

Barn Owl Report

2023



**Ulster
Wildlife**

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Acknowledgements

We would like to thank all the people involved, directly or indirectly, in supporting barn owl conservation over this last year. Thank you to every single person who carried out a survey, made or put up a barn owl box, carried out barn owl ringing and to everyone that reported sightings.

Our thanks include, but are not limited to, the following organisations and individuals for their contributions - the Barn Owl Trust, the BTO, BirdWatch Ireland, CEDaR, Comber Rotary, the Lough Neagh Barn Owl Group, National Trust, National Biodiversity Data Centre, NI Raptor Study Group (NIRSG), RSPB NI, Ulster Wildlife barn owl staff, volunteers, and nest minders. Thank you also to our funders DAERA (Environment Fund), the Garfield Weston Foundation and Ulster Wildlife Members.

It is always inspiring to see that so many of you stand in solidarity with us to help the recovery of this iconic species in Northern Ireland. 2023 has been an exciting year and a better one for barn owls; with combined conservation efforts paying off.



Picture 1: Katy Bell, Senior Conservation Officer, with volunteers Paul Larmour and Alan Ferguson alongside the BTO ringing team David Gailbraith, Philip Gailbraith and Stephen Fyffe.

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Introduction

Since 2010, Ulster Wildlife has undertaken work focusing on the conservation of Barn Owls (*Tyto alba*) in Northern Ireland. Classed as “Least Concern” on the International Union for Conservation of Nature (IUCN) red list on the global scale, the situation in Northern Ireland is completely different. Barn owls have been in decline for decades as a result of habitat loss, meaning loss of both hunting habitat and nesting places. The last population estimate in the 1980s put the breeding population at only 30 to 50 breeding pairs (Northern Ireland Species Action Plan, 2006); but we estimate there are now likely less than 30 pairs. Fortunately, they are protected and appear as a priority species in the Northern Ireland Biodiversity Strategy and are also “Red Listed” in Birds of Conservation Concern in Ireland. We are thankfully sharing good news for 2023 as NI’s barn owls had another good breeding year.

As an important part of our natural and cultural heritage, Ulster Wildlife’s barn owl work aims to develop and advance barn owl conservation throughout Northern Ireland. This work feeds into Ulster Wildlife’s vision of a wilder future where nature is in recovery and wildlife is thriving across Northern Ireland. Ulster Wildlife carries out a range of conservation actions, such as raising awareness, the management of sightings, the construction and the erection of nest boxes, and offering advice and support to landowners to improve their habitat for barn owls. In addition, our focus in the summer months is co-ordinating an annual barn owl survey. Thanks to dedicated volunteers, consecutive barn owl surveys have been carried out across the whole of Northern Ireland, on an annual basis since 2010. The aim is to visit sites that are most likely to host barn owls in order to discover new active roost or nest sites, as well as checking nesting boxes for signs of occupation. Knowing the exact locations of roosting and breeding barn owls is essential to target conservation efforts. Surveying for barn owls is not an easy task, particularly due to the low population densities that exist in Northern Ireland. In addition, the fact that they are nocturnal and one of the most elusive birds make them even harder to find. Discussions are in place to develop new methodology for carrying out nationwide surveys in Northern Ireland after some initial analysis with the BTO.

This report will give an overview of the work undertaken by Ulster Wildlife throughout 2023, with an important focus on the barn owl survey, nest monitoring and boxes. It also includes data provided by the Lough Neagh Barn Owl Group and will compare some results with the findings of the previous years, and Ulster Wildlife’s work plan for 2024 will be covered.

2. Barn Owl Survey

2.1. Background

The Ulster Wildlife Barn Owl Survey started in 2010. During the first years, the field work concentrated on 2x2 km survey tetrads in areas where barn owls had been sighted. After talking to locals and landowners and conducting field-based surveys, historic and potential nest/roost sites, as well as locations of barn owl boxes within each tetrad were identified, surveyed and recorded into the mapping database.

Since 2016, Ulster Wildlife have carried out a national presence-absence survey based on these identified sites, and they are included in our adaptation of the Barn Owl Trust's "Three Step Survey Method". The steps consist of the following:

- **Desktop Survey** to identify the most likely sites barn owls will be found through the use of sightings reports from communities and individuals, habitat maps, aerial photos and precipitation records.
- **Interviewing Local People.** This is carried out throughout the year at local events such as country fairs, agricultural shows and through submissions from the general public by phone and on our website. Volunteers are also seeking to liaise with local landowners, and erect posters calling for sightings in their local areas.
- **Intensive Surveying.** Volunteers survey for activity at the most likely sites across Northern Ireland, such as historic nest sites, nest boxes, active nest sites, potential sites, or an area where we have an important number of confirmed sightings.

Since 2018 we have also included long-eared owls (*Asio otus*) in our survey. While they are considered to be common and widespread across the whole of the island of Ireland (NIRSG, Birdwatch Ireland, Bird Atlas 2007-11), there is a lack of information on their distribution across Northern Ireland. There are common characteristics between barn owl and long-eared owl, such as the fact that, to a large degree, they rely on the same food sources (*i.e.* small rodents). Long-eared owls are more commonly recorded in woodlands but are vastly under recorded.

2.2. Survey

For the 2023 survey, we contacted everyone on our list that had a barn owl box and asked that the landowner check the box themselves for any signs of occupation (whitewash, pellets, feathers, noise) during the months of July and August. This was done at a distance from the box itself so as not to cause any disturbance. Each surveyor received a copy of the Survey Methodology, a Recording Form and a Risk Assessment. We asked that people provide us with up-to-date information regarding the nesting box: whether it was occupied, the grid reference, and whether it needed repaired or replaced. That way we can see whether a box needs to be replaced or we need to add boxes in an area. In total **84** boxes were checked for signs of barn owl activity throughout July and August (**Figure 1**).

One of the other focuses of the survey work this year was to concentrate on areas where we have received a lot of sightings but no known pairs. In these areas nighttime surveys were carried out as well as talks and awareness raising to members of the public and landowners (**Figure 1**). The emphasis this year was put on greater effort in fewer areas. Thank you to all the volunteers and Ulster Wildlife staff who helped with the surveys this year. The nest minders have been monitoring known nest sites all year and provided information regarding the known barn owl pairs (see **3.3**).

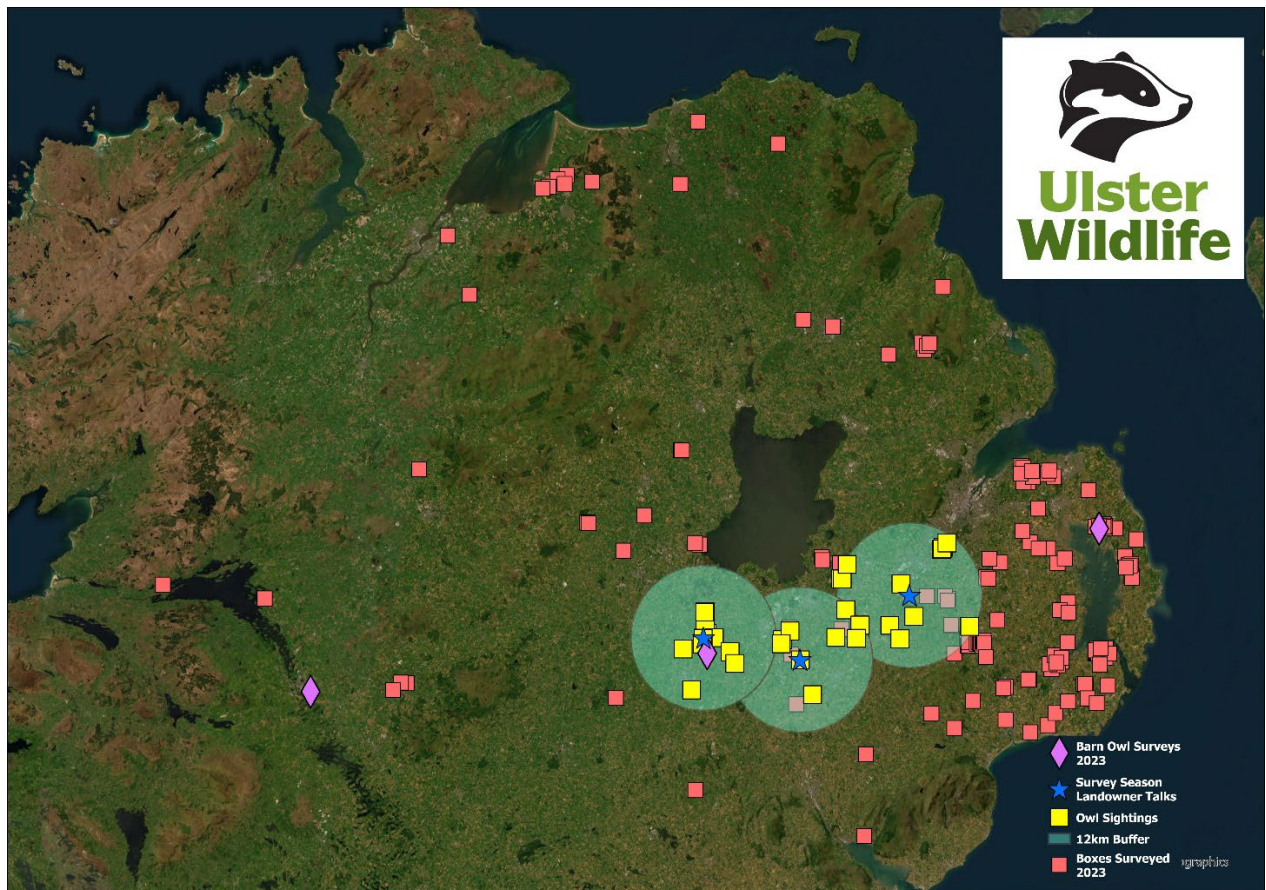


Figure 1: Location of the boxes and sites surveyed in 2023.

3. Other key points

3.1 Sightings

We are very pleased to see support from the public continue with regular sightings of barn owls reported to via the Ulster Wildlife website, emails, phone calls, social media (Facebook/Twitter), or online through CEDaR's website (Centre for Environmental Data and Recording) and iRecord. Throughout 2023, we aimed to raise more awareness of the importance of sightings of both barn owl and long-eared owl. This equated to more sightings which was a great result.

By the end of 2023, there was a total of **81** barn owl sightings submitted. This was compared to 59 sightings in 2022. This data gives us an insight into where birds may be nesting or roosting and allows us to target conservation action specifically where it is needed. Public engagement is vital in raising awareness and generating sighting reports through public engagement.

There was also an increase in the number of long-eared owl sightings submitted in 2023, a total of **59** compared to 32 in 2022. The winter of 2023 saw a high number of short-eared owls visiting Northern Ireland and we received **9** sightings. In **Figure 2** all of the barn owl, long-eared owl and short-eared owl sightings received by Ulster

Wildlife have been mapped. We also tried to encourage more sightings from the west of the province, and this was reflected in the map in comparison with previous years.

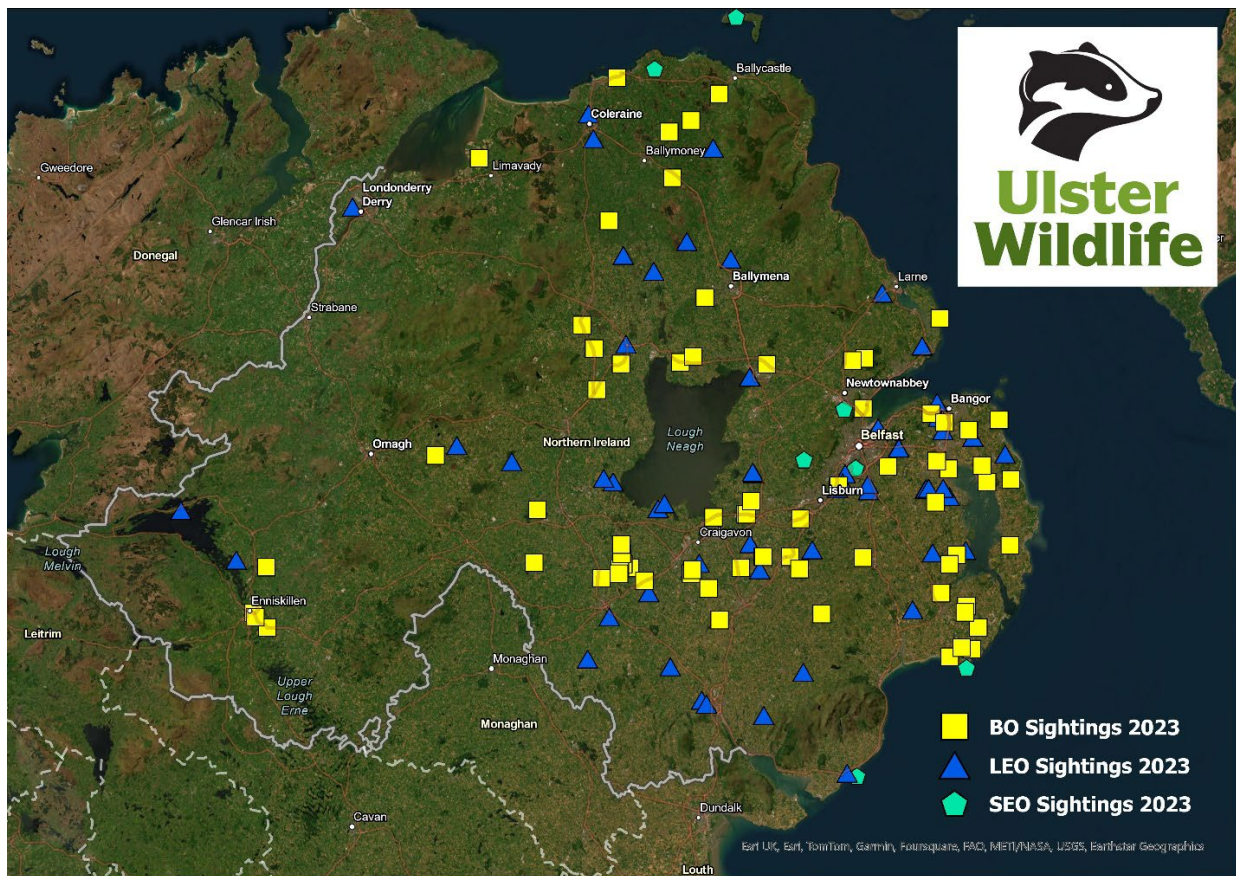


Figure 2: Sightings of Barn Owls, Long-eared Owls and Short-Eared Owls in NI in 2023.

We work closely with BirdWatch Ireland as it is important to collaborate outside of Northern Ireland as barn owls can travel long distances in search of foraging areas and new nest sites. We also collaborate across the UK with the Barn Owl Trust on the State of the UK Barn Owl Population reports. This work is vital to get a clear picture of what is happening with barn owls in Ireland as a whole.

To submit an owl sighting for Northern Ireland visit:

- Ulster Wildlife: <https://www.ulsterwildlife.org/report-sightings> or report it to barnowls@ulsterwildlife.org.
- Alternatively submit it via CEDaR or iRecord.

To submit a sighting for the Republic of Ireland visit:

- BirdWatch Ireland: <https://bit.ly/barnowl-survey>.

3.2 Dead barn owl reports

Unfortunately, 2023 has been an unprecedented year for barn owl casualties. Ulster Wildlife have had the most barn owl deaths reported to us this year compared with any other year. **Eight** dead barn owls were reported to us in 2023 (**Figure 3**) with four of those on the M1 Motorway. Unfortunately, this stretch of road is a real hazard for young dispersing barn owls and there have been a number of barn owls found along this stretch of road in recent years (**Figure 4**). There are already measures in place in the Republic of Ireland to try and protect barn owls on major road networks – <https://birdwatchireland.ie/tii/> and we hope to be able to work towards having measures put in place to protect barn owls on our roads in Northern Ireland.

If you find a dead barn owl, please report it to barnowls@ulsterwildlife.org.



Figure 3: Deceased barn owls found and reported in 2023.



Figure 4: Dead barn owls found and reported along the M1 over recent years.

3.3 Known active nest sites

In 2023, Ulster Wildlife, along with volunteer nest minders, monitored a number of active nest sites. 2023 was an incredibly positive year with **4** new nest sites being found across Northern Ireland. Ulster Wildlife monitored **8** nests, with the Lough Neagh Barn Owl Group monitoring **6** - so **14** in total (**Table 1**). This is a really encouraging figure, and it is great to see barn owls having a good breeding year. There were a number of nest sites that were unfortunately inaccessible and so we are unable to report the total number of fledged chicks (recorded in **Table 1** as 'Unknown'). Ringing was carried out with BTO ringers at three of the nest sites in County Down and three in County Antrim. The majority of the nest sites monitored are in tree boxes but there were also a number of pairs this year nesting in tree cavities and some in old buildings.

The timings of breeding were very varied this year having chicks fledging from June all the way to early December - <https://www.ulsterwildlife.org/news/barn-owls-defy-odds-surprise-winter-brood> With the milder autumns and winters we are experiencing this may become a more regular occurrence. Northern Ireland also faced a high number of storms throughout 2023 but all of the pairs managed to breed successfully despite the weather, even though some were delayed.

Table 1 shows a very successful breeding year for barn owls in 2023, as well as 2022, in comparison with 2020 and 2021. 2023 shows the highest numbers of chicks fledging to date which must be celebrated. We hope that these pairs continue to flourish, and the number of chicks fledging continues to increase. This will hopefully lead to more pairs establishing and the collaborative conservation efforts across Northern Ireland are vital to achieving this.

Nest site	Number fledged 2020	Number fledged 2021	Number fledged 2022	<u>Number fledged 2023</u>
Mount Stewart	3	-	1	2
Strangford	3	2	4	4
Finnebrogue	-	2	-	3
Downpatrick	-	-	3	4
Downpatrick 2 (NEW)	-	-	-	1
Fermanagh	-	-	1	-
Fermanagh 2 (NEW)	-	-	-	1
Co. Down	-	-	4	5
Co. Antrim (NEW)	-	-	-	Unknown
*Data provided by Lough Neagh Barn Owl Group				
Antrim 1	-	-	4	5
Antrim 2	-	-	4	5
Antrim 3	-	-	3	4
Antrim 4	-	-	-	1
Antrim 5				Unknown
Antrim 6				Unknown
Mean	-	2	3	3.18

Table 1: Number of fledged barn owl chicks within the known nest sites.

It was wonderful to see the pairs return to two of the County Down sites after 2022 was their first year of breeding. The farm in Downpatrick has been working closely with RSPB NI to improve their land for wildlife, providing excellent hunting habitat for the birds. A nearby farm has also been providing wildlife-habitat for barn owls for several years and this is where a male barn owl has been overwintering. The landowners were thrilled to have barn owls breeding there this year, before the female went back to the original site to have another brood of four chicks (**Picture 2**) with the original male. At another site in County Down the pair returned and we were thrilled to see them fledge 5 chicks in July (**Picture 3**).

Another huge success this year was the return of barn owls to their established site in Strangford. This is the fifth year in a row they have had bred at the site which is a huge testament to the landowner and the land management in place. The pair had 4 healthy chicks which all fledged successfully (**Picture 4**). The birds regularly remain at the site throughout the winter to hunt.

NOTE: All photos taken under licence from NIEA.



Picture 2: One of the male chicks from the late brood near Downpatrick.



Picture 3: The five chicks inside the box after ringing in County Down.



Picture 4: The four chicks inside the nesting box in Strangford.

3.4 Boxes

Since the beginning of the year, **21** barn owl boxes have been erected by Ulster Wildlife throughout Northern Ireland (**Figure 5**). We focused on priority areas where we knew barn owls were present in order to provide nesting and roosting areas for fledging chicks, and also areas of suitable foraging habitat. Boxes have been placed using a 'Nature Recovery Network Approach'. A total of **44** site visits were carried out to landowners where we provided advice on boxes and land management.

A number of organisations and volunteers make nesting boxes for Ulster Wildlife. Our thanks to all the groups, young people and volunteers who helped with this, especially Comber Rotary and the Heart of Down Squirrel Group. Thank you also to everyone that has provided locations for barn owl boxes so far.

While we aim to support everyone who gets in contact with us, as there is a high demand for boxes, we must prioritise possible sites which are the most suitable for barn owls. This work is carried out mainly in late autumn and winter, outside of the breeding season. We make the decision on whether to visit a site based on certain parameters such as proximity to an existing nest site, the number of sightings in the area, the abundance of rough grassland, thick hedgerows, and other suitable habitat features. Also, any negative site features are taken into account, such as the proximity to a main road. We always visit a site before we make the decision on whether the site is suitable for a box. If you think you have land that could support barn owls, please contact barnowls@ulsterwildlife.org.

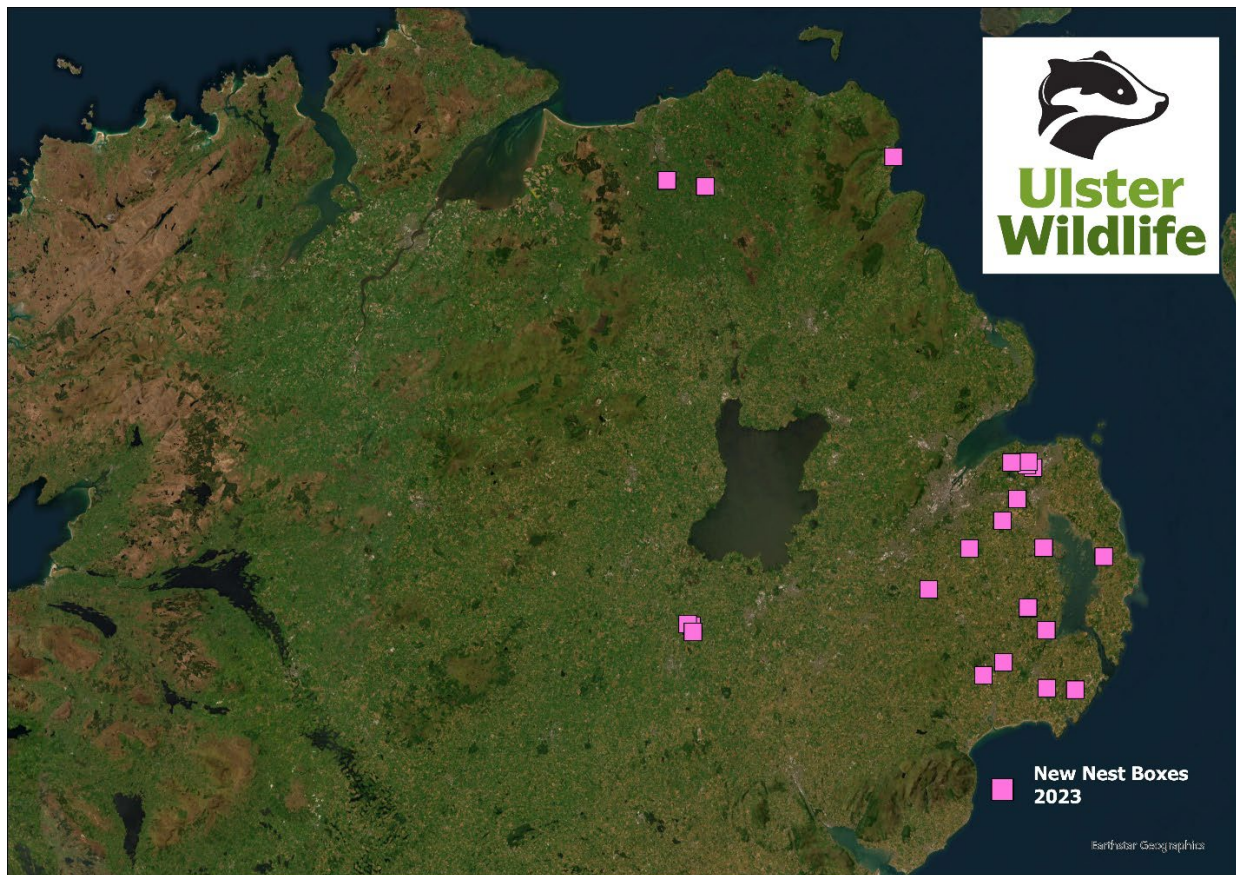


Figure 5: Locations where barn owl boxes were erected by Ulster Wildlife in 2023.

3.5 Awareness raising

Through our conservation work, Ulster Wildlife aims to raise awareness of barn owls in Northern Ireland and how people can help them. Throughout 2023 we carried out **18 talks** and **7 events** engaging with over **660 people** in total. We also held joint events with RSPB NI, the BTO and Ulster Wildlife's Environmental Farming Scheme Group, all aimed at engaging with farmers and landowners. This is an important part of the work and allows us to get out onto the ground to talk to people to help grow support for barn owl conservation.

This year Ulster Wildlife also developed a booklet on 'Improving Land for Barn Owls' which provides detail on what barn owls need to survive in the local countryside. This advice is for landowners and farmers to be able to take action to provide foraging habitat and nesting provisions for this important local species.

You can find the booklet here - <https://www.ulsterwildlife.org/sites/default/files/2023-11/Barn%20Owl%20Land%20Management%20Leaflet%20%282%29.pdf>

4 Limitations and successes

The use of thermal imaging equipment has improved our surveying abilities by allowing us to check boxes from the ground. This technology can tell us whether a box is occupied and therefore minimising any potential disturbance. Through our funders, we purchased thermal imaging binoculars and monoculars which have been put to good use at every site visit. This equipment is also extremely valuable during evening surveys.

This year we focused on awareness raising in key geographic locations which was very successful reaching over 660 people and we aim to continue providing a mix of talks and events in person while still providing online talks. By reaching a wide audience we can continue to raise awareness of the issues barn owls face locally.

This year we had a number of nest sites that were inaccessible and therefore were not possible to be monitored. Nest boxes have been placed at these sites nearby to give the pairs alternative options. Upon discussions with NIEA, and thanks to a donation from Giraffe Associates Ltd., we have been able to install a number of nest cameras at nest sites to increase our level of monitoring. This will give a new insight into the pairs' behaviour, and we look forward to the pairs returning to nest.

In 2023, Ulster Wildlife hosted an MSc student from Queen's University Belfast who carried out a successful research project on barn owl diet. Thank you to Sarah for her time spent with the organisation. We aim to add to this data by hosting another student in 2024.

5. Future plans

Our main aim in 2024 will again be to identify further nest sites as well as support current nest sites. We hope that the number of nest sites that we monitor will continue to increase and this means an increased number of nest minders and pairs to support. Our target audience through our communications will continue to be farmers and landowners. We want to ensure that land is managed properly for barn owls and that anyone that knows of a nest site is engaged with and supported. We will also be encouraging measures to be put in place to support barn owls in future agri-environment schemes. We will also continue to carry out site visits and provide advice on nature-friendly land management. This year we aim to run more events for landowners as well as ongoing collaboration with partners. Ulster Wildlife will continue raising awareness of barn owls at a local scale and the pressures and threats they face. We will be carrying out an annual survey again in 2024 and hope to increase the number of potential sites checked.

Throughout 2023, Ulster Wildlife have been collaborating with the Met Office on a small research project looking at barn owl nesting timings and weather conditions. The results of this will be available in 2024. We look forward to sharing the results and want to thank the Met Office and The Wildlife Trusts for their time spent on this project.

6. Conclusion

In Northern Ireland, even after a good breeding year, barn owls remain very vulnerable and elusive. The annual survey, carried out by volunteers during the summer, allowed us to check **84** boxes and **3** new sites. We received **81** barn owl sightings and **59** long-eared owl sightings this year, a significant increase from 2022, and we continue to encourage these sightings. New boxes in key areas, and periods of dry and warm weather, allowed barn owl pairs to have another good breeding year. Barn owls are particularly vulnerable to prolonged heavy rain periods (such as in spring 2021) which badly impact breeding success - unfortunately such weather conditions are likely to be a more frequent occurrence due to climate change and we therefore need to work hard to ensure the population is as resilient as possible. We are pleased to be working with the Met Office to provide more information on this.

Over 30 barn owl chicks, born to **11 pairs** in 2023, with more from inaccessible sites, is a very welcome boost to our local population. By expanding the barn owl box network locally, the aim is to provide more opportunities for birds to nest and roost. Ulster Wildlife also believes that land management is key to barn owl's survival and this remains crucial in helping our population here in Northern Ireland. We are pleased to now have specific land management advice available.

Finally, 2024 brings exciting opportunities to forward plan for the future of our barn owl conservation work. We want to be able to find more nest sites, support more landowners and nest minders, and ultimately play our part in helping to protect the important population of barn owls in Northern Ireland. We are looking forward to the year ahead and the continuation of our conservation work on this iconic species. We anticipate that this year will build on the successes of recent years. We hope that once again we can rely on your support, as we have relied on it historically, to help build a future for one of Northern Ireland's most iconic species.



Picture 5: Ulster Wildlife staff and volunteers putting up barn owl boxes made by the Heart of Down Red Squirrel Group.

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