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European White-fronted Goose
Anser albifrons albifrons

Legislation

European White-fronted Goose *Anser albifrons albifrons* is listed on Schedule 2 Part 1 of the Wildlife and Countryside Act, as amended, 1981 ("the Act") and is legal quarry outside the close season which runs from 1st February to 31st August (21st February to 31st August below high-water mark).

European White-fronted Goose is a candidate S7 species of the Environment (Wales) Act 2016.

Conservation status

IUCN Red List			Birds of Conservation Concern (BoCC)				
Global	Europe	GB	BoCC UK	BoCC Wales			
LC	**LC**	**EN (n-br)**	2022	2002	2010	2016	2023

BoCC 5 UK status*:* **RED** because of a severe (>50%) non-breeding population decline*.* (Stanbury *et al.,* 2021*).*

BoCC 4 Wales status*:* **RED** due to its status as Red-listed at UK level, a severe (>50%) decline in wintering range, and because >50% of the species non-breeding population occurs at one site*.* (Johnstone *et al*., 2022).

IUCN GB status*:* **ENDANGERED** – considered to have an **Endangered** non-breeding status due to a reduction in population size (50-80%) (Stanbury *et al*., 2021).

Population status (abundance and distribution)	GB: Considered a non-breeding species, with occasional breeding of 0-1pairs (2013-2017) (Woodward *et al*., 2020). The Rare Breeding Birds Panel (RBBP) do not reference any breeding attempts in 2020 (Eaton and the Rare Breeding Birds Panel, 2022). GB: 2,100 overwintering individuals (2012/13-2016/7) (Frost *et al.,* 2019). The top five sites in GB for wintering European White fronted Goose, based on five year means (2019/20 – 2023/24) from BTO WeBS online portal (2026) are: Swale Estuary - **850** Middle Yare Marshes - **279** North Norfolk Coast - **247** Severn Estuary - **187** Heigham Holmes - 1**67**

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	The top sites in Wales for wintering European White-fronted Goose, based on five year means (2019/20 – 2023/24) from BTO WeBS online portal (2026) are: Severn Estuary - **187** (most if not all birds winter in the English area of the Severn Estuary) Tywi Floodplain - **4**
Population trends	Overwintering in the UK: From WeBS 2022/2023 (Calbrade *et al.,* 2025): **Declining** - a UK 25-year trend (1997/98 to 2022/23) suggests a change of -71%. No trend value is presented for Wales (Calbrade *et al.,* 2025). **Declining** - UK 10-year trend (2012/13 to 2022/23) suggests a change of -30%. No trend value is presented for Wales (Calbrade *et al.,* 2025). Five-year means between 1999/00 to 2023/24 for the top five Welsh European White-fronted Goose are shown in Table 1 (BTO WeBS online portal, 2026) The European White-fronted Goose non-breeding population has been declining at the GB level from the late 1980s (Figure 1a). At a Wales level, the non-breeding population has declined significantly since the 1980s (Figure 1b). *Breeding in GB:* The species is predominately a non-breeding species in GB (Eaton and Rare Breeding Birds Panel, 2020) and does not breed in Wales. (Pritchard *et al.,* 2021).

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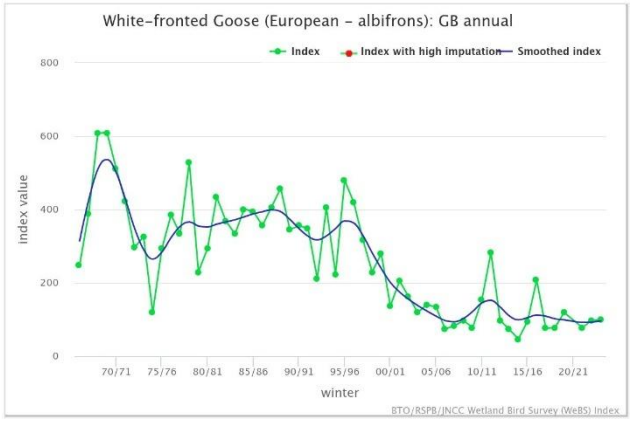
a)



b)

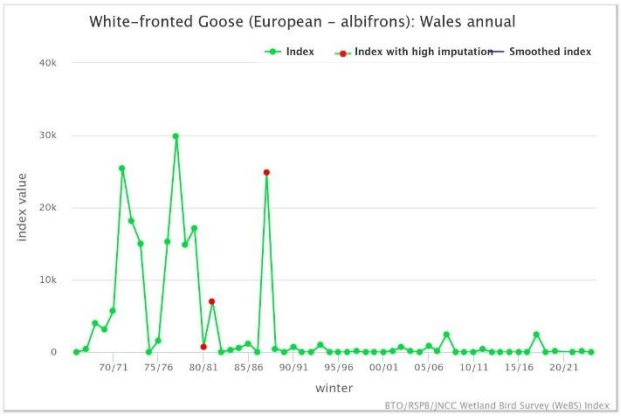


Fig.1a-b. Wetland Bird Survey trend for European White-fronted Goose in a) GB and b) Wales. Green dots = annual index; red dots = sparse data; blue line = smoothed trend. BTO WeBS online portal, 2026.

Table 1. Five-year means between 1999/00 to 2023/24 for the top five Welsh sites for wintering European White-fronted Goose (BTO WeBS online Portal, 2026).

Site	99/00-03/04	04/05-08/09	09/10-13/14	14/15-18/19	19/20-23/24
Severn Estuary (England and Wales)	1,189	614	408	149	187
Tywi Floodplain	No data	2	0	2	4
Dee Estuary (England and Wales)	5	2	32	1	1
Kenfig Pool	0	0	0	0	0
Llyn Pencarreg	0	0	0	No data	0

Ecology

Habitat and diet

The European White-fronted Goose is a winter visitor to Wales, being found on both passage and in winter using various types of coastal, estuarine and semi-natural grasslands (Balmer *et al*., 2013, Pritchard *et al*., 2021,).

Migratory behaviour and movements

Two sub-species of White-fronted Goose winter in the UK, the European White-fronted Goose ("European white-fronts") and the Greenland White-fronted Goose *Anser albifrons flavirostris* ("Greenland white-fronts"). Britain and Ireland is important for these circumpolar geese, lying the end of two flyways. Greenland White-fronted Goose is a globally threatened sub-species, has been the subject of concerted international conservation action for several decades and was removed from Schedule 2 in Wales and England in 2020. European whitefronts leave their arctic Russian breeding areas in September and early October, with progressive movement to wintering sites between November and December (Wernham, 2002). The European White-front is a winter visitor to Wales and the UK, and on the basis of ring recoveries, geese ringed in England appear to arrive via central Russia and central Europe rather than following a northerly route along the Baltic coast (Wernham *et al*., 2002, see Figure 3 also available *here*). Return migration from Britain begins in early March with

most geese having left by the end of March (Owen *et al*., 1986, BTO WeBS online count data, 2023).

European White-fronts are undergoing a global population increase, however more individuals remain in continental Europe meaning fewer individuals' over-winter in Wales and the UK (Pritchard *et al.*, 2021). Very few sites in Wales have regularly held European White-fronted Goose since the mid-1990s (Pritchard *et al*., 2021).

With less than 50 birds annually spread throughout Wales (Pritchard *et al.,* 2021), there are too few European White-fronts wintering in Wales to explore within year changes in numbers. GB level trends from the Wetland Bird Surveys (WeBS), suggest that by January most European White-fronts have arrived in GB, with a peak in numbers between January-February (Figure 3.).

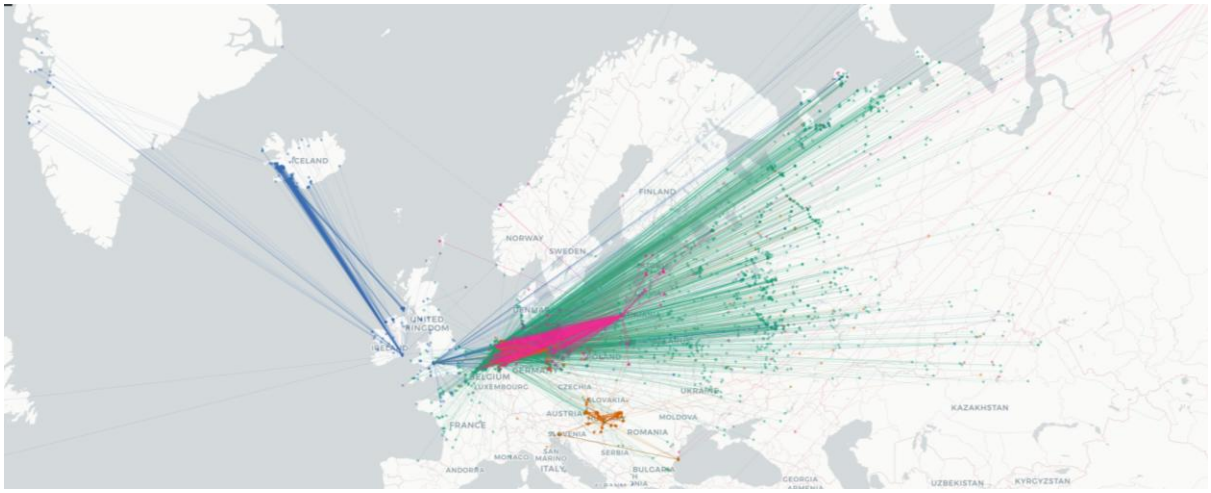


Fig 2. Movements of European White-fronted Geese in northern Europe based on ringing recoveries. (Spina e*t al.*, 2022).

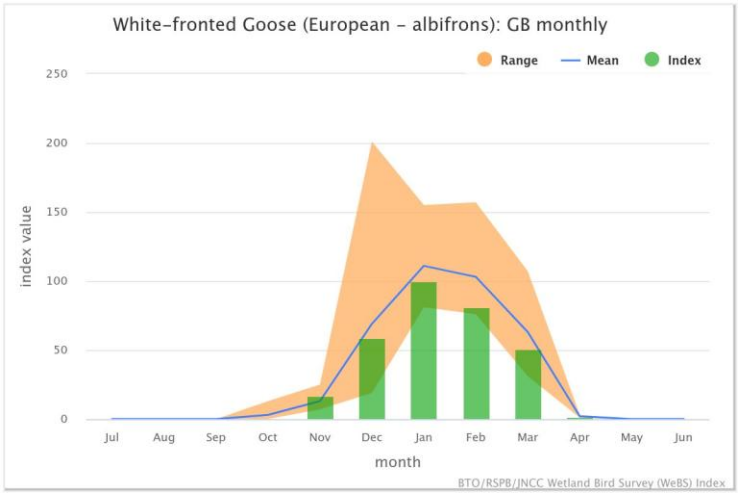


Fig 3. Monthly indices for European White-fronted Geese in Great Britain (BTO WeBS online portal, 2026).

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Site designation for breeding and/or wintering European White-fronted Goose

Wintering European White-fronted Goose are a feature of the Severn Estuary SPA

Drivers of population change

Based on long-term datasets gathered via international goose monitoring schemes across many European countries it is widely considered that this species' wintering population is undergoing a partial wintering range shift towards their breeding grounds, in a north-easterly direction (Mooij *et al*., 1999; Nilsson, 2013). This is resulting in an increasing proportion of the population wintering in areas outside England and is reflected in national and site level trends.

Demography

Similar to other goose and swan species, annual breeding performance is quantified by measuring the proportion of first winter birds present in wintering flocks. This is carried out in several European countries, including the UK, usually in January to synchronise with the International Waterbird Census (IWC) counts. Between the early 1960s and mid-1990s, the proportion of first winter birds fell from 34% to 27%, suggesting declining breeding productivity during this period. Differences in breeding performance have been linked to lemming cycles, with the poorest breeding years occurring the first season after a year when there was a high abundance of lemmings (Mooij *et al*., 1999). Since the mid-1990s, breeding productivity measures have varied between years but with an overall decline. It is not clear why there has been a long-term increase in the non-breeding population at the same time breeding productivity is declining. One possible reason may be related to density dependent factors operating on the breeding grounds, for example as the number of breeding pairs increases, average breeding productivity per pair declines due to competition.

Impact of climate change

Climate change induced spatial-temporal changes, or short-stopping, observed in wintering populations of migratory waterbirds are relevant to European White-fronts. Short-stopping in waterbirds can be defined by: i) a shortened autumn migration that results in a wintering distribution closer to breeding areas, ii) a shortened spring migration that results in a breeding distribution closer to wintering areas, and iii) a delay in autumn migration that leads to a perceived reduced abundance in some parts of the species' winter range. Short-stopping or 'range shift' may be playing a role in the UK and has been suggested for the reason for declines in the non-breeding populations of European White-front in Wales, driven by improved feeding conditions, milder winters and reduced hunting pressure in the Netherlands and Germany (Pritchard *et al*., 2021). Wales is at the western end of the flyway and is no surprise that it was one of the first countries to observe declines in wintering birds.

Evidence gaps:

- The relative strengths of the influences between broad-scale factors (climate change related) and local on-site influences (habitat quality, disturbance) on European White-fronted Goose site population declines.

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Impact of hunting on European White-fronted Goose populations

The National Gamebag Census (NGC) collated by the Game and Wildlife Conservation Trust has been collecting voluntary bag returns from shoots across the UK since 1961. Methods similar to the ones used for bird census data are applied to NGC data to derive annual bag indices for the UK, assess temporal trends and evaluate changes in bags over 50, 25 and 12 years (Aebischer, 2019). Total UK bags and numbers released in the 2004 and 2012 seasons are obtained by splitting up aggregate bags from two independent surveys (PACEC, 2006, PACE, 2014) in relation to their NGC species composition.

Due to recent breeding population declines in continental Europe as well as poor UK breeding and harvest data, Ellis and Cameron (2022) used a demographic invariant method (DIM) to estimate potential excess growth (PEG) for populations of UK wintering waterbirds and calculated a sustainable harvest index (SHI) for each species. Comparing this with population trends they assessed the sustainability of harvests. These authors collated mean and confidence intervals for harvest estimates, population size estimates and demographic data, and also population trends on huntable ducks, geese and waders in the UK. Using the mean and confidence intervals of SHI estimates, they estimated how probable it is that a current harvest is unsustainable. Due to the small size of the hunting bag, Ellis and Cameron (2022) were not able to include European white-fronts in their initial assessment of the sustainability of the UK waterbird harvest.

Although the exact size of the hunting bag is unknown, Hearn (2004) suggested it unlikely that direct mortality from hunting in the UK has a major influence on UK wintering numbers. Annual mortality is relatively low (estimated at c. 25-30%) but hunting accounts for around 80-95% of that annual mortality (Hearn, 2004).

Aebischer (2019) suggested the annual bag of European White-fronted Goose in the UK is <100 birds. As shown by Aebischer (2019), the accuracy of current UK European White-fronted Goose harvest estimates are unclear (Table 2). It is, therefore, very difficult to assess the potential impact of shooting, but if the GB bag is around 100 birds per annum, this would represent 4.7% of the latest GB non-breeding population estimate of 2,100 individuals (Frost *et al*., 2019). On the basis of scientific uncertainty it is important to develop an accurate harvest recording system for the UK, which will assist with management decisions at the flyway scale.

Table 2. Estimated number of European White-fronted Goose that are shot in the UK with 95% confidence limits in brackets (redrawn from Aebischer, 2019).

Year	Number of birds shot (95% CI)
2004	<100 (0-100)
2012	<100 (0-100)
2016	<100 (0-100)

Are hunters shooting European white-fronted Geese (i.e. native breeding population) that are in decline and need of protecting?

The species does not breed in Wales.

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What proportion of shot European white-fronted geese enter the human food chain?

There is no known evidence/database that records how many European white-fronted geese enter the human food chain. Presently, it is not known to be a widely consumed species in Wales or other parts of the UK.

What is the economic value of shooting European white-fronted geese

As there is no record of how many European white-fronts are shot and/or sold for food, the economic value of shooting this species is unclear, but is likely to be low/negligible based on provisional figure of <100 birds killed per annum (Aebischer, 2019).

Is there supporting evidence to suggest shooting/hunting might bring benefits to the species

No evidence can be found that shooting or hunting may bring conservation benefits to European white-fronts.

Would any amendment to Schedule 2 reduce any deleterious effects of current hunting/shooting practices?

Climate change-induced short stopping/distributional shifts is clearly the main factor driving the long and short-term declines in the non-breeding population of European White-fronts in Wales and elsewhere in the UK. Restricting the timing or the level of shooting is, therefore, unlikely to have a major long-term positive effect on the adverse population trends in Wales. However, it is possible that restricting hunting (by either reducing the shooting period or removing it completely from Schedule 2) might slow the rate of decline to a small extent and prevent any misidentification with the similar looking Greenland White-fronted Goose.

Options

1. Maintain European White-fronted Goose on Schedule 2 of the Act as a legal quarry outside the close season which runs from 1st February to 31st August (21st February to 31st August below high-water mark).

2. Consider complete removal of European White-fronted Goose from Schedule 2 as a precautionary measure on the basis of:

    - acting as an additional conservation recovery safeguard measure by minimising accidental shooting of the globally endangered but similar Greenland white-fronted goose that occur on passage or overwinter in Wales. There are two regular overwintering site for this globally endangered sub-species in Wales, the Dyfi Estuary SPA and undesignated sites on Ynys Môn. Individuals/small flocks may occur occasionally at other Welsh sites. Note that the Greenland White-fronted Goose was removed from Schedule 2 in Wales in 2020 in order to protect the small numbers of birds that overwinter/occur on passage here, and:

    - slowing the rate of decline and risk of extinction as a regular overwintering waterbird in Wales, even though it is widely accepted that shifts in wintering range, due to climate change pressures, is the key driver of decline in Wales and elsewhere in the UK.

    - this species is **Red**-listed Bird of Conservation Concern in both the UK and Wales.

- IUCN GB assessment – European White-fronted Goose is considered to be **ENDANGERED** – and has a **Vulnerable** breeding status due to population size reduction (30-50%, based on area of occupancy) and an **Endangered** non-breeding status due to population size reduction (50-80% decline)

3. Consider extending the close season to 1st January to reduce any impact of shooting on the small, resident Welsh breeding population and the GB IUCN 'Endangered' non-breeding population. These populations may be subject to greater hunting pressure if the decline in the non-breeding population continues due to climate change-related distributional shifts and site-based habitat quality issues.

Recommendation

NRW advise Option 2 as a preferred approach

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