

**Conservation status of the seven finch species: Chaffinch (*Fringilla coelebs*), Linnet (*Carduelis cannabina*), Goldfinch (*Carduelis carduelis*), Greenfinch (*Carduelis chloris*), Hawfinch (*Coccothraustes coccothraustes*), Serin (*Serinus serinus*) and Siskin (*Carduelis spinus*)**

**2015 Update**

**Wild Birds Regulation Unit  
Parliamentary Secretariat for Agriculture, Fisheries and Animal Rights  
Ministry for Sustainable Development, the Environment and Climate Change**

**May 2015**

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## Key to conservation status codes

Category	European species of global conservation concern	Conservation status in Europe	Global population or range concentrated in Europe
<b>SPEC 1</b>	Yes	–	–
<b>SPEC 2</b>	No	Unfavourable	Yes
<b>SPEC 3</b>	No	Unfavourable	No
<b>Non-SPEC<sup>E</sup></b>	No	Favourable	Yes
<b>Non-SPEC</b>	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:	
<b>Critically Endangered (CR)</b>	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).
<b>Endangered (EN)</b>	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).
<b>Vulnerable (V)</b>	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).
<b>Declining (D)</b>	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 <b>20%</b> 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 <b>10%</b> is comparable with this approach.]
<b>Rare (R)</b>	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: <ul style="list-style-type: none"> <li>• break-up of social structure;</li> <li>• loss of genetic diversity;</li> <li>• large-scale population fluctuations and catastrophic chance events;</li> <li>• existing or potential exploitation, persecution or disturbance by humans.</li> </ul>
<b>Depleted (H)</b>	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.
<b>Localised (L)</b>	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 than 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: <ul style="list-style-type: none"> <li>• large-scale population fluctuations and catastrophic chance events;</li> <li>• existing or potential exploitation, persecution and disturbance by humans.</li> </ul>
<b>Secure (S)</b>	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:	
<b>Data Deficient (DD)</b>	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).
<b>Not evaluated (NE)</b>	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)

## Executive Summary

This report provides an update on the conservation status of the seven finch species for review by the Malta Ornithology Committee, in conjunction with the potential application of a derogation under Article 9 of the EC Birds Directive, concerning the opening of an autumn 2015 season for the live-capturing of finches. The conservation status of the seven finch species is reviewed on the basis of current scientific literature, which also provides details of population size, mortality rates and ring recoveries from other EU Member States.

It is shown that on the basis of the latest EBCC (2014) update, which only provides trend classifications at EU level for the long-term trends (1980–2012), the Goldfinch, Hawfinch and Chaffinch are classified as **Moderate Increase**, the Greenfinch and Siskin as **Stable** whereas the Linnets and Serin as **Moderate Decline**. It is noted that EBCC provides data on the magnitude change at both the short- and long-term trends at pan-European level only, which shows that the Linnets declined by 56% in the long-term trend (since 1980) but increased by 7% in the short-term (1990) trend<sup>1</sup>. The Serin declined by 42% since 1980 and by 17% in the short-term trend. It is shown that on the basis of Article 12 reports for the reporting period 2008–2012, EBCC classifications do not tally with the long-term trend analysis for the respective species at EU level.

An overall comparison between the population trends and number of breeding pairs reported in Birds in Europe II (BirdLife International, 2004) and those reported in Article 12 reports for the period 2008–2012 (EEA, 2014) is also made. Although there has been a notable increase in the number of breeding pairs in both the minimum and maximum values, such increase is not reflected on the basis of the magnitude change as reported by the EU Member States and hence the two datasets do not correlate. The 2004 baseline population has been reviewed on the basis of Article 12 reports (increase/decrease in population and corresponding percentage change) to provide a more accurate indication of the population direction, resulting in a more accurate short-term trend analysis (as published during the period 2004–2014, base year up to 2012).

The results indicate that in the short-term trend, **the EU population of Chaffinch, Linnets and Hawfinch is stable at all levels of the population** (minimum and maximum pairs and their geomean), whereas **the minimum number of Greenfinch pairs is increasing, and is stable at the maximum and geomean levels**. On the other hand, the short-term trend for **Goldfinch, Serin and Siskin showed a decline**. In terms of long-term trend, all seven finch species are Stable at all three levels of their population (min/max/geomean), the Siskin being the only exception since it increased in the number of minimum pairs and geomean.

At **ring recoveries level**, this update shows that whilst the Goldfinch **increased**, the Linnets, Hawfinch and Serin are **stable** but the Chaffinch, Greenfinch and Siskin **decreased**. The long-term trends at ring recovery level are shown to be consistent with those at EU level. The Chaffinch, Linnets, Greenfinch, Hawfinch and Serin are **stable** at all three levels of the population (min/max/geomean) but the Siskin increased at all three levels and the Goldfinch **increased** in the minimum number of breeding pairs and the geomean.

Should a derogation to allow the live-capturing of finches be applied in autumn 2015, it is recommended that the general conditions stipulated by S.L. 504.124<sup>2</sup> (Framework for Allowing a Derogation Opening an Autumn Live-Capturing Season for Finches Regulations) and S.L. 504.122<sup>3</sup> (Notice of Derogation) are retained, including the following dates and national bag limits:

- **Chaffinch:** from 20 October 2015 to 31 December 2015 (National Bag Limit: 5,000)
- **Linnets:** from 20 October 2015 to 31 December 2015 (National Bag Limit: 12,000)
- **Goldfinch:** from 20 October 2015 to 31 December 2015 (National Bag Limit: 800)
- **Greenfinch:** from 20 October 2015 to 31 December 2015 (National Bag Limit: 4,500)
- **Hawfinch:** from 20 October 2015 to 31 December 2015 (National Bag Limit: 500)
- **Serin:** from 20 October 2015 to 31 December 2015 (National Bag Limit: 2,350)
- **Siskin:** from 20 October 2015 to 31 December 2015 (National Bag Limit: 2,350)

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<sup>1</sup> The short-term (1990) trend has been replaced by the European Bird Census Council by “Ten-year trend”.

<sup>2</sup> <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=12211&l=1>

<sup>3</sup> <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=12209&l=1>

## Introduction

This report provides an update on the conservation status of seven finch species, namely: Chaffinch (*Fringilla coelebs*), Linnet (*Carduelis cannabina*), Goldfinch (*Carduelis carduelis*), Greenfinch (*Carduelis chloris*), Hawfinch (*Coccothraustes coccothraustes*), Serin (*Serinus serinus*) and Siskin (*Carduelis pinus*). The status of these species is evaluated on the basis of Birds in Europe II (BirdLife International, 2004) and, in particular, Article 12 reports for the reporting period 2008–2012 and the latest update (2014) by the European Bird Census Council.

## Conservation status: trend analysis and classifications

The 2004 publication by BirdLife International *Birds in Europe: population estimates trends and conservation status* (Birds in Europe II) specifies that a species is classified as declining "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" ("Classification of European threat status": Box 3, p. 8). The explanatory text further specifies that 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" (BirdLife International, 2004). However, Box 3 (p. 14) of Birds in Europe II ("Interpreting the data table") also specifies that when the overall population change is less than **20%**, the overall direction of the population trend is considered to be stable. For the purpose of this report, an emphasis is made on the long-term (1980–2012) trend of each finch species as this provides a better understanding of the direction of the population under assessment. Thus, when calculating the overall direction of the EU finch population trend, this report considers that **a change by not more than 20% is considered as Stable**. This is a stricter approach than that adopted by BirdLife International for Birds in Europe II (10% for every 10-year period) since, strictly speaking, the threshold over a 30-year period could be said to constitute 30%.

The previous (2014) report on the conservation status of the seven finch species was based on Birds in Europe II and the 2013 update from the European Bird Census Council (EBCC). This report takes into account the data (minimum/maximum pairs and magnitude change) submitted by Member States as part of the Birds Directive Article 12 reporting obligation for the period 2008–2012 as well as the 2014 update by EBCC. It should be noted that the period covered by the 2014 EBCC update coincides with the Article 12 reporting period, namely, 1980–2012. In the absence of Birds in Europe III, a specific emphasis on the latest EU population assessments as compiled by the European Environment Agency (EEA, 2014)<sup>4</sup> is thus made on the basis of Article 12 reports, unless stated otherwise. For example, no updates were available for the populations of Greece and the Czech Republic, whereas Croatia was not included in the 2008–2012 reporting period. In such instances, the corresponding data is based on Birds in Europe II (BirdLife International, 2004). The following subsection provides a comparison between the population trends as reported in Birds in Europe II and through Article 12 (2008–2012) reports.

## Comparison between Birds in Europe II (2004) and Article 12 data (EEA, 2014)

This update provides an overall comparison between the number of breeding pairs reported in Birds in Europe II and those reported in Article 12 reports for the period 2008–2012. The number of breeding pairs increased in both the minimum and maximum values (see Table 1 below). The only exception is the Chaffinch, which has seen a decrease in the number of maximum pairs by just under 3 million, although the number of minimum Chaffinch pairs increased by over 18 million. The data was then compared with the **maximum percentage change** as reported by each Member State for each species for the same reporting period (i.e. short-term trend). It is clear that the two data sets do not correlate given that whilst on the one hand all breeding pairs pertaining to the seven finch species (except the Chaffinch) have been reported through Article 12 as increasing (both in the minimum and maximum number of pairs), the Member States' combined magnitude percentage change shows an overall decline in almost all seven finch species (except the Greenfinch and Chaffinch), as shown in the table below (see in particular the circled columns). These percentages are explored in more detail further below in the respective section for each of the seven finch species.

<sup>4</sup> EU Population Status Assessment (Article 12 reports). Available at: <http://bd.eionet.europa.eu/article12/summary> [Accessed on 25 April 2015].

Species	Breeding Pairs (Article 12 Reports) [2014] (Min - Max)		Breeding Pairs (Birds in Europe II) [2004] (Min - Max)		Change in Breeding Pairs (comparison between Article 12 and BIE II) (Min - Max)		% Change (comparison between Article 12 and BIE II) (Min - Max)		Short-term Trend (2004–2014), based on Max. % Change (Article 12 Reports) (Min - Max)	
	Chaffinch	82,131,648	126,886,083	63,934,000	129,864,000	18,197,648	-2,977,917	28.46%	-2.29%	+0.49%
Linnet	14,003,752	18,928,299	6,352,000	15,403,000	7,651,752	3,525,299	120.46%	22.89%	-13.03%	-9.01%
Goldfinch	23,199,170	32,329,072	7,288,500	19,295,000	15,910,670	13,034,072	218.30%	67.55%	-19.22%	-13.56%
Greenfinch	18,096,464	26,173,127	10,164,000	24,429,000	7,932,464	1,744,127	78.04%	7.14%	+17.20%	+3.69%
Hawfinch	1,893,476	3,560,278	1,888,100	3,321,300	5,376	238,976	0.28%	7.20%	-7.21%	-8.13%
Serín	20,286,379	29,083,631	7,548,202	17,695,629	12,738,177	11,388,002	168.76%	64.35%	-30.07%	-23.42%
Siskin	3,381,935	5,238,873	2,103,561	4,806,210	1,278,374	432,663	60.77%	9.00%	-41.57%	-29.49%

Although the number of breeding pairs pertaining to the seven finch species within the EU territory, as reported by Member States in their Article 12 submissions, is higher than the corresponding number of breeding pairs in Birds in Europe II (except the Chaffinch max. pairs), this increase is not reflected in the combined percentage change over the same reporting period (=short-term trend).

Data Sources: BirdLife International (2004); European Environment Agency (2014)

The mismatch between the number of breeding pairs reported through Article 12 (2008–2012) and the number of breeding pairs reported in Birds in Europe II can be better illustrated in the example below. The data shows four Member States reporting a decline in the number of Linnet breeding pairs (ranging from 6–20% up to 40–60% decline) yet the corresponding number of breeding pairs as reported in their Article 12 reports is actually higher than the number of breeding pairs reported in Birds in Europe II (see encircled columns).

EU Member State	Breeding Pairs (EEA, 2014) (Min - Max)		Long-term Trend	Mag. % (Min - Max)		Breeding Pairs (BLI, 2004) (Min - Max)	
Italy	300,000	600,000	Decreasing	20	30	100,000	400,000
Austria	18,000	30,000	Decreasing	40	60	12,000	24,000
Poland	830,000	1,100,000	Decreasing	6	20	300,000	600,000
Slovenia	10,000	15,000	Decreasing	30	50	5,000	10,000

In order to overcome this anomaly, an online percentages calculator (<http://www.cleavebooks.co.uk/scol/calpcent.htm>) was used. This calculator returns a value that corresponds to the number of breeding pairs in 2004 (the "Original value"), based on the number of breeding pairs (the "Value after DEcrease") and "Percentage change" as reported by Member States in their Article 12 (2008–2012) reports (EEA, 2014). Using the above example, the revised figures are shown below:

EU Member State	Breeding Pairs (EEA, 2014) (Min - Max)		Long-term Trend	Mag. % (Min - Max)		Breeding Pairs (2004) (Min - Max)	
Italy	300,000	600,000	Decreasing	20	30	375,000	857,143
Austria	18,000	30,000	Decreasing	40	60	30,000	75,000
Poland	830,000	1,100,000	Decreasing	6	20	882,979	1,375,000
Slovenia	10,000	15,000	Decreasing	30	50	14,286	30,000

The same approach illustrated above was adopted when the number of breeding pairs in 2014 was reported to have increased yet was either the same or higher in 2004. The objective was to establish a clearer (more realistic) short-term trend analysis on the basis of the populations in 2004 and 2014 and the reported magnitude change.

## Ring recoveries

The assessment on reference populations and small numbers is based on ring recoveries from EU Member States (BirdLife Malta: Raine, 2007), with the exception of the Hawfinch since there are no ring recoveries of this species in Malta. In the latter case, ring recoveries in Italy (Spina and Volpini, 2008) were used as a proxy. No additional ring recoveries have been reported for these seven finch species since the 2007 publication by BirdLife Malta (Raine, 2007), hence no updates in this respect were possible. A total of 112 foreign-ringed finches (six species, excluding *Coccothraustes coccothraustes*) from 19 countries were recorded in Malta by Raine (2007). The five most common countries recorded from these ring recoveries are shown in Table 2. Combined, these top five countries make up 73.2% of all finch recoveries in Malta. The remaining 14 countries, including five non-EU Member States (Belarus, Norway, Russia, Switzerland and Ukraine), make up 26.8% of the remaining ring recoveries. For the purpose of calculating the reference population and <1% mortality, these five non-EU Member States were omitted.

**Table 2** The five most commonly recorded countries from finch ring recoveries in Malta (six species)

Country	No. of recoveries	% of total recoveries
Czech Republic	23	20.5
Hungary	19	17.0
Italy	16	14.3
Slovenia	13	11.6
Croatia	11	9.8

Source: Raine (2007)

## Recruitment rate: breeding success vs. breeding rate

For the purpose of calculating the recruitment rate of each species, the minimum number of chicks per pair was used. Both the Birds of the Western Palearctic (BWP) [Cramp and Perrins, 1994] and the British Trust for Ornithology (BTO) [Robinson, 2005] refer to the breeding rate when referring to the number of young per pair. However, Cramp and Perrins (1994) also refer to the breeding success (young per pair). It should be noted that since the values provided for the number of young per pair do not tally between BWP and BTO, for the purpose of calculating small numbers, only the lowest recruitment rate was considered. For example, the **breeding rate** for the Chaffinch (*Fringilla coelebs*) is 3–4 young per pair (BWP and BTO), yet the **breeding success** is 2.6 (BWP). In such instance, the breeding success of 2.6 is used in the formula for calculating small numbers. Whenever the breeding success specified by BWP is higher than the breeding rate, such as the case with the Greenfinch (*Carduelis chloris*) [breeding success 4.4; breeding rate 3–4], then the lower figure specified for the breeding rate (i.e., 3 chicks per pair) is used. This was purposely done so that the formula returns the lowest possible figure when calculating the potential bag limit for each species.

## Partitioning of the <1% mortality with other Member States

There are two EU Member States that apply derogations for the live-capturing of finches (and other passerines), namely Austria and Spain. Italy, on the other hand, has applied derogations for the hunting of Chaffinch (and other passerines). According to the EC's Composite Report on derogations applied by Member States in 2008 (EC, 2011), it appears that Austria has a bag limit of 554 individuals from a total of 12 species (Linnet, Goldfinch, Siskin, Chaffinch and Hawfinch and seven other passerines). The situation with respect to the bag limits established by Spain and Italy is unclear. The 2008 Composite Report specifies that the total number of individuals affected by the Spanish activities is 187,967 (Linnet, Goldfinch, Siskin, Chaffinch, Serin, Greenfinch and two other passerine species). However, the July 2011 European Conference on Illegal Killing of Birds<sup>5</sup> held in Larnaca, mentions a figure of 400,000 individuals [5 finch species], composed of: 200,000 Goldfinches, 100,000 Linnets, 40,000 Greenfinches, 40,000 Serins and 20,000 Chaffinches.

<sup>5</sup> "Control of illegal bird trapping practices in Spain". Available at: [http://www.coe.int/t/dg4/cultureheritage/nature/bern/documents/072011\\_IKB/Presentations/IllegalBirdTrapping\\_Spain\\_Larnaca\\_July2011.pdf](http://www.coe.int/t/dg4/cultureheritage/nature/bern/documents/072011_IKB/Presentations/IllegalBirdTrapping_Spain_Larnaca_July2011.pdf)

This report partitions the reference population (minimum breeding pairs) with Austria, Italy and Spain very restrictively. For example, it could be argued, on the basis of EU ring recoveries in Malta (Raine, 2007) and taking into account the three principal flyways (Western Europe–Strait of Gibraltar, Central Europe–Tunisia and Eastern Europe–Bosporus), that it is very unlikely that Malta and Spain share the same reference populations. Notwithstanding that this assessment has based the reference population on ring recoveries in Malta (and on recoveries in Italy with respect to the Hawfinch), the <1% threshold is nonetheless partitioned as follows (Table 3):

**Table 3 Partitioning of the <1% mortality (ring recoveries in Malta/Italy) with other EU Member States**

Species	Member State	Partitioning value
Chaffinch	Austria, Spain, Italy	25%
Linnet	Austria, Spain	33%
Goldfinch	Austria, Spain	33%
Siskin	Austria, Spain	33%
Hawfinch	Austria	50%
Serin	Spain	50%
Greenfinch	Spain	50%

An alternative to the above partitioning methodology could have taken into account the entire EU population of the respective species and divide the <1% threshold with Austria, Italy and Spain, as opposed to the partitioning based on ring recoveries in Malta (and Italy in the case of the Hawfinch). However, the latter method returned a much higher <1% threshold notwithstanding that it was further divided by three (to account for the three principal flyways). Therefore, for the purpose of fulfilling the “small numbers” criterion further, the reference population was partitioned solely on the basis of ring recoveries in Malta/Italy, which consist of a much smaller subset of the total EU population of the seven finch species.

**Formula for calculating <1% mortality of the reference population and proportionality to *Carnet de Chasse* data**

In the following sections on the conservation status of the seven finch species, a formula is used to calculate the national harvest limit, as adapted from Allendorf and Luikart (2007) *Conservation and the Genetics of Populations*. The formula takes into account the <1% mortality of the reference population (which is based on the minimum number of breeding pairs and minimum recruitment rate per species (<1% mortality’ or <1% threshold’) and the average number of birds harvested over a seven-year period (namely, the *Carnet de Chasse* data from 2002 to 2008<sup>6</sup>). The formula returns a figure ( $N_h$ ) that is not only lower than the partitioned <1% threshold of each species but also lower than the average number of birds caught between 2002 and 2008. It should be noted that the formula can only be applied when the partitioned <1% threshold exceeds the average bag limit. The formula is as follows:

$$N_h = [(N_\mu + N_m) \times (N_\mu / N_m)] - [(N_\mu / N_m) \times N_m \times (\sqrt{N_\mu / N_m})]$$

where,

$N_h$  is the potential national harvest limit  
 $N_m$  is the 1% mortality of the minimum number of breeding pairs of the reference population (<1%)  
 $N_\mu$  is the *Carnet de Chasse* data (average number of finches per species harvested over a 7-year period: 2002–2008)

<sup>6</sup> Available at <http://www.mepa.org.mt/biodiversity-reporting>

# 1. Conservation status of the Chaffinch (*Fringilla coelebs*)

**Non-SPEC<sup>E</sup> (1994: 4) Status: Secure; Criteria: —. European IUCN Red List Category: —; Criteria: — (BirdLife International, 2004)**

## Distribution and conservation status

This species is present in all of Europe but is absent in Iceland (Hume, 2002). The geographical distribution of the Chaffinch in Europe (Fig. 1) is as follows:

**Breeding** Finland, Sweden, Estonia, Latvia, Lithuania, Malta (few pairs), Czech Republic, United Kingdom, Ireland, Germany, Netherlands, Spain, Portugal, France, Belgium, Austria, Luxembourg, Slovenia, Italy, Greece, Cyprus, Denmark, Bulgaria, Croatia, Hungary and Romania.

**Wintering** Estonia, Italy, United Kingdom, Ireland, Malta (a few), Cyprus, Greece, Germany (a few), Belgium (a few), Luxembourg (a few)

**Sedentary and migratory** Northern breeders of the nominate race move west, southwest or south to winter mostly within the range in central and southern Europe, around the Mediterranean, Cyprus, the Middle East and Israel. **It is a nocturnal and diurnal migrant.** (Clement *et al.* 1993: 167).


Conservation status	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>ExLin.L</p> <p>EX EW CR EN VU NT</p> </div> <div style="text-align: center;"> <p>Threatened</p> </div> <div style="text-align: center;"> <p>Least concern</p> <p>LC</p> </div> </div> <p style="text-align: center;">Least Concern (IUCN 3.1)<sup>[1]</sup></p>	
Order:	<u>Passeriformes</u>
Family:	<u>Fringillidae</u>
Subfamily:	<u>Fringillinae</u>
Genus:	<u>Fringilla</u>
Species:	<b>Coelebs</b>
Binomial name	
<p><b>Fringilla coelebs</b> Linnaeus, 1758</p>	
	

Fig. 1: Distribution and conservation status of the European Chaffinch (*Fringilla coelebs*)

Source: [http://en.wikipedia.org/wiki/Common\\_Chaffinch](http://en.wikipedia.org/wiki/Common_Chaffinch) [Accessed 02 May 2015]. Distribution map downloaded from <http://www.birdlife.org> on 02/05/2015 [BirdLife International (2015) IUCN Red List for birds].

In Europe, the breeding population is estimated to number 130,000,000–240,000,000 breeding pairs, equating to 390,000,000–720,000,000 individuals (BirdLife International 2004). Europe forms 50–74% of the global range of the Chaffinch [BirdLife International (2015) Species Factsheet]. Based on the EU Member States' Article 12 reports for the 2008–2012 reporting period, the EU breeding population amounts to 82,131,648–126,886,083 pairs. Within the territory of the European Union (EU 28), both the minimum and maximum breeding pairs are Stable in the long-term trend (1980–2012), with a change in the minimum number of pairs of -2.37% and a change of -2.59% in the maximum number of pairs, equating to a geomean change of -2.51% (Table 4). **According to BirdLife International (2004), this equates to a long-term Stable classification for the minimum, maximum and geomean number of breeding pairs (a change not more than 20% is considered to be Stable for the period 1980–2012).** Table 4 also lists population counts and long-term trend for each Member State within the territory of the European Union.

**Table 4: Chaffinch EU breeding population (long-term trend) and ring recoveries (bold = ring recoveries in Malta)**

Member State	EU Ring Recoveries in Malta (n=5)	Breeding Pairs (2014)		Long-term Trend	Mag. % (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
		(Min)	(Max)		(Min)	(Max)			
Austria		1,500,000	2,300,000	Unknown	?	?	-	-	-
Belgium		300,000	700,000	Increasing	20	180	192,857	450,000	321,429
Bulgaria		2,000,000	4,000,000	Stable	0	0	-	-	-
Croatia*		1,000,000	1,500,000	Decreasing	50	79	-3,761,905	-5,642,857	-4,702,381
Cyprus		15,000	45,000	Unknown	?	?	-	-	-
Czech		4,000,000	8,000,000	Stable	0	19	-	-	-
Denmark		1,300,000	1,300,000	Stable	0	0	-	-	-
Estonia		1,700,000	2,200,000	Stable	0	0	-	-	-
Finland		7,200,000	8,500,000	Stable	0	0	-	-	-
France		8,000,000	15,000,000	Stable	0	0	-	-	-
Germany		7,350,000	11,000,000	Stable	0	19	-	-	-
Greece*		1,000,000	3,000,000	Stable	0	19	-	-	-
Hungary	40%	1,130,000	1,360,000	Unknown	?	?	-	-	-
Ireland		2,767,400	3,871,930	Unknown	?	?	-	-	-
Italy	40%	1,000,000	2,000,000	Increasing	10	20	166,667	333,333	250,000
Latvia		2,623,780	3,219,441	Stable	0	0	-	-	-
Lithuania		1,500,000	2,500,000	Stable	0	0	-	-	-
Luxembour		50,000	70,000	Unknown	?	?	-	-	-
Netherlands		715,468	834,712	Increasing	91	154	433,788	506,085	469,936
Poland	20%	7,600,000	8,500,000	Unknown	?	?	-	-	-
Portugal		1,000,000	5,000,000	Unknown	?	?	-	-	-
Romania		4,000,000	8,000,000	Unknown	?	?	-	-	-
Slovakia		3,000,000	5,000,000	Stable	0	0	-	-	-
Slovenia		750,000	1,250,000	Stable	0	0	-	-	-
Spain		8,710,000	10,675,000	Increasing	?	?	-	-	-
Sweden		5,720,000	10,860,000	Stable	0	0	-	-	-
UK		6,200,000	6,200,000	Increasing	18.6	18.6	974,987	974,987	974,987
Total	100%	82,131,648	126,886,083	<b>Total change</b>			<b>-1,993,606</b>	<b>-3,378,451</b>	<b>-2,686,029</b>
				<b>Percentage change</b>			<b>-2.37%</b>	<b>-2.59%</b>	<b>-2.51%</b>
				<b>Long-term Trend (EU Population)</b>			<b>Stable</b>	<b>Stable</b>	<b>Stable</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using *The Percentages Calculator*, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

With reference to the short-term trend of the Chaffinch within the territory of the European Union (EU 28), there is change in the minimum number of breeding pairs of +0.41% and a change of -0.11% in the maximum number of pairs, equating to a geomean change of +0.08% (Table 5). **According to BirdLife International (2004), this equates to a short-term Stable classification for the minimum and maximum number of breeding pairs and their geomean (a change not more than 10% is considered to be Stable for the short-term trend).** Table 5 also lists population counts and short-term trend for each Member State within the territory of the European Union.

**Table 5 Chaffinch EU breeding population (short-term trend) and ring recoveries (bold = ring recoveries in Malta)**

EU Member State	EU Ring Recoveries in Malta (n=5)	Breeding Pairs (EEA, 2014) (Min - Max)		Short-term Trend	Mag. % (Min - Max)		Breeding Pairs (2004) (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
Austria		1,500,000	2,300,000	Stable	0	0	1,600,000	3,200,000	-	-	-
Belgium		300,000	700,000	Stable	0	0	100,000	250,000	0	0	0
Bulgaria		2,000,000	4,000,000	Stable	0	0	2,000,000	6,000,000	-	-	-
Croatia*		1,000,000	1,500,000	Decreasing	50	79	2,000,000	7,142,857	-3,761,905	-5,642,857	-4,702,381
Cyprus		15,000	45,000	Stable	?	?	20,000	40,000	-	-	-
Czech Rep.*		4,000,000	8,000,000	Stable	0	0	4,000,000	8,000,000	-	-	-
Denmark		1,300,000	1,300,000	Stable	0	0	1,500,000	2,000,000	-	-	-
Estonia		1,700,000	2,200,000	Stable	0	0	1,500,000	2,500,000	-	-	-
Finland		7,200,000	8,500,000	Stable	0	0	5,000,000	7,000,000	-	-	-
France		8,000,000	15,000,000	Increasing	11	11	7,207,207	13,513,514	792,793	1,486,486	1,139,640
Germany		7,350,000	11,000,000	Decreasing	7	13	7,903,226	12,643,678	-1,098,276	-1,643,678	-1,370,977
Greece*		1,000,000	3,000,000	Stable	0	0	1,000,000	3,000,000	-	-	-
Hungary	40%	1,130,000	1,360,000	Increasing	42	42	795,775	957,746	334,225	402,254	368,239
Ireland		2,767,400	3,871,930	Increasing	7.20	21.10	2,581,530	3,197,300	482,181	674,630	578,406
Italy	40%	1,000,000	2,000,000	Increasing	5	15	952,381	1,739,130	130,435	260,870	195,652
Latvia		2,623,780	3,219,441	Increasing	24	68	2,115,952	1,916,334	1,062,006	1,303,107	1,182,557
Lithuania		1,500,000	2,500,000	Stable	0	0	2,500,000	3,500,000	-	-	-
Luxembourg		50,000	70,000	Unknown	?	?	50,000	70,000	-	-	-
Netherlands		715,468	834,712	Increasing	8	19	662,470	701,439	114,234	133,273	123,754
Poland	20%	7,600,000	8,500,000	Decreasing	10	20	8,444,444	10,625,000	-1,900,000	-2,125,000	-2,012,500
Portugal		1,000,000	5,000,000	Stable	0	0	500,000	2,500,000	-	-	-
Romania		4,000,000	8,000,000	Fluctuating	-	-	2,450,000	6,300,000	-	-	-
Slovakia		3,000,000	5,000,000	Stable	0	0	3,000,000	5,000,000	-	-	-

Slovenia		750,000	1,250,000	Stable	0	0	1,000,000	1,500,000	-	-	-
Spain		8,710,000	10,675,000	Increasing	75	75	4,977,143	6,100,000	3,732,857	4,575,000	4,153,929
Sweden		5,720,000	10,860,000	Stable	0	0	7,500,000	15,000,000	-	-	-
UK		6,200,000	6,200,000	Increasing	7.40	7.40	5,772,812	5,772,812	427,188	427,188	427,188
Total	100%	82,131,648	126,886,083				77,132,940	130,169,810			
							<b>Total change</b>		<b>315,739</b>	<b>-148,727</b>	<b>83,506</b>
							<b>Percentage change</b>		<b>0.41%</b>	<b>-0.11%</b>	<b>0.08%</b>
							<b>Short-term Trend (EU Population)</b>		<b>Stable</b>	<b>Stable</b>	<b>Stable</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using The Percentages Calculator, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

According to the European Bird Census Council (EBCC, 2014 update)<sup>7</sup>, the long-term trend of the Chaffinch population within the EU territory is classified as **Stable** (1980–2012). It should be noted that EBCC data pertaining to the short-term trends is only available at pan-European level. At pan-European level, the Chaffinch increased by 13% since 1980 and by 5% during the current 10-year period. Between the previous EBCC update and the current (EBCC 2014) update the percentage change was +5% in the long-term trend and +9% in the short-term trend (Table 6).

EBCC update	Species	Long-term Trend (%)	Long-term Slope	% change	10-Year Trend (%)	10-Year Slope	% change	Habitat
2012	<i>Fringilla coelebs</i>	+13%	1.0021	+0.21%	-1%	0.9996	-0.04%	oth
2013	<i>Fringilla coelebs</i>	+8%	1.0016	+0.16%	-4%	0.9993	-0.07%	oth
2014	<i>Fringilla coelebs</i>	+13%	1.0019	+0.19%	+5%	1.0005	0.05%	oth
Overall % change (2013–2014)		+5%		+0.03%	+9%		0.12%	

Data sources: EBCC (2012, 2013 & 2014 updates). Available at: <http://www.ebcc.info/index.php?ID=557>

<sup>7</sup> <http://www.ebcc.info/index.php?ID=558>

## Ring recoveries in Malta

Table 7 provides data on the ring recoveries of this species in Malta, the respective number of breeding pairs, together with the overall direction of the population trend. The reference population (ring recoveries in Malta) is Stable (Min. Pairs: +1.74%; Max. Pairs: +2.89%). Fig. 2 illustrates the EU population trend categories of this species per Member State whereas Fig. 3 illustrates the respective EU population trend categories on the basis of ring recoveries in Malta.

**Table 7 Chaffinch ring recoveries in Malta from other EU Member States and corresponding population trend**

Country	EU Ring Recoveries in Malta (n=5)	Reference Population Breeding Pairs (Min - Max)		Long-term Trend (1980–2012)	Mag. % (Max - Min)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	
Hungary	40%	1,130,000	1,360,000	Unknown	?	?	-	-	
Italy	40%	1,000,000	2,000,000	Increasing	10	20	166,667	333,333	
Poland	20%	7,600,000	8,500,000	Unknown	?	?	-	-	
Total	100%	9,730,000	11,860,000	<b>Total change</b>			<b>166,667</b>	<b>333,333</b>	
							<b>Percentage change</b>	<b>1.74%</b>	<b>2.89%</b>
							<b>Long-term Trend (Ring Recoveries)</b>	<b>Stable</b>	<b>Stable</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014); Raine (2007)

Percentages verified using *The Percentages Calculator*, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

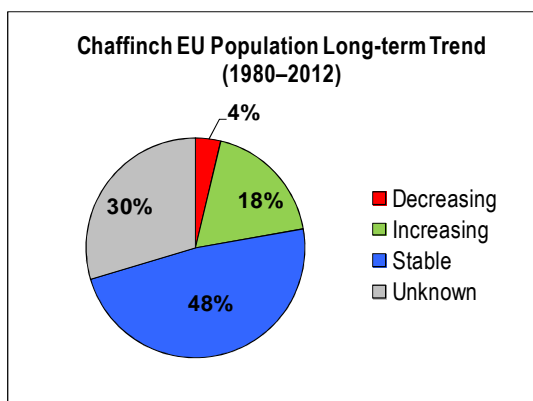


Fig. 2: Chaffinch EU population long-term trend by Member State

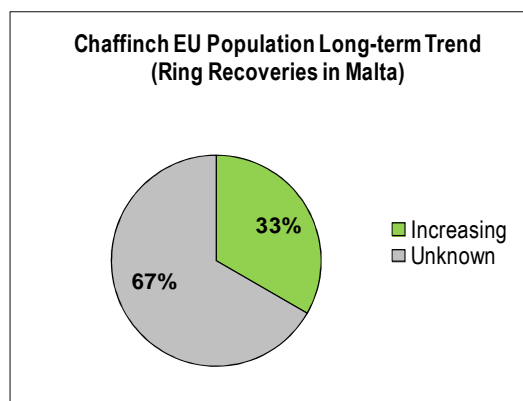


Fig. 3: Chaffinch EU population long-term trend (ring recoveries in Malta)

Data sources: EEA (2014); Raine (2007)

## Chaffinch conservation status update – comparison between different data sources

The following table provides a general overview of the latest conservation status update from various sources for direct comparison.

Species	EU Population						Ring Recoveries					
	Short-term Trend			Long-term Trend			Short-term Trend			Long-term Trend		
	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean
Chaffinch	→	→	→	→	→	→	↓	↓	↓	→	→	→
Species	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]				
Chaffinch	↑	?	→	↓	↑	↑	→	→				

Data Sources: BirdLife International (2004); European Environment Agency (2014); Raine (2007)

## The reference population

**Table 8 Chaffinch (*Fringilla coelebs*) breeding population estimates (reference population)**

Country [Ring recoveries in Malta]	Chaffinch minimum breeding population size (pairs) [Reference population]	Long-term Trend (1980–2012)
Hungary	1,130,000	Unknown
Italy	1,000,000	Increasing
Poland	7,600,000	Unknown
<b>Reference Population Size (Minimum breeding pairs)</b>	<b>9,730,000</b>	<b>Stable (+1.74%)</b>

Data Sources: BirdLife International (2004); European Environment Agency (2014); Raine (2007)

### **Carnet de Chasse data (2002–2008)**

According to the *Carnet de Chasse* data available from the Environment Protection Directorate of the Malta Environment and Planning Authority, the following number of Chaffinches were captured alive in Malta during the years indicated (Table 9).

**Table 9 Carnet de Chasse live-capturing data<sup>8</sup> for Chaffinch (2002–2008)**

Species	2002	2003	2004	2005	2006	2007	2008	Total	Average
Chaffinch	4,957	8,159	3,746	7,215	4,783	6,914	6,750	42,524	6,075

Source: *Carnet de Chasse* data, Environment Protection Directorate (Malta Environment and Planning Authority). Available at: <http://www.mepa.org.mt/biodiversity-reporting>.

### **Minimum breeding population and the <1% mortality**

Table 10 shows the minimum number of breeding pairs of Chaffinches within the territory of the European Union that correspond with ring recoveries in Malta (the reference population), together with other relevant information required for the calculation of “small numbers”.

**Table 10 Minimum breeding population and mortality rate**

	Common Chaffinch ( <i>Fringilla coelebs</i> )	Source
Minimum breeding population – pairs	<b>9,730,000</b>	EEA (2014); Raine (2007)
Mortality rate – juveniles	47%	Bauer (2005): <i>Das Kompendium der Vögel Mitteleuropas</i> / Cramp & Perrins (1994): <i>Birds of the Western Palearctic</i> / Robinson (2005): British Trust for Ornithology
Mortality rate – adults	43%	Bauer (2005) and Robinson (2005)
Breeding rate (young per pair)	3–4	Cramp & Perrins (1994: 467) and Robinson (2005)
Breeding success	2.6	Cramp & Perrins (1994: 467)

<sup>8</sup> The *Carnet de Chasse* data for the period 2002–2007 covers the months January–May and September–December, whereas the *Carnet de Chasse* data for 2008 covers the months of January and October–December.

For the purpose of calculating the <1% mortality rate and “small numbers”, the reference population is based solely on ring recoveries of this species in Malta from EU Member States. This equates to a reference population of **9,730,000 minimum breeding pairs**.

### **Calculation of the <1% mortality rate and “small numbers”**

#### **Chaffinch (*Fringilla coelebs*)**

Minimum breeding success: 2.6 fledglings per pair (9,730,000 x 2.6) = 25,298,000

Mortality rate of 1<sup>st</sup> year birds (25,298,000 x 47%) = 11,890,060

Mortality rate of adults (19,460,000 x 43%) = 8,367,800

Total annual mortality (11,890,060 + 8,367,800) = 20,257,860

1% of total annual mortality (20,257,860 x 1%) = 202,579

**Total potential Chaffinch harvest figure is 202,579**

**Partitioning with other Member States (Austria, Spain and Italy: 202,579 x 25%) = 50,645**

### **Autumn seasonal bag limit in relation to “small numbers”**

Based on the <1% mortality rate of the reference population, the “small numbers” calculation with respect to the potential national bag limit of the Chaffinch is as follows:

- **Chaffinch** – potential maximum bag limit of **50,645** individuals (partitioned with Austria, Spain and Italy)

Notwithstanding that the partitioned maximum bag limit arising out of the above calculations is 50,645 Chaffinches, given that the average bag limit over a seven-year period (2002–2008) is 6,075 birds, this analysis recommends that, should a derogation for the live-capturing of the seven finch species be considered in autumn 2015, the national bag limit should be substantially reduced further to not more than 5,000 as established in the July 2014 Framework for Allowing a Derogation Opening an Autumn Live-Capturing Season for Finches Regulations (S.L. 504.124)<sup>9</sup>. This calculation is based on the formula discussed previously, which returns a figure that is not only considerably lower than the <1% threshold but also lower than the average number of birds caught over a seven-year period (2002–2008). Thus:

- **Chaffinch** – national bag limit of **5,000** birds.

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<sup>9</sup> <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=12211&l=1>

## 2. Conservation status of the Linnet (*Carduelis cannabina*)

**SPEC 2 (1994: 4) Status: Declining; Criteria: Moderate recent decline. European IUCN Red List Category: —; Criteria: — (BirdLife International, 2004)**

### Distribution and conservation status

The species is present in most of Europe except N. Scandinavia and Iceland (Hume, 2002). The geographical distribution of the Linnet in Europe (Fig. 4) is as follows:

**Breeding** Finland, Sweden, Estonia, Latvia, Lithuania, Malta (a few), Czech Republic, United Kingdom, Ireland, Germany, Netherlands, Spain, Portugal, France, Belgium, Austria, Luxembourg, Slovenia, Italy, Greece, Cyprus, Denmark, Bulgaria, Croatia, Hungary and Romania.

**Wintering** Estonia, Italy, United Kingdom, Ireland, Malta (a few), Cyprus, Greece, Germany (a few), Belgium (a few), Luxembourg (a few).

**Sedentary and migratory** Northern breeders of races *cannabina* (nominate) and *bella* (Turkestan Linnet: Turkey, Middle East, Israel, Caucasus and Iran) move south and southwest to winter mostly within the range around the Mediterranean and Iran, Iraq and northern Baluchistan (Pakistan), also to coastal areas of North Africa, the Negev, northern Egypt and the Nile areas of Sudan. **A diurnal and nocturnal passage migrant** (Clement *et al.* 1993: 250).

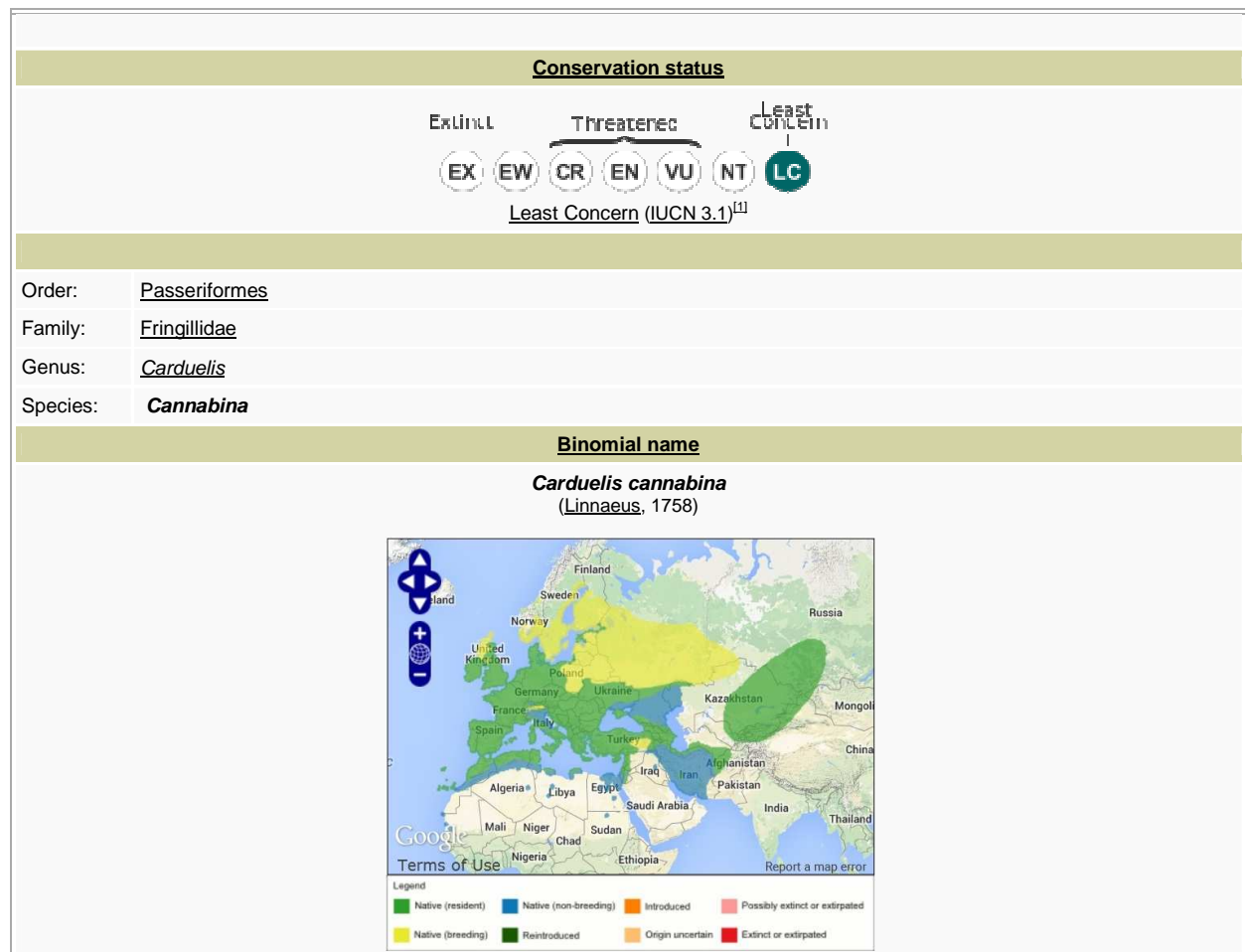


Fig. 4: Distribution and conservation status of the Linnet (*Carduelis cannabina*)

Source: [http://en.wikipedia.org/wiki/Common\\_Linnet](http://en.wikipedia.org/wiki/Common_Linnet). [Accessed 02 May 2015]. Distribution map downloaded from <http://www.birdlife.org> on 02/05/2015 [BirdLife International (2015) IUCN Red List for birds].

In Europe, the breeding population is estimated to number 10–28 million breeding pairs, equating to 30–84 million individuals (BirdLife International 2004). Europe forms 50-74% of the global range of the Linnet [BirdLife International (2015) Species Factsheet]. Based on the EU Member States' Article 12 reports for the 2008–2012 reporting period, the EU breeding population amounts to 14,003,752–18,928,299 breeding pairs. Within the territory of the European Union (EU 28), both the minimum and maximum breeding pairs are Stable, with a change in the minimum number of pairs of -12.96% and a change of -16.79% in the maximum number of pairs, equating to a geomean change of -15.21% (Table 11). **According to BirdLife International (2004), this equates to a Stable classification for the minimum, maximum and geomean number of breeding pairs (a change not more than 20% is considered to be Stable for the period 1980–2012).** Table 11 also lists population counts and long-term trend for each Member State within the territory of the European Union.

**Table 11 Linnet EU breeding population (long-term trend) and ring recoveries (bold = ring recoveries in Malta)**

EU Member State	EU Ring Recoveries in Malta (n=52)	Breeding Pairs (2014)		Long-term Trend	Mag. % (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
		(Min)	(Max)						
Austria	6%	18,000	30,000	Unknown	?	?	-	-	-
Belgium		30,000	70,000	Decreasing	53	80	-120,000	-280,000	-200,000
Bulgaria		30,000	100,000	Stable	0	0	-	-	-
Croatia*	15%	500,000	800,000	Increasing	80	80	222,222	355,556	288,889
Cyprus		20,000	60,000	Unknown	?	?	-	-	-
Czech	24%	60,000	120,000	Stable	0	19	-	-	-
Denmark		100,000	100,000	Decreasing	33	50	-100,000	-100,000	-100,000
Estonia		40,000	60,000	Decreasing	20	50	-40,000	-60,000	-50,000
Finland		6,600	18,000	Stable	0	0	-	-	-
France		500,000	1,000,000	Decreasing	68	68	-1,062,500	-2,125,000	-1,593,750
Germany		125,000	235,000	Decreasing	52	69	-278,226	-523,065	-400,645
Greece*		50,000	100,000	Stable	0	19	-	-	-
Hungary	26%	71,000	107,000	Unknown	?	?	-	-	-
Ireland		153,250	309,590	Unknown	?	?	-	-	-
Italy	22%	300,000	600,000	Decreasing	20	30	-128,571	-257,143	-192,857
Latvia		12,065	42,162	Stable	0	0	-	-	-
Lithuania	2%	100,000	200,000	Stable	0	0	-	-	-
Luxembourg		5,000	8,000	Decreasing	20	40	-3,333	-5,333	-4,333
Netherlands		38,837	48,547	Decreasing	54	75	-116,511	-145,641	-131,076
Poland	2%	830,000	1,100,000	Unknown	?	?	-	-	-
Portugal		500,000	1,000,000	Unknown	?	?	-	-	-
Romania		200,000	500,000	Unknown	?	?	-	-	-
Slovakia	2%	40,000	60,000	Stable	0	0	-	-	-
Slovenia	1%	10,000	15,000	Unknown	?	?	-	-	-
Spain		9,770,000	11,665,000	Stable	0	0	-	-	-
Sweden		64,000	150,000	Decreasing	56	72	-164,571	-385,714	-275,143
UK		430,000	430,000	Decreasing	40.6	40.6	-294,272	-294,272	-294,272
Total	100%	14,003,752	18,928,299	<b>Total change</b>			<b>-2,085,762</b>	<b>-3,820,612</b>	<b>-2,953,187</b>
				<b>Percentage change</b>			<b>-12.96%</b>	<b>-16.79%</b>	<b>-15.21%</b>
				<b>Long-term Trend (EU Population)</b>			<b>Stable</b>	<b>Stable</b>	<b>Stable</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using *The Percentages Calculator*, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

With reference to the short-term trend of the Linnet within the territory of the European Union (EU 28), there is change in the minimum number of breeding pairs of -2.15% and a change of -1.84% in the maximum number of pairs, equating to a geomean change of -1.94% (Table 12). **According to BirdLife International (2004), this equates to a Stable classification for the minimum and maximum number of breeding pairs and their geomean (a change not more than 10% is considered to be Stable for the short-term trend).** Table 12 also lists population counts and short-term trend for each Member State within the territory of the European Union.

**Table 12 Linnet EU breeding population (short-term trend) and ring recoveries (bold = ring recoveries in Malta)**

EU Member State	EU Ring Recoveries in Malta (n=52)	Breeding Pairs (EEA, 2014) (Min - Max)		Short-term Trend	Mag. % (Min - Max)		Breeding Pairs (2004) (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
<b>Austria</b>	<b>6%</b>	<b>18,000</b>	<b>30,000</b>	<b>Decreasing</b>	<b>40</b>	<b>60</b>	<b>30,000</b>	<b>75,000</b>	<b>-27,000</b>	<b>-45,000</b>	<b>-36,000</b>
<b>Belgium</b>		<b>30,000</b>	<b>70,000</b>	<b>Decreasing</b>	<b>3</b>	<b>3</b>	<b>30,928</b>	<b>72,165</b>	<b>-928</b>	<b>-2,165</b>	<b>-1,546</b>
Bulgaria		30,000	100,000	Stable	0	0	2,000,000	6,000,000	-	-	-
<b>Croatia*</b>	<b>15%</b>	<b>500,000</b>	<b>800,000</b>	<b>Increasing</b>	<b>80</b>	<b>80</b>	<b>277,778</b>	<b>444,444</b>	<b>222,222</b>	<b>355,556</b>	<b>288,889</b>
<b>Cyprus</b>		<b>20,000</b>	<b>60,000</b>	<b>Decreasing</b>	<b>10</b>	<b>20</b>	<b>22,222</b>	<b>75,000</b>	<b>-5,000</b>	<b>-15,000</b>	<b>-10,000</b>
<b>Czech Rep.*</b>	<b>24%</b>	<b>60,000</b>	<b>120,000</b>	<b>Stable</b>	<b>0</b>	<b>19</b>	<b>4,000,000</b>	<b>8,000,000</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Denmark</b>		<b>100,000</b>	<b>100,000</b>	<b>Decreasing</b>	<b>33</b>	<b>50</b>	<b>149,254</b>	<b>200,000</b>	<b>-100,000</b>	<b>-100,000</b>	<b>-100,000</b>
<b>Estonia</b>		<b>40,000</b>	<b>60,000</b>	<b>Decreasing</b>	<b>20</b>	<b>50</b>	<b>50,000</b>	<b>120,000</b>	<b>-40,000</b>	<b>-60,000</b>	<b>-50,000</b>
Finland		6,600	18,000	Stable	0	0	5,000,000	7,000,000	-	-	-
<b>France</b>		<b>500,000</b>	<b>1,000,000</b>	<b>Decreasing</b>	<b>39</b>	<b>39</b>	<b>819,672</b>	<b>1,639,344</b>	<b>-319,672</b>	<b>-639,344</b>	<b>-479,508</b>
<b>Germany</b>		<b>125,000</b>	<b>235,000</b>	<b>Decreasing</b>	<b>40</b>	<b>53</b>	<b>208,333</b>	<b>500,000</b>	<b>-140,957</b>	<b>-265,000</b>	<b>-202,979</b>
Greece*		50,000	100,000	Stable	0	19	1,000,000	3,000,000	-	-	-
<b>Hungary</b>	<b>26%</b>	<b>71,000</b>	<b>107,000</b>	<b>Stable</b>	<b>0</b>	<b>0</b>	<b>940,000</b>	<b>1,230,000</b>	<b>-</b>	<b>-</b>	<b>-</b>
Ireland		153,250	309,590	Stable	0	0	1,000,000	2,500,000	-	-	-
<b>Italy</b>	<b>22%</b>	<b>300,000</b>	<b>600,000</b>	<b>Decreasing</b>	<b>20</b>	<b>30</b>	<b>375,000</b>	<b>857,143</b>	<b>-128,571</b>	<b>-257,143</b>	<b>-192,857</b>
Latvia		12,065	42,162	Stable	0	0	2,600,000	3,200,000	-	-	-
<b>Lithuania</b>	<b>2%</b>	<b>100,000</b>	<b>200,000</b>	<b>Stable</b>	<b>0</b>	<b>0</b>	<b>2,500,000</b>	<b>3,500,000</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Luxembourg</b>		<b>5,000</b>	<b>8,000</b>	<b>Decreasing</b>	<b>10</b>	<b>20</b>	<b>5,556</b>	<b>10,000</b>	<b>-1,250</b>	<b>-2,000</b>	<b>-1,625</b>
<b>Netherlands</b>		<b>38,837</b>	<b>48,547</b>	<b>Increasing</b>	<b>19</b>	<b>19</b>	<b>32,636</b>	<b>40,796</b>	<b>6,201</b>	<b>7,751</b>	<b>6,976</b>
<b>Poland</b>	<b>2%</b>	<b>830,000</b>	<b>1,100,000</b>	<b>Decreasing</b>	<b>6</b>	<b>20</b>	<b>882,979</b>	<b>1,375,000</b>	<b>-207,500</b>	<b>-275,000</b>	<b>-241,250</b>
Portugal		500,000	1,000,000	Unknown	?	?	500,000	2,500,000	-	-	-
Romania		200,000	500,000	Unknown	?	?	2,450,000	6,300,000	-	-	-
<b>Slovakia</b>	<b>2%</b>	<b>40,000</b>	<b>60,000</b>	<b>Stable</b>	<b>0</b>	<b>0</b>	<b>3,000,000</b>	<b>5,000,000</b>	<b>-</b>	<b>-</b>	<b>-</b>

<b>Slovenia</b>	<b>1%</b>	<b>10,000</b>	<b>15,000</b>	<b>Decreasing</b>	<b>30</b>	<b>50</b>	<b>14,286</b>	<b>30,000</b>	<b>-10,000</b>	<b>-15,000</b>	<b>-12,500</b>
Spain		9,770,000	11,665,000	Stable	0	0	2,600,000	6,400,000	-	-	-
Sweden		64,000	150,000	Stable	0	0	7,500,000	15,000,000	-	-	-
<b>UK</b>		<b>430,000</b>	<b>430,000</b>	<b>Decreasing</b>	<b>14.90</b>	<b>14.90</b>	<b>505,288</b>	<b>505,288</b>	<b>-75,288</b>	<b>-75,288</b>	<b>-75,288</b>
Total	100%	14,003,752	18,928,299				38,493,931	75,574,180			
							<b>Total change</b>		<b>-827,744</b>	<b>-1,387,633</b>	<b>-1,107,688</b>
							<b>Percentage change</b>		<b>-2.15%</b>	<b>-1.84%</b>	<b>-1.94%</b>
							<b>Short-term Trend (EU Population)</b>		<b>Stable</b>	<b>Stable</b>	<b>Stable</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using The Percentages Calculator, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

According to the European Bird Census Council (EBCC, 2014 update)<sup>10</sup>, the long-term trend of the Linnet population within the EU territory is classified as **Moderate Decline** (1980–2012). It should be noted that EBCC data pertaining to the short-term trends is only available at pan-European level. At pan-European level, the Linnet decreased by 56% since 1980 and increased by 7% during the current 10-year period. Between the previous EBCC update and the current (EBCC 2014) update the percentage change was +7% in the long-term trend and +61% in the short-term trend (Table 13).

EBCC update	Species	Long-term Trend (%)	Long-term Slope	% change	10-Year Trend (%)	10-Year Slope	% change	Habitat
2012	<i>Carduelis cannabina</i>	-62%	0.9658	-3.42%	-51%	0.9526	-4.74%	farm
2013	<i>Carduelis cannabina</i>	-63%	0.9675	-3.25%	-54%	0.9557	-4.43%	farm
2014	<i>Carduelis cannabina</i>	-56%	0.9667	-3.33%	+7%	1.0016	0.16%	farm
Overall % change (2013–2014)		+7%		-0.08%	+61%		+4.59%	

Data sources: EBCC (2012, 2013 & 2014 updates). Available at: <http://www.ebcc.info/index.php?ID=557>

<sup>10</sup> <http://www.ebcc.info/index.php?ID=558>

## Ring recoveries in Malta

Table 14 provides data on the ring recoveries of this species in Malta, the respective number of breeding pairs, together with the overall direction of the population trend. The reference population (ring recoveries in Malta) is Stable (Min. Pairs: +5.10%; Max. Pairs: +3.25%). Fig. 5 illustrates the EU population trend categories of this species per Member State whereas Fig. 6 illustrates the respective EU population trend categories on the basis of ring recoveries in Malta.

**Table 14** Linnet ring recoveries in Malta from other EU Member States and corresponding population trend

EU Member State	EU Ring Recoveries in Malta (n=52)	Breeding Pairs (2014)		Long-term Trend (1980–2012)	Mag. % (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	
		(Min - Max)							
Hungary	26%	71,000	107,000	Unknown	?	?	-	-	
Czech Rep.*	24%	60,000	120,000	Stable	0	19	-	-	
Italy	22%	300,000	600,000	Decreasing	20	30	-128,571	-257,143	
Croatia*	15%	500,000	800,000	Increasing	80	80	222,222	355,556	
Austria	6%	18,000	30,000	Unknown	?	?	-	-	
Lithuania	2%	100,000	200,000	Stable	0	0	-	-	
Poland	2%	830,000	1,100,000	Unknown	?	?	-	-	
Slovakia	2%	40,000	60,000	Stable	0	0	-	-	
Slovenia	1%	10,000	15,000	Unknown	?	?	-	-	
Total	100%	1,929,000	3,032,000	Total change			93,651	98,413	
						Percentage change		5.10%	3.25%
						Long-term Trend (Ring Recoveries)		Stable	Stable

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using *The Percentages Calculator*, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

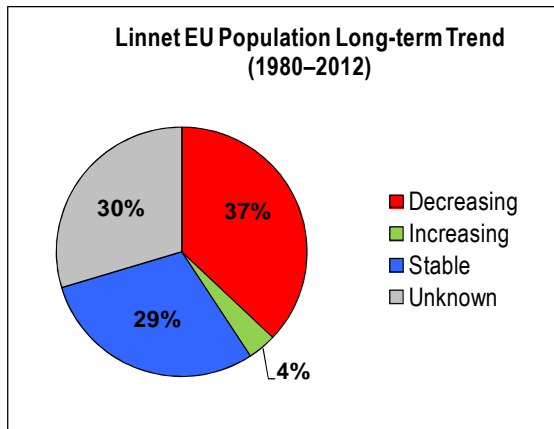


Fig. 5: Linnet EU population long-term trend by Member State

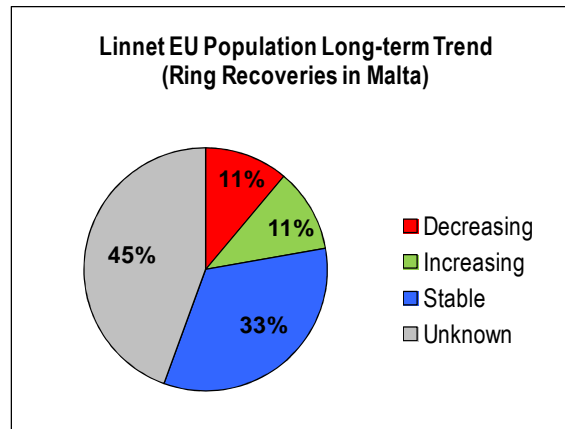


Fig. 6: Linnet EU population long-term trend (ring recoveries in Malta)

Data sources: EEA (2014); Raine (2007)

## Linnet conservation status update – comparison between different data sources

The following table provides a general overview of the latest conservation status (2015 update) from various sources for direct comparison.

Species	EU Population						Ring Recoveries					
	Short-term Trend			Long-term Trend			Short-term Trend			Long-term Trend		
	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean
Linnet	→	→	→	→	→	→	→	→	→	→	→	→
Species	Short-term Trend				Long-term Trend							
	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]				
Linnet	→	?	→	→	↓	↓	→	→				

Data Sources: BirdLife International (2004); European Environment Agency (2014); Raine (2007)

## The reference population

**Table 15** Linnet (*Carduelis cannabina*) breeding population estimates (reference population)

Country [Ring recoveries in Malta]	Linnet minimum breeding population size (pairs) [Reference population]	Long-term Trend (1980–2012)
Hungary	71,000	Unknown
Czech Rep.*	60,000	Stable
Italy	300,000	Decreasing
Croatia*	500,000	Increasing
Austria	18,000	Unknown
Lithuania	100,000	Stable
Poland	830,000	Unknown
Slovakia	40,000	Stable
Slovenia	10,000	Unknown
<b>Reference Population Size (Minimum breeding pairs)</b>	<b>1,929,000</b>	<b>Stable (+5.10%)</b>

Data Sources: BirdLife International (2004); European Environment Agency (2014); Raine (2007)

## Carnet de Chasse data (2002–2008)

According to the *Carnet de Chasse* data available from the Environment Protection Directorate of the Malta Environment and Planning Authority, the following Linnets were captured alive in Malta during the years indicated (Table 16).

**Table 16** *Carnet de Chasse* live-capturing data<sup>11</sup> for Linnet (2002–2008)

Species	2002	2003	2004	2005	2006	2007	2008	Total	Average
Linnet	18,946	22,321	14,362	13,534	9,252	28,094	19,143	125,662	17,952

Source: *Carnet de Chasse* data, Environment Protection Directorate (Malta Environment and Planning Authority). Available at: <http://www.mepa.org.mt/biodiversity-reporting>.

<sup>11</sup> The *Carnet de Chasse* data for the period 2002–2007 covers the months January–May and September–December, whereas the *Carnet de Chasse* data for 2008 covers the months of January and October–December.

## Minimum breeding population

Table 17 shows the minimum number of breeding pairs of Linnets within the territory of the European Union that correspond with ring recoveries in Malta (the reference population), together with other relevant information required for the calculation of “small numbers”.

**Table 17 Minimum breeding population and mortality rate**

	<b>Linnet (<i>Carduelis cannabina</i>)</b>	Source
Minimum breeding population – pairs	<b>1,929,000</b>	BirdLife International (2014); EEA (2014); Raine (2007)
Mortality rate – juveniles	66%	Bauer (2005): <i>Das Kompendium der Vögel Mitteleuropas</i> (KVM) / Cramp & Perrins (1994): <i>Birds of the Western Palearctic</i> / Robinson (2005): British Trust for Ornithology
Mortality rate – adults	63%	Bauer (2005) and Robinson (2005)
Breeding rate (young per pair)	3–4	Cramp & Perrins (1994: 620) and Robinson (2005)
Breeding success	2.7	Cramp & Perrins (1994: 620)

For the purpose of calculating the <1% mortality rate and “small numbers”, the reference population is based solely on ring recoveries of this species in Malta from EU Member States. This equates to a reference population of **1,929,000 minimum breeding pairs**.

### Calculation of <1% mortality rate and “small numbers”

#### Linnet (*Carduelis cannabina*)

Minimum breeding success: 2.7 fledglings per pair (1,929,000 x 2.7) = 5,208,300

Mortality rate of 1<sup>st</sup> year birds (5,208,300 x 66%) = 3,437,478

Mortality rate of adults (3,858,000 x 63%) = 2,430,540

Total annual mortality (3,437,478 + 2,430,540) = 5,868,018

1% of total annual mortality (5,868,018 x 1%) = 58,680

**Total potential Linnet harvest figure is 58,680.**

**Partitioning with other Member States (Austria and Spain: 58,680 x 33%) = 19,364**

### Autumn seasonal bags in relation to “small numbers”

Based on the <1% mortality rate of the reference population, the “small numbers” calculation with respect to the potential national bag limit of the Linnet is as follows:

- **Linnet** – potential maximum bag limit of **19,364** birds (partitioned with Austria and Spain).

Notwithstanding that the partitioned maximum bag limit arising out of the above calculations is 19,364 Linnets, given that the average bag limit over a seven-year period (2002–2008) is 17,952 birds, this analysis recommends that, should a derogation for the live-capturing of the seven finch species be considered in autumn 2015, the national bag limit should be substantially reduced further to not more than 12,000 as established in the July 2014 Framework for Allowing a Derogation Opening an Autumn Live-Capturing Season for Finches Regulations (S.L. 504.124)<sup>12</sup>. This calculation is based on the formula discussed previously, which returns a figure that is not only considerably lower than the <1% threshold but also lower than the average number of birds caught over a seven-year period (2002–2008). Thus:

- **Linnet** – national bag limit of **12,000** birds.

<sup>12</sup> <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=12211&l=1>

### 3. Conservation status of the European Goldfinch (*Carduelis carduelis*)

**Non-SPEC (1994: —) Status: Secure; Criteria: —. European IUCN Red List Category: —; Criteria: — (BirdLife International, 2004)**

#### Distribution and conservation status

The Goldfinch is resident in most European countries (Hume, 2002). The geographical distribution of this species in Europe (Fig. 7) is as follows:

**Breeding** Estonia, Latvia, Lithuania, Czech Republic, United Kingdom, Ireland, Germany, Netherlands, Spain, Portugal, France, Belgium, Austria, Luxembourg, Slovenia, Italy, Greece, Cyprus, Denmark, Bulgaria, Croatia, Hungary, Romania, Turkey, Sicily, Corsica, Sardinia, Russia.

**Wintering** Estonia, Italy, United Kingdom, Ireland, Cyprus, Greece, Germany (a few), Belgium (a few), Luxembourg, Sicily, Corsica, Sardinia.

**Sedentary and migratory** Birds breeding in northern parts of the range move south and southwest to winter mostly within the southern boundaries of the range or occasionally just beyond. Nominate race regularly (annually?) reaches the Mediterranean, Malta, North Africa and southern Israel; about two-thirds of the British population moves south to winter from Belgium to southern Spain, but some remain even in the northernmost parts of the British Isles (Clement *et al.* 1993: 242).

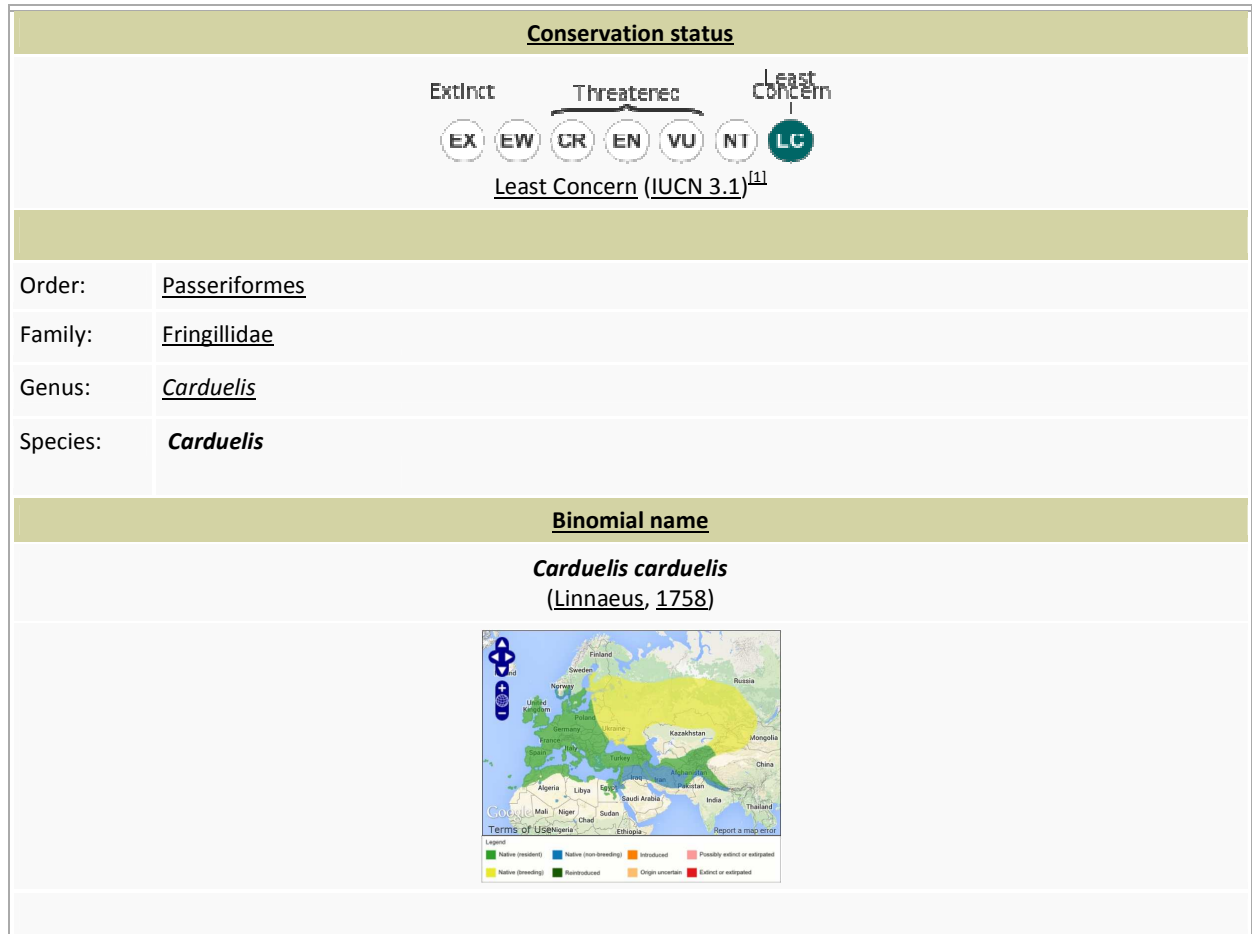


Fig. 7: Distribution and conservation status of the Goldfinch (*Carduelis carduelis*)

Source: [http://en.wikipedia.org/wiki/European\\_Goldfinch](http://en.wikipedia.org/wiki/European_Goldfinch) [Accessed 02 May 2015]. Distribution map downloaded from <http://www.birdlife.org> on 02/05/2015 [BirdLife International (2015) IUCN Red List for birds].

In Europe, the breeding population is estimated to number 12,000,000–29,000,000 breeding pairs, equating to 36,000,000– 87,000,000 individuals (BirdLife International 2004). Europe forms 25-49% of the global range of the Goldfinch [BirdLife International (2015) Species Factsheet]. Based on the EU Member States' Article 12 reports for the 2008–2012 reporting period, the EU breeding population amounts to 23,199,170–32,329,072 breeding pairs. Within the territory of the European Union (EU 28), both the minimum and maximum breeding pairs are Stable, with a change in the minimum number of pairs of -0.76% and a change of -1.72% in the maximum number of pairs, equating to a geomean change of -1.32% (Table 18). **According to BirdLife International (2004), this equates to a Stable classification for the minimum, maximum and geomean number of breeding pairs (a change not more than 20% is considered to be Stable for the period 1980–2012).** Table 18 also lists population counts and trends for each Member State within the territory of the European Union.

**Table 18 Goldfinch EU breeding population (long-term trend) and ring recoveries (bold = ring recoveries in Malta)**

EU Member State	EU Ring Recoveries in Malta (n=3)	Breeding Pairs (2014) (Min - Max)		Long-term Trend	Mag. % (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
Austria		50,000	80,000	Unknown	?	?	-	-	-
Belgium		8,000	14,500	Increasing	19	303	6,015	10,902	8,458
Bulgaria		400,000	600,000	Decreasing	5	10	-44,444	-66,667	-55,556
Croatia*	33%	500,000	1,000,000	Increasing	80	80	222,222	444,444	333,333
Cyprus		70,000	150,000	Unknown	?	?	-	-	-
Czech		200,000	400,000	Stable	0	19	-	-	-
Denmark		23,000	23,000	Increasing	100	1,000	20,909	20,909	20,909
Estonia		40,000	60,000	Stable	0	0	-	-	-
Finland		7,700	15,000	Increasing	603	1,342	7,166	13,960	10,563
France		800,000	1,500,000	Decreasing	18	18	-175,610	-329,268	-252,439
Germany	33%	305,000	520,000	Decreasing	26	52	-330,417	-563,333	-446,875
Greece*		100,000	500,000	Stable	0	19	-	-	-
Hungary		622,000	763,000	Unknown	?	?	-	-	-
Ireland		275,945	494,810	Unknown	?	?	-	-	-
Italy		1,000,000	1,800,000	Decreasing	20	30	-428,571	-771,429	-600,000
Latvia		48,861	139,543	Stable	0	0	-	-	-
Lithuania		50,000	100,000	Stable	0	0	-	-	-
Luxembourg		3,000	6,000	Unknown	?	?	-	-	-
Netherlands		31,664	42,219	Increasing	407	1,125	29,079	38,773	33,926
Poland		650,000	1,000,000	Unknown	?	?	-	-	-
Portugal		500,000	1,000,000	Unknown	?	?	-	-	-
Romania		750,000	1,500,000	Unknown	?	?	-	-	-
Slovakia		100,000	150,000	Stable	0	0	-	-	-
Slovenia		28,000	112,000	Unknown	?	?	-	-	-
Spain		15,515,000	19,010,000	Stable	0	0	-	-	-
Sweden		21,000	49,000	Increasing	590	3,300	20,382	47,559	33,971
UK	33%	1,100,000	1,300,000	Increasing	82	82	496,533	586,811	541,672
Total	100%	23,199,170	32,329,072	<b>Total change</b>			<b>-176,736</b>	<b>-567,339</b>	<b>-372,037</b>
				<b>Percentage change</b>			<b>-0.76%</b>	<b>-1.72%</b>	<b>-1.32%</b>
				<b>Long-term Trend (EU Population)</b>			<b>Stable</b>	<b>Stable</b>	<b>Stable</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using The Percentages Calculator, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

With reference to the short-term trend of the Goldfinch within the territory of the European Union (EU 28), there is change in the minimum number of breeding pairs of -15.03% and a change of -13.22% in the maximum number of pairs, equating to a geomean change of -13.80% (Table 19). **According to BirdLife International (2004), this equates to a short-term Moderate Decline classification for the minimum and maximum number of breeding pairs and their geomean (a change not more than 10% is considered to be Stable for the short-term trend).** Table 19 also lists population counts and short-term trend for each Member State within the territory of the European Union.

**Table 19 Goldfinch EU breeding population (short-term trend) and ring recoveries (bold = ring recoveries in Malta)**

EU Member State	EU Ring Recoveries in Malta (n=3)	Breeding Pairs (EEA, 2014) (Min - Max)		Short-term Trend	Mag. % (Min - Max)		Breeding Pairs (2004) (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
Austria		50,000	80,000	Stable	0	0	25,000	50,000	-	-	-
Belgium		8,000	14,500	Increasing	2	100	7,843	7,250	4,000	7,250	5,625
Bulgaria		400,000	600,000	Decreasing	10	50	444,444	1,200,000	-400,000	-600,000	-500,000
Croatia*	33%	500,000	1,000,000	Increasing	80	80	277,778	555,556	222,222	444,444	333,333
Cyprus		70,000	150,000	Decreasing	10	20	77,778	187,500	-17,500	-37,500	-27,500
Czech Rep.*		200,000	400,000	Stable	0	19	200,000	400,000	-	-	-
Denmark		23,000	23,000	Decreasing	20	33	28,750	34,328	-11,328	-11,328	-11,328
Estonia		40,000	60,000	Stable	0	0	20,000	30,000	-	-	-
Finland		7,700	15,000	Increasing	30	148	5,923	6,048	4,595	8,952	6,773
France		800,000	1,500,000	Decreasing	49	49	1,568,627	2,941,176	-768,627	-1,441,176	-1,104,902
Germany	33%	305,000	520,000	Decreasing	37	48	484,127	1,000,000	-281,538	-480,000	-380,769
Greece*		100,000	500,000	Stable	0	19	100,000	500,000	-	-	-
Hungary		622,000	763,000	Stable	0	0	690,000	910,000	-	-	-
Ireland		275,945	494,810	Increasing	135	216	117,523	156,585	188,621	338,225	263,423
Italy		1,000,000	1,800,000	Decreasing	20	30	1,250,000	2,571,429	-428,571	-771,429	-600,000
Latvia		48,861	139,543	Stable	0	0	15,000	50,000	-	-	-
Lithuania		50,000	100,000	Stable	0	0	50,000	100,000	-	-	-
Luxembourg		3,000	6,000	Unknown	?	?	6,000	8,000	-	-	-
Netherlands		31,664	42,219	Increasing	80	119	17,591	19,278	17,206	22,941	20,073
Poland		650,000	1,000,000	Decreasing	35	40	1,000,000	1,666,667	-433,333	-666,667	-550,000
Portugal		500,000	1,000,000	Stable	0	0	500,000	2,500,000	-	-	-
Romania		750,000	1,500,000	Fluctuating	-	-	887,000	964,000	-	-	-
Slovakia		100,000	150,000	Stable	0	0	100,000	150,000	-	-	-

Slovenia		28,000	112,000	Decreasing	27	35	38,567	172,308	-15,077	-60,308	-37,692
Spain		15,515,000	19,010,000	Stable	0	0	800,000	2,900,000	-	-	-
Sweden		21,000	49,000	Increasing	70	260	12,353	13,611	15,167	35,389	25,278
UK	33%	1,100,000	1,300,000	Increasing	84	84	596,853	705,372	503,147	594,628	548,888
Total	100%	23,199,170	32,329,072				9,321,159	19,799,108			
							Total change		-1,401,019	-2,616,579	-2,008,799
							Percentage change		-15.03%	-13.22%	-13.80%
							Short-term Trend (EU Population)		Decreasing	Decreasing	Decreasing

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using The Percentages Calculator, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

According to the European Bird Census Council (EBCC, 2014 update)<sup>13</sup>, the long-term trend of the Goldfinch population within the EU territory is classified as **Moderate Increase** (1980–2012). It should be noted that EBCC data pertaining to the short-term trends is only available at pan-European level. At pan-European level, the Goldfinch increased by 18% since 1980 and by 1% during the current 10-year period. Between the previous EBCC update and the current (EBCC 2014) update the percentage change was +14% in the long-term trend and -5% in the short-term trend (Table 20).

EBCC update	Species	Long-term Trend (%)	Long-term Slope	% change	10-Year Trend (%)	10-Year Slope	% change	Habitat
2012	<i>Carduelis carduelis</i>	-3%	1.0195	+1.95%	+8	1.001	+0.10%	oth
2013	<i>Carduelis carduelis</i>	+4%	1.022	+2.20%	+6	0.9992	-0.08%	oth
2014	<i>Carduelis carduelis</i>	+18%	1.0208	+2.08%	+1	0.9989	-0.11%	oth
Overall % change (2013–2014)		+14%		-0.12%	-5%		-0.03%	

Data sources: EBCC (2012, 2013 & 2014 updates). Available at: <http://www.ebcc.info/index.php?ID=557>

<sup>13</sup> <http://www.ebcc.info/index.php?ID=558>

## Ring recoveries in Malta

Table 21 provides data on the ring recoveries of this species in Malta, the respective number of breeding pairs, together with the overall direction of the population trend. The reference population (ring recoveries in Malta) is **Increasing** (Min. Pairs: +25.60%; Max. Pairs: +19.89%). Fig. 8 illustrates the EU population trend categories of this species per Member State whereas Fig. 9 illustrates the respective EU population trend categories on the basis of ring recoveries in Malta.

**Table 21 Goldfinch ring recoveries in Malta from other EU Member States and corresponding population trend**

Country	EU Ring Recoveries in Malta (n=3)	Breeding Pairs (Min - Max)		Trend	Mag. % (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)
Croatia*	33%	500,000	1,000,000	Increasing	80	80	222,222	444,444
Germany	33%	305,000	520,000	Decreasing	26	52	-330,417	-563,333
UK	33%	1,100,000	1,300,000	Increasing	82	82	496,533	586,811
Total	100%	1,905,000	2,820,000		Total change		388,338	467,923
					Percentage change		+25.60%	+19.89%
					Long-term Trend (Ring Recoveries)		Increasing	Increasing

Data Sources: \*BirdLife International (2004); European Environment Agency (2014); Raine (2007)

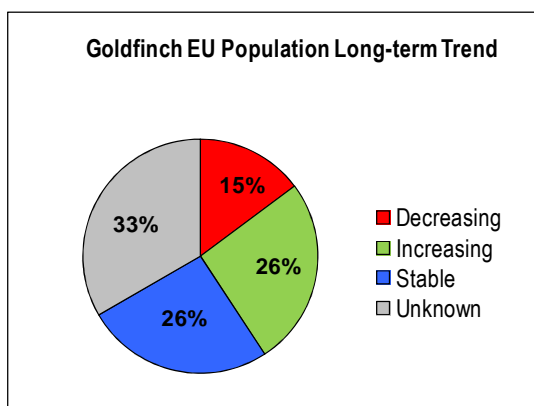


Fig. 8: Goldfinch EU population long-term trend by Member State

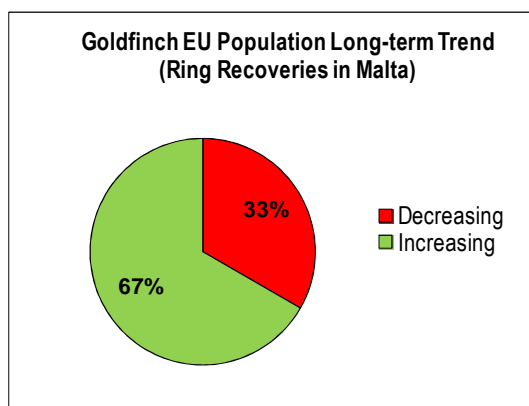


Fig. 9: Goldfinch EU population long-term trend (ring recoveries in Malta)

Data sources: EEA (2014); Raine (2007)

## Goldfinch conservation status update – comparison between different data sources

The following table provides a general overview of the latest conservation status (2015 update) from various sources for direct comparison.

Species	EU Population						Ring Recoveries					
	Short-term Trend			Long-term Trend			Short-term Trend			Long-term Trend		
	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean
Goldfinch	↓	↓	↓	→	→	→	↑	↑	↑	↑	→	↑

Species	Short-term Trend				Long-term Trend			
	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]
Goldfinch	↑	?	↓	↑	↑	↑	→	↑

Data Sources: BirdLife International (2004); European Environment Agency (2014); Raine (2007)

## The reference population

**Table 22: Goldfinch (*Carduelis carduelis*) breeding population estimates (reference population)**

Country [Ring recoveries in Malta]	Goldfinch minimum breeding population size (pairs) [Reference population]	Long-term Trend (1980–2012)
Croatia*	500,000	Increasing
Germany	305,000	Decreasing
UK	1,100,000	Stable
<b>Reference Population Size (Minimum breeding pairs)</b>	<b>1,905,000</b>	<b>Increasing (+25.6%)</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014); Raine (2007)

## Carnet de Chasse data (2002–2008)

According to the *Carnet de Chasse* data available from the Environment Protection Directorate of the Malta Environment and Planning Authority, the following Goldfinches were captured alive in Malta during the years indicated (Table 23).

**Table 23 Carnet de Chasse live-capturing data<sup>14</sup> for Goldfinch (2002–2008)**

Species	2002	2003	2004	2005	2006	2007	2008	Total	Average
Goldfinch	1,248	1,348	497	1,240	505	1,880	458	7,176	1,025

Source: *Carnet de Chasse* data, Environment Protection Directorate (Malta Environment and Planning Authority). Available at: <http://www.mepa.org.mt/biodiversity-reporting>.

## Minimum breeding population

In the case of the European breeding population, Table 24 shows the minimum number of breeding pairs of Goldfinches correspond with ring recoveries in Malta (the reference population), together with other relevant information required for the calculation of “small numbers”.

**Table 24 Minimum breeding population and mortality rate**

	Goldfinch ( <i>Carduelis carduelis</i> )	Source
Minimum breeding population – pairs	1,905,000	BirdLife International (2014); EEA (2014); Raine (2007)
Mortality rate – juveniles	66%	Bauer (2005): <i>Das Kompendium der Vögel Mitteleuropas</i> (KVM) / Cramp & Perrins (1994): <i>Birds of the Western Palearctic</i> / Robinson

<sup>14</sup> The *Carnet de Chasse* data for the period 2002–2007 covers the months January–May and September–December, whereas the *Carnet de Chasse* data for 2008 covers the months of January and October–December.

(2005): British Trust for Ornithology

Mortality rate – adults	63%	Bauer (2005) and Robinson (2005)
Breeding rate (young per pair)	3–4	Cramp & Perrins (1994: 583) and Robinson (2005)
Breeding success	1.8	Cramp & Perrins (1994: 583)

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For the purpose of calculating the <1% mortality rate and “small numbers”, the reference population is based solely on ring recoveries of this species in Malta from EU Member States. This equates to a reference population of **1,905,000 minimum breeding pairs**.

### Calculation of <1% mortality rate and “small numbers”

#### Goldfinch (*Carduelis carduelis*)

Minimum breeding success: 1.8 fledglings per pair (1,905,000 x 1.8) = 3,429,000

Mortality rate of 1<sup>st</sup> year birds (3,429,000 x 66%) = 2,263,140

Mortality rate of adults (3,810,000 x 63%) = 2,400,300

Total annual mortality (2,263,140 + 2,400,300) = 4,663,440

1% of total annual mortality (4,663,440 x 1%) = 46,634

**Total potential Goldfinch harvest figure is 46,634.**

**Partitioning with other Member States (Austria and Spain: 46,634 x 33%) = 15,389**

### Autumn seasonal bags in relation to “small numbers”

Based on the <1% mortality rate of the reference population, the “small numbers” calculation with respect to the potential national bag limit of the Goldfinch is as follows:

- **Goldfinch** – potential maximum bag limit of 15,389 individuals (partitioned with Austria and Spain).

Notwithstanding that the partitioned maximum bag limit arising out of the above calculations is 15,389 Goldfinches, given that the average bag limit over a seven-year period (2002–2008) is 1,025 birds, this analysis recommends that, should a derogation for the live-capturing of the seven finch species be considered in autumn 2015, the national bag limit should be substantially reduced further to not more than 800 as established in the July 2014 Framework for Allowing a Derogation Opening an Autumn Live-Capturing Season for Finches Regulations (S.L. 504.124)<sup>15</sup>. This calculation is based on the formula discussed previously, which returns a figure that is not only considerably lower than the <1% threshold but also lower than the average number of birds caught over a seven-year period (2002–2008). Thus:

- **Goldfinch** – national bag limit of **800** birds.

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<sup>15</sup> <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=12211&l=1>

#### 4. Conservation status of the European Greenfinch (*Carduelis chloris*)

Non-SPEC<sup>E</sup> (1994: 4) Status: Secure; Criteria: —. European IUCN Red List Category: —; Criteria: — (BirdLife International, 2004)

##### Distribution and conservation status

This Greenfinch is present throughout Europe except Iceland (Hume, 2002). The geographical distribution of this species in Europe (Fig. 10) is as follows:

**Breeding** Estonia, Latvia, Lithuania, Czech Republic, United Kingdom, Ireland, Germany, Netherlands, Spain, Portugal, France, Belgium, Austria, Luxembourg, Slovenia, Italy, Greece, Cyprus, Denmark, Bulgaria, Croatia, Hungary, Romania, Turkey, Sicily, Corsica, Sardinia, Russia.

**Wintering** Estonia, Italy, United Kingdom, Ireland, Cyprus, Greece, Germany (a few), Belgium (a few), Luxembourg, Sicily, Corsica, Sardinia, Malta.

**Sedentary and migratory** Birds from northern areas of breeding range move south and southwest to winter mostly within or slightly to the south of the range with nominate race regular in winter in southern Spain, southern France, Italy (possibly also Malta) and south-western CIS (former USSR); *aurantiventris* is largely sedentary, but some move south to reach Malta, Cyprus, Libya and northern Egypt south to the Suez Canal and the northern shores of the Red Sea. **A diurnal and nocturnal migrant** (Clement *et al.* 1993: 214).

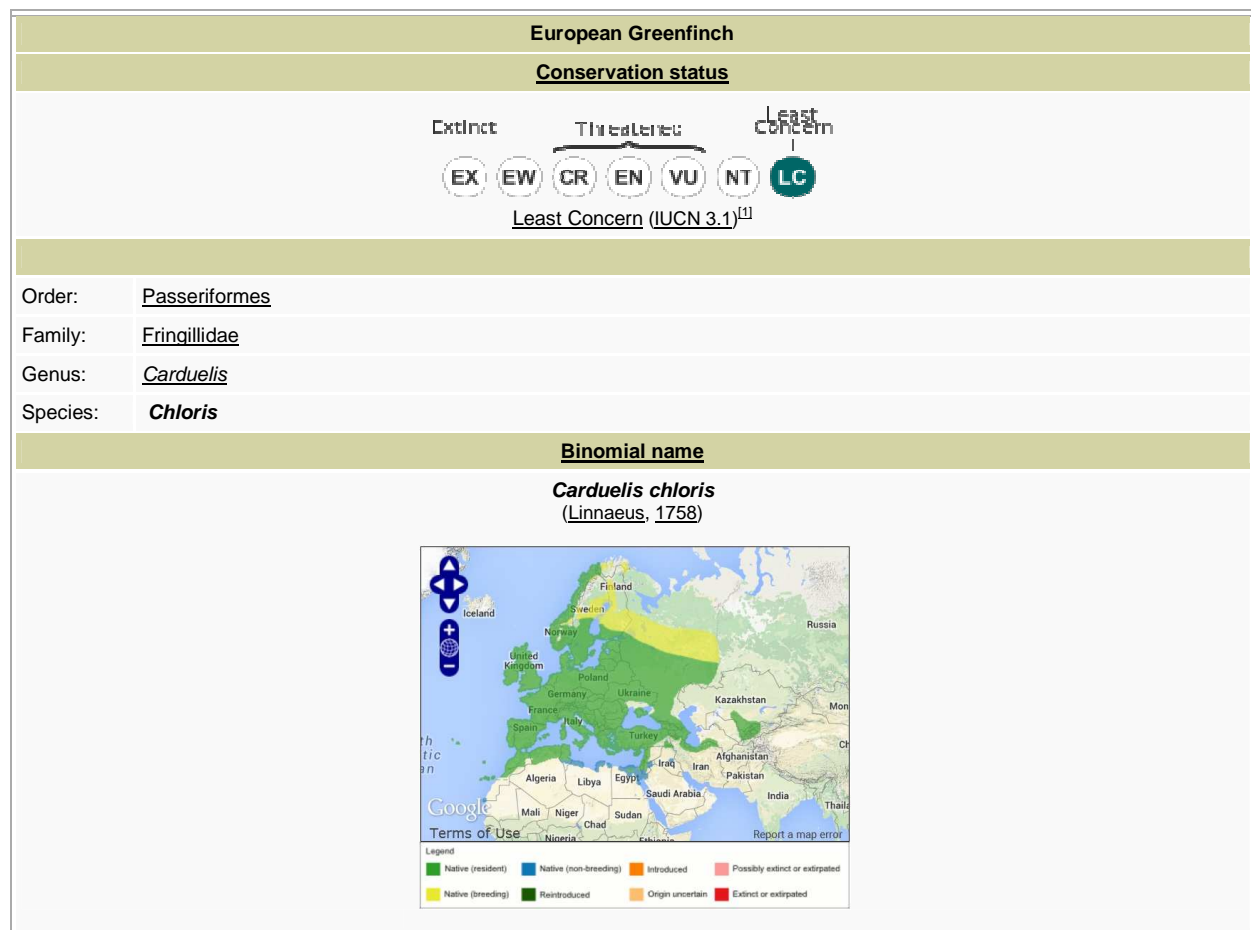


Fig. 10: Distribution and conservation status of the Greenfinch (*Carduelis chloris*)

Source: [http://en.wikipedia.org/wiki/European\\_Greenfinch](http://en.wikipedia.org/wiki/European_Greenfinch) [Accessed 02 May 2015]. Distribution map downloaded from <http://www.birdlife.org> on 02/05/2015 [BirdLife International (2015) IUCN Red List for birds].

In Europe, the breeding population is estimated to number 14,000,000–32,000,000 breeding pairs, equating to 42,000,000–96,000,000 individuals (BirdLife International 2004). Europe forms 75–94% of the global range of the Greenfinch [BirdLife International (2015) Species Factsheet]. Based on the EU Member States' Article 12 reports for the 2008–2012 reporting period, the EU breeding population amounts to 18,096,464–26,173,127 pairs. Within the territory of the European Union (EU 28), both the minimum and maximum breeding pairs are Stable in the long-term trend (1980–2012), with a change in the minimum number of pairs of +5.91% and a change of -0.96% in the maximum number of pairs, equating to a geomean change of +1.06% (Table 25). **According to BirdLife International (2004), this equates to a long-term Stable classification for the minimum, maximum and geomean number of breeding pairs (a change not more than 20% is considered to be Stable for the period 1980–2012).** Table 25 also lists population counts and long-term trend for each Member State within the territory of the European Union.

**Table 25 Greenfinch EU breeding population (long-term trend) and ring recoveries (bold = ring recoveries in Malta)**

EU Member State	EU Ring Recoveries in Malta (n=16)	Breeding Pairs (2014) (Min - Max)		Long-term Trend	Mag. % (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)	
Austria		190,000	280,000	Unknown	?	?	-	-	-	
Belgium		70,000	130,000	Stable	0	0	-	-	-	
Bulgaria		200,000	400,000	Stable	0	0	-	-	-	
<b>Croatia*</b>	<b>18%</b>	<b>500,000</b>	<b>1,000,000</b>	<b>Increasing</b>	<b>80</b>	<b>80</b>	<b>222,222</b>	<b>444,444</b>	<b>333,333</b>	
Cyprus		40,000	120,000	Increasing	10	50	13,333	40,000	26,667	
Czech Rep.*		500,000	1,000,000	Stable	0	19	-	-	-	
Denmark		500,000	500,000	Increasing	50	100	250,000	250,000	250,000	
Estonia		80,000	120,000	Increasing	50	70	32,941	49,412	41,176	
Finland		170,000	400,000	Increasing	349	570	144,627	340,299	242,463	
France		1,000,000	2,000,000	Decreasing	30	30	-428,571	-857,143	-642,857	
<b>Germany</b>	<b>8%</b>	<b>1,650,000</b>	<b>2,800,000</b>	<b>Decreasing</b>	<b>14</b>	<b>29</b>	<b>-673,944</b>	<b>-1,143,662</b>	<b>-908,803</b>	
Greece*		50,000	200,000	Decreasing	0	19	-11,728	-46,914	-29,321	
<b>Hungary</b>	<b>25%</b>	<b>525,000</b>	<b>639,000</b>	<b>Unknown</b>	<b>?</b>	<b>?</b>	<b>-</b>	<b>-</b>	<b>-</b>	
Ireland		260,240	439,675	Unknown	?	?	-	-	-	
<b>Italy</b>	<b>12%</b>	<b>400,000</b>	<b>800,000</b>	<b>Decreasing</b>	<b>20</b>	<b>30</b>	<b>-171,429</b>	<b>-342,857</b>	<b>-257,143</b>	
Latvia		113,621	194,246	Increasing	5	297	85,001	145,318	115,159	
Lithuania		120,000	250,000	Stable	0	0	-	-	-	
Luxembourg		15,000	20,000	Unknown	?	?	-	-	-	
Netherlands		90,603	181,206	Increasing	44	190	59,361	118,721	89,041	
Poland		1,000,000	1,300,000	Unknown	?	?	-	-	-	
Portugal		500,000	1,000,000	Unknown	?	?	-	-	-	
Romania		300,000	600,000	Unknown	?	?	-	-	-	
<b>Slovakia</b>	<b>12%</b>	<b>100,000</b>	<b>130,000</b>	<b>Stable</b>	<b>0</b>	<b>0</b>	<b>-</b>	<b>-</b>	<b>-</b>	
<b>Slovenia</b>	<b>25%</b>	<b>101,000</b>	<b>142,000</b>	<b>Unknown</b>	<b>?</b>	<b>?</b>	<b>-</b>	<b>-</b>	<b>-</b>	
Spain		7,780,000	9,155,000	Increasing	?	?	-	-	-	
Sweden		241,000	572,000	Stable	0	0	-	-	-	
UK		1,600,000	1,800,000	Stable	0	0	-	-	-	
Total	100%	18,096,464	26,173,127							
							<b>Total change</b>	<b>-478,187</b>	<b>-1,002,382</b>	<b>-740,284</b>
							<b>Percentage change</b>	<b>-2.57%</b>	<b>-3.69%</b>	<b>-3.24%</b>
							<b>Long-term Trend (EU Population)</b>	<b>Stable</b>	<b>Stable</b>	<b>Stable</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using The Percentages Calculator, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

With reference to the short-term trend of the Greenfinch within the territory of the European Union (EU 28), there is change in the minimum number of breeding pairs of +10.82% and a change of +3.33% in the maximum number of pairs, equating to a geomean change of +6.13% (Table 26). **According to BirdLife International (2004), this equates to a short-term Moderate Increase classification for the minimum number of breeding pairs and Stable for the maximum and geomean number of breeding pairs (a change not more than 10% is considered to be Stable for the short-term trend).** Table 26 also lists population counts and short-term trend for each Member State within the territory of the European Union.

**Table 26 Greenfinch EU breeding population (short-term trend) and ring recoveries (bold = ring recoveries in Malta)**

EU Member State	EU Ring Recoveries in Malta (n=16)	Breeding Pairs (EEA, 2014) (Min - Max)		Short-term Trend	Mag. % (Min - Max)		Breeding Pairs (2004) (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
Austria		190,000	280,000	Stable	0	0	110,000	220,000	-	-	-
Belgium		70,000	130,000	Increasing	42	42	49,296	91,549	20,704	38,451	29,577
Bulgaria		200,000	400,000	Fluctuating	-	-	200,000	600,000	-	-	-
<b>Croatia*</b>	<b>18%</b>	<b>500,000</b>	<b>1,000,000</b>	<b>Increasing</b>	<b>80</b>	<b>80</b>	<b>277,778</b>	<b>555,556</b>	222,222	444,444	333,333
Cyprus		40,000	120,000	Stable	0	0	80,000	200,000	0	0	0
Czech Rep.*		500,000	1,000,000	Stable	0	19	500,000	1,000,000	-	-	-
Denmark		500,000	500,000	Stable	0	0	500,000	700,000	0	0	0
Estonia		80,000	120,000	Increasing	20	50	66,667	80,000	26,667	40,000	33,333
Finland		170,000	400,000	Decreasing	41	57	288,136	930,233	-225,349	-530,233	-377,791
France		1,000,000	2,000,000	Decreasing	29	29	1,408,451	2,816,901	-408,451	-816,901	-612,676
<b>Germany</b>	<b>8%</b>	<b>1,650,000</b>	<b>2,800,000</b>	<b>Decreasing</b>	<b>20</b>	<b>29</b>	<b>2,062,500</b>	<b>3,943,662</b>	-673,944	-1,143,662	-908,803
Greece*		50,000	200,000	Decreasing	0	19	50,000	246,914	-11,728	-46,914	-29,321
<b>Hungary</b>	<b>25%</b>	<b>525,000</b>	<b>639,000</b>	<b>Increasing</b>	<b>35</b>	<b>35</b>	<b>388,889</b>	<b>473,333</b>	136,111	165,667	150,889
Ireland		260,240	439,675	Decreasing	25	41	348,847	750,299	-183,856	-310,624	-247,240
<b>Italy</b>	<b>12%</b>	<b>400,000</b>	<b>800,000</b>	<b>Decreasing</b>	<b>25</b>	<b>35</b>	<b>533,333</b>	<b>1,230,769</b>	-215,385	-430,769	-323,077
Latvia		113,621	194,246	Increasing	6	216	107,190	61,470	77,665	132,776	105,220
Lithuania		120,000	250,000	Stable	0	0	200,000	400,000	-	-	-
Luxembourg		15,000	20,000	Unknown	?	?	15,000	20,000	-	-	-
Netherlands		90,603	181,206	Increasing	64	100	55,246	90,603	45,302	90,603	67,952
Poland		1,000,000	1,300,000	Increasing	60	90	625,000	684,211	473,684	615,789	544,737
Portugal		500,000	1,000,000	Stable	0	0	200,000	2,000,000	-	-	-
Romania		300,000	600,000	Unknown	?	?	850,000	910,000	-	-	-
<b>Slovakia</b>	<b>12%</b>	<b>100,000</b>	<b>130,000</b>	<b>Stable</b>	<b>0</b>	<b>0</b>	<b>100,000</b>	<b>130,000</b>	-	-	-

<b>Slovenia</b>	<b>25%</b>	<b>101,000</b>	<b>142,000</b>	<b>Stable</b>	<b>0</b>	<b>0</b>	<b>50,000</b>	<b>80,000</b>	<b>-</b>	<b>-</b>	<b>-</b>
Spain		7,780,000	9,155,000	Increasing	65	65	4,728,334	5,560,617	3,054,538	3,594,383	3,324,461
Sweden		241,000	572,000	Decreasing	37	48	382,540	1,100,000	-222,462	-528,000	-375,231
UK		1,600,000	1,800,000	Decreasing	19	19	1,968,020	2,214,022	-368,020	-414,022	-391,021
Total	100%	18,096,464	26,173,127				16,145,224	27,090,139			
							<b>Total change</b>		<b>1,747,700</b>	<b>900,988</b>	<b>1,324,344</b>
							<b>Percentage change</b>		<b>10.82%</b>	<b>3.33%</b>	<b>6.13%</b>
							<b>Short-term Trend (EU Population)</b>		<b>Increasing</b>	<b>Stable</b>	<b>Stable</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using The Percentages Calculator, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

According to the European Bird Census Council (EBCC, 2014 update)<sup>16</sup>, the long-term trend of the Greenfinch population within the EU territory is classified as **Stable** (1980–2012). It should be noted that EBCC data pertaining to the short-term trends is only available at pan-European level. At pan-European level, the Greenfinch increased by 22% since 1980 and decreased by 5% during the current 10-year period. Between the previous EBCC update and the current (EBCC 2014) update the percentage change was -7% in the long-term trend and +13% in the short-term trend (Table 27).

EBCC update	Species	Long-term Trend (%)	Long-term Slope	% change	10-Year Trend (%)	10-Year Slope	% change	Habitat
2012	<i>Carduelis chloris</i>	+28%	1.0045	+0.45%	-16%	0.9936	-0.64%	oth
2013	<i>Carduelis chloris</i>	+29%	1.005	+0.50%	-18%	0.9937	-0.63%	oth
2014	<i>Carduelis chloris</i>	+22%	1.004	+0.40%	-5%	0.994	-0.60%	oth
Overall % change (2013–2014)		-7%		-0.10%	+13%		+0.03%	

Data sources: EBCC (2012, 2013 & 2014 updates). Available at: <http://www.ebcc.info/index.php?ID=557>

<sup>16</sup> <http://www.ebcc.info/index.php?ID=558>

## Ring recoveries in Malta

Table 28 provides data on the ring recoveries of this species in Malta, the respective number of breeding pairs, together with the overall direction of the population trend. The reference population (ring recoveries in Malta) is **Stable** (Min. Pairs: -18.21%; Max. Pairs: -15.90%). Fig. 11 illustrates the EU population trend categories of this species per Member State whereas Fig. 12 illustrates the respective EU population trend categories on the basis of ring recoveries in Malta.

**Table 28 Greenfinch ring recoveries in Malta from other EU Member states and corresponding conservation status**

Country	EU Ring Recoveries in Malta (n=16)	Breeding Pairs (Min - Max)		Trend	Mag. % (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)
Hungary	25%	525,000	639,000	Unknown	?	?	-	-
Slovenia	25%	101,000	142,000	Unknown	?	?	-	-
Croatia*	18%	500,000	1,000,000	Increasing	80	80	222,222	444,444
Italy	12%	400,000	800,000	Decreasing	20	30	-171,429	-342,857
Slovakia	12%	100,000	130,000	Stable	0	0	-	-
Germany	8%	1,650,000	2,800,000	Decreasing	14	29	-673,944	-1,143,662
Total	100%	3,276,000	5,511,000				-623,150	-1,042,075
				Percentage change			-18.21%	-15.90%
				Trend (Ring Recoveries)			Stable	Stable

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

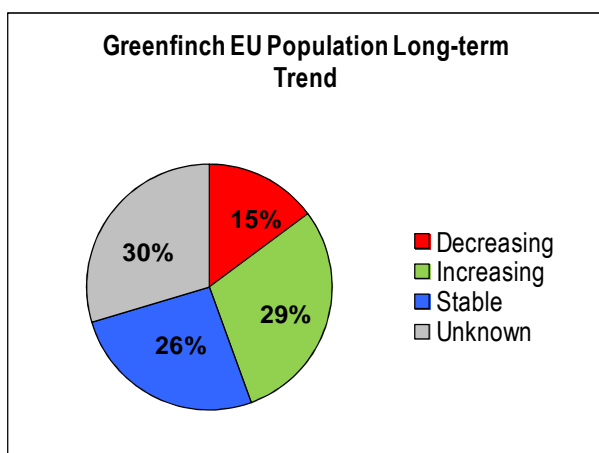


Fig. 11: Greenfinch EU population long-term trend by Member State

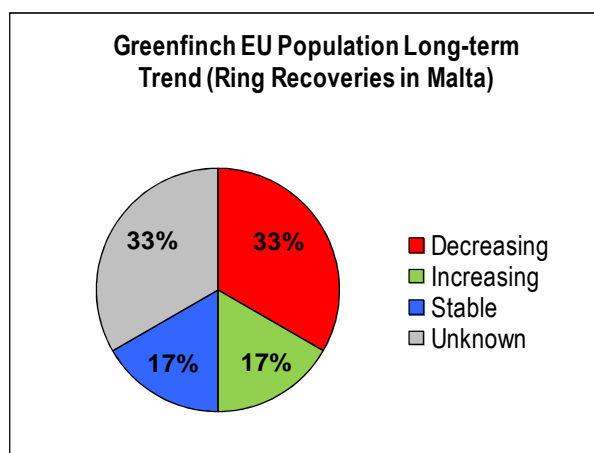


Fig. 12: Greenfinch EU population long-term trend (ring recoveries in Malta)

Data sources: EEA (2014); Raine (2007)

## Greenfinch conservation status update – comparison between different data sources

The following table provides a general overview of the latest conservation status (2015 update) from various sources for direct comparison.

Species	EU Population						Ring Recoveries					
	Short-term Trend			Long-term Trend			Short-term Trend			Long-term Trend		
	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean
Greenfinch	↑	→	→	→	→	→	↓	↓	↓	→	→	→
Species	Short-term Trend				Long-term Trend							
	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]				
Greenfinch	→	?	→	↓	→	→	→	→				

Data Sources: BirdLife International (2004); European Environment Agency (2014); Raine (2007)

## The reference population

**Table 29 Greenfinch (*Carduelis chloris*) breeding population estimates (reference population)**

Country [Ring recoveries in Malta]	Goldfinch minimum breeding population size (pairs) [Reference population]	Long-term Trend (1980–2012)
Hungary	525,000	Unknown
Slovenia	101,000	Unknown
Croatia*	500,000	Increasing
Italy	400,000	Decreasing
Slovakia	100,000	Stable
Germany	1,650,000	Decreasing
<b>Reference Population Size (Minimum breeding pairs)</b>	<b>3,276,000</b>	<b>Stable (-18.21%)</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014); Raine (2007)

## Carnet de Chasse data (2002–2008)

According to the *Carnet de Chasse* data available from the Environment Protection Directorate of the Malta Environment and Planning Authority, the following Greenfinches were captured alive in Malta during the years indicated (Table 30).

**Table 30 Carnet de Chasse live-capturing data<sup>17</sup> for Greenfinch (2002–2008)**

Species	2002	2003	2004	2005	2006	2007	2008	Total	Average
Greenfinch	8,231	12,449	2,494	4,130	3,062	6,202	2,619	39,187	5,598

Source: *Carnet de Chasse* data, Environment Protection Directorate (Malta Environment and Planning Authority). Available at: <http://www.mepa.org.mt/biodiversity-reporting>.

<sup>17</sup> The *Carnet de Chasse* data for the period 2002–2007 covers the months January–May and September–December, whereas the *Carnet de Chasse* data for 2008 covers the months of January and October–December.

## Minimum breeding population

In the case of the European breeding population, Table 31 shows the minimum number of breeding pairs of Greenfinches that correspond with ring recoveries in Malta (the reference population), together with other relevant information required for the calculation of “small numbers”.

**Table 31 Minimum breeding population and mortality rate**

	<b>Greenfinch (<i>Carduelis chloris</i>)</b>	Source
Minimum breeding population – pairs	3,276,000	BirdLife International (2014); EEA (2014); Raine (2007)
Mortality rate – juveniles	58%	Bauer (2005): <i>Das Kompendium der Vögel Mitteleuropas</i> (KVM) / Cramp & Perrins (1994): <i>Birds of the Western Palearctic</i> / Robinson (2005): British Trust for Ornithology
Mortality rate – adults	55%	Bauer (2005) and Robinson (2005)
Breeding rate (young per pair)	3–4	Cramp & Perrins (1994: 564) and Robinson (2005)
Breeding success	4.4	Cramp & Perrins (1994: 564)

For the purpose of calculating the <1% mortality rate and “small numbers”, the reference population is based solely on ring recoveries of this species in Malta from EU Member States. This equates to a reference population of 3,276,000 **minimum breeding pairs**.

### Calculation of <1% mortality rate and “small numbers”

#### **Greenfinch** (*Carduelis chloris*)

Minimum breeding success: 3 fledglings per pair (3,276,000 x 3) = 9,828,000

Mortality rate of 1<sup>st</sup> year birds (9,828,000 x 58%) = 5,700,240

Mortality rate of adults (6,552,000 x 55%) = 3,603,600

Total annual mortality (3,603,600 + 5,700,240) = 9,303,840

1% of total annual mortality (9,303,840 x 1%) = 93,038

**Total potential Greenfinch harvest figure is 93,038.**

**Partitioning with other Member States (Spain: 93,038 x 50%) = 46,519**

### Autumn seasonal bags in relation to “small numbers”

Based on the <1% mortality rate of the reference population, the “small numbers” calculation with respect to the potential national bag limit of the Greenfinch is as follows:

- **Greenfinch** – potential maximum bag limit of 46,519 individuals (partitioned with Spain).

Notwithstanding that the partitioned maximum bag limit arising out of the above calculations is 46,519 Greenfinches, given that the average bag limit over a seven-year period (2002–2008) is 5,598 birds, this analysis recommends that, should a derogation for the live-capturing of the seven finch species be considered in autumn 2015, the national bag limit should be substantially reduced further to not more than 4,500 as established in the July 2014 Framework for Allowing a Derogation Opening an Autumn Live-Capturing Season for Finches Regulations (S.L. 504.124)<sup>18</sup>. This calculation is based on the formula discussed previously, which returns a figure that is not only considerably lower than the <1% threshold but also lower than the average number of birds caught over a seven-year period (2002–2008). Thus:

- **Greenfinch** – national bag limit of **4,500** birds.

<sup>18</sup> <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=12211&l=1>

## 5. Conservation status of the Hawfinch (*Coccothraustes coccothraustes*)

**Non-SPEC (1994: —) Status: Secure; Criteria: —. European IUCN Red List Category: —; Criteria: — (BirdLife International, 2004)**

### Distribution and conservation status

The Hawfinch is a widespread but much localized breeder (Hume, 2002). The geographical distribution of this species in Europe (Fig. 13) is as follows:

**Breeding** Estonia, Latvia, Lithuania, Czech Republic, United Kingdom, Germany, Netherlands, Spain, Portugal, France, Belgium, Austria, Luxembourg, Slovenia, Italy, Greece, Cyprus, Bulgaria, Croatia, Hungary, Romania, Turkey, Sicily, Corsica, Sardinia, Russia.

**Wintering** Estonia, Italy, United Kingdom, Cyprus, Greece, Germany, Belgium (a few), Luxembourg, Sicily, Corsica, and Sardinia.

**Sedentary and migratory** Birds in the southern and central parts of the range are largely resident or make only short-distance movements. Northern breeders move south, southeast or southwest. Nominate race (*Coccothraustes c. coccothraustes*) winters from Ireland to southern Europe mostly around the Mediterranean, including Algeria and Tunisia, northwest Africa, Malta, Crete and Cyprus, east through the Balkans and the Black Sea sporadically to west and central Turkey, northern Iran, Central Asia, southern Mongolia to Manchuria, central and southern China, also Sakhalin. (Clement *et al.* 1993: 313).


Conservation status	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">Extinct <b>EX</b></div> <div style="text-align: center;">Threatened <b>EW</b></div> <div style="text-align: center;"><b>CR</b></div> <div style="text-align: center;"><b>EN</b></div> <div style="text-align: center;"><b>VU</b></div> <div style="text-align: center;"><b>NT</b></div> <div style="text-align: center;">Least Concern <b>LC</b></div> </div> <p style="text-align: center;">Least Concern (IUCN 3.1)<sup>[1]</sup></p>	
Order:	<u>Passeriformes</u>
Suborder:	<u>Passeri</u>
Infraorder:	<u>Passerida</u>
Superfamily:	<u>Passeroidea</u>
Family:	<u>Fringillidae</u>
Subfamily:	<u>Carduelinae</u>
Genus:	<u>Coccothraustes</u>
Species:	<b>Coccothraustes</b>
Binomial name	
<b>Coccothraustes coccothraustes</b> (Linnaeus, 1758)	
	

Fig. 13: Distribution and conservation status of the Hawfinch (*Coccothraustes coccothraustes*)

Source: <http://en.wikipedia.org/wiki/Hawfinch> [Accessed 02 May 2015]. Distribution map downloaded from <http://www.birdlife.org> on 02/05/2015 [BirdLife International (2015) IUCN Red List for birds].

In Europe, the breeding population is estimated to number 2,400,000– 4,200,000 breeding pairs, equating to 7,200,000–12,600,000 individuals (BirdLife International 2004). Europe forms 25–49% of the global range of the Hawfinch [BirdLife International (2015) Species Factsheet]. Based on the EU Member States' Article 12 reports for the 2008–2012 reporting period, the EU breeding population amounts to 1,893,476– 3,560,278 pairs. Within the territory of the European Union (EU 28), both the minimum and maximum breeding pairs are Stable in the long-term trend (1980–2012), with a change in the minimum number of pairs of -12.77% and a change of -13.10% in the maximum number of pairs, equating to a geomean change of -12.98% (Table 32). **According to BirdLife International (2004), this equates to a long-term Stable classification for the minimum, maximum and geomean number of breeding pairs (a change not more than 20% is considered to be Stable for the period 1980–2012).** Table 32 also lists population counts and long-term trend for each Member State within the territory of the European Union.

**Table 32** Hawfinch EU breeding population and ring recoveries (bold = Ring Recoveries in Italy)

EU Member State	EU Ring Recoveries in Italy (n=522)	Breeding Pairs (2014) (Min - Max)		Long-term Trend	Mag. % (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
Austria	2.7%	20,000	35,000	Unknown	?	?	-	-	-
Belgium	0.6%	12,000	17,000	Increasing	71	305	9,037	12,802	10,920
Bulgaria		40,000	150,000	Stable	0	0	-	-	-
Croatia*	0.6%	200,000	300,000	Increasing	80	80	88,889	133,333	111,111
Czech Rep.*	27.2%	140,000	280,000	Stable	0	9	-	-	-
Denmark	0.2%	9,500	9,500	Increasing	25	50	3,167	3,167	3,167
Estonia	0.4%	20,000	40,000	Stable	0	0	-	-	-
Finland		1,000	1,500	Increasing	333	526	840	1,260	1,050
France	0.8%	23,000	40,000	Increasing	118	118	12,450	21,651	17,050
Germany	35.8%	200,000	365,000	Decreasing	36	69	-445,161	-812,419	-628,790
Greece*		5,000	20,000	Stable	0	19	-	-	-
Hungary	19.0%	112,000	163,000	Unknown	?	?	-	-	-
Italy	N/A	5,000	15,000	Unknown	?	?	-	-	-
Latvia		50,301	95,434	Increasing	403	3,081	48,720	92,434	70,577
Lithuania		30,000	60,000	Stable	0	0	-	-	-
Luxembourg	0.2%	3,000	4,000	Unknown	?	?	-	-	-
Netherlands	0.2%	9,875	12,344	Increasing	60	196	6,539	8,174	7,356
Poland	2.5%	270,000	390,000	Unknown	?	?	-	-	-
Portugal		5,000	10,000	Unknown	?	?	-	-	-
Romania	0.4%	500,000	1,000,000	Unknown	?	?	-	-	-
Slovakia	5.6%	110,000	220,000	Stable	0	0	-	-	-
Slovenia	2.5%	25,000	35,000	Stable	0	0	-	-	-
Spain	0.2%	92,000	272,500	Stable	0	0	-	-	-
Sweden	1.0%	10,000	24,000	Increasing	25	75	4,286	10,286	7,286
UK		800	1,000	Decreasing	88	88	-5,867	-7,333	-6,600
Total	100%	1,893,476	3,560,278						
					Total change		-277,101	-536,645	-406,873
					Percentage change		-12.77%	-13.10%	-12.98%
					Long-term Trend (EU)		Stable	Stable	Stable

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using The Percentages Calculator, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

With reference to the short-term trend of the Hawfinch within the territory of the European Union (EU 28), there is change in the minimum number of breeding pairs of -7.21% and a change of -8.13% in the maximum number of pairs, equating to a geomean change of -7.80% (Table 33). **According to BirdLife International (2004), this equates to a short-term Stable classification for the minimum and maximum number of breeding pairs and their geomean (a change not more than 10% is considered to be Stable for the short-term trend).** Table 33 also lists population counts and short-term trend for each Member State within the territory of the European Union.

**Table 33 Hawfinch EU breeding population and ring recoveries (bold = Ring Recoveries in Italy)**

EU Member State	EU Ring Recoveries in Italy (n=522)	Breeding Pairs (EEA, 2014) (Min - Max)		Short-term Trend	Mag. % (Min - Max)		Breeding Pairs (2004) (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
Austria	2.7%	20,000	35,000	Fluctuating	-	-	25,000	50,000	-	-	-
Belgium	0.6%	12,000	17,000	Increasing	19	70	5,200	15,000	4,941	7,000	5,971
Bulgaria		40,000	150,000	Fluctuating	-	-	50,000	150,000	-	-	-
Croatia*	0.6%	200,000	300,000	Increasing	80	80	200,000	300,000	88,889	133,333	111,111
Czech Rep.*	27.2%	140,000	280,000	Stable	0	9	140,000	280,000	-	-	-
Denmark	0.2%	9,500	9,500	Decreasing	33	50	14,179	19,000	-9,500	-9,500	-9,500
Estonia	0.4%	20,000	40,000	Stable	0	0	5,000	10,000	-	-	-
Finland		1,000	1,500	Increasing	3	57	400	800	363	545	454
France	0.8%	23,000	40,000	Increasing	37	37	50,000	250,000	6,212	10,803	8,507
Germany	35.8%	200,000	365,000	Decreasing	12	57	227,273	848,837	-265,116	-483,837	-374,477
Greece*		5,000	20,000	Stable	0	19	5,000	20,000	-	-	-
Hungary	19.0%	112,000	163,000	Increasing	159	159	82,000	145,000	68,757	100,066	84,411
Italy	N/A	5,000	15,000	Unknown	?	?	5,000	15,000	-	-	-
Latvia		50,301	95,434	Increasing	249	249	3,000	10,000	35,888	68,089	51,989
Lithuania		30,000	60,000	Stable	0	0	40,000	60,000	-	-	-
Luxembourg	0.2%	3,000	4,000	Unknown	?	?	3,000	4,000	-	-	-
Netherlands	0.2%	9,875	12,344	Increasing	30	76	8,000	10,000	4,264	5,330	4,797
Poland	2.5%	270,000	390,000	Decreasing	20	20	337,500	487,500	-67,500	-97,500	-82,500
Portugal		5,000	10,000	Unknown	?	?	1,000	10,000	-	-	-
Romania	0.4%	500,000	1,000,000	Fluctuating	-	-	760,000	940,000	-	-	-
Slovakia	5.6%	110,000	220,000	Stable	0	0	110,000	220,000	-	-	-
Slovenia	2.5%	25,000	35,000	Stable	0	0	10,000	20,000	-	-	-
Spain	0.2%	92,000	272,500	Stable	0	0	2,500	10,000	-	-	-

Sweden	1.0%	10,000	24,000	Stable	0	0	5,000	15,000	-	-	-
UK		800	1,000	Decreasing	81	81	4,211	5,263	-3,411	-4,263	-3,837
Total	100%	1,893,476	3,560,278				1,888,100	3,321,300			
							<b>Total change</b>		<b>-136,213</b>	<b>-269,935</b>	<b>-203,074</b>
							<b>Percentage change</b>		<b>-7.21%</b>	<b>-8.13%</b>	<b>-7.80%</b>
							<b>Short-term Trend (EU Population)</b>		<b>Stable</b>	<b>Stable</b>	<b>Stable</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using The Percentages Calculator, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

According to the European Bird Census Council (EBCC, 2014 update)<sup>19</sup>, the long-term trend of the Hawfinch population within the EU territory is classified as **Moderate Increase** (1980–2012). It should be noted that EBCC data pertaining to the short-term trends is only available at pan-European level. At pan-European level, the Hawfinch increased by 343% since 1980 and by 18% during the current 10-year period. Between the previous EBCC update and the current (EBCC 2014) update the percentage change was +61% in the long-term trend and +48% in the short-term trend (Table 34).

EBCC update	Species	Long-term Trend (%)	Long-term Slope	% change	10-Year Trend (%)	10-Year Slope	% change	Habitat
2012	<i>Coccothraustes coccothraustes</i>	+474%	1.0166	+1.66%	-31%	0.9898	-1.02%	for
2013	<i>Coccothraustes coccothraustes</i>	+282%	1.0117	+1.17%	-30%	0.9892	-1.08%	for
2014	<i>Coccothraustes coccothraustes</i>	+343%	1.0112	+1.12%	+18%	1.0165	+1.65%	for
Overall % change (2013–2014)		+61%		-0.05%	+48%		+2.73%	

Data sources: EBCC (2012, 2013 & 2014 updates). Available at: <http://www.ebcc.info/index.php?ID=557>

<sup>19</sup> <http://www.ebcc.info/index.php?ID=558>



Italy	N/A	5,000	15,000	Unknown	?	?	-	-	-
Total	100%	1,761,375	3,222,344						
				<b>Total change</b>			<b>-320,795</b>	<b>-623,006</b>	<b>-471,900</b>
				<b>Percentage change</b>			<b>-15.41%</b>	<b>-16.20%</b>	<b>-15.92%</b>
				<b>Long-term Trend (EU)</b>			<b>Stable</b>	<b>Stable</b>	<b>Stable</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using The Percentages Calculator, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

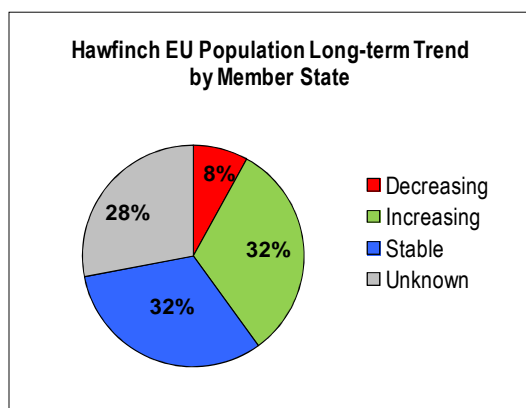


Fig. 16: Hawfinch EU population long-term trend by Member State

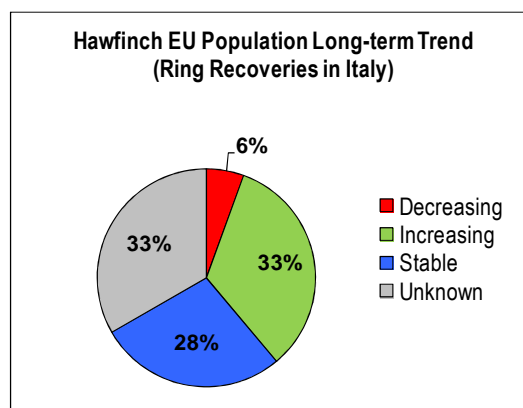


Fig. 17: Hawfinch EU population long-term trend (ring recoveries in Italy)

Data sources: EEA (2014); Spina and Volpini (2008)

### Hawfinch conservation status update – comparison between different data sources

The following table provides a general overview of the latest conservation status (2015 update) from various sources for direct comparison.

Species	EU Population						Ring Recoveries					
	Short-term Trend			Long-term Trend			Short-term Trend			Long-term Trend		
	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean
Hawfinch	→	→	→	→	→	→	→	→	→	→	→	→
Species	Short-term Trend				Long-term Trend							
	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]				
Hawfinch	↑	?	→	→	↑	↑	→	→				

Data Sources: BirdLife International (2004); European Environment Agency (2014); Raine (2007)

### The reference population

Table 36 Hawfinch (*Coccothraustes coccothraustes*) breeding population estimates (reference population)

Country [Ring recoveries in Italy]	Hawfinch minimum breeding population size (pairs) [Reference population]	Long-term Trend (1980–2012)
Germany	200,000	Decreasing
Czech Rep.*	140,000	Stable
Hungary	112,000	Unknown
Slovakia	110,000	Stable

Austria	20,000	Unknown
Poland	270,000	Unknown
Slovenia	25,000	Stable
Sweden	10,000	Increasing
France	23,000	Increasing
Belgium	12,000	Increasing
Croatia*	200,000	Increasing
Estonia	20,000	Stable
Romania	500,000	Unknown
Denmark	9,500	Increasing
Luxembourg	3,000	Unknown
Netherlands	9,875	Increasing
Spain	92,000	Stable
Italy	5,000	Unknown
<b>Reference Population Size (Minimum breeding pairs)</b>	<b>1,761,375</b>	<b>Stable (-15.41%)</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014); Spina and Volpini (2008)

### **Carnet de Chasse data (2002–2008)**

According to the *Carnet de Chasse* data available from the Environment Protection Directorate of the Malta Environment and Planning Authority, the following Hawfinches were captured alive in Malta during the years indicated (Table 37).

**Table 37** *Carnet de Chasse* live-capturing data<sup>20</sup> for Hawfinch (2002–2008)

Species	2002	2003	2004	2005	2006	2007	2008	Total	Average
Hawfinch	530	207	94	1,885	612	553	347	4,228	604

Source: *Carnet de Chasse* data, Environment Protection Directorate (Malta Environment and Planning Authority). Available at: <http://www.mepa.org.mt/biodiversity-reporting>.

### **Minimum breeding population**

In the case of the European breeding population, Table 38 shows the minimum number of breeding pairs of Hawfinches that correspond with ring recoveries in Italy (the reference population), together with other relevant information required for the calculation of “small numbers”.

**Table 38** Minimum breeding population and mortality rate

	Hawfinch ( <i>Coccothraustes coccothraustes</i> )	Source
Minimum breeding population – pairs	1,761,375	BirdLife International (2014); EEA (2014); Spina and Volpini (2008)
Mortality rate – juveniles	34%	Bauer (2005): <i>Das Kompendium der Vögel Mitteleuropas</i> (KVM) / Cramp & Perrins (1994): <i>Birds of the Western Palearctic</i> / Robinson (2005): British Trust for Ornithology

<sup>20</sup> The *Carnet de Chasse* data for the period 2002–2007 covers the months January–May and September–December, whereas the *Carnet de Chasse* data for 2008 covers the months of January and October–December.

Mortality rate – adults	51%	Bauer (2005) and Robinson (2005)
Breeding rate (young per pair)	4-5	Cramp & Perrins (1994: 844) and Robinson (2005)
Breeding success	3.4	Cramp & Perrins (1994: 844)

For the purpose of calculating the <1% mortality rate and “small numbers”, the reference population is based solely on ring recoveries of this species in Italy from EU Member States (given that there are no ring recoveries of this species in Malta). This equates to a reference population of **1,761,375 minimum breeding pairs**.

### Calculation of <1% mortality rate and “small numbers”

#### Hawfinch (*Coccothraustes coccothraustes*)

Minimum breeding success: 3.4 fledglings per pair (**1,761,375** x 3.4) = 5,988,675

Mortality rate of 1<sup>st</sup> year birds (5,988,675 x 34%) = 2,036,150

Mortality rate of adults (3,522,750 x 51%) = 1,796,603

Total annual mortality (2,036,150 + 1,796,603) = 3,832,753

1% of total annual mortality (3,832,753 x 1%) = 38,328

**Total potential Hawfinch harvest figure is: 38,744 = 12,776 (figure divided by three to account for the fact that only a fraction of the bird reference population actually migrates towards the Maltese Islands through the Central Flyway).**

**Partitioning with other Member States (Austria: 12,776 x 50%) = 6,388**

### Autumn seasonal bags in relation to “small numbers”

Based on the <1% mortality rate (which is further divided by three), the “small numbers” calculation with respect to the Autumn 2014 seasonal bag limit of the Hawfinch is as follows:

- **Hawfinch** – maximum national bag limit of 6,388 individuals (one-third of the reference population partitioned with Austria)

Notwithstanding that the partitioned maximum bag limit arising out of the above calculations is 6,388 Hawfinches, given that the average bag limit over a seven-year period (2002–2008) is 604 birds, this analysis recommends that, should a derogation for the live-capturing of the seven finch species be considered in autumn 2015, the national bag limit should be substantially reduced further to not more than 500 as established in the July 2014 Framework for Allowing a Derogation Opening an Autumn Live-Capturing Season for Finches Regulations (S.L. 504.124)<sup>21</sup>. This calculation is based on the formula discussed previously, which returns a figure that is not only considerably lower than the <1% threshold but also lower than the average number of birds caught over a seven-year period (2002–2008). Thus:

- **Hawfinch** – national bag limit of **500** birds.

<sup>21</sup> <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=12211&l=1>

## 6. Conservation status of the European Serin (*Serinus serinus*)

**Non-SPEC<sup>E</sup> (1994: 4) Status: Secure; Criteria: —. European IUCN Red List Category: —; Criteria: — (BirdLife International, 2004)**

### Distribution and conservation status

The geographical distribution of this species in Europe (Fig. 18) is as follows:

**Breeding** Estonia (a few), Latvia, Lithuania, Czech Republic, United Kingdom (a few), Germany, Netherlands, Spain, Portugal, France, Belgium, Austria, Ukraine Luxembourg, Slovenia, Italy, Greece, Cyprus, Bulgaria, Croatia, Hungary, Romania, Turkey, Sicily, Corsica, Sardinia, Russia (a few).

**Wintering** Italy, Cyprus, Greece, Germany Luxembourg, Sicily, Corsica, and Sardinia, Malta, Spain, Portugal, West France, Croatia.

**Sedentary and migratory** Breeding birds from the northern parts of the range move south to winter within southern Europe, around the Mediterranean (including coastal North Africa), the Balkans (including the Hungarian Plain), Cyprus, Lebanon, Israel, southern Iraq, Libya and northern Egypt (Clement *et al.* 1993: 173).

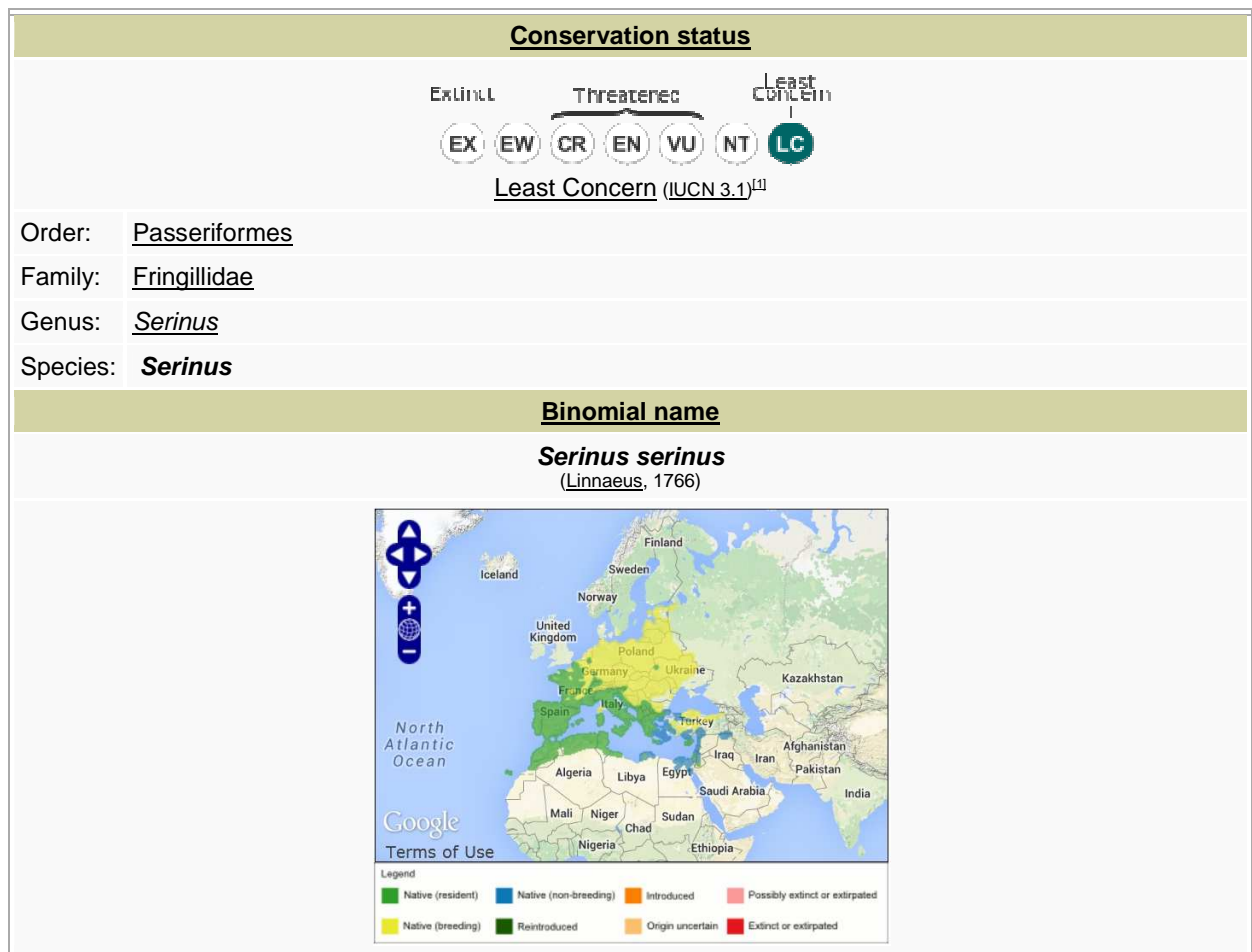


Fig. 18: Distribution and conservation status of the Serin (*Serinus serinus*)

Source: <http://en.wikipedia.org/wiki/Serinus> [Accessed 02 May 2015]. Distribution map downloaded from <http://www.birdlife.org> on 02/05/2015 [BirdLife International (2015) IUCN Red List for birds].

In Europe, the breeding population is estimated to number 8.3–20 million breeding pairs, equating to 24.9–60 million individuals (BirdLife International 2004). Europe forms 75–94% of the global range of the Serin [BirdLife International (2015) Species Factsheet]. Based on the EU Member States' Article 12 reports for the 2008–2012 reporting period, the EU breeding population amounts to 18,096,464–26,173,127 pairs. Within the territory of the European Union (EU 28), both the minimum and maximum breeding pairs are Stable in the long-term trend (1980–2012), with a change in the minimum number of pairs of -0.56% and a change of -1.05% in the maximum number of pairs, equating to a geomean change of -0.85% (Table 39). **According to BirdLife International (2004), this equates to a long-term Stable classification for the minimum, maximum and geomean number of breeding pairs (a change not more than 20% is considered to be Stable for the period 1980–2012).** Table 39 also lists population counts and long-term trend for each Member State within the territory of the European Union.

**Table 39 Serin EU breeding population (long-term trend) and ring recoveries (bold = ring recoveries in Malta)**

EU Member State	EU Ring Recoveries in Malta (n=16)	Breeding Pairs (2014)		Long-term Trend	Mag. % (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
		(Min)	(Max)		(Min)	(Max)			
Austria		50,000	80,000	Unknown	?	?	-	-	-
<b>Belgium</b>		<b>500</b>	<b>800</b>	<b>Decreasing</b>	<b>35</b>	<b>80</b>	<b>-2,000</b>	<b>-3,200</b>	<b>-2,600</b>
Bulgaria		25,000	50,000	Stable	0	0	-	-	-
<b>Croatia*</b>	<b>4%</b>	<b>150,000</b>	<b>200,000</b>	<b>Increasing</b>	<b>0</b>	<b>19</b>	<b>23,950</b>	<b>31,933</b>	<b>27,941</b>
Cyprus		2,500	10,000	Increasing	25	50	833	3,333	2,083
<b>Czech Rep.*</b>	<b>58%</b>	<b>450,000</b>	<b>900,000</b>	<b>Stable</b>	<b>0</b>	<b>19</b>	-	-	-
Denmark		20	20	Unknown	?	?	-	-	-
Estonia		100	300	Increasing	20	50	33	100	67
Finland		0	3	Fluctuating	-	-	-	-	-
<b>France</b>		<b>225,000</b>	<b>400,000</b>	<b>Decreasing</b>	<b>42</b>	<b>42</b>	<b>-162,931</b>	<b>-289,655</b>	<b>-226,293</b>
<b>Germany</b>		<b>110,000</b>	<b>220,000</b>	<b>Decreasing</b>	<b>44</b>	<b>63</b>	<b>-187,297</b>	<b>-374,595</b>	<b>-280,946</b>
Greece*		10,000	30,000	Stable	0	19	-	-	-
Hungary		142,000	200,000	Unknown	?	?	-	-	-
<b>Italy</b>		<b>1,000,000</b>	<b>1,500,000</b>	<b>Increasing</b>	<b>5</b>	<b>25</b>	<b>200,000</b>	<b>300,000</b>	<b>250,000</b>
Latvia		129	308	Increasing	?	516	108	258	183
Lithuania		15,000	25,000	Increasing	2,900	4,900	14,700	24,500	19,600
<b>Luxembourg</b>		<b>1,000</b>	<b>2,000</b>	<b>Decreasing</b>	<b>?</b>	<b>30</b>	<b>-429</b>	<b>-857</b>	<b>-643</b>
<b>Netherlands</b>		<b>100</b>	<b>140</b>	<b>Decreasing</b>	<b>43</b>	<b>75</b>	<b>-300</b>	<b>-420</b>	<b>-360</b>
Poland		540,000	690,000	Unknown	?	?	-	-	-
Portugal		1,000,000	5,000,000	Unknown	?	?	-	-	-
Romania		60,000	120,000	Unknown	?	?	-	-	-
Slovakia		50,000	100,000	Stable	0	0	-	-	-
<b>Slovenia</b>	<b>38%</b>	<b>65,000</b>	<b>115,000</b>	<b>Unknown</b>	<b>?</b>	<b>?</b>	-	-	-
Spain		16,390,000	19,440,000	Stable	?	?	-	-	-
Sweden		30	60	Stable	0	0	-	-	-
Total	100%	20,286,379	29,083,631						
					Total change		<b>-113,333</b>	<b>-308,603</b>	<b>-210,968</b>
					Percentage		<b>-0.56%</b>	<b>-1.05%</b>	<b>-0.85%</b>
					<b>Long-term Trend (EU Population)</b>		<b>Stable</b>	<b>Stable</b>	<b>Stable</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using The Percentages Calculator, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

With reference to the short-term trend of the Serin within the territory of the European Union (EU 28), there is change in the minimum number of breeding pairs of -30.07% and a change of -23.42% in the maximum number of pairs, equating to a geomean change of -25.41% (Table 40). **According to BirdLife International (2004), this equates to a short-term Decline classification for the minimum and maximum number of breeding pairs and their geomean (a change not more than 10% is considered to be Stable for the short-term trend).** Table 40 also lists population counts and short-term trend for each Member State within the territory of the European Union.

**Table 40 Serin EU breeding population (short-term trend) and ring recoveries (bold = ring recoveries in Malta)**

EU Member State	EU Ring Recoveries in Malta (n=16)	Breeding Pairs (EEA, 2014) (Min - Max)		Short-term Trend	Mag. % (Min - Max)		Breeding Pairs (2004) (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
Austria		50,000	80,000	Decreasing	50	60	100,000	200,000	-75,000	-120,000	-97,500
Belgium		500	800	Decreasing	45	66	909	2,353	-971	-1,553	-1,262
Bulgaria		25,000	50,000	Stable	0	0	50,000	150,000	-	-	-
<b>Croatia*</b>	<b>4%</b>	<b>150,000</b>	<b>200,000</b>	<b>Increasing</b>	<b>0</b>	<b>19</b>	<b>150,000</b>	<b>168,067</b>	<b>23,950</b>	<b>31,933</b>	<b>27,941</b>
Cyprus		2,500	10,000	Increasing	50	75	1,667	5,714	1,071	4,286	2,679
<b>Czech Rep.*</b>	<b>58%</b>	<b>450,000</b>	<b>900,000</b>	<b>Stable</b>	<b>0</b>	<b>19</b>	<b>450,000</b>	<b>900,000</b>	-	-	-
Denmark		20	20	Unknown	?	?	1	11	-	-	-
Estonia		100	300	Stable	0	0	50	100	-	-	-
Finland		0	3	Unknown	?	?	0	3	-	-	-
France		225,000	400,000	Decreasing	22	22	288,462	512,821	-63,462	-112,821	-88,141
Germany		110,000	220,000	Decreasing	40	54	183,333	478,261	-129,130	-258,261	-193,696
Greece*		10,000	30,000	Stable	0	19	10,000	30,000	-	-	-
Hungary		142,000	200,000	Decreasing	31	31	205,797	289,855	-63,797	-89,855	-76,826
Italy		1,000,000	1,500,000	Stable	0	0	500,000	1,000,000	-	-	-
Latvia		129	308	Unknown	?	?	50	300	-	-	-
Lithuania		15,000	25,000	Increasing	650	1,150	2,000	2,000	13,800	23,000	18,400
Luxembourg		1,000	2,000	Decreasing	10	20	1,111	2,500	-250	-500	-375
Netherlands		100	140	Decreasing	74	89	385	1,273	-809	-1,133	-971
Poland		540,000	690,000	Increasing	30	70	415,385	405,882	222,353	284,118	253,235
Portugal		1,000,000	5,000,000	Decreasing	15	25	1,176,471	6,666,667	-333,333	-1,666,667	-1,000,000
Romania		60,000	120,000	Unknown	?	?	245,000	650,000	-	-	-
Slovakia		50,000	100,000	Stable	0	0	50,000	100,000	-	-	-
<b>Slovenia</b>	<b>38%</b>	<b>65,000</b>	<b>115,000</b>	<b>Decreasing</b>	<b>30</b>	<b>40</b>	<b>92,857</b>	<b>191,667</b>	<b>-43,333</b>	<b>-76,667</b>	<b>-60,000</b>

Spain		16,390,000	19,440,000	Decreasing	10	10	18,211,111	21,600,000	-1,821,111	-2,160,000	-1,990,556
Sweden		30	60	Stable	0	0	1	15	-	-	-
Total	100%	20,286,379	29,083,631				7,548,202	17,695,629			
							<b>Total change</b>		<b>-2,270,023</b>	<b>-4,144,119</b>	<b>-3,207,071</b>
							<b>Percentage change</b>		<b>-30.07%</b>	<b>-23.42%</b>	<b>-25.41%</b>
							<b>Short-term Trend (EU Population)</b>		<b>Decreasing</b>	<b>Decreasing</b>	<b>Decreasing</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using The Percentages Calculator, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

According to the European Bird Census Council (EBCC, 2014 update)<sup>22</sup>, the long-term trend of the Serin population within the EU territory is classified as **Moderate Decline** (1980–2012). It should be noted that EBCC data pertaining to the short-term trends is only available at pan-European level. At pan-European level, the Serin decreased by 42% since 1980 and by 17% during the current 10-year period. Between the previous EBCC update and the current (EBCC 2014) update the percentage change was -3% in the long-term trend and +17% in the short-term trend (Table 41).

EBCC update	Species	Long-term Trend (%)	Long-term Slope	% change	10-Year Trend (%)	10-Year Slope	% change	Habitat
2012	<i>Serinus serinus</i>	-31%	0.9733	-2.67%	-23%	0.9788	-2.12%	farm
2013	<i>Serinus serinus</i>	-39%	0.9726	-2.74%	-34%	0.9773	-2.27%	farm
2014	<i>Serinus serinus</i>	-42%	0.9731	-2.69%	-17%	0.9853	-1.47%	farm
Overall % change (2013–2014)		-3%		+0.05%	+17%		+0.80%	

Data sources: EBCC (2012, 2013 & 2014 updates). Available at: <http://www.ebcc.info/index.php?ID=557>

<sup>22</sup> <http://www.ebcc.info/index.php?ID=558>

## Ring recoveries in Malta

Table 42 provides data on the ring recoveries of this species in Malta, the respective number of breeding pairs, together with the overall direction of the population trend. The reference population (ring recoveries in Malta) is **Stable** (Min. Pairs: +3.74%; Max. Pairs: +2.70%). Fig. 19 illustrates the EU population trend categories of this species per Member State whereas Fig. 20 illustrates the respective EU population trend categories on the basis of ring recoveries in Malta.

**Table 42 Serin ring recoveries in Malta from other EU Member States and corresponding conservation status**

Country	EU Ring Recoveries in Malta (n=16)	Breeding Pairs (Min - Max)		Long-term Trend	Mag. % (Max - Min)		Max % Change (Min Pairs)	Max % Change (Max Pairs)
Czech Rep.*	58%	450,000	900,000	Stable	0	19	-	-
Slovenia	38%	65,000	115,000	Unknown	?	?	-	-
Croatia*	4%	150,000	200,000	Increasing	0	19	23,950	31,933
Total	100%	665,000	1,215,000	Total change			23,950	31,933
				Percentage change			+3.74%	+2.70%
				Long-term Trend (Ring Recoveries)			Stable	Stable

Data Sources: \*BirdLife International (2004); European Environment Agency (2014); Raine (2007)

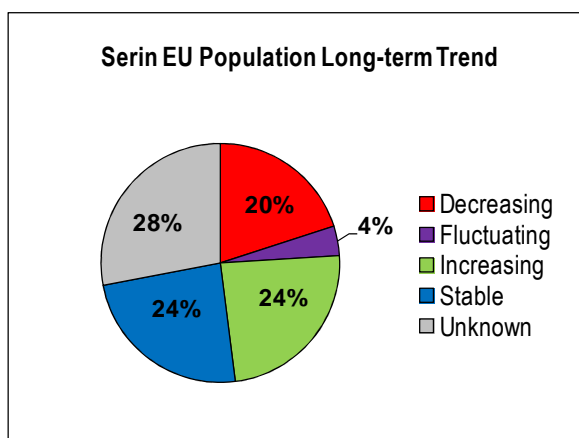


Fig. 19: Serin EU population long-term trend by Member State

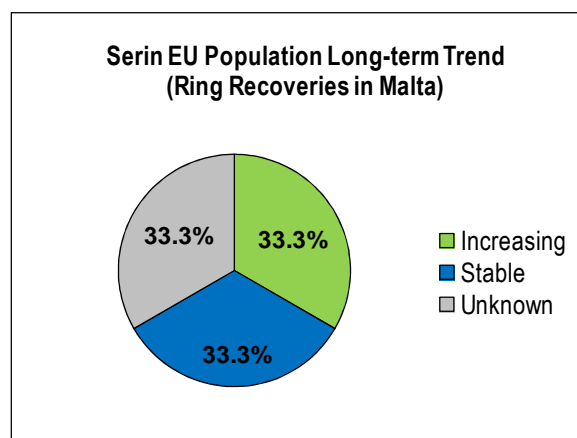


Fig. 20: Serin EU population long-term trend (ring recoveries in Malta)

Data sources: EEA (2014); Raine (2007)

## Serin conservation status update – comparison between different data sources

The following table provides a general overview of the latest conservation status (2015 update) from various sources for direct comparison.

Species	EU Population						Ring Recoveries					
	Short-term Trend			Long-term Trend			Short-term Trend			Long-term Trend		
	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean
Serin	↓	↓	↓	→	→	→	→	→	→	→	→	→

Species	Short-term Trend				Long-term Trend			
	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]
Serin	↓	?	↓	→	↓	↓	→	→

Data Sources: BirdLife International (2004); European Environment Agency (2014); Raine (2007)

## The reference population

**Table 43 Serin (*Serinus serinus*) breeding population estimates (reference population)**

Country [Ring recoveries in Malta]	Hawfinch minimum breeding population size (pairs) [Reference population]	Long-term Trend (1980–2012)
Czech Rep.*	450,000	Stable
Slovenia	65,000	Unknown
Croatia*	150,000	Increasing
<b>Reference Population Size (Minimum breeding pairs)</b>	665,000	<b>Stable (+3.74%)</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014); Raine (2007)

## *Carnet de Chasse* data (2002–2008)

According to the *Carnet de Chasse* data available from the Environment Protection Directorate of the Malta Environment and Planning Authority, the following Serins were captured alive in Malta during the years indicated (Table 44).

**Table 44 *Carnet de Chasse* live-capturing data<sup>23</sup> for Serin (2002–2008)**

Species	2002	2003	2004	2005	2006	2007	2008	Total	Average
Serin	4,918	4,525	1,599	1,814	2,509	3,800	3,139	22,304	3,186

Source: *Carnet de Chasse* data, Environment Protection Directorate (Malta Environment and Planning Authority). Available at: <http://www.mepa.org.mt/biodiversity-reporting>.

## Minimum breeding population

In the case of the European breeding population, Table 45 shows the minimum number of breeding pairs of Serins that correspond with ring recoveries in Malta (the reference population), together with other relevant information required for the calculation of “small numbers”.

**Table 45 Minimum breeding population and mortality rate**

	European Serin ( <i>Serinus serinus</i> )	Source
Minimum breeding population – pairs	665,000	BirdLife International (2014); EEA (2014); Raine (2007)
Mortality rate – juveniles	44%	Bauer (2005); <i>Das Kompendium der Vögel Mitteleuropas</i> (KVM) / Cramp & Perrins (1994); <i>Birds of the Western Palearctic</i> / Robinson (2005); British Trust for Ornithology

<sup>23</sup> The *Carnet de Chasse* data for the period 2002–2007 covers the months January–May and September–December, whereas the *Carnet de Chasse* data for 2008 covers the months of January and October–December.

Mortality rate – adults	40%	Bauer (2005) and Robinson (2005)
Breeding rate (young per pair)	3–4	Cramp & Perrins (1994: 518) and Robinson (2005)
Breeding success	4	Cramp & Perrins (1994: 518)

For the purpose of calculating the <1% mortality rate and “small numbers”, the reference population is based solely on ring recoveries of this species in Malta from EU Member States. This equates to a reference population of **665,000 minimum breeding pairs**.

### Calculation of <1% mortality and “small numbers”

#### **Serin** (*Serinus serinus*)

Minimum breeding success: 3 fledglings per pair (**665,000** x 3) = 1,995,000

Mortality rate of 1<sup>st</sup> year birds (1,995,000 x 44%) = 877,800

Mortality rate of adults (1,330,000 x 40%) = 532,000

Total annual mortality (877,800 + 532,000) = 1,409,800

1% of total annual mortality (1,409,800 x 1%) = 14,098

**Total potential Serin harvest figure is 14,098.**

**Partitioning with other Member States (Spain: 14,098 x 50%) = 7,049**

### Autumn seasonal bags in relation to “small numbers”

Based on the <1% mortality rate of the reference population, the “small numbers” calculation with respect to the potential national bag limit of the Serin is as follows:

- **Serin** – potential maximum bag limit of 7,049 birds (partitioned with Spain).

Notwithstanding that the partitioned maximum bag limit arising out of the above calculations is 7,049 Serins, given that the average bag limit over a seven-year period (2002–2008) is 3,186 birds, this analysis recommends that, should a derogation for the live-capturing of the seven finch species be considered in autumn 2015, the national bag limit should be substantially reduced further to not more than 2,350 as established in the July 2014 Framework for Allowing a Derogation Opening an Autumn Live-Capturing Season for Finches Regulations (S.L. 504.124)<sup>24</sup>. This calculation is based on the formula discussed previously, which returns a figure that is not only considerably lower than the <1% threshold but also lower than the average number of birds caught over a seven-year period (2002–2008). Thus:

- **Serin** – national bag limit of **2,350** birds

<sup>24</sup> <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=12211&l=1>

## 7. Conservation status of the Eurasian Siskin (*Carduelis spinus*)

Non-SPEC<sup>E</sup> (1994: 4) Status: Secure; Criteria: —. European IUCN Red List Category: —; Criteria: — (BirdLife International, 2004)

### Distribution and conservation status

The geographical distribution of this species in Europe (Fig. 21) is as follows:

**Breeding** Estonia (a few), Latvia, Lithuania, Czech Republic, United Kingdom, Germany, Netherlands, Spain, Portugal, France, Belgium, Austria, Ukraine, Luxembourg, Slovenia, Italy, Greece, Cyprus, Bulgaria, Croatia, Hungary, Romania, Turkey, Russia.

**Wintering** Italy, Cyprus, Greece, Germany, Luxembourg, Sicily, Corsica, and Sardinia, Spain, Portugal, France, Croatia.

**Sedentary and migratory** In the west of the range, those breeding in the northern regions move south and southwest to winter within and south of the breeding range to southern Spain, Balearic Islands, throughout France and the British Isles, Italy, the Balkans to Greece, Cyprus, Turkey, central Iran and southern Central Asia; also occurs irregularly or rarely in Iceland, Faroe Isles, Sicily (has bred), Malta, Lebanon, Israel, Jordan, Tunisia, Libya (Tripoli), northern Egypt, Iraq, southern Iran, United Arab Emirates, Bahrain and Kuwait. Individuals do not necessarily winter in the same area in successive years. (Clement *et al.* 1993: 221).

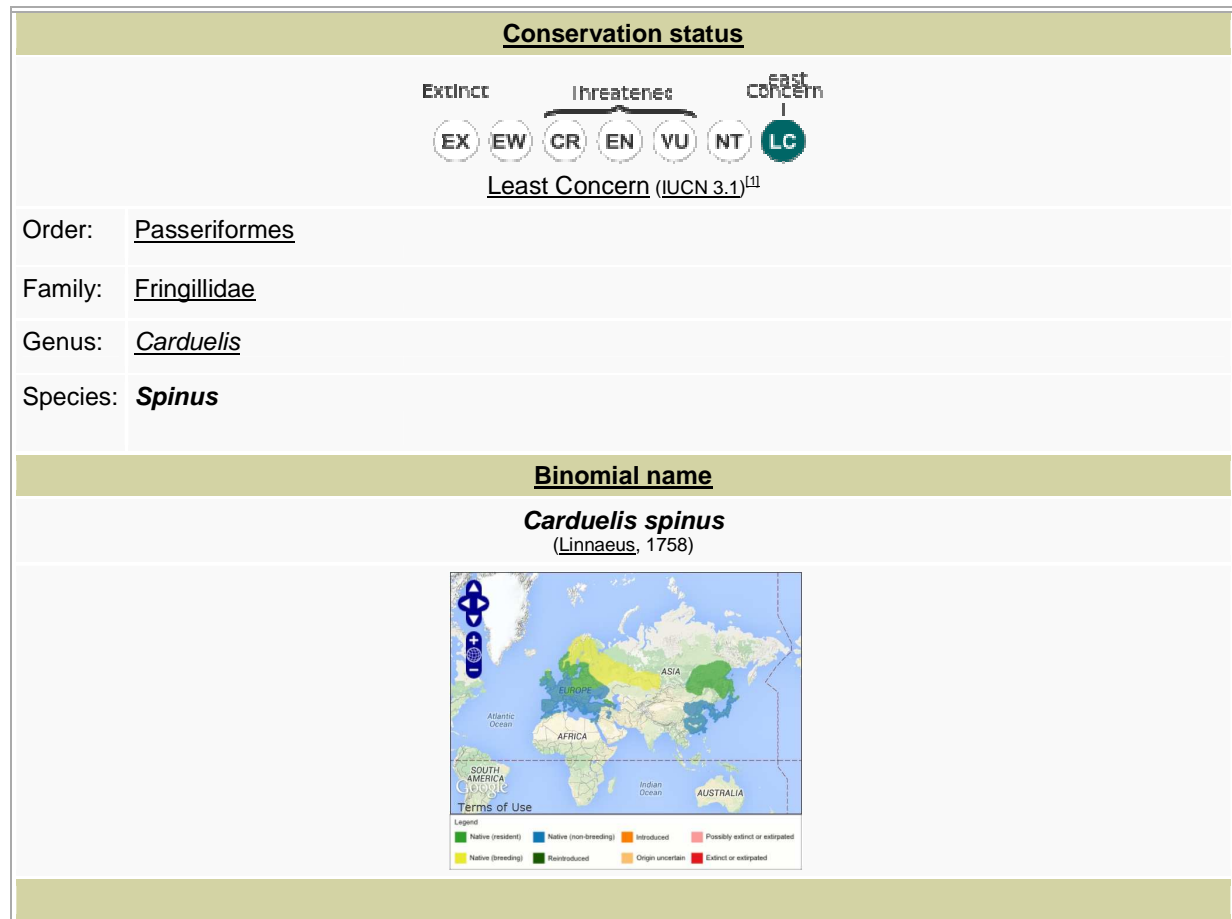


Fig. 21: Distribution and conservation status of the Siskin (*Carduelis spinus*)

Source: [http://en.wikipedia.org/wiki/Eurasian\\_Siskin](http://en.wikipedia.org/wiki/Eurasian_Siskin) [Accessed 20 March 2014].

In Europe, the breeding population is estimated to number 10–18 million breeding pairs, equating to 30–54 million individuals (BirdLife International 2004). Europe forms 75–94% of the global range of the Siskin [BirdLife International (2015) Species Factsheet]. Based on the EU Member States' Article 12 reports for the 2008–2012 reporting period, the EU breeding population amounts to 3,381,935–5,238,873 pairs. Within the territory of the European Union (EU 28), the minimum and geomean breeding pairs are increasing, whereas the maximum number of pairs is stable in the long-term trend (1980–2012), with a change in the minimum number of pairs of +30.35% and a change of +16.82% in the maximum number of pairs, equating to a geomean change of +21.78% (Table 46). **According to BirdLife International (2004), this equates to a long-term Moderate Increase classification for the minimum and geomean and Stable for the maximum number of breeding pairs (a change not more than 20% is considered to be Stable for the period 1980–2012).** Table 46 also lists population counts and long-term trend for each Member State within the territory of the European Union.

**Table 46 Siskin EU breeding population (long-term trend) and ring recoveries (bold = ring recoveries in Malta)**

EU Member State	EU Ring Recoveries in Malta (n=9)	Breeding Pairs (2014) (Min - Max)		Long-term Trend	Mag. % (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
Austria		25,000	50,000	Unknown	?	?	-	-	-
<b>Belgium</b>		<b>100</b>	<b>550</b>	<b>Decreasing</b>	<b>28</b>	<b>87</b>	<b>-669</b>	<b>-3,681</b>	<b>-2,175</b>
Bulgaria		2,000	4,000	Fluctuating	-	-	-	-	-
<b>Croatia*</b>		<b>5,000</b>	<b>10,000</b>	<b>Decreasing</b>	<b>30</b>	<b>49</b>	<b>-4,804</b>	<b>-9,608</b>	<b>-7,206</b>
<b>Czech Rep.*</b>	<b>18%</b>	<b>90,000</b>	<b>180,000</b>	<b>Stable</b>	<b>0</b>	<b>19</b>	-	-	-
Denmark		200	200	Fluctuating	-	-	-	-	-
Estonia		100,000	150,000	Stable	0	0	-	-	-
<b>Finland</b>		<b>1,700,000</b>	<b>2,300,000</b>	<b>Increasing</b>	<b>10</b>	<b>33</b>	<b>421,805</b>	<b>570,677</b>	<b>496,241</b>
France		500	1,500	Unknown	?	?	-	-	-
Germany		21,000	51,000	Stable	0	0	-	-	-
Greece*		500	2,000	Fluctuating	-	-	-	-	-
Hungary		200	300	Unknown	?	?	-	-	-
<b>Ireland</b>		<b>99,999</b>	<b>99,999</b>	<b>Increasing</b>	<b>733</b>	<b>733</b>	<b>87,994</b>	<b>87,994</b>	<b>87,994</b>
<b>Italy</b>	<b>18%</b>	<b>500</b>	<b>1,500</b>	<b>Fluctuating</b>	-	-	-	-	-
<b>Latvia</b>	<b>10%</b>	<b>343,425</b>	<b>621,964</b>	<b>Increasing</b>	<b>142</b>	<b>1371</b>	<b>320,079</b>	<b>579,682</b>	<b>449,880</b>
Lithuania		40,000	100,000	Stable	0	0	-	-	-
Luxembourg		0	2	Fluctuating	-	-	-	-	-
<b>Netherlands</b>	<b>18%</b>	<b>247</b>	<b>594</b>	<b>Stable</b>	<b>0</b>	<b>0</b>	-	-	-
Poland		18,000	62,000	Unknown	?	?	-	-	-
Romania		1,000	10,000	Unknown	?	?	-	-	-
<b>Slovakia</b>		<b>15,000</b>	<b>30,000</b>	<b>Decreasing</b>	<b>20</b>	<b>30</b>	<b>-6,429</b>	<b>-12,857</b>	<b>-9,643</b>
<b>Slovenia</b>	<b>18%</b>	<b>6,000</b>	<b>9,000</b>	<b>Stable</b>	<b>0</b>	<b>0</b>	-	-	-
Spain		264	264	Unknown	?	?	-	-	-
<b>Sweden</b>		<b>493,000</b>	<b>1,134,000</b>	<b>Decreasing</b>	<b>20</b>	<b>40</b>	<b>-328,667</b>	<b>-756,000</b>	<b>-542,333</b>
<b>UK</b>	<b>18%</b>	<b>420,000</b>	<b>420,000</b>	<b>Increasing</b>	<b>245</b>	<b>245</b>	<b>298,204</b>	<b>298,204</b>	<b>298,204</b>
Total	100%	3,381,935	5,238,873						
					<b>Total change</b>		<b>787,513</b>	<b>754,412</b>	<b>770,963</b>
					<b>Percentage change</b>		<b>30.35%</b>	<b>16.82%</b>	<b>21.78%</b>
					<b>Long-term Trend (EU Population)</b>		<b>Increasing</b>	<b>Stable</b>	<b>Increasing</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using The Percentages Calculator, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

With reference to the short-term trend of the Siskin within the territory of the European Union (EU 28), there is change in the minimum number of breeding pairs of -41.57% and a change of -29.49% in the maximum number of pairs, equating to a geomean change of -33.17% (Table 47). **According to BirdLife International (2004), this equates to a short-term Decline classification for the minimum and maximum number of breeding pairs and their geomean (a change not more than 10% is considered to be Stable for the short-term trend).** Table 47 also lists population counts and short-term trend for each Member State within the territory of the European Union.

**Table 47 Siskin EU breeding population (short-term trend) and ring recoveries (bold = ring recoveries in Malta)**

EU Member State	EU Ring Recoveries in Malta (n=9)	Breeding Pairs (EEA, 2014) (Min - Max)		Short-term Trend	Mag. % (Min - Max)		Breeding Pairs (2004) (Min - Max)		Max % Change (Min Pairs)	Max % Change (Max Pairs)	Max % Change (Average Pairs)
Austria		25,000	50,000	Fluctuating	-	-	30,000	140,000	-	-	-
Belgium		100	550	Decreasing	4	82	104	3,056	-456	-2,506	-1,481
Bulgaria		2,000	4,000	Fluctuating	-	-	2,000	4,000	-	-	-
Croatia*		5,000	10,000	Decreasing	30	49	7,143	19,608	-4,804	-9,608	-7,206
Czech Rep.*	18%	90,000	180,000	Stable	0	19	90,000	180,000	-	-	-
Denmark		200	200	Fluctuating	-	-	200	2,000	-	-	-
Estonia		100,000	150,000	Decreasing	20	50	125,000	300,000	-100,000	-150,000	-125,000
Finland		1,700,000	2,300,000	Decreasing	8	24	1,847,826	3,026,316	-536,842	-726,316	-631,579
France		500	1,500	Unknown	?	?	500	2,500	-	-	-
Germany		21,000	51,000	Stable	0	0	25,000	100,000	-	-	-
Greece*		500	2,000	Fluctuating	-	-	500	2,000	-	-	-
Hungary		200	300	Unknown	?	?	200	300	-	-	-
Ireland		99,999	99,999	Increasing	67	67	59,880	59,880	40,119	40,119	40,119
Italy	18%	500	1,500	Fluctuating	-	-	4,000	15,000	-	-	-
Latvia	10%	343,425	621,964	Decreasing	4	53	357,734	1,323,328	-387,266	-701,364	-544,315
Lithuania		40,000	100,000	Stable	0	0	100,000	300,000	-	-	-
Luxembourg		0	2	Fluctuating	-	-	1	10	-	-	-
Netherlands	18%	247	594	Increasing	1	175	245	216	157	378	268
Poland		18,000	62,000	Increasing	50	120	12,000	28,182	9,818	33,818	21,818
Romania		1,000	10,000	Unknown	?	?	24,000	65,000	-	-	-
Slovakia		15,000	30,000	Decreasing	20	30	18,750	42,857	-6,429	-12,857	-9,643
Slovenia	18%	6,000	9,000	Stable	0	0	2,000	3,000	-	-	-
Spain		264	264	Stable	0	0	500	1,100	-	-	-

Sweden		493,000	1,134,000	Stable	0	0	500,000	1,000,000	-	-	-
<b>UK</b>	<b>18%</b>	<b>420,000</b>	<b>420,000</b>	<b>Increasing</b>	<b>36</b>	<b>36</b>	<b>308,824</b>	<b>308,824</b>	<b>111,176</b>	<b>111,176</b>	<b>111,176</b>
Total	100%	3,381,935	5,238,873				2,103,561	4,806,210			
							<b>Total change</b>		<b>-874,525</b>	<b>-1,417,158</b>	<b>-1,145,842</b>
							<b>Percentage change</b>		<b>-41.57%</b>	<b>-29.49%</b>	<b>-33.17%</b>
							<b>Short-term Trend (EU Population)</b>		<b>Decreasing</b>	<b>Decreasing</b>	<b>Decreasing</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014)

Percentages verified using The Percentages Calculator, available at: <http://www.cleavebooks.co.uk/scol/calpcent.htm>

According to the European Bird Census Council (EBCC, 2014 update)<sup>25</sup>, the long-term trend of the Siskin population within the EU territory is classified as **Stable** (1980–2012). It should be noted that EBCC data pertaining to the short-term trends is only available at pan-European level. At pan-European level, the Siskin increased by 32% since 1980 and by 32% during the current 10-year period. Between the previous EBCC update and the current (EBCC 2014) update the percentage change was +21% in the long-term trend and +35% in the short-term trend (Table 48).

EBCC update	Species	Long-term Trend (%)	Long-term Slope	% change	10-Year Trend (%)	10-Year Slope	% change	Habitat
2012	<i>Carduelis spinus</i>	+6%	0.9903	-0.97%	-6%	0.9823	-1.77%	for
2013	<i>Carduelis spinus</i>	+11%	0.9904	-0.96%	-3%	0.9831	-1.69%	for
2014	<i>Carduelis spinus</i>	+32%	0.992	-0.80%	+32%	1.0201	+2.01%	for
Overall % change (2013–2014)		+21%		+0.16%	+35%		+3.70%	

Data sources: EBCC (2012, 2013 & 2014 updates). Available at: <http://www.ebcc.info/index.php?ID=557>

<sup>25</sup> <http://www.ebcc.info/index.php?ID=558>

## Ring recoveries in Malta

Table 49 provides data on the ring recoveries of this species in Malta, the respective number of breeding pairs, together with the overall direction of the population trend. The reference population (ring recoveries in Malta) is **Increasing** (Min. Pairs: +255.61%; Max. Pairs: +247.17%). Fig. 22 illustrates the EU population trend categories of this species per Member State whereas Fig. 23 illustrates the respective EU population trend categories on the basis of ring recoveries in Malta.

**Table 49 Siskin ring recoveries in Malta from other EU Member States and corresponding conservation status**

Country	EU Ring Recoveries in Malta (n=9)	Breeding Pairs (Min - Max)		Trend	Mag. % (Max - Min)		Max % Change (Min Pairs)	Max % Change (Max Pairs)
Czech Rep.*	18%	90,000	180,000	Stable	0	19	-	-
Italy	18%	500	1,500	Fluctuating	-	-	-	-
Netherlands	18%	247	594	Stable	0	0	-	-
Slovenia	18%	6,000	9,000	Stable	0	0	-	-
UK	18%	420,000	420,000	Increasing	245	245	298,204	298,204
Latvia	10%	343,425	621,964	Increasing	142	1371	320,079	579,682
Total	100%	860,172	1,233,058		Total change		618,283	877,886
					Percentage change		+255.61%	+247.17%
					Trend (Ring Recoveries)		Increasing	Increasing

Data Sources: \*BirdLife International (2004); European Environment Agency (2014); Raine (2007)

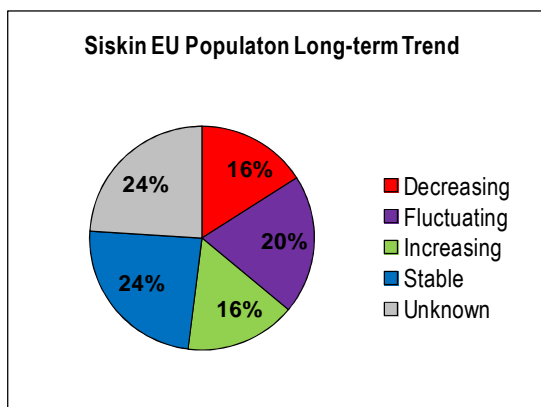


Fig. 22: Siskin EU population long-term trend by Member State

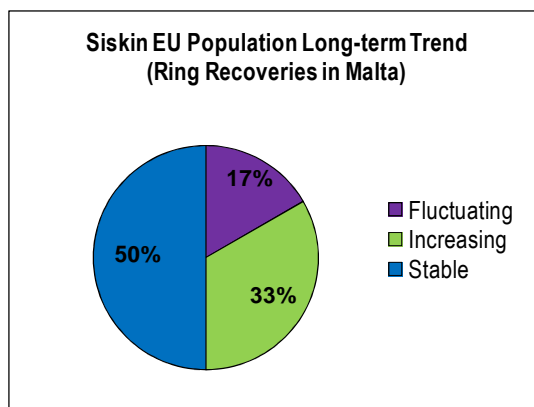


Fig. 23: Siskin EU population long-term trend (ring recoveries in Malta)

Data sources: EEA (2004); Raine (2007)

## Siskin conservation status update – comparison between different data sources

The following table provides a general overview of the latest conservation status (2015 update) from various sources for direct comparison.

Species	EU Population						Ring Recoveries					
	Short-term Trend			Long-term Trend			Short-term Trend			Long-term Trend		
	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean
Siskin	↓	↓	↓	↑	→	↑	↓	↓	↓	↑	↑	↑

Species	Short-term Trend				Long-term Trend			
	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]
Siskin	↑	?	↓	↓	↓	→	↑	↑

Data Sources: BirdLife International (2004); European Environment Agency (2014); Raine (2007)

## The reference population

**Table 50 Siskin (*Carduelis spinus*) breeding population estimates (reference population)**

Country [Ring recoveries in Malta]	Hawfinch minimum breeding population size (pairs) [Reference population]	Long-term Trend (1980–2012)
Czech Rep.*	90,000	Stable
Italy	500	Fluctuating
Netherlands	247	Stable
Slovenia	6,000	Stable
UK	420,000	Increasing
Latvia	343,425	Increasing
<b>Reference Population Size (Minimum breeding pairs)</b>	<b>860,172</b>	<b>Increasing (+255.61%)</b>

Data Sources: \*BirdLife International (2004); European Environment Agency (2014); Raine (2007)

## Carnet de Chasse data (2002–2008)

According to the *Carnet de Chasse* data available from the Environment Protection Directorate of the Malta Environment and Planning Authority, the following Siskins were captured alive in Malta during the years indicated (Table 51).

**Table 51 *Carnet de Chasse* live-capturing data<sup>26</sup> for Siskin (2002–2008)**

Species	2002	2003	2004	2005	2006	2007	2008	Total	Average
Siskin	670	380	296	7,877	1,449	10,120	1,503	22,295	3,185

Source: *Carnet de Chasse* data, Environment Protection Directorate (Malta Environment and Planning Authority). Available at: <http://www.mepa.org.mt/biodiversity-reporting>.

## Minimum breeding population

In the case of the European breeding population, Table 52 shows the minimum number of breeding pairs of Siskins that correspond with ring recoveries in Malta (the reference population), together with other relevant information required for the calculation of “small numbers”.

**Table 52 Minimum breeding population and mortality rate**

	Siskin ( <i>Carduelis spinus</i> )	Source
Minimum breeding population – pairs	860,172	BirdLife International (2014); EEA (2014); Raine (2007)
Mortality rate – juveniles	55%	Bauer (2005); <i>Das Kompendium der Vögel Mitteleuropas</i> (KVM) / Cramp & Perrins (1994); Birds of the

<sup>26</sup> The *Carnet de Chasse* data for the period 2002–2007 covers the months January–May and September–December, whereas the *Carnet de Chasse* data for 2008 covers the months of January and October–December.

		Western Palearctic / Robinson (2005): British Trust for Ornithology
Mortality rate – adults	54%	Bauer (2005) and Robinson (2005)
Breeding rate (young per pair)	3–5	Cramp & Perrins (1994) and Robinson (2005)
Breeding success	3	Cramp & Perrins (1994)

For the purpose of calculating the <1% mortality rate and “small numbers”, the reference population is based solely on ring recoveries of this species in Malta from EU Member States. This equates to a reference population of **860,172 minimum breeding pairs**.

### Calculation of <1% mortality rate and “small numbers”

#### Siskin (*Carduelis spinus*)

Minimum breeding success: 3 fledglings per pair (860,172 x 3) = 2,580,516

Mortality rate of 1<sup>st</sup> year birds (2,580,516 x 55%) = 1,419,284

Mortality rate of adults (1,720,344 x 54%) = 928,986

Total annual mortality (1,419,284 + 928,986) = 2,348,270

1% of total annual mortality (2,348,270 x 1%) = 23,483

**Total potential Siskin harvest figure is 23,483.**

**Partitioning with other Member States (Austria and Spain: 23,483 x 33%) = 7,749**

#### (a) Autumn seasonal bags in relation to “small numbers”

Based on the <1% mortality rate of the reference population, the “small numbers” calculation with respect to the potential national bag limit of the Siskin is as follows:

- **Siskin** – potential maximum bag limit of 7,749 birds (partitioned with Austria and Spain).

Notwithstanding that the partitioned maximum bag limit arising out of the above calculations is 7,749 Siskins, given that the average bag limit over a seven-year period (2002–2008) is 3,185 birds, this analysis recommends that, should a derogation for the live-capturing of the seven finch species be considered in autumn 2015, the national bag limit should be substantially reduced further to not more than 2,350 as established in the July 2014 Framework for Allowing a Derogation Opening an Autumn Live-Capturing Season for Finches Regulations (S.L. 504.124)<sup>27</sup>. This calculation is based on the formula discussed previously, which returns a figure that is not only considerably lower than the <1% threshold but also lower than the average number of birds caught over a seven-year period (2002–2008). Thus:

- **Siskin** – national bag limit of **2,350** birds

<sup>27</sup> <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=12211&l=1>

## Conclusions regarding conservation status and “small numbers”

The previous sections provided an update on the conservation status of the seven finch species together with calculations of the <1% annual mortality of the reference populations. This section provides a general summary of the main conclusions. This update focused on the changes in the short-term and long-term trends of the seven finch species on the basis of Article 12 reports (EEA, 2014) for the period 2008–2012 and the latest EBCC (2014) update. It has been shown that in the Article 12 reports, although a number of Member States have reported a decrease in some of the finch populations, such magnitude change is not actually reflected in the number of breeding pairs that was reported ten years earlier in Birds in Europe II (BirdLife International, 2004). On the contrary, despite a reported decline, the number of breeding pairs as reported in Article 12 reports is actually higher than those reported ten years earlier. This was also the case in terms of reported increases, since the corresponding number of pairs in Birds in Europe II was either exactly the same or indeed higher than those in Article 12 reports. The **values for the number of breeding pairs in 2004 was thus revised** using an online percentages calculator to provide a more realistic number of breeding pairs **based on the percentage changes as reported by each Member State in the current Article 12 reports.**

The final analysis showed that in the **short-term trend**, the **EU population** of Chaffinch, Linnet and Hawfinch is **stable** at all levels of the population (minimum and maximum pairs and their geomean), whereas the minimum number of Greenfinch pairs is **increasing**, and is **stable** at the maximum and geomean levels. On the other hand, the short-term trend for Goldfinch, Serin and Siskin showed a **decline**. In terms of **long-term trend**, **all seven finch species have been shown to be Stable at all three levels of their population (min/max/geomean)**, the Siskin being the only exception since it **increased** in the number of minimum pairs and geomean.

The same methodology discussed above (review of the 2004 baseline population) was used to determine the **short-term trends** at **ring recoveries level**. It was shown that whilst the Goldfinch **increased**, the Linnet, Hawfinch and Serin were **stable** but the Chaffinch, Greenfinch and Siskin **decreased**. The **long-term trends** at ring recovery level were consistent with those at EU level. The Chaffinch, Linnet, Greenfinch, Hawfinch and Serin were **stable** at all three levels of the population (min/max/geomean) but the Siskin **increased** at all three levels and the Goldfinch **increased** in the minimum number of breeding pairs and the geomean. The table below illustrates an overall update on the conservation status using a three-arrow set to differentiate between decreasing, stable and increasing trends. The upper table compares the trends at EU level with those at ring recoveries level whereas the lower part of the table compares the trends reported by EBCC (2014) at pan-European as well as at EU level with those reported by Member States in their Article 12 reports.

Species	EU Population						Ring Recoveries					
	Short-term Trend			Long-term Trend			Short-term Trend			Long-term Trend		
	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean	Min Pairs	Max Pairs	Geomean
Chaffinch	→	→	→	→	→	→	↓	↓	↓	→	→	→
Linnet	→	→	→	→	→	→	→	→	→	→	→	→
Goldfinch	↓	↓	↓	→	→	→	↑	↑	↑	→	→	↑
Greenfinch	↑	→	→	→	→	→	↓	↓	↓	→	→	→
Hawfinch	→	→	→	→	→	→	→	→	→	→	→	→
Serin	↓	↓	↓	→	→	→	→	→	→	→	→	→
Siskin	↓	↓	↓	↑	→	↑	↓	↓	↓	↑	↑	↑

Finches population trends								
Species	Short-term Trend				Long-term Trend			
	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]	EBCC 2014 (pan-European)	EBCC 2014 (EU)	Article 12 (2008–2012) [EU Geomean]	Article 12 (2008–2012) [Ring Recoveries Geomean]
Chaffinch	↑	?	→	↓	↑	↑	→	→
Linnet	→	?	→	→	↓	↓	→	→
Goldfinch	↑	?	↓	↑	↑	↑	→	↑
Greenfinch	→	?	→	↓	→	→	→	→
Hawfinch	↑	?	→	→	↑	↑	→	→
Serin	↓	?	↓	→	↓	↓	→	→
Siskin	↑	?	↓	↓	↓	→	↑	↑

For each of the seven finch species considered in this analysis, the “small numbers” calculation falls considerably below the 1% threshold for non-huntable species as specified in paragraph 3.5.34 of the Guidance Document on Sustainable Hunting. The <1% figure is based on a much smaller subset of the total breeding population of the respective species within the territory of the European Union, since only those European countries (Member States) from which there are ring recoveries in Malta form part of the reference population, with the exception of the Hawfinch. In the absence of ring recoveries pertaining to the latter species, the reference population of the Hawfinch is based on ring recoveries in Italy from other Member States.

The national bag limits as established are considerably **much lower than <1% of the total annual mortality** of the EU reference population of each finch species as they also take into account the average bag limits over a seven-year period (2002–2008), which in turn are all considerably below the <1% threshold (see Table 53 below). The bag limits have been partitioned restrictively with those Member States that in 2008 had applied derogations for live-finch capturing or hunting of these finch species (EC, 2011), namely Austria (Linnet, Goldfinch, Siskin, Chaffinch and Hawfinch), Spain (Linnet, Goldfinch, Siskin, Chaffinch, Serin and Greenfinch) and Italy (Chaffinch). Table 53 also provides a direct comparison between the <1% mortality (calculated on the basis of the minimum EU breeding population size and lowest recruitment rate), the harvest record (average of *Carnet de Chasse* data over a seven-year period: 2002–2008) and the national bag limit for each of the seven species, which, in the event of an application of a derogation for finch live-capturing in autumn 2015 are proposed to be retained as established in the Framework Regulations (SL 504.124)<sup>28</sup>. The national bag limit as a percentage of the bag limit partitioned with other EU Member States is also provided in the table.

**Table 53** Consideration of the <1% mortality of the reference population and harvest records

Species	*Total Annual Mortality of Reference Population (Ring Recoveries)	Maximum Bag Limit from Reference Population (<1%)	Partitioned Maximum Bag Limit (<1%)	Average Annual Harvest (2002–2008)	National Bag Limit (SL 504.124)	National Bag Limit as a percentage of the Partitioned Bag Limit (<1%)
Chaffinch	20,257,860	202,579	50,645	6,075	5,000	9.87%
Linnet	5,868,018	58,680	19,364	17,950	12,000	61.97%
Goldfinch	4,663,440	46,634	15,389	1,025	800	5.20%
Greenfinch	9,303,840	93,038	46,519	5,598	4,500	9.67%
Hawfinch	3,832,753	38,328	6,388	604	500	7.83%
Serin	1,409,800	14,098	7,049	3,186	2,350	33.33%
Siskin	2,348,270	23,483	7,749	3,185	2,350	30.33%
<b>Total</b>			<b>153,103</b>		<b>27,500</b>	<b>17.96%</b>

\* Data sources: Cramp and Perrins (1994); Bauer (2005); Robinson (2005), based on the minimum EU population (breeding pairs) as reported in Article 12 reports for the period 2008–2012 (EEA, 2014).

<sup>28</sup> <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=12211&l=1>

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