when calculating the overall percentage change since none had reported a decreasing trend. Hence in the absence of the magnitude change and taking into account the Member State's specific trend when reporting "N/A" as not decreasing, the "N/A" is considered to be equivalent to "0". Regarding the -8.3% versus the -9.6% magnitude change, the WBRU referred to the correspondence from Italy's Ministry for Agriculture, Food Sovereignty and Forestry (see paragraph 2.67 of this report) stating that "*the short-term trend (2015-2024) is not calculated directly for the analyses of the Farmland Bird Index".* Moreover, the number of breeding pairs in Italy in 2015 remains unknown whereas the number of breeding pairs in 2024 will only be known once the Article 12 report for period 2019–2024 is published. **Taking the above into account, replacing Italy's Article 12 data for reporting period 2013-2018 with the FBI data should be interpreted with caution**. Nonetheless, for the purpose of this subsection, a magnitude percentage change of -9.6%, which is the percentage used in the following tables, implies that Italy's breeding population is still stable in the short-term trend (2015–2024).

Data sources:
Italy's Farmland Bird Index (2000-2024): https://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/26413
Italy's Farmland Bird Index (2000-2015): https://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/22283

[27] Italy's Farmland Bird Index (2000-2024): Available at: https://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/26413
[28] Italy's Farmland Bird Index (2000-2015): Available at: https://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/22283

2.66 According to Italy's FBI, the 10-year (short-term) trend of Italy's Turtle-dove breeding population calculated over the period of the last ten years (2015–2024) is stable, with a -9.6% reduction [a figure that is still within the ±10% threshold for stable) during 2015–2024. Note that efforts to access the FBIs of other EU Member States proved futile, with some access rendered prohibitive due to language barriers (e.g. Czechia[29]).

2.67 On 28 March 2025, the Head of the Wild Birds Regulation Unit sent the following correspondence to Italy's Ministry for Agriculture, Food Sovereignty and Forestry (MASAF):

Italian version.
A seguito della nostra corrispondenza qui sotto [emails dated February 2025]*, vorrei cortesemente chiedervi se avete a disposizione la tendenza percentuale a breve termine (short-term trend) della Tortora selvatica (Streptopelia turtur) basato sull'indice Farmland Bird Index d'Italia per il periodo 2015–2024, per favore?*

Translated version.
Further to our correspondence below [emails dated February 2025]*, may I kindly ask whether you have the short-term percentage trend of the Turtle-dove (Streptopelia turtur) based on Italy's Farmland Bird Index for the period 2015–2024, please?*

2.68 Following a reminder, on 02 April 2025 at 15:31, MASAF submitted the following reply:

Italian version.
[I]n merito alla sua richiesta informativa, abbiamo ricevuto riscontro dalla Lipu "Lega italiana protezione uccelli", nostro fornitore del servizio per il calcolo dell'indicatore FBI. In linea generale, la tendenza a breve termine (2015-2024) non viene calcolata direttamente per le analisi del Farmland Bird Index (per il quale si considera i valori di tutto l'arco di tempo del database 2000-2024). Inoltre, la Lipu ci ha comunicato che la tendenza a breve termine sarà invece oggetto di analisi del Reporting che l'ISPRA "Istituto Superiore per la Protezione e la Ricerca Ambientale" sta ultimando [Article 12 report for period 2019–2024]*. Sarà nostra cura informarla sui tempi di pubblicazione dei dati.*

Translated version.
[I]n response to your request for information, we received feedback from Lipu "Lega italiana protezione uccelli", our service provider for calculating the FBI indicator. Generally speaking, the short-term trend (2015-2024) is not calculated directly for the analyses of the Farmland Bird Index (for which the values of the entire time span of the database 2000-2024 are considered). Furthermore, Lipu informed us that the short-term trend will instead be the subject of analysis in the Reporting that ISPRA "Istituto Superiore per la Protezione e la Ricerca Ambientale" is finalizing [Article 12 report for period 2019–2024]. *We will inform you when the data is expected to be published.*

2.69 Taking the above into account, replacing Italy's Article 12 data for reporting period 2013-2018 with the FBI data (see the following subsection) should be interpreted with caution.

Replacing Italy's Article 12 data (2013–2018) with the Farmland Bird Index (2024)

2.70 The objective of this subsection is to provide a review of the species' short-term trend using current available data, on the premise that such data is correct (see above caveat). The data in this subsection should thus be interpreted with caution for the reasons explained in the previous subsection. A comprehensive analysis for the long-term trend would have also been provided in this subsection if the data for period 1993–2024 was available to the Maltese authorities. This highlights the importance of having the latest information on both the population size and magnitude change per Member State as repeatedly requested by the Maltese authorities. Given that this

[29] https://www.birdlife.cz/co-delame/vyzkum-a-ochrana-ptaku/vyzkum-ptaku/jpsp/

request for information was declined, such assessment can only be carried out in mid-2026 when the Member States' Article 12 reports for reporting period 2019–2024 are published on the EIONET (European Environment Information and Observation Network) online portal.

2.71 The following two tables (Tables 18 and 19) are identical to Tables 15 and 17, except that Italy's Article 12 (2013–2018) data for the ten-year (short-term) trend is replaced by the data from Italy's Farmland Bird Index for the ten-year (short-term) trend (i.e., 2015–2024).

2.72 In the short-term trend, the Turtle-dove minimum breeding population during the last ten years [2015–2024] declined in the region of 11,153–12,466 pairs (MT's EU reference population based on both ring recovery data and geotagging data) (Table 18) and declined in the region of 10,850–11,200 pairs (MT's EU reference population based on geotagging data only) (Table 19). The magnitude change based on geotagging data only (Table 19) is still within the ±10% threshold which equates to a **stable** trend[30]. However, when the ring recovery data[31] is also included in the dataset (Table 18), although the minimum change is -9.55% (**stable**), the maximum change is -10.68% (**decreasing**).

2.73 It should be noted that if the **-21.9% decline** reported in Italy's latest FBI (2024) for period 2000–2024[32] had to be considered as the magnitude change of this species in the short-term trend category (which is not the case as per explanatory footnote 31), the overall magnitude change of Malta's EU reference population would be classified as **decreasing** (min. magnitude change of -19.52% to max. magnitude change of -20.65%) **in the short-term trend** [ring recoveries + geotagging data] and, based solely on geotagging data, would range from a minimum magnitude change of -19.38% (**decreasing**) to max. magnitude change of -19.65% (**decreasing**).

2.74 It should also be noted that if the **-21.9% decline** reported in Italy's latest FBI (2024) for period 2000–2024[33] had to be considered as the magnitude change of this species in the long-term trend category (in lieu of the magnitude change for period 1993–2024, which will only be available once Italy's Article 12 report for period 2019-2024 will be reviewed and published by the European Environment Agency in mid-2026), the overall **long-term trend** magnitude change of Malta's EU reference population would range from a minimum magnitude change of -19.31% (**stable, borderline decreasing**) to max. magnitude change of -20.68% **(decreasing)** [ring recoveries + geotagging data] and, based solely on geotagging data, from a minimum magnitude change of -19.61% (**stable, borderline decreasing**) to max. magnitude change of -19.64% **(stable, borderline decreasing)**.

[30] The short-term (10-year) trend shifts from stable to declining or from stable to increasing when the percentage change exceeds 10% respectively.

[31] The ring recovery data (see data sources in the respective tables) includes populations that breed along parts of the western flyway. This is why the Malta Ornis Committee, during the meeting held on 02 April 2025, was requested to advise whether the conservation status update of this species should be based on ring recovery data + geotagging data or geotagging data only. However, the Ornis Committee did not pronounce itself on this matter. During the meeting, the expert on avifauna remarked that such matter should be at the discretion of the Wild Birds Regulation Unit.

[32] NB: The 2000–2024 time series (latest Farmland Bird Index for Italy) does not equate to the short-term trend since the correct time series for Italy's short-term trend is 2015–2024.

[33] NB: The 2000–2024 time series (latest Farmland Bird Index for Italy) does not equate to the long-term trend since the correct time series for Italy's long-term trend is 1993–2024.

Table 18 **Malta's European Turtle-dove EU reference population and current population trend [Article 12 2013–2018) and Italy's Farmland Bird Index (2024)**

Country	EU Ring Recoveries in Malta (n=39) ∫ and Tracking Data (n=26) † ‡ ↕	Breeding Pairs (Min - Max)		Breeding Pairs (% of EU reference population) (Min - Max)		Short-term Trend	Mag. % (Min - Max)		Long-term Trend	Mag. % (Min - Max)		Short-term Min Change (Min. Pop.)	Short-term Max Change (Min. Pop.)	Long-term Min Change (Min. Pop.)	Long-term Max Change (Min. Pop.)
Italy (n=41) ∫ † ‡ ↕	63.1%	150,000	300,000	94,615	189,231	Stable*	***-9.60***	***-9.60***	Decreasing	-21.9	-21.9	-9,083	-9,083	-20,721	-20,721
Czechia (n=9) ∫	13.8%	40,000	80,000	5,538	11,077	Decreasing	-4	-4	Decreasing	-3	-3	-222	-222	-166	-166
Hungary (n=4) ∫ ↕	6.2%	80,000	120,000	4,923	7,385	Stable	N/A	N/A	Stable	N/A	N/A	N/A	N/A	N/A	N/A
Bulgaria (n=3) † ‡	4.6%	50,000	100,000	2,308	4,615	Stable	0	0	Unknown	N/A	N/A	0	0	N/A	N/A
Germany (n=2) ∫	3.1%	12,500	22,000	385	677	Decreasing	-51	-70	Decreasing	-89	-89	-196	-269	-342	-342
Austria (n=1) ∫	1.5%	8,000	12,000	123	185	Decreasing	-18	-18	Unknown	N/A	N/A	-22	-22	N/A	N/A
Croatia (n=1) ∫	1.5%	27,000	135,000	415	2,077	Unknown	N/A	N/A	Unknown	N/A	N/A	N/A	N/A	N/A	N/A
France (n=1) ∫	1.5%	397,000	481,000	6,108	7,400	Decreasing	-25	-46	Decreasing	-21	-47	-1,527	-2,810	-1,283	-2,871
Poland (n=1) ∫	1.5%	22,000	37,000	338	569	Decreasing	-16	-48	Unknown	N/A	N/A	-54	-162	N/A	N/A
Romania[34] (n=1) †↕	1.5%	120,000	300,000	1,846	4,615	Uncertain	-1	8	Unknown	N/A	N/A	-18	148	N/A	N/A
Slovakia (n=1) †	1.5%	10,000	20,000	154	308	Decreasing	-20	-30	Decreasing	-20	-30	-31	-46	-31	-46
Total (n=65)	100%	916,500	1,607,000	**116,754**	228,138							**-11,153**	**-12,466**	**-22,543**	**-24,146**
						Percentage change (Minimum Population)						**-9.55%**	**-10.68%**	**-19.31%**	**-20.68%**
						Trend (Reference Population)						**Stable** (<10% change in 10 years)	**Decreasing (>10% change in 10 years)**	**Stable** (<20% change in 10 years)	**Decreasing** (>20% change in 10 years)

Data Sources: European Environment Agency (2020); ∫ Raine (2007); BirdLife Malta (ringing data, 2015; 2020) and BirdLife Malta tracking project (2016–2017, 2020); † Fisher et al. (2018); ‡ FKNK tracking project (2021–2022); ↕ KSU tracking project (2022–2023). * ReteRurale Nazionale LIPU Farmland Bird Index Nazionale e Andamenti di Popolazione delle Specie in Italia 2000–2015 | 2000–2024.

[34] EEA (2020) notes that data from delayed delivery by Romania of the 2013–2018 Article 12 report are not shown in the Member States reports table and were not used for the EU population status assessment.

Table 19 **Malta's European Turtle-dove EU reference population and <u>current</u> population trend (2013–2018) and Italy's Farmland Bird Index (2024) based on geotagging data for period 2016–2023 (excluding ring recoveries)** – *this table is included for information purposes only to be compared with Table 18. It is not used for the purpose of calculating the 1% mortality rate unless <u>Ornis Committee recommends otherwise</u>. Data in Table 20 on minimum number of breeding pairs is taken from Table 15 (ring recovery data + tracking data).*

Country	EU Tracking Data (n=26) † ‡ ↕	Breeding Pairs (Min - Max)		Breeding Pairs (% of EU reference population) (Min - Max)		Short-term Trend	Mag. % (Min - Max)		Long-term Trend	Mag. % (Min - Max)		Short-term: Min Change (Min. Pop.)	Short-term: Max Change (Min. Pop.)	Long-term: Min Change (Min. Pop.)	Long-term: Max Change (Min. Pop.)
Italy (n=20) † ‡ ↕	76.9%	150,000	300,000	115,385	230,769	Stable*	***-9.60***	***-9.60***	Decreasing	-21.9	-21.9	-11,077	-11,077	-25,269	-25,269
Hungary (n=1) ↕	3.8%	80,000	120,000	3,077	4,615	Stable	N/A	N/A	Stable	N/A	N/A	N/A	N/A	N/A	N/A
Bulgaria (n=3) † ‡	11.5%	50,000	100,000	5,769	11,538	Stable	N/A	N/A	Unknown	N/A	N/A	N/A	N/A	N/A	N/A
Romania[35] (n=1) ↕	3.8%	120,000	300,000	4,615	11,538	Uncertain	-1	8	Unknown	N/A	N/A	-46	342	N/A	N/A
Slovakia (n=1) †	3.8%	10,000	20,000	385	769	Decreasing	-20	-30	Decreasing	-20	-30	-77	-115	-77	-115
Total (n=26)	100%	410,000	840,000	**129,231**	259,231							-11,200	-10,850	-25,346	-25,385
						Percentage change (Minimum Population)						**-8.67%**	**-8.40%**	**-19.61%**	**-19.64%**
						Trend (Reference Population)						**Stable** (<10% change in 10 years)	**Stable** (<10% change in 10 years)	**Stable** (<20% change in 10 years)	**Stable** (<20% change in 10 years)

Data Sources: European Environment Agency (2020); ∫ BirdLife Malta (ringing data, 2015; 2020) and BirdLife Malta tracking project (2016–2017, 2020); † Fisher et al. (2018); ‡ FKNK tracking project (2021–2022); ↕ KSU tracking project (2022–2023). * ReteRurale Nazionale LIPU Farmland Bird Index Nazionale e Andamenti di Popolazione delle Specie in Italia 2000–2015 | 2000–2024.

2.75 Table 20 provides data on recruitment (fecundity) and mortality rates.

[35] EEA (2020) notes that data from delayed delivery by Romania of the 2013–2018 Article 12 report are not shown in the Member States reports table and were not used for the EU population status assessment.

Table 20 **Minimum breeding population and mortality rate**

	European Turtle-dove (*Streptopelia turtur*)	Source
Minimum breeding population – pairs	116,754	Article 12 reports for the 2013–2018 reporting period (EEA, 2020); ring recovery and tracking data (see list of data sources in Table 15).
Mortality rate – 1st year* (**median**)	**68.9%** Survival rate (**Median** and CI95%): **0.311** [0.169–0.520]	European Turtle-dove population dynamics model (Western Flyway). Available at: https://circabc.europa.eu/ui/group/e21159fc-a026-4045-a47f-9ff1a319e1c5/library/b37af625-45ca-436d-9381-cc83f371adbf/details. Slide 9. [Downloaded 29 May 2024]
Mortality rate – adults	**36.7%** Survival rate (**Median** and CI95%): **0.633** [0.555–0.710]	European Turtle-dove population dynamics model (Central–Eastern Flyway). Available at: https://circabc.europa.eu/ui/group/e21159fc-a026-4045-a47f-9ff1a319e1c5/library/f9b0055e-0f6f-41e4-b56c-c44ae909b287/details. Slide 9. [Downloaded 29 May 2024]
Breeding success (fledged young per pair)	Individual fecundity (**Median** and CI95%): **2.029** [1.084–3.464] **	European Turtle-dove population dynamics model (Central–Eastern Flyway). Available at: https://circabc.europa.eu/ui/group/e21159fc-a026-4045-a47f-9ff1a319e1c5/library/f9b0055e-0f6f-41e4-b56c-c44ae909b287/details. Slide 20. [Downloaded 29 May 2024]

* The 1st year survival rate for the Central–Eastern Flyway [Median and CI95%: 0.539 [0.321 – 0.751] was contested during the December 2020 workshop. For the purpose of this report, the 1st year survival rate for the Western Flyway is used instead. Note that in the document previously downloaded on 05 February 2021 from CIRCABC, the survival rate of first-years for the Western Flyway was reported as 0.261 [0.124–0.486].

** Individual fecundity is calculated as the number of breeding attempts (number of clutches) per female per season multiplied by the number of chicks fledged in each nesting attempt (Source: Carboneras C. *et al*., 2022:2. *Integrative Population Model, population trajectories and estimates of population trends*). Available at: file:///C:/Users/liari001/Downloads/20220318%20Tech.%20update%20(Mar%202022)%20-%20population%20model-FINAL%20Clean.pdf

Calculation of 1% mortality rate and "small numbers"

European Turtle-dove (*Streptopelia turtur*)

Breeding success: 2.029 fledglings per pair (116,754 x 2.029) = 236,894
Mortality rate of 1st year birds (236,894 x 68.90%) = 163,220
Mortality rate of adults (233,508 x 36.70%) = 85,697
Total annual mortality (163,220 + 85,697) = 248,917
1% of total annual mortality (248,917 x 1%) = **2,489**

Based on the 1% mortality rate, the "small numbers" calculation amounts to 2,489 Turtle-doves.

3. Conclusion

Common Quail (*Coturnix coturnix*)

3.1 The EU population status for Common Quail is Unknown, as the data reported were not sufficient to assess the population status of the species (EEA, 2020). The Common Quail has an IUCN Least Concern classification at global level but at European Level it was placed in a higher risk Red List category from Least Concern (2015) to **Near Threatened** (2021) (BirdLife International, 2021: 19). At EU level, the breeding population status is **Unknown** (EEA, 2020). This species is not included in the Pan-European Common Bird Monitoring Scheme.

3.2 During the current (2013–2018) Article 12 reporting period, the Italian population (95% of Malta's reference population) registered an increase in the long-term trend from the previous (2008–2012) status of unknown. However, the Hungarian population now stands at 5,000–10,000 *less* calling males than previously reported. **Malta's reference population retained a stable short-term trend status in the maximum number of calling males and improved the short-term trend status in the minimum number of calling males, from declining to stable. The long-term trend of the reference population remains unknown.**

3.3 During the 8th meeting of the Task Force on the Recovery of Birds held on 8 November 2024, the Common Quail was proposed as potential candidate species [high priority] for Adaptive Harvest Management.

European Turtle-dove (*Streptopelia turtur*)

3.4 This species is listed as **Vulnerable** at the European and global levels and **Near Threatened** within the territory of the European Union (BirdLife International, 2015a: 41). A ten-year (2018–2028) international single species action plan is in place *to restore the European Turtle-dove to a favourable population status so that it can be safely removed from the Globally Threatened categories of the IUCN Red List* (Fisher *et al.* 2018).

3.5 The European Bird Census Council (2024 update; 2023 base year) has shown that at Pan-European level, the Turtle-dove **declined by 83%** when compared with the 1980 baseline data (long-term trend) and **declined by 16% during the 10-year trend** (2014–2023). Compared with the previous EBCC update, the Turtle-dove population did not register any population change in the long-term trend [the -83% decline registered during the previous update was also registered during the latest update – vide Table 8 of this report] and **decreased by 11% in the short-term (10-year) trend** [from -5% to -16%].[36]

3.6 The latest (March 2024) technical update presented by the Scientific Advisory Group to NADEG's Task Force on the Recovery of Bird Species notes that the Turtle-dove population in the central-eastern flyway **continues to decline progressively with no sign of potential recovery, particularly in recent years**. The total loss between 2003 and 2023 has been reported at 480,000 breeding pairs (46% decline). The population has been reported at its lowest during the 2003–2023 time series.

3.7 The majority of Turtle-doves that migrate over Malta breed in Italy (ranging from 61.9% [ring recoveries + geotagging data] to 76.9% [geotagging data only] of the total EU reference population of Malta) [vide Table 15 (ring recovery + tracking data) and Table 17 (tracking data only)]. Italy's latest Farmland Bird Index (2024) shows that the Turtle-dove population decreased by 21.9%

[36] Comparison between the previous and current EBCC updates is for information purposes only. The EBCC updates provide composite data (combined data of all contributing countries) on the latest population trends at pan-European level, not at EU level—it includes data pertaining to countries that are not part of Malta's EU reference population. Moreover, since the EBCC updates do not provide segregated data on population levels and trends for each contributing country, it is not possible to use EBCC's composite data, even if combined at EU level only, to update the assessment of the species at Malta's EU reference population level. The latest available data at EU level that is segregated by country, and hence available to the Maltese authorities to carry out an assessment of the status of the species at reference population level, is the one published by the European Environment Agency as part of the Birds Directive Article 12 reporting obligations for period 2013–2018.

±1.66% during period 2000–2024. The 10-year (short-term) trend of Italy's Turtle-dove breeding population calculated over the period of the last ten years (2015–2024) is stable, from -8.3% (as calculated by WBRU) to -9.6% (as calculated by BirdLife Malta). Both percentage change should be interpreted with caution since the data compiled by Italy for the Farmland Bird Index does not automatically equate to the Article 12 data for reporting period 2019–2024 (refer to paragraphs 2.60 to 2.74 of this report).

3.8 In the short-term trend, the Turtle-dove minimum breeding population during the last ten years [2015–2024] declined in the region of 11,153–12,466 pairs (MT's EU reference population based on both ring recovery data and geotagging data) (Table 18) and declined in the region of 10,850–11,200 pairs (MT's EU reference population based on geotagging data only) (Table 19). The magnitude change based on geotagging data only (Table 19) is still within the ±10% threshold which equates to a **stable** trend[37]. However, when the ring recovery data[38] is also included in the dataset (Table 18), although the minimum change is -9.55% (**stable**), the maximum change is -10.68% (**decreasing**).

3.9 This update has shown that if the **-21.9% decline** reported in Italy's latest Farmland Bird Index (2024) for period 2000–2024[39] had to be considered as the magnitude change of this species in the long-term trend category (in lieu of the magnitude change for period 1993–2024, which will only be available once Italy's Article 12 report for period 2019-2024 will be reviewed and published by the European Environment Agency in mid-2026), the overall **long-term trend** magnitude change of Malta's EU reference population would range from a minimum magnitude change of -19.31% (**stable, borderline decreasing**) to max. magnitude change of -20.68% **(decreasing)** [ring recoveries + geotagging data] and, based solely on geotagging data, from a minimum magnitude change of -19.61% (**stable, borderline decreasing**) to max. magnitude change of -19.64% **(stable, borderline decreasing)**.

3.10 A full review of the Article 12 data (2013–2018) as presented in this report will only be possible following publication of the Article 12 data for reporting period 2019–2024, which is expected to be published in mid-2026. In the absence of the Article 12 data for period 2019–2024, this report includes the latest available data for both Common Quail and European Turtle-dove, the latter with the necessary caveats as explained in the specific subsections on the Farmland Bird Indices.

[37] The short-term (10-year) trend shifts from stable to declining or from stable to increasing when the percentage change exceeds 10% respectively.

[38] The ring recovery data (see data sources in the respective tables) includes populations that breed along parts of the western flyway. This is why the Malta Ornis Committee, during the meeting held on 02 April 2025, was requested to advise whether the conservation status update of this species should be based on ring recovery data + geotagging data or geotagging data only. However, the Ornis Committee did not pronounce itself on this matter. During the meeting, the expert on avifauna remarked that such matter should be at the discretion of the Wild Birds Regulation Unit.

[39] NB: The 2000–2024 time series (latest Farmland Bird Index for Italy) does not equate to the long-term trend since the correct time series for Italy's long-term trend is 1993–2024.

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Appendix A: Turtle-dove ring recovery data

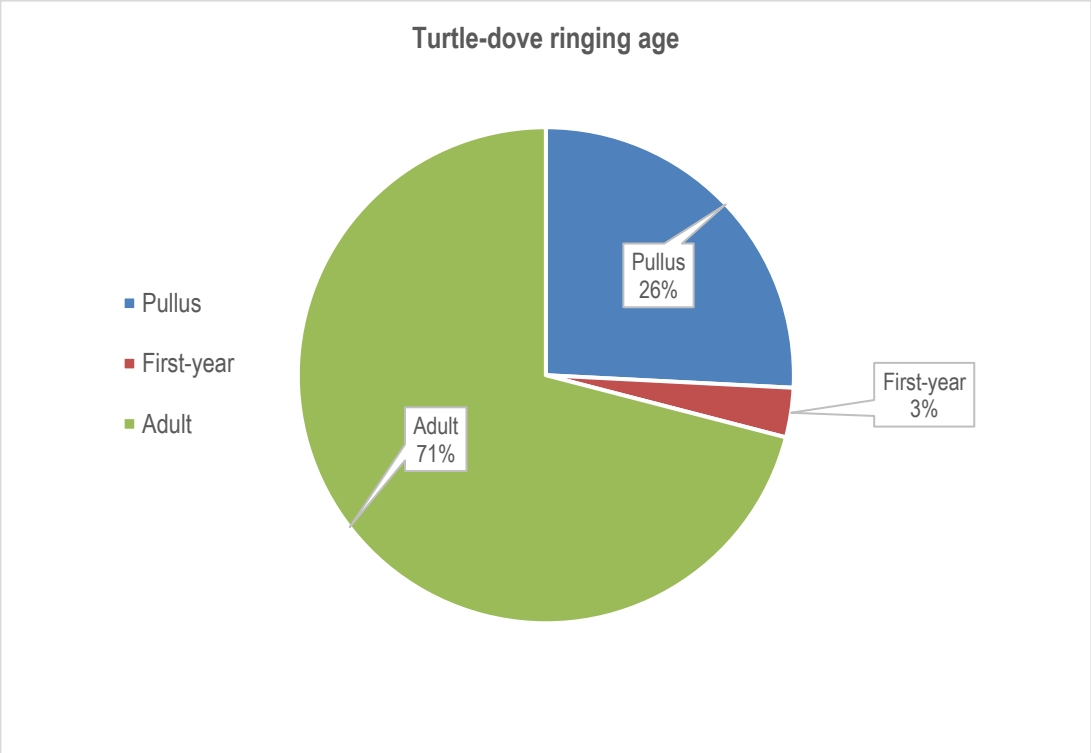
Ring number	Ringing Country	Ringing Date	Ringing Age Code	Ringing Age	Ringing Sex	Recovery Country	Recovery Date
2123	Italy	02/05/1933	4	Adult	Unrecorded	Malta	29/04/1934
E38794	Poland	19/05/1951	1	Pullus	Unrecorded	Malta	23/04/1952
GA6668	Tunisia	30/04/1955	4	Adult	Unrecorded	Malta	18/05/1958
FB1559	Tunisia	24/03/1959	4	Adult	Unrecorded	Malta	24/03/1959
ET462	Germany	05/07/1959	1	Pullus	Unrecorded	Malta	20/04/1962
F59826	Italy	15/05/1960	2	Adult	Unrecorded	Malta	11/05/1962
E54605	Germany	10/06/1961	1	Pullus	Unrecorded	Malta	21/04/1962
H25907	Czechia	16/07/1963	2	Adult	Unrecorded	Malta	01/05/1964
GT7159	France	29/05/1964	2	Adult	Unrecorded	Malta	28/04/1966
H22099	Czechia	18/08/1964	4	Adult	Unrecorded	Malta	12/05/1964
F121200	Italy	13/05/1967	2	Adult	Unrecorded	Malta	26/04/1968
F121598	Italy	24/04/1968	2	Adult	Unrecorded	Malta	03/05/1969
6048400	Italy	30/04/1968	2	Adult	Unrecorded	Malta	28/04/1969
H38779	Czechia	16/06/1969	1	Pullus	Unrecorded	Malta	24/04/1971
H39280	Czechia	07/06/1972	1	Pullus	Unrecorded	Malta	24/04/1974
H35723	Czechia	01/07/1972	1	Pullus	Unrecorded	Malta	20/04/1974
T3321	Italy	03/05/1973	2	Adult	Unrecorded	Malta	Autumn 1974
302826	Hungary	01/05/1976	4	Adult	Unrecorded	Malta	29/04/1977
H43259	Czechia	24/06/1977	1	Pullus	Unrecorded	Malta	02/05/1979
14189	Italy	08/05/1978	4	Adult	Unrecorded	Malta	23/04/1985
ET3501	Austria	21/04/1979	4	Adult	Unrecorded	Malta	09/04/1980
158539	Italy	03/05/1979	4	Adult	Unrecorded	Malta	15/04/1986
T3839	Italy	25/04/1981	4	Adult	Unrecorded	Malta	25/04/1981
H44986	Czechia	10/06/1982	1	Pullus	Unrecorded	Malta	10/05/1985
305716	Hungary	13/08/1982	2	Adult	Unrecorded	Malta	23/04/1984
B438052	Croatia	14/05/1985	4	Adult	Male	Malta	30/04/1986
H75886	Czechia	29/07/1985	2	Adult	Male	Malta	30/04/1990
H76483	Czechia	18/05/1986	4	Adult	Male	Malta	16/04/1991
H14504	Italy	20/04/1987	4	Adult	Unrecorded	Malta	30/04/1988
H109999	Italy	29/04/1998	4	Adult	Male	Malta	15/05/2013
H113760	Italy	20/04/2005	4	Adult	Unrecorded	Malta	April 2006
HA07154	Hungary	16/08/2012	3	First-year	Unrecorded	Malta	24/04/2015
EE02045	Malta	06/05/2014	5	Adult (Hatched during previous calendar year)	Male	Italy	02/09/2020

Source: BirdLife Malta (2024) [Raine, 2007].

Note: This data was requested by the Wild Birds Regulation Unit (WBRU) on 15 May 2024. It only includes 33 controls (including the one ringed in Malta and recovered in Italy in 2020, as explained in para. 2.43 of this report) out of the 37 foreign ring recoveries reported by Raine (2007) since the national ringing scheme was, at the time of the request, in the process of digitizing all old records (BirdLife Malta, *pers. comm*. 20 May 2024). This appendix will be updated once the additional five controls are digitized and forwarded to the WBRU.

Ringing Country (EU)	Ringing Age			Total
	Pullus	First-year	Adult	
Austria			1	1
Croatia			1	1
Czechia	5		4	9
France			1	1
Germany	2			2
Hungary		1	2	3
Italy			13	13
Poland	1			1
Total	8	1	22	31

Source: BirdLife Malta (2024) [Raine, 2007].



Source: BirdLife Malta (2024) [Raine, 2007].