

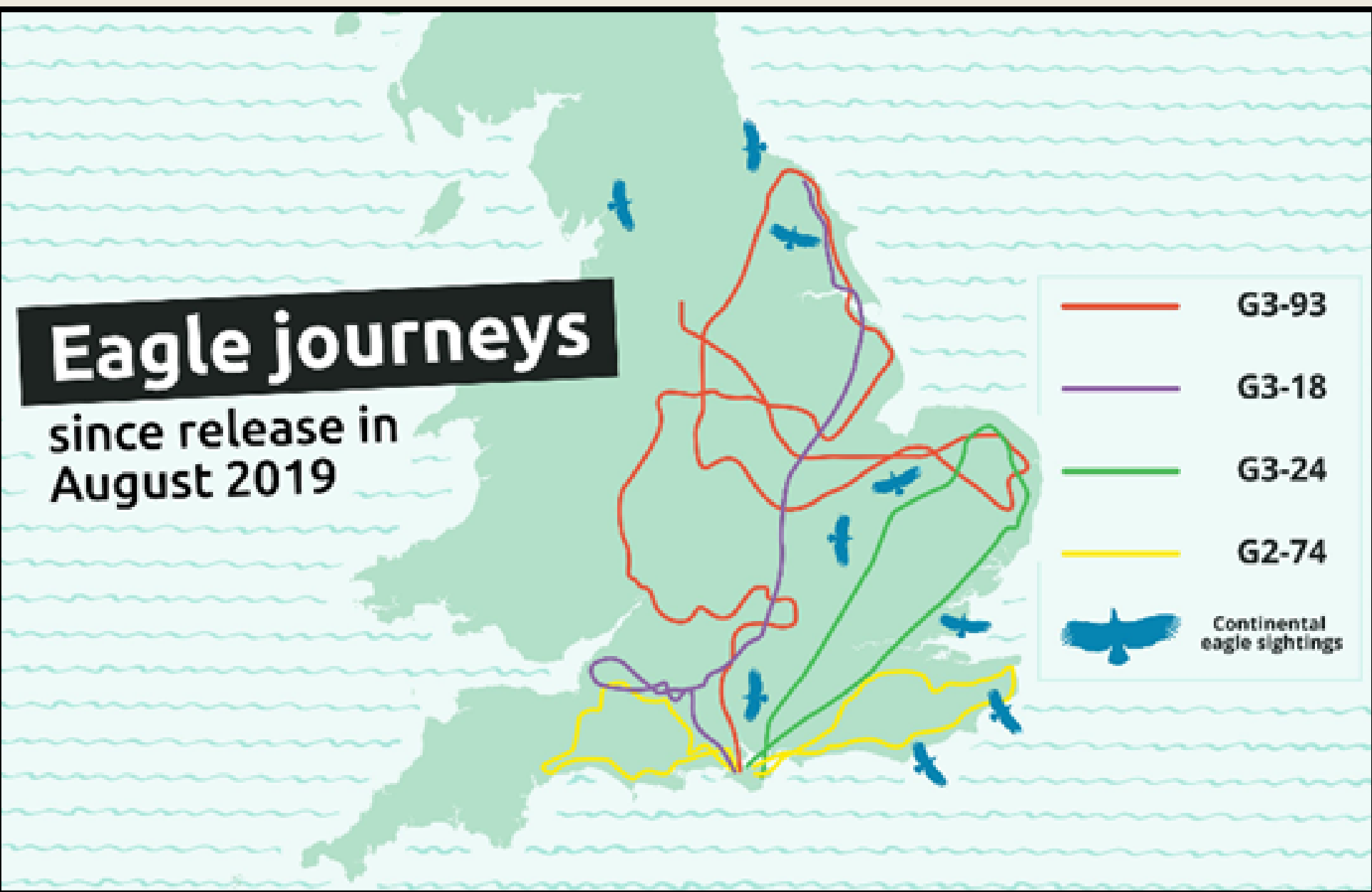


Fig. 1. Eagle flights 2019-2020
Source: <https://www.forestryengland.uk/blog/white-tailed-eagle-project-may-2020-update>

Reintroduction of the White Tailed Eagle (*Haliaeetus albicilla*) to the Isle of Wight and Solent

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Adult and juvenile. Source: <https://www.wildlifetrusts.org/wildlife-explorer/birds/birds-prey/white-tailed-eagle>

01. Introduction

Species reintroduction is the translocation of a species within its indigenous range, with the purpose of improving its conservation status, or restoring natural ecosystem functions, or both (IUCN/SSC 2013). Following the study of place names and archaeological records (Dennis et al, 2019), the White-Tailed Eagle (WTE), or Sea Eagle (*Haliaeetus albicilla*), is believed to have been a widespread indigenous species throughout the British Isles, which became extinct after decades of human persecution. The last bird was shot in Skye in 1916 (British Bird of Prey Centre, 2023) and the last breeding pair seen in England was on the Isle of Wight in 1780 (Dennis et al, 2019). Building upon experience gained from reintroduction projects including Scotland, Ireland, Netherlands and France, the Roy Dennis Wildlife Foundation and Forestry Commission England, completed a feasibility study to determine whether a reintroduction programme would be feasible on the Isle of Wight and the Solent.

02. Conservation importance of the White Tailed Eagle

While considered to be a species of 'least concern' in relation to Species of European Conservation Concern and the IUCN Red List of Threatened Species (global)(see fig. 3 for distribution), the WTE is amber listed for UK Birds of Conservation Concern (British Trust for Ornithology (BTO), nd.) and is protected under Schedule 1 of the Wildlife & Countryside Act 1981. The purpose of its reintroduction, apart from a 'moral' stance (Dennis et al. 2019), is to increase connectivity between existing populations, thereby benefitting the global population, and improving the depleted biodiversity of the UK (State of Nature Partnership, 2023). Due to factors including slow maturity, low production, and natal philopatry, the species would not disperse naturally throughout the British Isles within a suitable timeframe (Dennis et al., 2019) and therefore requires human intervention if this is to be achieved. As well as being an apex predator maintaining balance within the ecosystem through trophic cascade, the WTE is also regarded as a flagship and umbrella species, contributing to the conservation of numerous other species and habitats (Dennis et al, 2019). The species is also considered an excellent bio-monitor of environmental contaminants (Mee et al, 2016)

03. Ecology and challenges

The ecological aspects of the study, including habitat, diet and breeding patterns, are based upon requirements of the IUCN 2013 guidelines, Information is generally comprehensive, utilising results of other reintroduction projects in Scotland and Ireland, and includes field visits, and correspondence from counterparts in Europe (Dennis et al, 2019). Where information is inconclusive, for example the impact on certain bird species or livestock, the continued monitoring of the introduced birds by tail mounted VHF radio transmitters and back-pack satellite transmitters will enable the project team to assess and respond accordingly, for example, where rapid communication with relevant stakeholders or implementation of pre-planned exit strategies may be necessary. Most notably WTE takes 5 years to reach maturity during which time they explore for distances of up to 200km before returning to their natal sites (see fig.1), particularly the males. It is therefore critical to ensure that optimal conditions are maintained during this time period if a breeding population is to be successfully established.

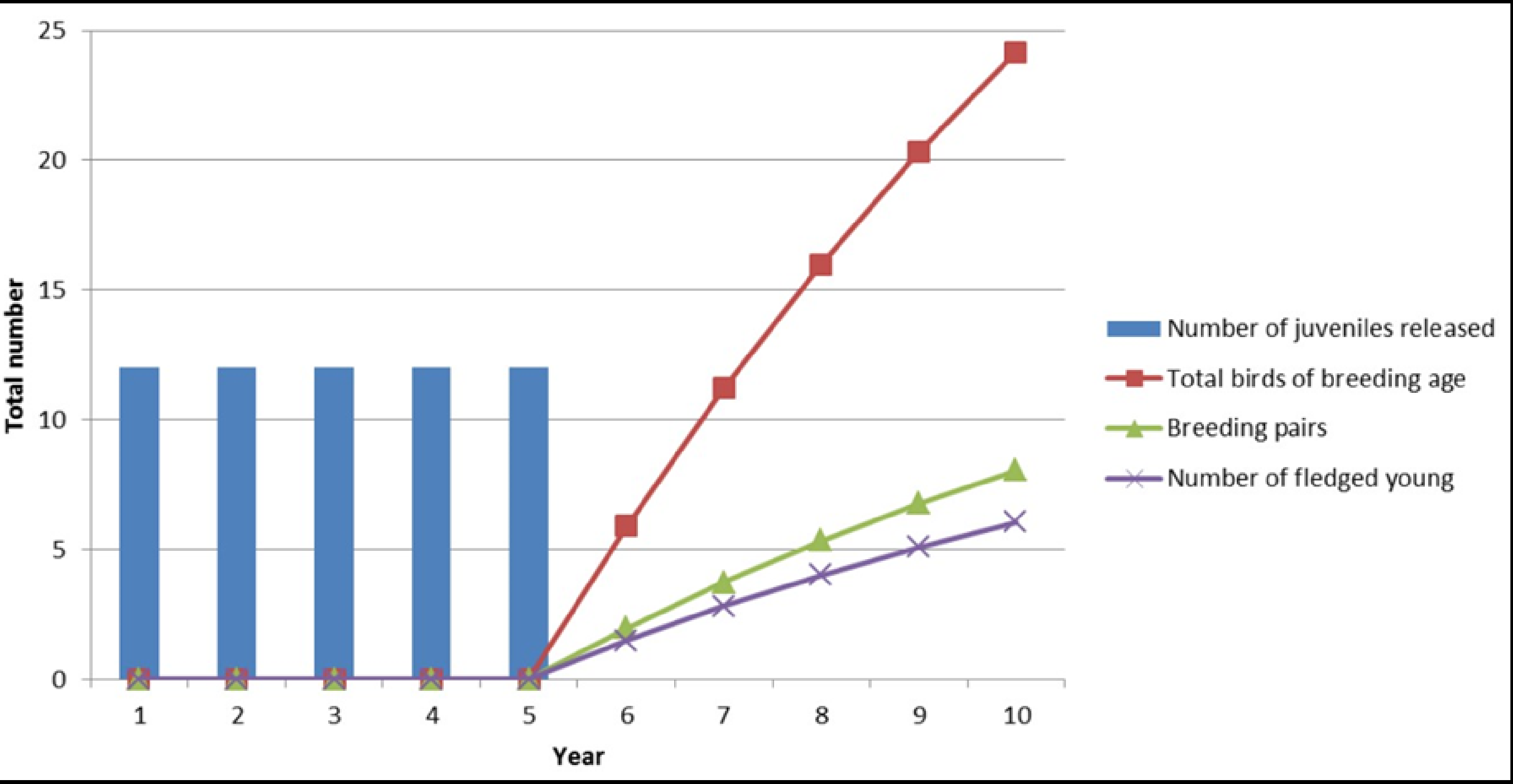


Fig. 2: Expected population growthfirst 10 years.
Source: Dennis et al.(2019)

04. Habitat

The Isle of Wight is 36 km east to west and 22 km north to south. While the habitat has changed since the WTE last bred there, it has been studied and deemed suitable for the reintroduction, because the birds will venture further to forage and explore. It is advantageous that there is a high degree of environmental protection, including SPA and RAMSAR designations. Large areas are also owned by organisations such as the National Trust, Wildlife Trust, and the Forestry Commission. However, local concerns have been raised regarding the impact the WTE might have on birds that over-winter at these very sites. Due to the philopatric natal behaviour of the WTE, it is essential that suitable habitat is available for the return of territorial males to attract their mate. The mainland has also been considered suitable and it is the overall aim that the WTE will eventually disperse to the South of England. The study refers to the benefit of removing donor chicks to reduce intraspecific competition of non-breeding WTEs on the islands of Mull and Skye, which often resulted in fighting and death, however it does not discuss whether this could be an issue on the Isle of Wight. While deemed to demonstrate philopatric natal behaviour, Engler and Krone (2022) indicate that this is not well understood, therefore reintroductions within the British Isles would provide opportunities for study.

05. Human pressure and persecution

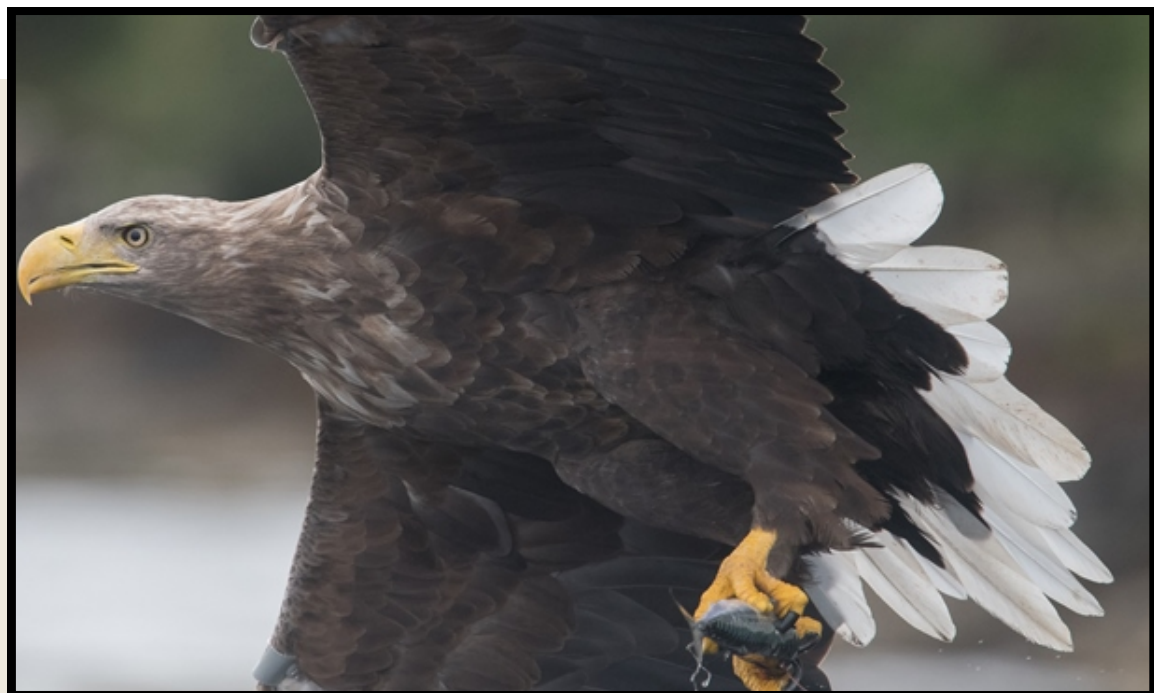
The major change since the WTE last inhabited the Isle of Wight has been the increase in population and recreational activity. Mitigation measures include educational schemes to raise awareness of the impact of disturbance, and siting of perching platforms whereby the public can view the birds, creating a distraction from more sensitive areas. Paradoxically, the WTE is also seen to have significant socioeconomic value in the contribution it will make to the local tourist economy, as has happened in Scotland (Dennis et al, 2019) Reintroductions of the WTE have been attempted since the 1950's in the British Isles. Initially problematic, projects have become increasingly successful with greater experience. Failure to proceed with reintroduction projects in England have tended to be for political reasons rather than ecological ones (Rewilding Britain, 2023) and a major factor in averting the failure of a project was realised to be the adequate engagement of stakeholders, notably the farming community (O'Rourke, 2014). As O'Rourke(2014) points out, socio-economics, politics and social acceptability can be as important as the biology in reintroduction projects. The National Farmers Union have officially objected to the WTE project however it is envisaged that the appointment of a project officer working closely with concerned parties will help to resolve any conflict (Dennis et al., 2019) Given that human persecution was the reason for its extinction, ongoing consultation, and education of relevant stakeholders in potential dispersal is considered imperative. The eagles also have wide exploratory and foraging ranges suggesting that a national campaign may be advantageous to prevent persecution beyond their breeding territory.

08. Establishment success

A licence was provided to release 60 birds over 5 years, initially 12 birds each year, with the aim of achieving 6-8 breeding pairs (fig.2). Since the start of the project in 2019, smaller numbers have been released, however a pair have bred on the Isle of Wight in 2023, despite being only 3 years old (Egerton-Read, 2023). A further pair appear to be settling in west Sussex. By 2021, 25 individuals had been released, however, in 2022, three birds died, one from poisoning, and it was decided not to release any birds due to avian influenza. A further cohort of juvenile birds was released in 2023 although the exact number is not known. While short of the intended number released, the survival of young eagles is reported to be within predicted levels (Egerton-Read, 2022). Through monitoring of the released birds, information on their dispersal, diet and breeding patterns has been gathered. Public attitudes are also being gauged through repeating of surveys alongside a social media campaign, and a steering group has been formed to evaluate the project on an on-going basis.

09. Conclusion

This project is part of a series of attempts to reintroduce the WTE to its indigenous range throughout the British Isles and is testament that any feasibility study requires not only a thorough ecological assessment, but must also address social, political, and economic aspects if it is to be successful. Learning from both the successful and unsuccessful elements of previous projects, and sharing of information is vital, as is continued monitoring to inform current and future projects.



Adult White Tailed Eagle. Source: <https://www.roydennis.org/white-tailed-eagle-project-frequently-asked-questions-old/>

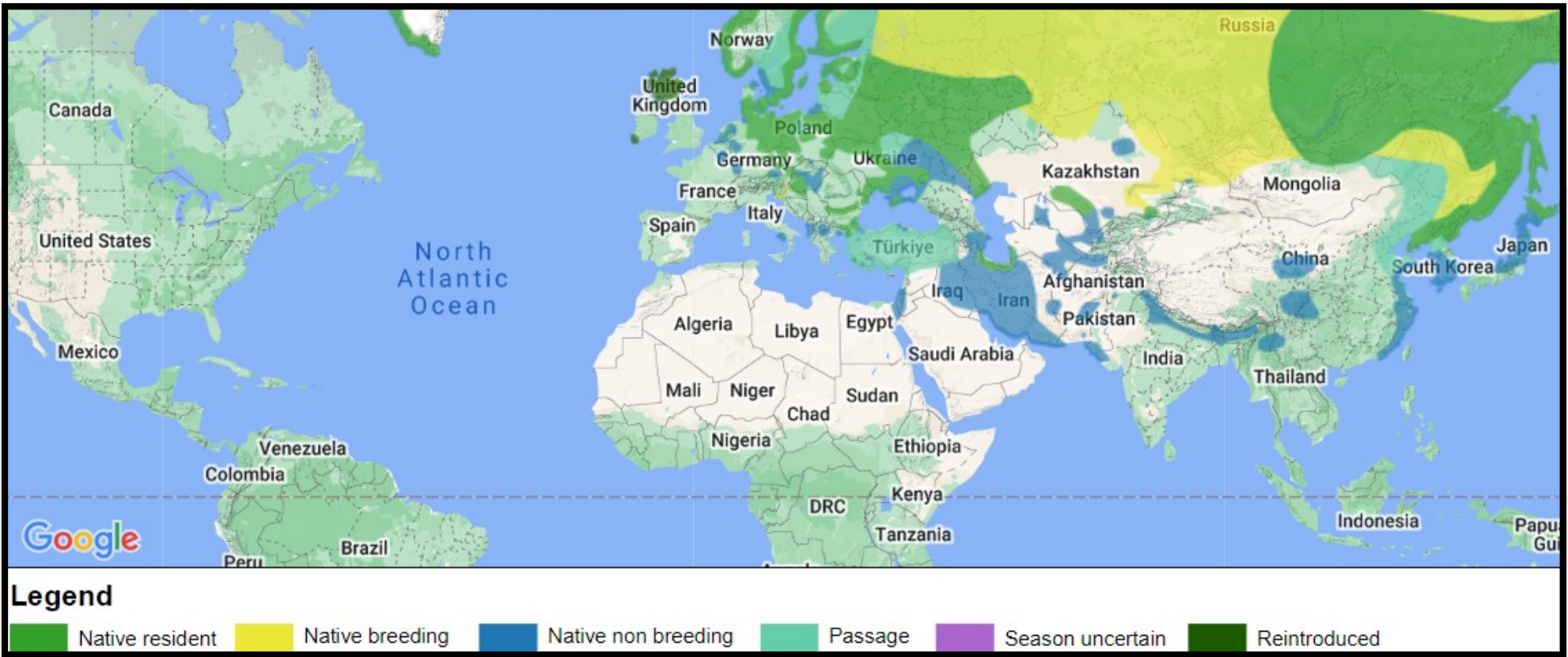


Fig. 3: Distribution of White-tailed Sea-eagle *Haliaeetus albicilla*.
Source: <http://datazone.birdlife.org/species/factsheet/white-tailed-sea-eagle-haliaeetus-albicilla>

06. Interspecific competition

While concerns regarding the impact on species including overwintering birds, red squirrels, and hares, have been addressed, the impact on other mesopredators on the island, such as the common buzzard (*Buteo buteo*) (Hampshire and Isle of Wight Wildlife Trust, nd.) has not been considered despite being known to be predated by the WTE (Mackrill et al., 2021). Lane (2021) also highlights that mesopredators can be used as an indicator of the suitability of the habitat highlighting any potential positive and negative features that may be present.

07. Donor harvesting

The donor population is from Scotland, which was itself reintroduced from a Norwegian population, deemed to be the closest genetically to the original English population. This would have been the nominate species, *Haliaeetus albicilla*, monotypic across Europe and genetically diverse. This, and the method of introducing unrelated birds annually of over a set period reduces the possibility of issues such as inbreeding, genetic deterioration, and genetic drift (Lane, 2021). This reintroduction was considered more of a redistribution of the population within the British Isles, and through modelling had established that the impact on the donor stock would be negligible, particularly due to the population growing at a faster rate than predicted (Dennis et al, 2019). There is evidence of consideration of details learned from previous reintroductions including collection of the juvenile birds, transportation, care, and provision of optimal release sites and monitoring, in line with IUCN/SSC (2013) guidelines.

10. References

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